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Brief Communication

## Profiling taste-motivated segments

Brian Wansink\*, Randall Westgren

*University of Illinois, 350 Wohlers Hall, Champaign, IL 61801, USA*

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### Abstract

Early adopters of unfamiliar, but nutritious foods can do so because of a combination of taste-motivations and health-motivations. Yet because taste can provide an enduring motivation for dietary change, profiling the taste-motivated segment of a particular food might prove useful in identifying and stimulating adoption among similar predisposed segments. This manuscript describes a basic qualitative and quantitative procedure—in the context of soy consumption—that can be used to begin profiling taste-motivated segments of a particular food. A survey of 606 North Americans indicates that when contrasted to health-motivated consumers of soy, taste-motivated consumers were more likely to claim they are opinion-leaders who live with (or who are) great cooks, and they were more likely to exhibit other behaviors associated with food appreciation, such as dining out and wine consumption. In light of these findings, instead of encouraging people to eat soy solely for health reasons, a more productive method may be to target those who are more likely to prefer it for taste-motivated reasons. This same method has potential for more effectively promoting the consumption of fruits and vegetables or the consumption of genetically enhanced foods among predisposed taste-motivated segments.

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### Introduction

Some portion of the population will adopt an unfamiliar, but nutritious food into their regular diet simply because they believe it is a healthy alternative (Coletta, 1999). A perhaps larger portion will do so only if the taste of this food is preferable to alternatives (Barnes, 1998). To better understand the types of people who have adopted a healthy, unfamiliar food (Shork, 2000), it could be beneficial to specifically profile those who did so because they like the taste.

In contrast to health-motivated food choices ('I eat it because it's supposed to be good for me'), taste-motivated preferences have long been shown to provide an enduring motivation for dietary change (Gladston, 1941; Sweeny, 1942). To understand why a person does adopt a relatively new or unfamiliar food, it is useful to examine, or profile, those who have already adopted that type of food for taste-motivated reasons. Doing so can help provide insights that can be used to identify the types of people who are most

likely to adopt the food, and it can provide further insights into how to best encourage such adoption (Wansink, 2004).

The practical consequence of 'unlocking' these correlates of taste-motivated consumption can be seen in the US yogurt industry. In 1978, 7.8% of the population consumed 75% of yogurt. While most did it as a nutrition-motivated choice (Kepner, Knutson, & Nichols, 1978), for others the decision was taste-motivated. Based on insights from this taste-motivated segment, companies such as Danone and General Mills (Yoplait) focused product development strategies around better tasting yogurts. Following this, per capita consumption doubled in the next decade, and yogurt is now a common food in many kitchens (Decker, 2001).

With yogurt, it was clear that a taste-motivated segment of yogurt lovers were responsible for driving innovation, new product introduction, and profitability in the early years of yogurt's growth. This taste-motivated segment was also largely responsible for the enthusiasm and the word-of-mouth persuasion that stimulated repeated trial among similarly predisposed, but uninitiated non-users of yogurt.

Today, soy is in a similar situation as yogurt was 30 years ago. Of those few westerners who frequently and intentionally consume soy foods, most do so because of its perceived

\* Corresponding author.

*E-mail address:* [wansink@uiuc.edu](mailto:wansink@uiuc.edu) (B. Wansink).

health benefits (Wansink and Chan, 2001) not for its taste. Indeed, the belief that a product contains soy (even when it does not) has been shown to cause many non-vegetarian Americans to rate the taste of the product as grainy, chalky, dry, and unappealing (Wansink, 2003a), yet to also favourably rate it as ‘tasting healthy’ (Wansink & Park, 2002).

To introduce this notion of taste-motivated segmentation, this study will illustrate how the personality and behavior profile of a taste-motivated segment of soy consumers differs from a health-motivated segment and from a segment that does not regularly and knowingly consume soy.<sup>1</sup> Developing these profiles can inform product development and communication strategies for firms who wish to expand the consumption base for a relatively new or unfamiliar food. More generally, these methods are appropriate for similar research with other under-consumed products (such as fruits and vegetables) or those produced or processed with relatively unfamiliar techniques (such as those that have been genetically altered or those that have been irradiated).

## Methods

To determine what characteristics might be associated with taste-motivated preferences for soy, qualitative and quantitative studies were conducted. While standard constructs and scales have proven useful in helping profile individuals who are predisposed to specific foods, such as carbohydrate cravings (Christensen & Pettijohn, 2001) in most exploratory contexts, these are not available. Potentially insightful constructs can be obtained from in-depth laddering interviews and focus groups, and additional insights often be obtained from interviewing experts (such as dietitians) or ‘inside sources’ (such as gourmet chefs or specialty food store employees) (Wansink, 2000).

### *Qualitative phase*

A qualitative study was first conducted with a convenience sample of 33 people who had clear preferences for soy foods and who had been recruited through fliers placed in a health food store, a supermarket, a vegetarian restaurant, and a university cafeteria. Two focus groups were conducted (eight people each), and in-depth laddering interviews were conducted with the remaining 17 participants. Each person was paid \$20 for his or her participation.

<sup>1</sup> One reoccurring issue with a health-motivated segment is that their behavior is frequently seen as more fickle than those who consume a product for more hedonic reasons such as taste. What can occur is that when the health risk is no longer a salient concern or when there is another option, a health-motivated segment will no long consume their ‘medicine.’ This is exacerbated by attribution motivations which can lead them to attribute themselves to having eaten the food because of health benefits and not because they enjoyed the food itself.

These people were intentionally not representative of the general population because the exploratory purpose was to generate ideas of what clusters of characteristics might differentiate them from individuals who did not consume soy in the general population. Given such insights, subsequent quantitative studies could be more productively conducted with a more representative sample.

The results of this qualitative phase of the research suggested that two general reasons people evolved from infrequent to frequent consumers of soy foods (excluding soy dairy substitutes) were because of health-motivated reasons (such as concerns related to heart disease or to high blood pressure) or because of taste-motivated reasons (they preferred the taste or texture of soy). Because of the focus on this taste-motivated segment, subsequent efforts attempted to identify clusters of similarities among them. In addition to spending more time preparing food and enjoying fine dining, the individuals in this taste-motivated segment often claimed to be adventurous and to be opinion-leaders among their peers.

Interestingly, these taste-motivated individuals also frequently indicated that they would continue to eat soy even if it was not more healthy than a similar alternative. This is noteworthy because it suggests that these people may consistently consume soy over the long-term because they do not simply see it as a means to an end (health) but rather as an end in itself (taste).

### *Quantitative phase*

To quantitatively examine these notions, a survey was mailed to a North American sample obtained through a random *n*th household selection process from United States and Canadian phone records. The survey was sent to 1302 adults who were given a check for \$6.00 in exchange for completing the study. Of those mailed surveys, 606 (46.5%) responded in a timely enough manner (8 weeks) to be included in the study (63% female, average age—43 years old).

Each person was asked two broad types of questions that were directed at behaviors and characteristics raised in the qualitative portion of the study. The first set of questions related to how frequently each was involved in specific food-related behaviors in an average week (Sudman & Wansink, 2002). The second set required them to agree or disagree with a series of personality-related statements (such as ‘I am traditional,’ or ‘I am an opinion-leader among my peers’) that were asked on 9-point scales (1 = strongly disagree; 9 = strongly agree). The survey instrument had been previously approved by the Human Subjects Committee of the Institutional Review Board at the University of Illinois at Urbana–Champaign. Before being mailed, the basic survey instrument was pilot tested with a group of 132 adults in central Illinois, and it was modified to provide a confirmatory test of the reliability and validity of its measures.

Table 1  
Taste and behavior profiles associated with soy consumers

|   | Soy consumer segments              |                                       |                                     | F-value*<br>(d.f. = 2601) |
|---|------------------------------------|---------------------------------------|-------------------------------------|---------------------------|
|   | Non-consuming<br>segment (n = 410) | Health-motivated<br>segment (n = 141) | Taste-motivated<br>segment (n = 55) |                           |
| I live with (or am) a great cook  | 2.3                                | 5.8                                   | 7.2                                 | 19.1                      |
| I am traditional  | 5.3                                | 4.2                                   | 3.1                                 | 9.8                       |
| I appreciate fine food  | 3.8                                | 6.3                                   | 7.8                                 | 47.2                      |
| In general, I am an adventurous person  | 4.1                                | 4.6                                   | 5.8                                 | 21.9                      |
| I believe that I eat healthier than most  | 4.1                                | 8.3                                   | 5.9                                 | 33.7                      |
| I am an opinion-leader among my peers   | 3.4                                | 5.8                                   | 6.7                                 | 18.3                      |
| Number of evening meals eaten away from home during the average week                | 0.7                                | 1.7                                   | 1.7                                 | 9.1                       |
| Number of evening meals with which you drink wine during the average week           | 0.3                                | 0.7                                   | 1.2                                 | 7.8                       |
| Number of evening meals in which you eat a soy-related food during the average week | 0.2                                | 3.1                                   | 2.4                                 | 18.1                      |

Questions are measured on 9-point scales (1 = strongly disagree; 9 = strongly agree); \* $P < 0.01$ .

## Results

In analyzing the data, consumers were categorized by whether they indicated they primarily ate soy foods for health reasons ( $n = 141$ ), for taste reasons ( $n = 55$ ), or did not intentionally eat soy on at least a twice-a-week basis ( $n = 410$ ).<sup>2</sup> This categorization was determined by using the answers to the 9-point Likert scales regarding why they ate soy (Cronbach alpha = 0.93). Of those 196 people who were relatively frequent consumers of soy (two or more times a week), 141 could be categorized as eating soy primarily for health-motivated reasons (71.9%), and 55 could be characterized as eating soy primarily for taste-motivated reasons (18.1%). While some people ate soy for both taste-motivated reasons and health-motivated reasons, the more dominate of the two reasons was used to categorize these individuals. The taste-motivated segment consumed soy an average of 2.4 times each week, compared to the health-motivated segment which consumed it 3.1 times,  $F(1195) = 3.7$ ;  $P < 0.05$ . Non-soy eaters tended to be an average of 3.4 years older than the two other segments, and they had 0.6 years less college education.

ANOVAs were conducted across the three groups using gender, age, and education as covariates. Although these general demographic characteristics have been shown to influence nutritional awareness and the adoption of healthy products in past studies, the focus of this work is in moving past these characteristics to find more insightful and perhaps actionable characteristics and

behaviors of this taste-motivated segment. For this reason, we controlled for these variables in the analysis by using them as covariates.

As Table 1 indicates, taste-motivated consumers were consistently different than those who consumed it for health-motivated reasons. This was also in line with the findings of the qualitative portion of the study. That is, this taste-motivated segment of consumers was more likely to believe they lived with (or were) a 'great cook,' than the health-motivated segment or the non-soy eating segment,  $F(2601) = 19.1$ ,  $P < 0.01$ . In addition, they rated themselves as less traditional,  $F(2601) = 9.8$ ;  $P < 0.01$ , as more adventurous,  $F(2601) = 21.9$ ,  $P < 0.01$ , and as more likely to be an opinion leader,  $F(2601) = 18.3$ ,  $P < 0.01$ .

In addition to these personality variables, this taste-motivated segment ate evening meals away from home more frequently than the health-motivated segment and the non-soy eating segment,  $F(2601) = 9.1$ ,  $P < 0.01$ , and they also enjoyed wine with their meal more frequently,  $F(2601) = 7.8$ ,  $P < 0.01$ . Both are consistent with characteristics that might be expected for people who have an appreciation for a quality dining experience. Indeed, this segment indicated that they were more 'appreciative of fine food' compared to the other two segments,  $F(2601) = 47.2$ ,  $P < 0.01$ .

Giving further support to these results are similar findings with Indians and Pakistanis who also consumed soy for taste-motivated reasons (Wansink & Cheong, 2002). When compared to a demographically similar health-motivated segment, these taste-motivated individuals were more likely to claim they lived with (or were) great cooks and that they were more appreciative of fine food. In addition, they too were more likely to dine out and drink wine at dinner than those who consumed it mainly for health-motivated reasons.

<sup>2</sup> Because the focus was on soy foods, soy-related beverages were not considered in the analysis. In addition, there were not significant differences between those who indicated they consumed lightly processed soy (such as tofu) and those who consumed more processed versions (such as soy burgers or soy-fortified pasta), so both general types of soy products are aggregated for the analyses.

## Discussion

Many well-intended efforts to change the nutrition-related behaviors of people have had disappointing results. Sixty years ago, the disappointments were with efforts to encourage organ meat consumption in the protein-deficient rationing years of World War II (Wansink, 2002). Sixty years later, the disappointments have been with efforts to encourage increased soy and fruit and vegetable consumption in a calorie-rich but nutrient-deficient dietary environment.

One exception to these disappointments is the success of yogurt. Yet even with yogurt, it is not clear that it would have become a popular food if taste-motivated segments had not been identified, understood, and nurtured 30 years ago. Doing so allowed the targeting of new product development strategies and more focused communication efforts that dramatically expanded its popularity and acceptance.

While many efforts to change nutrition-related behaviors are directed toward a general population, this study suggests three important conclusions. First, there are some individuals or segments that are more predisposed to changing their consumption behavior in a desired direction than others. Therefore, instead of encouraging all people to eat a food (such as soy) for health-motivated reasons, a more effective method may be to target the types of people who are more likely to prefer it for taste-motivated reasons. People who adopt foods for taste-motivated reasons may be more apt to continue with these dietary changes than those who simply do so as a 'means to an end' for health reasons (Shork, 2000). Indeed, part of the importance of the finding that this taste-motivated segment claims to live with (or claims to be) 'great cooks' is that the in-home exposure to a new food is likely to be more favorably received than if an average or below average cook was responsible for the household's food preparation. Furthermore, consistently favorable repeated exposure to this food should reinforce preferences in a way that more highly varied taste experiences may not.

Second, targeting a taste-oriented segment of consumers can seed potential opinion-leaders who may eventually pass these dietary habits on to others either directly through 'word-of-mouth' communication or indirectly through contagion. Who are these taste-predisposed segments? In the case of soy, they are most likely to live in a household with a good cook (generally them or their spouse) and to exhibit behaviors associated with food appreciation, such as fine dining and wine consumption. These correlations are not necessarily causal, however, they give us an important insight into who can most effectively be targeted for at least the initial phases of a campaign focused on increasing soy consumption. Moreover, persons who fit this profile of adventuresome seekers of dining experiences can be reached even more effectively through the burgeoning print and electronic media that are dedicated to nutrition and fine dining.

Third, good cooks are food gatekeepers for their families. They not only largely determine what food is eaten by family members, but their talent also helps to facilitate appreciation of foods they do serve (Wansink, 2002). Given this gatekeeping role, efforts to encourage the adoption of relatively new or unfamiliar foods—whether they be yogurt in 1974 or soy today—would be more effective if directed at them than at less proficient or less influential cooks). While recent efforts have shown that these cooks can be divided into different sub-segments based on their personality, their cooking-related behaviors, and their preferred foods (Wansink, 2003b), the next steps should be to examine which of these sub-segments is most predisposed to experimenting with and adopting relatively new or unfamiliar foods.

While people who eat soy for taste-motivated reasons do not necessarily eat soy as frequently as those who do so for health-motivated reasons, they may be—in the long run—the more loyal and consistent consumers of it. In effect, instead of consuming soy as a means to an end they consume it as an end in itself.

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## References

- Barnes, S. (1998). Evolution of the health benefits of soy isoflavones. *Proceedings of The Society for Experimental Biology and Medicine*, 217(3), 386–392.
- Christensen, L., & Pettijohn, L. (2001). Mood and carbohydrate cravings. *Appetite*, 36(2), 137–145.
- Coletta, F. A. (1999). Road map for functional foods: central challenge and major priorities. *Nutrition Today*, 34(4), 166–169.
- Decker, K. J. (2001). The dominant culture: yogurt for the masses. *Food Product Design*, April.
- Gladston, I. (1941). Motivation in health education. *Journal of The American Dietetic Association*, 25, 745–751.
- Kepner, K. W., Knutson, R. D., & Nichols, J. P. (1978). *Yogurt, frozen yogurt (soft serve), and hard frozen yogurt marketing profile*. Washington, DC: American Cultured Dairy Products Institute.
- Shork, D. (2000). A matter of taste: how soyaworld captured 60% of the dairy alternative market. *Marketing (Maclean Hunter)*, 105(20), 14.
- Sudman, S., & Wansink, B. (2002). *Consumer panels*. Chicago, IL: AMA.
- Sweeny, M. (1942). Changing food habits. *Journal of Home Economics*, 34(September), 457–462.
- Wansink, B. (2000). New techniques to generate key marketing insights. *Marketing Research*, Summer, 28–36.
- Wansink, B. (2002). Changing eating habits on the home front: lost lessons from World War II research. *Journal of Public Policy and Marketing*, 21(1), 90–99.

- Wansink, B. (2003a). Profiling nutritional gatekeepers: three methods for differentiating influential cooks. *Food Quality and Preference*, 14(4), 289–297.
- Wansink, B. (2003b). Overcoming the taste stigma of soy. *Journal of Food Science*, 75, 3 forthcoming.
- Wansink, B. (2004). *Marketing Nutrition: Soy, Functional foods, Biotechnology, and obesity*. Champaign, IL: University of Illinois Press.
- Wansink, B., & Chan, N. (2001). Relation of Soy Consumption to Nutritional Knowledge. *Journal of medicinal foods*, 4(3), 147–152.
- Wansink, B., & Cheong, J. (2002). Taste profiles that correlate with soy consumption in developing countries. *Pakistan Journal of Nutrition*, 1(6), 276–278.
- Wansink, B., & Park, S. B. (2002). Sensory suggestiveness and labeling: do soy labels bias taste? *Journal of Sensory Studies*, 17(5), 483–491.

**Brian Wansink** is the Julian Simon Memorial Scholar and Professor of Nutritional Science, of Marketing, and of Agricultural and Consumer Economics and of at the University of Illinois at Urbana–Champaign—350 Wohlers Hall, University of Illinois, Champaign, IL 61820, 217-244-0208, wansink@uiuc.edu.

**Randall Westgren** is Associate Professor of Agricultural and Consumer Sciences at the University of Illinois. This study was made possible by support from the Illinois Council for Agricultural Research and from the Functional Foods for Health program at the University of Illinois for their support of this project.