

Chocolate or Succulent Chocolate

The impact of Sensory Descriptions on Choice

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Abstract

The purpose of this study is to test the impact of sensory descriptions on customer propensity to select among appetizers, main courses, and desserts in restaurants. It is proposed that sensory descriptions lead to decreased customer propensity to select an appetizer, unchanged customer propensity to select a main dish, and increased customer propensity to select a dessert. A field experimental design was used to test the hypotheses on menus through Chi-square on a total of 1367 measures. The results show, in line with the hypotheses, that sensory descriptions have a statistically significant negative impact on propensity to select an appetizer; virtually no impact on the propensity to select a main course; and a positive but not statistically significant impact on the propensity to select a dessert. The results problematize the notion that sensory descriptions make customers choose a specific dish from a restaurant's menu. The results are limited to the field setting in that original menus were used as controls. Managers may want to be cautious when deploying sensory descriptions on appetizers and more generous when deploying them on desserts.

1. Introduction

You are sitting in a full service restaurant with white tablecloths, looking at the menu. The first dish is named 'Salmon filet served with potatoes and dill', and the second dish is named 'Succulent salmon filet served with early potatoes topped with green dill'. Further down the menu, the first dessert is named 'Chocolate pudding' and the second dessert is named 'Soft and creamy chocolate pudding'. The dishes are the same but described in two different ways. Indeed, it has been noted (i.e. Wansink et al., 2001) how sensory descriptions can be a goldmine for restaurateurs as they charm the human senses (cf. Hall, 2013; Lindstrom, 2005; Wyrley-Birch, 2013). The human senses have been ascribed increasing importance in various marketing settings (Lee et al., 2013). A contributing factor may be that it has become increasingly important to reach consumers in new, provocative and creative ways. Consumers are exposed to a high amount of marketing stimuli or media clutter throughout their daily lives. In addition, it is essential that communication breaks through the clutter. Breaking through to the consumer may be especially challenging in the food and beverage industry as consumers are more or less unaware of what controls their taste preferences and why they prefer certain types of food over others (Hultén et al., 2009). Appealing to consumers' senses has been proposed as a fruitful approach to break through the clutter (Hultén et al., 2009; Kelson, 1994).

Arguably, a well-designed menu can certainly stimulate sales (Bowen and Morris, 1995; Poulston, 2010). It is argued that the right wording on the offerings can improve both sales and post-consumption attitudes towards the food as well as towards the restaurant. Adjectives that portray geographic, nostalgic or sensory themes can help trigger customers' feelings. Sensory descriptions communicate the taste, how the menu item will appear, and how it will feel in the mouth (Wansink et al., 2001). Such descriptions give the customers the opportunity to imagine for themselves the flavor, the sight, and the texture; this individualization of the experience is desirable since the taste sense is individual and includes much more than just the actual flavor itself (Hultén et al., 2009; Wansink et al., 2001). Likewise, Kelson (1994) suggests ten commandments for menu success, including not being afraid to be descriptive, since descriptions names can make customers understand and desire those dishes more than others.

By using good, thoughtfully chosen wording and design, a restaurant's menu can be a huge competitive advantage (Kelson, 1994; Wansink et al., 2001). In sum, a menu is certainly more than a list on a piece of paper; it is an important part of a restaurant's strategy (Beldona et al., 2014) (cf. Kincaid and Corsun, 2003; Morrison, 1996). In the best case scenario, when the menu is presented to a consumer, the decision is made to make a purchase (cf. Waller, 2001). However, the examination of the impact of sensory descriptions on sales or customer propensity to select an item has been limited (cf. Spence and Gallace, 2011). The need for more research has been noted (i.e. Guéguen and Jacob, 2012).

Previous research has focused on how health labels, warning labels and nutritional labels on food influence customers (Hultén et al., 2009) (e.g. Alexander et al., 2010; Josiam and Foster, 2009). Studies concerning how sensory descriptions affect customers' choices of food and beverages have by large been omitted (cf. Wansink et al., 2000; Wansink et al., 2004). With regard to the few studies that have been done, it has been found that sensory descriptions can positively affect sales and consumer food choice in certain contexts (Guéguen and Jacob, 2012; Swahn et al., 2011; Wansink et al., 2001). Wansink et al., (2001) performed an experiment in a university cafeteria and found a positive effect of sensory descriptions on sales and food choice. However, a university cafeteria is a specific setting. The effects of menu labeling in terms of perceived value or sales in finer dining restaurants may differ compared to those in cafeterias (Liu et al., 2012) (cf. Bloemer and de Ruyter, 1999; Drysdale and Galipeau, 2009). The availability of appetizers, main courses, and desserts in restaurants set them apart from cafeterias. Appetizers, main courses, and desserts have their own separate functions and connotations to the guest. Examining the impact of sensory descriptions on each should increase our understanding of sensory descriptions and the effect of sensory descriptors. Consequently, the purpose of this study is to test the impact of sensory descriptions on customer propensity to select among appetizers, main courses, and desserts in restaurants.

Theory and Hypotheses

When consumers make a decision, the decision process certainly begins before the actual purchase is made. First the consumer recognizes a problem or a need. The need can be triggered by either internal stimulus, such as thirst or hunger, or external stimuli, such as social and environmental factors (Drysdale and Galipeau, 2009). After a need is identified, the consumer starts to search for information and evaluate the alternatives to make a selection (Drysdale and Galipeau, 2009; Schellinck, 1983). Indeed, to understand why consumers rely on certain information is key to understanding why consumers make specific selections (Schellinck, 1983). Consumer choice is based on knowledge and knowledge can be considered associative (Chi and Ceci, 1987). Put differently, knowledge may be considered to be a function of the associations that have been made in memory amongst the consumer's goals, the choices that are available, and the features of the choices that are related to the attainment of the consumer's goals (Huffman and Houston, 1993). Moreover, knowledge may be understood as an associative network, where learning entails the acquirement of novel conceptions, their relationships, and arrangements of relationships (Chi and Ceci, 1987). Learning implies a reasonably lasting adjustment of a consumer's behavior resulting from previous outcomes of selection or choices made. Such experience resulting from previous outcomes can be acquired by observing other consumers and their experiences. That is, learning may be direct (through direct personal experiences) or indirect (through observing others) (Hoover et al., 2012; Obloj and Sengul, 2012). Regardless of whether it is direct or indirect, associative learning entails systematic associating of stimuli, linking them together (Grossman and Wisenblit, 1999).

Associations of stimuli form progressively and reiteration is vital when creating such associations. Research suggests that it is easier to strengthen associations between stimuli that previously have been presented together (e.g. Rock, 1957). Importantly, the likelihood for behaviors which are associated with a positive experience (or reinforcement) increase (McSweeney and Bierley, 1984; Ruan and Wu, 2013; Shteingart et al., 2013) (cf. Skinner, 1974). Memory implies that an individual recalls past experiences in terms of positive and negative reinforcements together with associations (Repkina, 2011; Sereda, 2011). For instance, Wansink et al. note (2001) how consumers may evaluate, for example, "Grandma's Homemade Apple Pie" (Wansink et al., 2001, p. 3), drawing on associations they have made with the word "Grandma" in terms of, for example, a style of cooking and associated flavor experiences (cf. Anderson and Bower, 1973). Menu offerings affect customers' behavior (Baraban and Durocher, 2010) (cf. Bowen and Morris, 1995; Poulston, 2010) in restaurants.

Descriptions of an offering is likely to affect consumers' expectations (Liem et al., 2012) and consumers' choice from a menu reflects beliefs that expectations will be satisfied (Wansink et al., 2001) (cf. Hartwell and Edwards, 2009; Huffman and Houston, 1993). In other words, sales can be influenced by using descriptions that make offerings more appealing (Waller, 2001; Baraban & Durocher, 2010; Dittmer & Keefe, 2009). When customers are exposed to descriptions and select an item from a menu, they infer the quality of the food, how it will taste and how it will make them feel (Schellinck, 1983; Wansink et al., 2001). Selection is thereby not only about elimination, but about scanning the menu to find benefits that the consumer believes will satisfy his or her expectations (Schellinck, 1983). Thus, consumers' choice from a menu reflects beliefs that expectations will be satisfied (Wansink et al., 2001) (cf. Hartwell and Edwards, 2009; Huffman and Houston, 1993) and these beliefs reflect the words and the associations with the words deployed in describing the menu-items (cf. Grossman and Wisenblit, 1999; Rock, 1957). That is, associations that have been learnt (cf. Hoover et al., 2012; Obloj and Sengul, 2012) may explain the preference for and effect of descriptive names.

Flavors are often described in terms of the qualities of taste and sight, but they should also include qualities that refer to the texture of the food or beverages (Green and Nachtigal, 2012). Descriptions of the taste, sight and 'mouth feel' of the menu item will help the customers imagine themselves buying and enjoying the item (Wansink et al., 2001). Just as how the food looks affects how it tastes, the description of a dish is an important clue to the flavor (Hultén et al., 2009; Koch and Koch, 2003; Wansink et al., 2001). A variety of categories of descriptions is essential: Combining a mixture of food temperature, cooking methods, textures, shapes, sizes and colors gives a well-descriptive menu. Indeed, a good *balance* among these categories can further help please the customers (Drysdale and Galipeau, 2009). By deploying descriptive names targeting and arousing several senses, consumers can be influenced and provided with better insight into the taste of food compared to if only one single sense had been aroused. In essence, the more senses aroused, the higher the taste awareness created (Krishna, 2010; Leclerc et al., 1994) (cf. Chen and Engelen, 2012).

Indeed, an experiment performed in grocery stores (i.e. Swahn et al., 2011) showed that sensory descriptions can positively affect sales and consumer food choice. In another experiment (i.e. Guéguen and Jacob, 2012) it was found that nostalgic food labels generated higher sales rates. These result are in line with an experiment (i.e. Wansink et al., 2001) performed in a university cafeteria, which again found a positive effect of sensory descriptions on sales and consumer food choice. In fact, it has been argued that the language used to describe menu offerings can make the customer hungry as well as increase the number of sales (cf. Waller, 2001). Moreover, the associations created by sensory descriptions may result in a halo effect, i.e. they may (positively) influence how the customer actually experiences the food in terms of, for example, looks and taste relatively independent of reality; that is, in essence a self-fulfilling prophesy (Wansink and Love, 2014).

However, the effects of sensory descriptions in full service restaurants are not given (cf. Reynolds et al., 2005). Customers are often highly involved in their decisions at a full service restaurant (Bloemer and de Ruyter, 1999; Ratchford, 1987) (the experience may entail a higher price, or a special occasion), and high involvement implies that the processing done by consumers is more extensive (e.g. Bolting, 1988; Celsi and Olson, 1988; Kapferer and Laurent, 1985; Sarathy and Patro, 2013), which should make consumers less susceptible to the effect of descriptive names (as they hence make more conscious and rational decisions). Full service restaurants and cafeterias may also differ since the former present information on a paper menu in front of the consumer rather than on a menu board above the checkout. Most often, the customers in a full service restaurant also have the opportunity to spend more time evaluating the menu (cf. Liu et al., 2012). In sum, this allows for more systematic and rational evaluation of the menu in full service restaurants, which in turn leads us to question the effect of sensory descriptions in full service restaurants.

We reason that appetizers, main courses and desserts have separate qualities and functions (cf. Pantelidis, 2010) that should influence the validity of sensory descriptions and the extent to which sensory descriptions are interpreted as *advertising pressure*: Appetizers are often what the customers are first exposed to on the menu. In other words, when the sensory descriptions appear among the appetizers, it is the first time that the customer is exposed to the sensory descriptions. As a result, consumers are arguably at that point extra likely to perceive the sensory descriptions as advertising pressure – i.e. consumers perceive that the restaurant is trying to compellingly sell them something. Advertising pressure may result in negative emotions (cf. Redondo, 2012) and in scepticism (cf. Balasubramanian et al., 2006).

In addition, appetizers are arguably not the foremost reason for visiting a restaurant, and appetizers may even be perceived as relatively low value for money. When the restaurant is trying to compellingly sell the customers something that they, in a relative sense, are not dependent on or for which they did not primarily visit the restaurant, it may promote the perception of advertising pressure even further (together with the resulting skepticism towards the dish). Therefore:

H1: *Sensory descriptions lead to decreased customer propensity to select an appetizer.*

When the sensory descriptions appear among the appetizers, it is the first time that the customer is exposed to the sensory descriptions. In subsequent exposures (among main courses and desserts), the sensory descriptions are less novel to the customer. Moreover, a main course is arguably most often the foremost reason for visiting a restaurant, and a main course may even be perceived as relatively high value for money compared to appetizers. This should lessen the perception of advertising pressure and any associated negative effects of sensory descriptions. Still however, appetizers and main courses arguably consist of components that satisfy internal stimuli such as hunger and choices based on such are driven more by routine behavior (cf. Vaughn, 1980), which should be rational rather than emotional. Such food items that fulfill utilitarian (functional) needs, or the most basic needs (Kapferer and Laurent, 1985; McGuire, 1976), should be less susceptible to sensory descriptions. In sum we contend that non novel sensory descriptions have a positive effect which is, however, hampered by the utilitarian function of the main course. Therefore:

H2: *Sensory descriptions lead to unchanged customer propensity to select a main dish.*

Desserts on the other hand do, in a relative sense, not fulfill the same want as appetizers and main courses. Desserts rather concern a desire to pleasure the senses and, therefore, involve another type of emotional or hedonic satisfaction, which should make sensory descriptions more effective (cf. Gaillet et al., 2013; Kapferer and Laurent, 1985; McGuire, 1976). That is restaurant food items that go beyond utilitarian, or the most basic needs, are categorized as hedonic (emotional). A feeling motive implies a decision based on emotions, which may make consumers more inclined to seek sensory fulfillment (Kapferer and Laurent, 1985; McGuire, 1976). To the extent sensory descriptions encourage customers to consider hedonic or taste related qualities rather than functional (utilitarian) qualities of the dish (Chandon and Wansink, 2007; Wansink and Love, 2014) they should have the most relevance and therefore the most effect on offerings with hedonic qualities (such as desserts). Consequently:

H3: *Sensory descriptions lead to increased customer propensity to select a dessert.*

Method

To test the effect of sensory descriptions on customer propensity to select among appetizers, main courses and desserts in restaurants two conditions were compared: Under the experiment condition, items on the restaurants' menus were manipulated using explicit sensory descriptions. Under the control condition, the same menu items were left unaltered, i.e. guests were exposed to the restaurants' original version of the menu items. The experiment was performed at two full service restaurants in Sweden. The restaurants were selected based on their willingness to take part in the study.

Conditions and Measures

To develop a pool of valid sensory descriptions, two focus groups were organized - one for each of the two restaurants taking part in the study: A number of adjectives coupled with the two restaurants' offerings and each sense (taste, texture, sight) were formulated and developed throughout each focus group. Specifically, seven (cf. Fern, 1982; Stokes and Bergin, 2006) unique respondents took part in each focus group. The criterion for the respondents to participate was that they occasionally visited fine dining restaurants and had an interest in food. The moderator explained the purpose of the focus group session and how it was going to proceed. Pictures of 16 dishes from the first restaurant's menu were then shown in the first focus group, and 20 pictures from the second restaurant's menu were shown in the second focus group. The pictures were supplied by the restaurants. Presenting the pictures on a large TV-screen meant that all respondents were able to look at them at the same time and discuss how the food best could be described in terms of taste, texture (mouth-feel) and sight in order to appeal to the customer when s/he reads a menu.

The transcribed data obtained from the two focus groups was compiled in two tables listing sensory descriptions (See Table 1 and 2). The tables show the most common sensory descriptions of each menu item in three columns – one column for each sense (“–“implies that no clear descriptions were identified by the focus group).

The identified sensory descriptions were used as a database when the new manipulated menus were devised. Several of the sensory descriptions were accordance with previous research and scholars (See Table 3).

Table 1: Results focus group 1

Food	Taste	Texture	Sight
Avocado	-	<i>Smooth</i>	<i>Green</i>
Beef; Entrecote	<i>Marinated</i>	<i>Tender, Juicy</i>	-
Beef; Filet Mignon	<i>Marinated</i>	<i>Tender</i>	-
Bread	<i>Garlic, butter</i>	<i>Warm, Crispy, Crunchy, Crusty Soft</i>	<i>Homemade, Golden crust</i>
Cheese	<i>Rich, Salty, Spicy</i>	<i>Creamy, Lukewarm</i>	-
Chocolate; Parfait	<i>Rich</i>	<i>Fluffy, Light</i>	-
Chocolate; Truffle	<i>Flavors of...</i>	<i>Creamy</i>	<i>Small</i>
Crème Brylee	<i>Sweet</i>	<i>Creamy, Crispy crust, Fluffy, Lukewarm</i>	<i>Golden</i>
Fish; Char	-	<i>Succulent, Grilled, Crispy crust</i>	<i>Golden crust</i>
Fish; Pike-perch	<i>Fresh, Salty, Buttery, Butter fried</i>	<i>Succulent, Brittle</i>	<i>Golden crust</i>
Fruit	<i>Fresh, Sweet</i>	-	<i>Colorful</i>
Honey	<i>Sweet</i>	-	-
Lamb; Sirloin	<i>Spiced</i>	<i>Tender</i>	-
Mushroom	<i>Butter</i>	<i>Butter fried, Chewing</i>	-
Nuts	-	<i>Crunchy</i>	<i>Roasted</i>
Pesto	<i>Rich, Salty</i>	<i>Creamy</i>	<i>Green</i>
Pork; Bacon	<i>Salty, Smoky</i>	<i>Crispy, Crunchy</i>	-
Pork; Sirloin	-	<i>Juicy, Tender</i>	-
Potatoes; Purée	<i>Rich</i>	<i>Creamy, Fluffy, Smooth</i>	-
Poultry; Chicken	-	<i>Juicy, Succulent</i>	-
Poultry; Duck	-	<i>Juicy</i>	<i>Soft pink</i>
Reindeer (meat)	<i>Spicy</i>	<i>Tender, Juicy</i>	<i>Pink</i>
Sauce; Wine	<i>Rich, Racy</i>	-	<i>Colorful</i>
Sauce; Warm	<i>Rich, Racy</i>	<i>Creamy, Viscous</i>	<i>Thick</i>
Sauce; Cold	<i>Fresh, Sourish</i>	<i>Light</i>	-
Shrimps; Cocktail	<i>Fruity, Fresh, Sourish, Sweet, Salty</i>	<i>Cold, Combination of textures</i>	<i>Colorful</i>
Vegetables	<i>Fresh</i>	<i>Crispy</i>	<i>Roasted, Colorful</i>

Table 2: Results focus group 2

Food	Taste	Texture	Sight
Bacon	<i>Salty</i>	<i>Crispy, crunchy</i>	<i>Fried</i>
Beans	<i>Sweet, natural,</i>	<i>Mastication, lukewarm,</i>	<i>Green, red, colorful, beige,</i>
Beef; Entrecote	<i>Grilled, coaly grilled, seasoned</i>	<i>Juicy, tender</i>	<i>Grilled, brown</i>
Beef; Veal	<i>Meaty</i>	<i>Juicy, thick</i>	<i>Grilled, homemade</i>
Bread; Sourdough	<i>Natural</i>	<i>Crisp</i>	-
Bread; Garlic bread	<i>Garlic, butter</i>	<i>Warm</i>	<i>Golden</i>
Bread; Croutons	-	<i>Crispy, Crunchy</i>	<i>Golden</i>
Breast of guinea fowl	-	<i>Juicy, succulent</i>	<i>Herbs</i>
Carpaccio	<i>Salty, juicy, fresh</i>	<i>Light, thin, melts in the mouth</i>	<i>Colorful, red</i>
Cheese; Parmesan	<i>Rich</i>	<i>Thin</i>	<i>Thin, yellow</i>
Cheese; Goat/Feta	<i>Rich, spicy</i>	<i>Creamy, light</i>	<i>White</i>
Cheese; Taleggio	<i>Rich, mild</i>	<i>Creamy, soft</i>	-
Chocolate mousse	<i>Sweet, fresh</i>	<i>Creamy, rich</i>	-
Coffee	<i>Strong, bitter, Sweet</i>	<i>Warm, hot</i>	<i>Dark, Black</i>
Crème Brulée	<i>Sweet, vanilla</i>	<i>Creamy, soft</i>	<i>Caramelized crust</i>
Filet	<i>Spicy, rich</i>	<i>Tender, juicy</i>	<i>Grilled</i>
Fish; Salmon	<i>Salt, butter</i>	<i>Succulent, crispy surface</i>	<i>Grilled, pink, golden, blackened</i>
Fruit; Apple	<i>Sweet, fresh</i>	<i>Crunchy</i>	<i>Red, green</i>
Fruit; Strawberry	<i>Sweet, fresh</i>	-	<i>Red</i>
Fruit; Rhubarb	<i>Sour</i>	-	<i>Red, green</i>
Lamb	<i>Spicy</i>	<i>Tender, juicy</i>	<i>Grilled, browned</i>
Mint	<i>Fresh</i>	-	<i>Green</i>
Mushrooms	<i>Butter, salty</i>	<i>Al dente, smooth, sleek</i>	<i>Golden, fried</i>
Nuts	-	<i>Crunchy,</i>	-
Pasta; General	-	<i>Al dente</i>	-
Pasta; Veg. lasagna	<i>Rich, cheese</i>	<i>Creamy</i>	<i>Golden crust</i>
Potato; French fries	<i>Salty, Oily</i>	<i>Crispy</i>	<i>Golden</i>
Potato; Roll	<i>Buttery, salty</i>	<i>Warm, boiled</i>	<i>Round</i>
Potato; Sweet	<i>Sweet</i>	<i>Soft, creamy Crispy crust, warm</i>	<i>Golden, orange</i>
Potato; Cake	<i>Buttery, salty</i>	<i>hearty, creamy, warm Solid,</i>	<i>Golden</i>
Risotto	<i>Mushroom, salt, butter, cheese, wine,</i>	<i>Creamy, al dente,</i>	<i>Golden, yellow,</i>
Sauce; Wine	<i>Rich, racy</i>		<i>Colorful, red, thick</i>
Sauce; Warm	<i>Butter, spicy</i>	<i>Thick, creamy</i>	<i>Orange, red, thick</i>
Sauce; Cold	<i>Seasoned, Fresh, Garlic</i>	<i>Light, creamy, soft, smooth</i>	<i>White, green, yellow</i>
Sauce; Foam	<i>Dill</i>	<i>Airy, light, fluffy</i>	<i>Green</i>
Shellfish	<i>Fresh</i>	<i>Chilled, mastication</i>	<i>Colorful</i>
Soup; Fish	<i>Rich, well-seasoned</i>	<i>Creamy, thick</i>	<i>Pale, light, light yellow</i>
Truffle	<i>Sweet, bitter, rich</i>	<i>Creamy, rich</i>	<i>Brown, white, dark</i>
Vegetables; General	<i>Fresh, rich</i>	<i>Crunchy, lukewarm</i>	<i>Colorful, red, green</i>
Vegetables; Sundried		<i>soft</i>	<i>yellow</i>
Vegetables; tomatoes	<i>Salty, sweet,</i>	-	<i>Red, brown</i>

Table 3: Previous research

Sense	Description	Author(s)
Taste	<i>Rich</i>	(Pickering and Demiglio, 2008)
	<i>Buttery</i>	(Miller and Kahn, 2005)
	<i>Fresh</i>	(Larsson and Swahn, 2011)
	<i>Sweet</i>	(Ko, 2008; Krishna, 2010)
Texture	<i>Crispy</i>	(Chen and Engelen, 2012)
	<i>Soft</i>	(Chen and Engelen, 2012)
	<i>Warm</i>	(Hultén et al., 2011)
	<i>Creamy</i>	(Chen and Engelen, 2012)
Sight	<i>Small</i>	(Drysdale and Galipeau, 2009)
	<i>Colorful</i>	(Garber Jr. et al., 2000)
	<i>Golden</i>	(Pedreschi et al., 2012)
	<i>Thick</i>	(Chen and Engelen, 2012)

Compiling the manipulated menu items entailed adding sensory descriptions (to appeal to the senses of sight, touch and taste) to the original menu items. For example, one of the most frequently used taste-related description was the word rich; it was used to connote fullness of flavor (cf. Pickering and Demiglio, 2008) - often with regard to types of sauces and together with the word creamy for thicker types of sauces (cf. Chen and Engelen, 2012). With regard to texture – food texture can be described by many different terms such as thick, crunchy or soft (Chen and Engelen, 2012) (Forde et al., 2013; Lukasewycz and Mennella, 2012). Where deemed appropriate, words such as crunchy and crispy, as well as softer textures were deployed to create the manipulated sensory descriptive menu items. Sensory descriptions with regard to sight were kept relatively predictable in order to not confuse the customers since humans are strongly influenced by previous experiences and sometimes even unconsciously associate specific colors with specific food (Koch and Koch, 2003; Spector and Maurer, 2012). For example, the color red was used to describe the tomatoes in a Caesar salad. The color green was used as a description of pesto, broccoli, peas, rucola and lettuce. In fact, it has been argued that green seems to carry positive / beneficial connotations with regard to food in general (Wei et al., 2012). When a first draft of the manipulated items was completed, a meeting with each restaurant was held to exchange opinions and finish the manipulated menus. As no major changes were deemed necessary by the restaurants, the approval of the manipulated menus reflects face validity. The dependent variable, i.e. choice was assessed in terms of the number of dishes sold under each condition.

Procedure

The experiment took place during two weeks. At the beginning of each week every other dish on each menu was altered (into its manipulated version / experiment condition) and the rest of the dishes on the menu remained as they had originally been designed by the restaurants (control). Specifically, during the first week of the experiment, the dishes with odd numbers in the menus were changed into their manipulated versions (experiment condition) and the dishes with even numbers were left unaltered (control). During the second week the dishes with even numbers in the menus were changed into their manipulated versions (experiment condition) and the dishes with odd numbers were left unaltered (control). This way it was possible for customers to choose between the same dishes in two versions, i.e. with or without the added sensory descriptions.

Results

Descriptive statistics

To provide an overview of the total choices made a table with each dish type and the total frequency of sold items as well as the percentage was summarized (See Table 4). As the data collected in the experiments was nominal, the hypotheses were tested through a Chi-square test. A total of 1367 measures (choices / purchases) were made in the experiment.

Table 4: Descriptive statistics

Type	Manipulated	Frequency	Percent	Total sales SEK.	Average sale SEK.
Appetizers	Yes	133	43 %	25 448	82
	No	179	57 %		
	Total	312	100 %		
Main course	Yes	400	50 %	153 746	192
	No	399	50 %		
	Total	799	100 %		
Desserts	Yes	138	54 %	18 565	73

Hypotheses

H1: Sensory descriptions lead to decreased customer propensity to select an appetizer. The results reject H_0 as $\chi(1) = 6.782, p = .009$ (Table 5 and 6).

Table 5: Chi-Square hypothesis 1

Chi-square total	
Chi-Square	6.782 ^a
Df.	1
Asymp. Sig.	.009

Table 6: Frequency hypothesis 1

Frequency Total	Observed N	Percent
Experiment	133	43 %
Control	179	57 %
Total	312	100 %

H2: Sensory descriptions lead to unchanged customer propensity to select a main dish. The results reject H_1 as $\chi(1) = 0.001, p = .972$ (Table 7 and 8).

Table 7: Chi-Square hypothesis 2

Chi-square total	
Chi-Square	.001 ^a
Df.	1
Asymp. Sig.	.972

Table 8: Frequency hypothesis 2

Frequency Total	Observed N	Percent
Experiment	400	50 %
Control	399	50 %
Total	799	100 %

H3: Sensory descriptions lead to increased customer propensity to select a dessert. The results reject H_1 as $\chi(1) = 1.563, p = .211$ (Table 9 and 10).

Table 9: Chi-Square hypothesis 3

Chi-square total	
Chi-Square	1.563 ^a
Df.	1
Asymp. Sig.	.211

Table 10: Frequency hypothesis 3

Frequency Total	Observed N	Percent
Experiment	138	54 %
Control	118	46 %
Total	256	100 %

Conclusion and Discussion

The results show that in full service restaurants sensory descriptions have a statistically significant negative impact on propensity to select an appetizer; virtually no impact on the propensity to select a main course; and a positive but not statistically significant impact on the propensity to select a dessert. The results problematize the notion that sensory descriptions make customers choose a specific dish from a restaurant's menu (or cause an increase in sales) (e.g. Drysdale and Galipeau, 2009) (cf. e.g. Elder and Krishna, 2009; Leclerc et al., 1994). The negative effect with regard to appetizers, the virtually nonexistent effect with regard to main courses, and the positive effect (while not statistically significant) with regard to desserts, present a pattern consistent with the hypotheses. Sensory descriptive menu items have different impacts on propensity to select a menu item depending on the type of dish at hand. The findings are in line with the notion that perceived advertising pressure combined with the function of the dish at hand (i.e. utilitarian versus hedonic) moderates the effect of sensory descriptions: The extent to which appetizers and main courses have a utilitarian function combined with the relative degree of novelty of sensory descriptions when they are encountered mirrors a decreased propensity to select a menu item with sensory descriptions.

The extent to which main courses and desserts have a hedonic function combined with the relative degree of familiarity of sensory descriptions when they are encountered mirrors an increased propensity to select a menu item with sensory descriptions. That is, the amount of familiarity with the sensory descriptions arguably translates to a degree of perceived advertising pressure. Low familiarity will likely increase the likelihood of interpreting the sensory descriptors as advertising pressure, resulting in the decreased propensity to select a menu item with sensory descriptions. The degree of utilitarian *vis-a-vis* hedonic function reflects the validity of sensory descriptors as they carry emotional associations. This implies that, faced with a hedonic (emotional) function (such as desserts), customers are more susceptible to the emotional (pleasure) implied by the sensory descriptors. The results imply that, in practical terms, managers may want to be cautious when deploying descriptive names on appetizers and more generous when deploying them on desserts. The purpose of restaurant menus is to give the customers the information they need to make a decision (cf. Braun, 1999). This may make both diversity and imagination important when designing the menu, even though the perceived value of the food (when consuming it) has to match what is written about it (Bloemer and de Ruyter, 1999; Drysdale and Galipeau, 2009). Hence, on the one hand, the sensory descriptions should not be too excessive since that might result in disappointed customers who feel that they did not get what they expected (Braun, 1999). Since customer satisfaction has a great impact on re-purchase intention, it is important to be honest in a creative way to ensure or promote returning customers (Han and Ryu, 2012).

Descriptive names may suggest higher quality of the food, but a dishonest presentation of information on restaurant menus can lead to customer dissatisfaction and a loss of profitability (Ko, 2008; Thomas Jr. and Mills, 2006). That is, even if labeling can influence preferences and evaluations, misleading or excessive information can lead consumers to become confused and disappointed (Wilkie, 1974; Wansink et al., 2001). On the other hand, the associations created by sensory descriptions may, as mentioned, result in a halo effect. That is they may (positively) influence the experience the customer has with the food to some extent regardless of the actual qualities of the food (Wansink and Love, 2014). Hence, the deployment of sensory descriptions should be considered carefully. Importantly, the study was conducted under actual restaurant conditions. In full service restaurants the menus are often carefully designed, and may thus be considered appropriate as controls if any practical effects of additional / more sensory descriptions are of interest.

However, the fact that the restaurant's dishes can be considered relatively well formulated (described) in their original forms could explain the lack of statistically significant results with regard to the desserts. Thus, it can be considered to be a limitation of the study that the original menu items were somewhat descriptive as they were, and thereby reduced the difference between the control and experiment conditions. Further studies in restaurants should, if possible, include control conditions in which no descriptive menu items at all are present. Then again, such conditions are dependent on the willingness of restaurant owners to take part in the study. Indeed, strength of the present study is that was conducted under actual restaurant conditions, with actual menus as controls, revealing practical significance. An alternative path could be to test the impact of sensory descriptive names on other products, such as beverages; the beverage menu is often not very developed or well-described, which makes it a good candidate for research where a control menu needs to be compared with a manipulated menu. Future studies should also benefit from being performed over a longer period of time and on a wider array of venues.

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