Does Salience of the Sound of Food Increase Or Decrease Consumption?

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We find that the salience of the sound of food can increase or decrease consumption. Sound salience increases consumption because it enhances expectations of the food’s sound and enjoyment. But sound salience decreases consumption when attention to the sound of food is impaired and when consumption monitoring is active.

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What’s in a Label? How Food Labels Shape Perceptions and Consumption

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Paper #1: Does Salience of the Sound of Food Increase or Decrease Consumption? Nailya Ordabayeva, Boston College, USA

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Paper #2: The Local Halo: Local Foods are Perceived as Both Healthy and Tasty

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Paper #3: Judge Me for What I Eat: Consumers Choose Low-Calorie Labeled Food to Signal Competence

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Paper #4: No Fries for You! Waiters Externally Impose Self-Control to Restaurant Customers Depending on Their Weight and Gender

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SESSION OVERVIEW

Food labeling is a powerful marketing tool to create associations between food products and desirable attributes (Chandon and Wansink 2011). Prior research has demonstrated that labeling influences perceptions such as taste and healthiness, which in turn affect food choice, sensory experiences, and enjoyment (Levin and Gaeth 1988; Belei et al. 2012; Shah et al. 2014). In this session we offer novel sensory and social perspectives on how food labeling influences consumption decisions for the self and others. Specifically, we have compiled four exciting papers examining how food labels change consumers’ expectation for sensory experiences (Ordabayeva and Srinivasan), enhance hedonic pleasure (Dallas, Liu, and Fitzsimons), and influence consumption decisions in the social sphere for the self (Oh and Huh) and for others (Boegershausen, Cornil, and Howard).

The first paper by Ordabayeva and Srinivasan examines the influence of sound salience in labels on consumption experiences. When labels make the sound of food salient (vs. not salient), consumers’ expectations are drawn to experience of sound, which increases consumption enjoyment as well as consumption, even for healthy foods. However, this positive effect is reversed when competing sounds are present or when consumption monitoring is activated by the food or the social environment.

In the second paper, Dallas, Liu, and Fitzsimons demonstrate the existence of a “local halo” effect: Labeling foods as “local” leads consumers to perceive foods as healthier and tastier simultaneously, thus overcoming the “healthy = not tasty” lay belief. This local halo effect even holds for low-fat foods that are conventionally perceived as less tasty than their regular counterparts, boosting choice of low-fat foods.

The third paper by Oh and Huh further extends the role of food labels to interpersonal contexts based on the impression management literature. Lab experiments and a field experiment show that when consumers are motivated to convey their competence to others, consumers are more likely to choose low-calorie labeled (vs. non-labeled) food. Further, this is due to the belief that choosing low-calorie foods reflects one’s competence.

Finally, Boegershausen, Cornil, and Howard examine how the recommendations by waiters in restaurants are influenced by food labels, and by the external characteristics of patrons. In line with stereotyping theory, they demonstrate that participants assuming the role of a waiter are more likely to discourage female (vs. male) customers from choosing unhealthy but tasty food when customers are heavy (but not thin). This pattern of paternalistic recommendations (imposed self-control) is a novel form of subtle, insidious discrimination against heavy female consumers.

Collectively, the four papers (all in advanced stages) shed novel insights on the role of food labeling. Taken together, the papers address the following questions: (i) which food labels can moderate or even reverse well-established labeling effects and (ii) how do labels affect choices in more interpersonal settings. A full appreciation of the far-reaching effects of food labels can enrich our theories about food consumption. This session is of interest to a diverse audience as it appeals to researchers interested in food consumption, labeling, expectancy effects, sensory perception, and social influence.

Does Salience of the Sound of Food Increase or Decrease Consumption?

EXTENDED ABSTRACT

The sound that a food makes when it is eaten is central in our experiences of food (Vickers 1981), and it is an attribute that marketers often highlight to boost the appeal of products (Mermelstein 2013). Yet, the marketing literature has overlooked the effect of the sound salience of food on consumption experiences. Existing marketing studies on audition have reported the effects of sounds invoked by brand names (e.g., “Frosh” vs. “Frish” ice-cream) and of ambient sounds in the environment on perceptions of food products (Lowrey and Shrum 2007; Milliman 1986). In the meantime, the use of sound in labels, advertising slogans, and packaging is pervasive. In our analysis of new snack foods introduced in the US in 2013-14 (data provided by Innova Marketing Insights), we found that 70% of new snacks made the sound of food salient. It is therefore important to understand how the salience of the sound of food, controlling for the food’s actual sound, influences consumption experiences, and to delineate conditions in which sound salience increases or decreases consumption. This is the focus of our research.

We build on studies in food science that correlated the food’s actual loudness with expectations of the food’s sound and freshness (Vickers 1983; Zampini and Spence 2004). We integrate these findings with marketing insights about the effects of expectations created by food labels on product experiences (Levin and Gaeth 1988; McCabe and Nowlis 2003). We posit that making the sound of food salient will enhance consumers’ expectations of the food’s sound. In turn, when consumers’ heightened expectations of the food’s sound are confirmed, the salience of the food’s sound will increase food enjoyment and consumption. However, when expectations of the food’s sound are disconfirmed (when auditory attention is diverted to a competing sound) or when the salience of the sound of food...
triggers consumption metering (when consumption monitoring is active), the salience of the sound of food will reduce consumption. We test our predictions in five studies.

First, we ran a pre-test to verify our proposition that the salience of the sound of food enhances sound expectations. Participants saw an advertisement of chocolate candies with a crunchy exterior and a creamy interior. The ad slogan of the candies manipulated the salience of the candies’ sound by describing the candies as “delicious and crunchy” in the sound-salient condition vs. “delicious and creamy” in the sound non-salient condition. After sampling the candies, participants rated their enjoyment of the candies (enjoyment, taste, and deliciousness) and their intentions to purchase the candies. The results revealed higher purchase intentions when the sound of the candies was salient (vs. non-salient), and this effect was mediated by consumption enjoyment.

Study 2 tested the role auditory attention in moderating the effect of sound salience. Participants watched a movie clip while snacking on potato chips. The ad slogan of the chips made their sound salient (“crunchy and tasty”) or non-salient (“tasty”). We also manipulated auditory attention by using an auditory instruction, and we measured actual consumption. In the control condition, we provided no auditory instruction and expected to replicate the positive effect of sound salience on consumption. In the competing sound condition, we instructed participants to pay attention to a competing sound (the movie) and expected to reverse the effect of chips’ sound salience due to disconfirmed expectations of the chips’ sound. The results supported our predictions.

Studies 3 and 4 tested the role of consumption monitoring in moderating the effect of sound salience. In Study 3, participants watched a movie clip while snacking on potato chips. The ad of the chips made their sound salient (“crunchy and tasty”) or non-salient (“tasty”), as in Study 2. Furthermore, the chips were served in a transparent pack that activated consumption monitoring (Deng and Srinivasan 2013) or an opaque pack that did not. The results revealed that sound salience increased consumption from an opaque pack that did not activate consumption monitoring, but decreased consumption from a transparent pack that activated consumption monitoring. Consumption enjoyment mediated this interactive effect of sound salience with consumption monitoring. Study 4 replicated the moderating effect of consumption monitoring with an alternate description of the chips’ sound (“loud”) and a contextual manipulation of consumption monitoring (public consumption setting: consumption monitoring active vs. private setting: consumption monitoring not active).

Study 5 tested whether the sound salience of healthy foods can increase healthy food consumption among adults in a weight-loss program. Participants read a book excerpt while sampling carrots. The carrots were described as having been chosen for the study because of their sound (sound-salient condition) vs. popularity (sound non-salient condition). Participants indicated the quantity of carrots that they desired to eat and completed the behavioral activation scale (Carver and White 1994) that captured their inherent tendency to seek enjoyable sensory experiences. The results indicated that sound salience increased desired consumption among individuals with a high tendency to seek enjoyable sensory experiences, which reinforced the importance of sensory enjoyment in driving the effect of sound salience.

In sum, our findings demonstrate that the mere salience of the sound of food, controlling for the food’s actual sound, can significantly impact consumption experiences and decisions. However, this effect may be positive or negative, depending on the attention that consumers are able to pay to the sound of food and the degree of consumption monitoring that is triggered by the food or the environment. The findings shed light on the benefits as well as the potential costs of sensory labels.

The Local Halo: Local Foods are Perceived as Both Healthy and Tasty

EXTENDED ABSTRACT

Consumers often have multiple goals when making food choices (Finkelstein and Fishbach 2010; Liu et al. 2015). For example, consumers generally want their food to be both tasty and healthy. However, addressing both these goals simultaneously can be difficult because many consumers believe that there is an inverse relationship between tastiness and healthiness (Liu et al. 2015; Raghunathan, Naylor, and Hoyer 2006). Indeed, consumers believe that healthy foods are generally less tasty than unhealthy foods (Liu et al. 2015) and that the same food will taste worse when it is labeled as healthy rather than unhealthy (Raghunathan et al. 2006). Because of this perceived conflict between a health goal and a taste goal, consumers often feel that they must pick one goal to pursue with a given food choice. Problematic from a health perspective, many consumers prioritize taste goals over health goals (Glanz et al. 1998; Stewart, Bisard, and Jolliffe 2006), such that consumers’ health goals affect their food choices only if they are convinced that their taste goals will also be addressed. This combination of consumers’ belief that healthy foods are not tasty, and the priority that they place on taste over health, may contribute towards excess weight gain, with negative health consequences (Flegal et al. 2010). Thus, it is critical to find a way to overcome consumers’ unhealthy = tasty (and healthy = not tasty) intuitions. The current research proposes that labeling a food with a “local” label can overcome these intuitions, such that local foods are perceived to be both tasty and healthy.

Recently, there has been a movement within the United States to “buy local” products (Lyon 2014). In fact, between 2008 and 2012, local and regional food sales increased from $4.8 billion to $6.1 billion (Wright 2015). Indeed, local foods—particularly foods—are increasingly seen positively (Klavinski 2013). We suggest that this positivity creates a “local halo,” such that local foods are perceived to be both tasty and healthy. Halo effects occur when “an initial favorable impression promotes subsequent favorable evaluations on unrelated dimensions” (Schuldt, Muller, and Schwarz 2012, p. 581) and were originally examined in person-perception contexts (Asch 1946; Kelley 1950). In terms of past research on “halo” effects in the food context, consumers have been shown to generalize the associations they have with a particular label (i.e., a restaurant name or the organic or fair trade label) to the product’s healthiness. For example, Chandon and Wansink (2007) found that people believe restaurants that are positioned as healthy serve lower calorie foods than restaurants that are not positioned as healthy even when that is not the case. Relatedly, Schuldt and Schwarz (2010) identified an “organic halo,” such that consumers infer that organic foods are lower in calories than non-organic foods, and Schuldt, Muller, and Schwarz (2012) identified a similar halo for “fair trade” products. However, whereas this past research has identified a label’s halo effect on a single at-
tribute of healthiness, we instead test whether a local label’s halo extends beyond a single attribute of healthiness to include tastiness. Examining whether the local halo can increase both healthiness and tastiness perceptions is particularly interesting because these two attributes are typically viewed as being inversely related (Liu et al. 2015; Raghunathan et al. 2006). In sum, we predict that the positivity that consumers feel towards local foods will lead them to infer that such foods are “positive” on both taste and health (i.e., are both tasty and healthy), overcoming the healthy = not tasty intuition.

Three studies tested these hypotheses. Study 1 randomly assigned participants to consider either a yogurt parfait labeled as made with ingredients from local farms, a yogurt parfait labeled as made with ingredients from distant farms, or a yogurt parfait with no label. Participants were then asked how healthy and tasty they thought the parfaits would be. Participants who rated the parfait with the local label believed it would be significantly healthier than the control parfait (p = .029) and directionally healthier than the distant label parfait (p = .149), and significantly tastier than the control parfait (p = .015) and the distant label parfait as well (p = .005).

Study 2 tested whether the local halo can overcome the healthy = not tasty intuition. All participants were presented with cheddar cheese crackers. Based on random assignment, participants were either told that the crackers were low-fat, made with local ingredients, both low-fat and made with local ingredients, or were not provided any additional information. Participants were then asked how healthy and tasty they thought the crackers would be. There was a significant effect of condition on both healthiness (p < .001) and tastiness (p < .001). Participants rated the local crackers directionally tastier than the control crackers (p = .135) and significantly healthier than the control crackers (p < .001). In addition, participants rated the crackers that were both low-fat and made with local ingredients as significantly tastier (p < .001) and healthier (p < .001) than the crackers that were just low-fat.

Study 3 tested the effect of the local label on choice. Participants were randomly assigned to make a choice between either regular cheddar cheese crackers and low-fat cheddar cheese crackers or between regular cheddar cheese crackers and low-fat cheddar cheese crackers made with local ingredients. There was a significant effect of condition on choice ($\chi^2(1) = 29.31, p < .001$), such that participants were significantly more likely to select the regular crackers when the other alternative was low-fat crackers (81.36%) as opposed to when the alternative was low-fat crackers made with local ingredients (47.37%). Accordingly, adding the local label eliminated the preference for regular crackers over low-fat crackers.

In sum, the present research demonstrates a local halo. Local products are perceived as healthier and tastier than their non-local counterparts, and are even able to overcome the healthy = not tasty intuition. Additional studies are currently in progress, testing the impact of the local label on actual taste perceptions and on consumer choices in a field setting.

Judge Me for What I Eat: Consumers Choose Low-Calorie Labeled Food to Signal Competence

EXTENDED ABSTRACT

Consumption decisions reflect not only one’s preference but also one’s identity to others (Belk 1988). Knowing this signaling power of possessions and brands, consumers strategically make purchase decisions to convey a desirable impression to others (Schlenker et al. 1996). As many of social interactions involve food and eating, it is also important to understand how consumers use food decisions for impression management (Herman, Roth, and Polivy 2003). The current research examines how food labels are used as a means to convey a desired image to others. We suggest that consumers strategically choose low-calorie labeled food when they are motivated to impress others.

Despite popularity of research on food labels, a potential signaling power of food labels has been largely overlooked (see Chandon 2013 for a review). Exceptionally, it has been found that some food labels discourage consumers’ choice in public when labels convey undesirable implications to decision maker such that they are less likely to choose femininity-laden food (e.g., ladies cut steak) in public versus private (White and Dahl 2006). As with possessions and brands, consumers may use positive and/or negative associations with food in decisions to signal a desired image to others.

Because low-calorie food is perceived as less tasty but healthy (Raghunathan et al. 2006), choosing low-calorie food would require self-control. Hence, choosing low-calorie food would be associated with chooser’s endurance and pursuit of virtue in sacrificing pleasure. Such restraint and self-control is related to capabilities to achieve goals (Barrick and Mount 1991). Therefore, when consumers are motivated to convey their high self-control and competence to others such as in job interview, they will be more likely to choose a low-calorie labeled option (vs. when the same option is not labeled).

Studies 1A and 1B examined whether consumers are more likely to choose low-calorie labeled foods when they are motivated to convey a desirable image to others, but not when the decision is made in private. Study 1A employed a 2 (visibility of choice: not vs. visible) x 2 (label to target options: no label vs. low-calorie labeled) between-subjects design. Participants imagined they were consultants and had a meeting with an important client. During the break time, they went out to have a snack and chose from five pastry options. Low-calorie labels were attached to two target options only in the label condition. Half of participants made a choice with the client, while the other half made a choice alone. As we predicted, low-calorie label increased choice of target options in public condition (choiceno_label = 11.7%; choicelow-calorie_label = 30.5%; p = .01) but not in private condition (p > .6). In study 1B, we replicated the findings in a different context (i.e., job interview) with different set of stimuli (i.e., beverage). Low-calorie labels increased choice of target beverages when participants made a choice with the interviewer (choiceno_label = 25.6%; choicelow-calorie_label = 44.8%; p < .05), but not in private (p > .3).

In study 2, participants made an actual chocolate choice that would be consequential. Participants in the public condition made a choice that would be evaluated by other student in the same lab whereas participants in the private condition made a choice that would be kept confidential. Consistent with studies 1A and 1B, choice of labeled options was increased in the public condition (choiceno_label = 35.8%; choicelow-calorie_label = 50.9%; p < .05), not in private (p > .7).

Study 3 examined consumers’ belief that choosing low-calorie foods would reflect one’s competence. Undergraduate participants saw a beverage choice of other student and evaluated how competent they think the student would be for their group projects. As predicted, participants judged the student as more competent when her choice was (vs. not) labeled with low-calorie (p = .01).

Study 4 investigated the boundary condition. Although choosing low-calorie labeled option is helpful to convey competence to others, it may not signal all other positive traits. Impression formation literature has suggested that competence and sociability are two fundamental dimensions for social judgments (Cuddy et al. 2008) but they are not positively related (Judd et al. 2005). Thus, consumers would not necessarily choose a low-calorie labeled option when...
they are motivated to signal their sociability. The study employed a 2 (social goal: competent vs. sociable) x 2 (label: control vs. low-calorie) between-subjects design. Participants in the competence goal condition imagined that as a consultant they went out for a snack with an important client as in Study 1A. Participants in the sociability goal condition imagined that they as a party planner went out with an important client and it was important to be seen as a social person. The low-calorie label increased choice share of the target pastry (choiceno_label = 15.7%; choicelow-calorie_label = 28.9%; p < .01) but no difference was found in the sociability goal condition (p > .9). The findings suggest that the low-calorie labels are not used to deliver all positive impression, but specifically related to competence personality.

Study 5 was a field study to test how low-calorie labels are used for the impression management. The study was conducted during actual interviews for recruiting research assistants. The job description specified that the research assistants should be conscientious, well-organized, and highly motivated. At the end of each individual interview, an interviewer offered a cookie as a small gift for coming for the interview. Interviewees chose between two different brands of cookies, one of which had a ‘low-calorie’ label next to the brand name in the half of interviews. Replicating the findings from previous studies, we found that when the cookie was labeled (vs. not labeled) as low-calorie, job candidates were more likely to choose the target cookie (choiceno_label = 29.4%; choicelow-calorie_label = 64.7%; p < .05).

In summary, the current research examined how low-calorie labels are used for impression management. Across six studies, we found that consumers strategically choose low-calorie labeled food when they are motivated to impress others. We provide evidence suggesting that this is due to the belief that choosing low-calorie foods reflects one’s competence.

No Fries for You! Waiters Externally Impose Self-Control to Restaurant Customers Depending on Their Weight and Gender

EXTENDED ABSTRACT

Overweight people now constitute the majority of the US population (Ogden et al. 2014), still they are stigmatized and suffer from discrimination in their access to health care, in the workplace, but also in shopping environments where they receive mediocre service (e.g., Carr and Friedman 2005; King et al. 2006; Rudolph et al. 2009; Vanhove and Gordon 2014). In addition, weight discrimination tends to be associated with gender discrimination; it is less socially acceptable for women than for men to be overweight (Judge and Cable 2011; Owen and Laurel-Seller 2000; Ricciardelli and McCabe 2001). Weight discrimination often relies on the belief that heavy people lack self-control especially in relation to food (Crandall, Nierman, and Hebl 2009), and this stereotype is also associated with women (Else-Quest et al. 2012).

Our research further investigates the interaction between weight and gender in shaping discrimination, in consumer contexts that are associated with eating self-control – restaurants. Discrimination is defined as any form of specific treatment based on an individual’s presumed traits. We examine a novel, subtle form of discrimination: the content of recommendations provided by waiters to restaurant patrons. Because of information asymmetries (e.g., better knowledge of menu items), waiters can influence the decisions of customers by selectively adapting how they present the menu to customers. For instance, waiters may vary the amount of information about dishes or offer explicit recommendations for certain items. Recommending dishes lower in calories – and lower in taste – to specific patrons can be interpreted as paternalistic “advice” designed to externally impose self-control, i.e., a form of prejudicial treatment (Dana and Cain 2015). We predict that waiters’ dish recommendations can vary as a function of patrons’ weight and gender, such that waiters recommend healthier options to heavy females, but not to heavy men.

In order to test how customer size and gender influence waiters’ recommendations we developed a paradigm, which mimics customer-waiter interactions. Participants are asked to endorse the role of waiters and are shown a restaurant menu featuring three courses (two dishes per course). All dishes are designed and pretested such that one dish per course is healthier but less tasty than the other dish. Participants are given a ‘cheat sheet’ with additional information about the dishes, not available to patrons, such as ingredients or preparation style. Next, participants are randomly assigned to one of four pictures displaying a hypothetical customer varying in gender (male/female) and size (thin/heavy). We carefully pretested these images to ensure that perceptions of weight status, attractiveness, and healthiness varied only across weight status but not across gender. To test how customer gender and size interact to shape waiters’ recommendations we used two different dependent measures in study 1 and 2.

In study 1 (n = 201; MTurk), participants selected the dish information that they wished to present to customers in a drag-and-drop task. Participants could select only 50% of the total available information. Our cover story was that there was limited time to pitch the menu, therefore participants had to select the most relevant information about the dishes. A 2 (gender) x 2 (size) ANOVA on the percentage of tasty-unhealthy pieces information produced only a significant gender x size interaction (p = .004). Gender did not significantly impact the dish recommendations when patrons were thin (M_thin female = 50%, M_thin male = 50%, n.s.), but had a significant influence when patrons were heavy: waiter-participants were less likely to mention tasty-unhealthy options to heavy female than to heavy male customers (M_heavy female = 47%, M_heavy male = 53%, p = .019).

Study 2 relied on a more implicit measurement of dish recommendations. Participants in study 2 (n = 230; undergraduate students) were told to endorse the role of waiters at the university restaurant, and were asked to present the menu (the same as in Study 1) to the customer they saw on the screen. Their pitch was recorded on video. They were free to present any information, but had a limited time to do so. Subsequently, two independent coders, who were blind to the conditions, watched and evaluated the videos in order to create an index of the content of waiters’ recommendations (range = below the neutral, 3 = unhealthy options recommended), which served as a dependent measure. Inter-rater reliability was high (Krippendorff’s α = .81) and disputes were resolved via a third coder and discussions. A 2 (gender) x 2 (size) ANOVA on the overall recommendation index produced a significant effect of customer gender (p = .001) and a marginally significant interaction between gender and size (p = .078). Consistent with study 1, gender had no significant impact on dish recommendations when patrons were thin (M_thin female = -.36, M_thin male = -.02, n.s.), but had a significant influence when patrons were heavy: waiter-participants were less likely to recommend unhealthy options to heavy female than to heavy male patrons (M_heavy female = -.58, M_heavy male = .51, p < .001).

Our work uncovers a novel, insidious form of weight-gender discrimination involving paternalistic advice and externally imposed self-control. Two studies show that waiters use weight cues differently depending on whether the customer is male or female. Unlike heavy male customers, heavy female customers are particularly likely to receive paternalistic recommendations prioritizing health concerns over pleasure.
REFERENCES


