

The Future of Health & Wellness in Food Retailing

RESULTS FROM A NATIONAL SURVEY



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Table of Contents

- I. Introduction** 5
- II. Environment and Health Connection:** 7
Do consumers see a connection between their own health and the health of the environment?
- III. Shopping Behaviors:** 11
How strongly is a focus on health reflected in customer shopping behavior?
- IV. Grocery Store as Part of Personal Health Ecology:** 15
To what extent do shoppers view the supermarket as a way to deal with their health and wellness?
- V. Food and Health Connection:** 17
Is customer shopping behavior aligned with their attitudes on food and health?
- VI. Conclusion** 21
- VII. Appendix 1** 23
- VIII. Appendix 2** 25
- IX. Endnotes** 27

Introduction

The Consumer Health and Nutrition Survey of 2007 was designed to provide retailers with greater insight into how customers are thinking about and acting on health and its connection with food and sustainability.

The results show the extent to which customers hold certain health- and food-related attitudes and how much these attitudes affect their behavior and how this varies among different customers. The findings can be used in translating insights from the *Future of Health and Wellness in Food Retailing* map developed by the Institute for the Future (IFF) for the Coca-Cola Retailing Research Council, North America into actions that make sense in their own markets.

The survey answers four questions that can help retailers gauge the extent to which their customers are ready for a more complete offer related to food and health.

- Do consumers see a connection between their own health and the health of the environment?
- How strongly is a focus on health reflected in customer shopping behavior?
- To what extent do shoppers view the supermarket as a way to deal with their health and wellness?
- Is customer shopping behavior aligned with their attitudes on food and health?

INTRODUCTION

Table 1: Strong Environment and Health Connection Belief¹

ENVIRONMENT AND HEALTH ATTITUDE/ BEHAVIOR TYPES	ENVIRONMENT AND HEALTH ATTITUDE/BEHAVIOR TYPES DEFINED	PEOPLE WHO AGREE
In Sync	I believe there is a connection between environmental well being and my personal health, and I have changed my behavior to ensure a healthier environment.	26%
Trying to Change	I believe there is a connection between environmental well being and my personal health, and I am TRYING to change my behavior to ensure a healthier environment.	50%
Not in Sync	I believe there is a connection between environmental well being and my personal health, but I have done nothing about it.	13%
No Connection	I don't believe there is a connection between environmental well being and my personal health, and it does not influence my behavior.	11%

Table 2: Strong Food and Health Connection Belief²

FOOD & HEALTH ATTITUDE/BEHAVIOR TYPES	FOOD & HEALTH ATTITUDE/BEHAVIOR TYPES DEFINED	PEOPLE WHO AGREE
In Sync	I believe there is a strong connection between my health and the food I eat, and my eating habits reflect this.	30%
Trying to Change	I believe there is a strong connection between my health and the food I eat, and I am TRYING to have eating habits that reflect this.	51%
Not in Sync	I believe there is a strong connection between my health and the food I eat, but I don't have eating habits that reflect this.	13%
No Connection	I don't believe there is a strong connection between my health and the food I eat.	6%

To answer these questions, the IFTF conducted ethnographic interviews with an interview in the home and an in-store observation component. The ethnographic work was followed by a national Consumer Health and Nutrition Survey 2007, an online survey of more than 1,000 customers who are representative of the general population. (For more detail on the survey methodology, please refer to Appendix 1.) Results from this work are presented to the left:

Two key survey questions that are referred to repeatedly in this analysis merit introduction: the connection that consumers make between the well-being of the environment and personal health (Table 1) and the connection made between food and health (Table 2). These two questions serve as powerful proxy questions that begin to explain the relationship between attitudes and behaviors. The tables below define the attitude/behavior types that will be referred to repeatedly throughout the analysis and reflect an opportunity space for retailers to engage with the large majority who admit to TRYING to have habits that reflect their beliefs, or even for educating those who do not believe in a connection at all.

Environment and Health Concerns

Do consumers see a connection between their own health and the health of the environment?

More consumers now see a connection between the well-being of the environment and their personal health. Retailers need to be aware of this new perspective and respond to it or run the risk of losing customers to others who make the customers more comfortable with the way they manage their vulnerability to this new health risk.³

Sustainability and environmental concerns have been appearing in the marketplace in a variety of ways. Green behaviors seem to have reached a tipping point,⁴ jumping into a more mainstream concern.⁵ With the rising popularity and spread of documentaries regarding the earth and people's lives, along with rising fuel costs, more people are starting to pay attention to how the environment affects them and their food supply.

Almost 90% believe in the connection, but only about 26% of the customers have changed their behavior to ensure a healthier environment.

Almost nine out of ten customers believe there's a connection between the health of the environment and their own health, and among those who:

- Have changed their behavior – These customers tend to be younger, college-educated, in excellent health, and living in urban and suburban areas. They also see the connection between food and health.
- Are trying to change their behavior – These customers tend to be older and include more females. They also live in rural areas as well as urban/suburban communities.

ENVIRONMENT AND HEALTH CONCERNS

Table 3: Reasons Consumers Purchase Organic Foods

REASONS	% RESPONDING "YES"
Grown or produced without pesticides	44%
Made from natural ingredients	43%
Grown or produced without synthetic chemical fertilizers	39%
Grown or produced without antibiotics	36%
Grown in a way that ensures soil fertility	29%
Grown in a way that promotes bio diversity	25%

Table 4: Consumer Distribution of those who Purchase Foods without Pesticides

ENVIRONMENT AND HEALTH ATTITUDE/ BEHAVIOR TYPES	IN SYNC (26%)	TRYING TO CHANGE (50%)	NOT IN SYNC (13%)	NO CONNECTION (11%)
Purchase foods without pesticides	61%*	54%*	22%	18%
FOOD AND HEALTH ATTITUDE/BEHAVIOR TYPES	IN SYNC (30%)	TRYING TO CHANGE (51%)	NOT IN SYNC (13%)	NO CONNECTION (6%)
Purchase foods without pesticides	58%*	53%*	18%	18%

*Significantly different from those not in sync and those who do not believe in a connection.

Table 5: Consumer Distribution of Willingness to Pay More for Organic

ENVIRONMENT & HEALTH ATTITUDE/BEHAVIOR TYPES OVERALL	IN SYNC (26%)	TRYING TO CHANGE (50%)	NOT IN SYNC (13%)	NO CONNECTION (11%)
Willing to pay more	61%*	42%*	25%	16%
FOOD AND HEALTH ATTITUDE/BEHAVIOR TYPES OVERALL	IN SYNC (30%)	TRYING TO CHANGE (51%)	NOT IN SYNC (13%)	NO CONNECTION (6%)
Willing to pay more	51%*	45%*	19%	18%

*Significantly different from those not in sync and those who do not believe in a connection.

Because considerations surrounding sustainability result in some uncertainty for food retailers (especially since initial experiences with organics yielded some challenges), an exploration into the connection between organics and consumer attitudes toward the environment is important to consider.

Almost half of all respondents (48%) reported that they have purchased organic food in the last six months.⁶ These consumers were more likely to report excellent/very good health status (56%) compared to those with good (41%) or fair/poor (34%) health status.

Consumers reported a variety of reasons for purchasing organic (Table 5).⁷

To further explore why people are purchasing organic foods, the top reason, “grown without pesticides” was analyzed against the two key questions: the connection between the environment and health and between food and health attitude/behavior types⁸ (see Table 4).

How do these attitude/behavior types play out when people consider pesticides as an important reason for purchasing organic? While those with “in sync” or “trying to change” attitude/behavior types are significantly more likely to purchase foods without pesticides, the environmental connection seems to have a slightly larger effect than the food and health connection.

Because organics appear to be an important health offering to many consumers, the Consumer Health and Nutrition Survey of 2007 explored whether people were willing to pay more to obtain organic foods, thereby capturing a quantitative measure of the extent of consumer’s current health value system.⁹ Of the 42% of consumers willing to pay more, 21% were willing to pay about 25¢ more, 14% willing to pay about 50¢ more, and 7% were willing to pay about 75¢ or more extra to obtain organic foods. While this willingness to pay is calculated in absolute terms, rather than in percentage of the food product, the results are still instructive that many people are willing to pay more for organic foods.

People who were willing to pay more for organics were:

- Slightly more educated, higher income, older age groups
- More likely to self-report excellent/very good health status (48%) to be willing to pay more for organic than those with good (35%) or fair/poor (33%) health.

Willingness to pay more for organic foods is instructive on how important the value is to consumers, and it is important to examine potential motivators for being willing to pay extra. Table 5 explores the differences between both environment and health and food & health attitude/behavior types (Table 5). In both cases, people who are willing to pay more for organic are substantially more likely to have an “in sync” or “trying to change” attitudes/behavior type compared to those “not in sync” or “no connection.”

The connection between the environment and health appears to be a stronger predictor of willingness to pay more for organic foods than the connection between food and health. Among those who report “in sync” environment and health attitudes/behaviors (26% of the overall sample), 61% report being willing to pay more for organic. Of the 11% who do not perceive a connection between the environment and their personal health, only 16% report being willing to pay more for organic.

Among those who report “in sync” food and health attitudes/behaviors (30% of the overall sample), 51% report being willing to pay more for organic. Contrasted with those who do not perceive a connection, only 18% of “no connection” respondents report being willing to pay more for organic foods.

Finally, an interesting finding emerged when examining the relationship between environment attitude/behavior types and self-reported health status (see Table 6).¹⁰ Consumers who believe in the connection between environmental well-being and their own health are significantly more likely to report excellent/very good health status (33%) compared to good (18%) or fair/poor (17%) health status. Those who do not believe in the connection are significantly more likely to report poor health status (24%) compared to only 9% and 10% of those with excellent/very good or good health status respectively. We will revisit self-reported health status in later sections, but this finding represents a key insight for food retailers. Assessing self-reported health measures may provide a window into the engagement consumers demonstrate with respect to their health and the connections between food and the environment.

Connections between the environment and personal health reach further than just the food world. A large majority of people consider the health benefits of purchases in general, not just of foods and beverages, but of household cleaning products, grooming or beauty aids, kitchen utensils, and even personal electronic devices to be very important or somewhat important.¹¹ One-third (66%) of respondents indicated that health benefits were very important or somewhat important even for home materials such as insulation, carpet, or air filters.¹²

The types of behaviors that people can implement to be consistent with their belief in the connection between the environment and health also range in variety: from people recycling; to recycling and reusing; to recycling, reusing, and consuming less. Some people want to purchase fair trade products, goods that are packaged with eco-friendly materials, or products that are grown or produced in an environment designed to reduce contamination.¹³

Individuals are doing all kinds of things to improve either their own health or the health of the community, like using public transit, recycling, buying products with a minimal impact on the environment, buying products that support environmental organizations, supporting organizations that pay living wages, working for employers who support environmental well-being, and even conserving energy at home.¹⁴

These types of attitudes may begin to influence the types of packaged food products that consumers wish to purchase and even the types of companies people wish to purchase from in the coming decade. IFTF forecasts that these individuals will begin aggregating in social networks around common causes and begin to work toward positive change to help the environment, the community, and their own personal health.¹⁵

Table 6: Connection between Environment Attitude/Behavior Types and Health Status

ENVIRONMENT ATTITUDE/ BEHAVIOR TYPES	EXC./VERY GOOD	GOOD	FAIR/ POOR
In Sync	33%*	18%	17%
Trying to Change	48%	54%	48%
Not in Sync	10%	18%*	12%
No Connection	9%	10%	24%*

*Significantly different than the other two categories.

▲Significantly different than those who reported excellent/very good health status.

Shopping Behaviors

How strongly is a focus on health reflected in customer shopping behavior?

Health appears to be a strong consideration in the behavior of less than half the customers.

More than one-third of all customers strongly agree that they actively look for healthy food and beverages when grocery shopping. These shoppers are also:

- More likely to make the connection between food and health
- Less likely to be discount-oriented.
- Younger, i.e., Gen-Xrs, in excellent or good health, with a college education and income over \$75,000.
- Living in urban and suburban areas, but not exclusively, i.e., 23% live in rural areas.

How does this translate into their interest in specific health-related product characteristics?

Table 7: How Often Certain Product Characteristics are Always Considered in Food and Beverage Choices (% Always Agree)

Detailed nutritional labeling	23%
Low-fat	19%
Low sodium/salt	17%
Rich in antioxidants	17%
Low calories	16%
High in fiber	14%
Organic	7%
Promises a high energy boost	7%

SHOPPING BEHAVIORS

Table 8:
What Health-Related Products/Services Have You Purchased in the Last Six Months?
(% of Respondents)

Organics	48%
Natural/Herbals	39%
Probiotics	37%
Monitors for health conditions	22%
Cholesterol-reducing food	19%
Met with a nutritionist	16%
Joined a weight-loss program	11%

A strong focus on specific health-related characteristics of food is far from universal. Only a minority of shoppers report that they always apply health considerations to their choices of food and beverages.

- 23% always look for detailed nutritional labeling.
- 20% look for low fat.
- 17% look for low sodium/salt as well as antioxidants.

There's a similar pattern in customer purchases of selected health-related products and services.

This pattern of health-related purchases further confirms that health- and wellness-driven behavior cannot yet be regarded as mainstream. This emphasizes the importance of tailoring the offer to match the behavior of customers around each store. Health-related purchases are more likely to be made by:

- Customers living across the country, but this behavior is somewhat stronger in suburban/urban communities versus rural.
- Every customer segment, but tend toward those with more education, i.e., at least a college degree, who report being in excellent/good health.
- Only two behaviors had greater appeal with customers who have incomes of \$50,000 or more per year, i.e., cholesterol-reducing foods and natural and herbals.
- Interest of younger customers was more focused on probiotics and weight-loss programs.

To provide more depth in answering how strongly the focus on health is reflected in customer shopping behavior, health-related products and services were examined in relationship to the connection consumers make between food and health.¹⁷ The four categories of food & health attitude/behavior types delineate the level at which behaviors match up with a belief in the connection between food and health. Table 9 shows, in every case, attitude/behavior types that were “in sync” were significantly more likely to purchase these types of products than were consumers who reported that they did not believe in a connection between food and health. For the last two services (meeting with a nutritionist or joining a weight loss program), we found a substantial gradient effect.

Overall, when examining these purchasing behaviors against the food and health connection, those who were “in sync” were substantially more likely to purchase any of these health-related products and services. One possible insight from this finding is that people with a higher health and nutritional IQ are aware of the benefits of such products. One role the retailer can play in this space is to help the consumers that do not see the connection to become aware of the health benefits of products like these.

This finding is an important distinction. Consumers are likely to improve their health and nutritional IQ over time¹⁸, implementing more and more behaviors that are consistent with their health beliefs. With all of the emphasis on obesity prevention, the consequences of chronic disease, and fear of health care costs that are out of reach, people are likely to increase their healthy attitudes and behaviors over time. IFTF forecasts that consumer attitudes will start to change and that their actions will follow on a somewhat slower path as they try to implement those beliefs in their daily lives.¹⁹ As consumers are becoming more health conscious, they may become more likely to purchase products that have proven health benefits from legitimate scientific sources. However, many of these product-specific categories will remain niche behaviors into the next decade, although some are likely to gain in popularity.

Table 9:
Health-Related Products and Services Compared with Food and Health Attitude/
Behavior Types

RESPONSE	IN SYNC	TRYING TO CHANGE	NOT IN SYNC	NO CONNECTION
Organics	58%*	53%*	18%	18%
Natural/Herbals	49%*	40%*	22%	16%
Probiotics	44%*	41%*	19%	9%
Monitors for health conditions	28%*	22%*	16%	6%
Cholesterol-reducing foods	26%*	19%*	9%	3%
Met with a nutritionist	25%*	15%*	9%*	1%
Joined a weight loss program	17%*	9%*	6%	1%

*Significantly different than those not in sync or who do not believe in a connection.

*Significantly different than the other three categories.

• Significantly different than those who do not believe in a connection.

Grocery Store as Part of Personal Health Ecology

To what extent do customers look to the supermarket as a way to manage health and wellness?

In 2004, IFTF published a forecast on the personal health ecology.²⁰ This forecast resulted from ethnographic interviews on the mechanisms by which people managed their personal health. What IFTF learned from these interviews was that people managed their health in a much broader way, including more than just health care practitioners in their strategy.



Source: IFTF

Results from the 2007 Consumer Health and Nutrition Survey provide evidence that people are now looking to the grocery store as part of their strategy to manage their personal health, as part of that expanding personal health ecology.

A majority of customers look to the supermarket for product-specific information, and a smaller segment look to food stores for health-related advice and services.

Customers have a range of ways in which they look to the supermarket to support their efforts to maintain their health and wellness (see Table 10).

When asked what customers look for in selecting a store to buy their food and groceries, they mention a number of health-related features in addition to the more typical responses, e.g., price, variety, cleanliness.

GROCERY STORE AS PART OF PERSONAL HEALTH ECOLOGY

Table 10: What Health-Related Features do Customers Look for in a Food Store? (% of Customers*)

Fresh produce section provides information on health qualities of product	67%
Stocks healthier product alternatives	65%
Provides prominent signage on food product nutrition	56%
Provides recipes/demonstrations for healthier meals	42%
Provides health ratings on the nutrition of products that supplement nutritional labels	39%
Provides information about disease management benefits of different foods	34%
Provides in-store magazines that address health and wellness	34%
Has nutritionists available to support diet and health needs	29%
Provides in-store health seminars	20%
Offers an in-store clinic	17%

Table 11: Used as Information Source Prior to Buying Food or Health Product (% of Customers Using in the Last 12 Months)*

Product Label	68%
Family Member or friend*	52%
Grocery store	47%
Newspaper/Magazine/Newsletter	47%
Doctor	41%
TV commercial/program	38%
Health website	37%
Product website	36%
Dietitian/Nutritionist	35%

Table 12. Visits to In-Store Clinic²¹

FOOD AND HEALTH ATTITUDE/BEHAVIOR TYPES	In the LAST SIX MONTHS have you received a routine medical checkup at an in-store clinic	
	YES	NO
In Sync	50.4%*	23.7%
Trying to Change	40.3%*	55.0%*
Not in Sync	7.6%	14.1%
No Connection	1.7%	7.2%

*Significantly more likely than “not in sync” or “no connection”.

- Top among these are product-specific information on nutrition, the ability to make healthier choices among products, and guidance on how to prepare foods in a healthy way.
- There was also interest in nutrition and health-related services, e.g., classes and clinics, but this was expressed by a smaller percent of customers.

A majority of customers look to the supermarket for product-specific information, and a smaller segment look to food stores for health-related advice and services.

Customers use a range of different sources to get information they need prior to buying a food or health item.

Among sources of information used for purchasing a health product, the grocery store ranked third among other choices. Almost half (47%) of all consumers looked to the grocery store as a source of health information.

A smaller number of consumers actively look for an in-store clinic offering from their grocery store (17%) or actually utilize an in-store clinic to manage their health (13% of consumers overall had gotten a routine medical check-up at an in-store clinic in the last six months). However, food and health attitude/behavior types help to explain the distribution of people using the store to actively manage their health—as part of their personal health ecology. People with “in sync” and “trying to change” attitude/behaviors are significantly more likely to have visited an in-store clinic than those “not in sync” or who perceive “no connection” between food and health.

Food and Health Connection

How aligned is customer shopping behavior with their attitudes on food and health?

The eating habits of only 30% of customers reflect a belief that there's a strong connection between food and health.

The survey looked at a range of different attitudes on the relationship between food and health.

There's a core of customers who not only see the health benefits of eating the right foods, but actually appear to be using food as "preventative medicine." While this represents a fairly narrow range of responses, i.e., 18% to 30%, there were some differences among the groups:

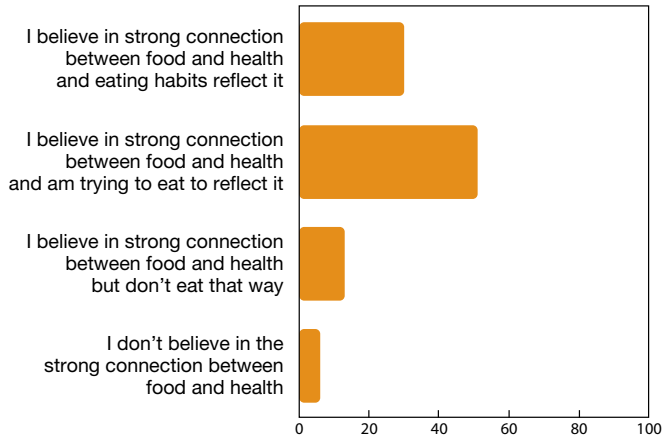
- The notion that good nutrition can delay the onset of chronic disease was held by baby boomers.
- The desire to prevent illness by eating right was strongest among females.
- Always selecting what they eat in order to have a healthy diet was more common among upper-income customers.
- Belief in the fact that good nutrition could prevent most chronic diseases and for the most part illness, as well as eliminating the need for most prescriptions, was strongest among younger customers, i.e., Gen-Xrs and Eco Bloomers.

Table 13: Customer Attitudes on the Relationship between Food and Health (% Strongly Agree)

Good nutrition can delay the onset of chronic disease	30%
My desire to prevent illness has a big impact on what I eat	28%
People can avoid most illnesses by just eating right	21%
I always carefully select what I eat to achieve a healthy diet	20%
Good nutrition can overcome genetic predisposition of diseases	20%
Most chronic disease can be prevented through good nutrition	19%
The need for most prescriptions can be eliminated by good nutrition	18%

FOOD AND HEALTH CONNECTION

Figure 2: Food and Health Connection
(% of Customers)



There is always concern, however, that consumers will say one thing and do another. Some of this undoubtedly traces to human nature, but it could also be caused by the fact that attitudes are simply leading behavior and that at some point in the future they can expect to be in alignment.

A strong majority, i.e., 81% of customers see a strong connection between food and health.

A first step in exploring this question involved determining the extent to which customers believe there is a connection between their food and their health. While the belief in the connection between food and health is broad-based:

- Only 30% of customers indicate that they've changed their eating habits to be consistent with this belief.
- A majority, i.e., 51%, indicate that they're still trying to change their eating habits.
- A small percentage of customers appear to have chosen to ignore that belief in their eating habits.

There are some things that a retailer can do to better serve customers who believe in the connection between food and health.

- For those who have changed their eating habits, help them to more easily find food that allows them to maintain their healthy diets.
- For those who are trying to change, give them support in adopting healthier eating habits.

Most retailers are interested in what they can do in their own local markets, and how to respond to the forecast using a practical approach. For many, the key question remains, how does this consumer connection between food and health affect my store offerings? Many are interested in regional differences. Although rural/urban differences are not substantial, the frequencies do differ slightly based on setting (see Table 14).

The connection between food and health attitudes and behaviors becomes more interesting when viewed through the lens of health status.

Personal-reported health status is a very good methodological indicator of a person's overall health. A wide range of papers have been published studying self-reported health status and its efficacy as a measurement. People who report having excellent/very good health status are significantly more likely (54%) to believe in the connection between food and health and be taking actions that reflect this belief than are those with good (18%) or fair/poor health (24%). The other significant finding is that people with Excellent/very good health status are significantly less likely (3%) than people with just good health (10%) not to believe in or be taking action on healthy food habits. (see Table 15)

Table 14. Strong Food and Health Connection Belief by Rural/Urban Setting²²

FOOD & HEALTH ATTITUDE/BEHAVIOR TYPES	Which of the following BEST describes the place where you now live?			
	A LARGE CITY	A SUBURB NEAR A LARGE CITY	A SMALL CITY OR TOWN	A RURAL AREA
In Sync	30.6%	29.8%	21.6%	26.6%
Trying to Change	53.1%	55.5%	54.4%	47.8%
Not in Sync	8.1%	9.8%	17.2%	17.7%
No Connection	8.1%	4.9%	6.8%	7.9%

Table 15: Strong Food and Health Connection Belief by Health Status

RESPONSE	EXC./VERY GOOD HEALTH	GOOD HEALTH	FAIR/POOR HEALTH
I believe there is a strong connection between my health and the food I eat, and my eating habits reflect this.	40%*	18%	24%
I believe there is a strong connection between my health and the food I eat, and I am TRYING to have eating habits that reflect this.	48%	55%	49%
I believe there is a strong connection between my health and the food I eat, but I don't have eating habits that reflect this.	9%	17%**	18%
I don't believe there is a strong connection between my health and the food I eat.	3%	10%**	10%◇

*Significant difference from Good and Fair/Poor

**Significant difference from Exc/Very Good

◇ Result is not significant due to a smaller sample size, with less statistical power for calculation.

Conclusion

The 2007 Consumer Health and Nutrition Survey was designed to give food retailers a preview into the attitudes and behaviors of consumers engaging with the health world and provide a tangible frame of reference for how to engage with the future of health and wellness, as it relates to food retailing.

Analysis into key questions that help to define attitude/behavior types for the connections that people are making between the environment and food and their personal health, and exploration into specific shopping behaviors and how the consumer views the store as part of their personal health ecology helps to prepare retailers for assessing their readiness.

The single most compelling finding that was consistent across many results and demographic groups was the concept that self-reported health status was highly correlated with “in sync” and “trying to change” attitude/behavior types (for both environment and health and food & health connections). Those who reported their health status as excellent/very good were also much more likely to also purchase healthy products or actively be pursuing healthy behaviors compared to those with good or fair/poor health status, showing a strong correlation.

An example of the usefulness of this measure is apparent when looking at an overall health response like, “I always carefully select what I eat to achieve balanced nutrition and a healthy diet.” Overall, 20% of consumers report that they strongly agree, while 35% report that they somewhat agree. Layering that general health response with health status demonstrates the descriptive power of the self-reported health measure, by providing a much more detailed distribution (below).

By Health Status:

RESPONSE	EXC./VERY GOOD	GOOD	FAIR/POOR
'strongly agree'	27%*	11%	13%
'somewhat agree'	40%*	30%	28%

CONCLUSION

Although not a causal finding, self-reported health status could be an important indicator to use when assessing local market readiness.

The second major finding from this analysis leads to the conclusion that by raising the nutritional IQ of consumers, shoppers may be more likely to purchase healthy foods or even functional foods (once they understand the health benefit). The biggest opportunity for new health offerings is derived from the obesity epidemic, and can be linked to weight loss or other healthy food offerings. When it comes to obesity, income remains an important factor:

“Many health disparities in the United States are linked to inequalities in education and income. This review focuses on the relation between obesity and diet quality, dietary energy density, and energy costs. Evidence is provided to support the following points. First, the highest rates of obesity occur among population groups with the highest poverty rates and the least education. Second, there is an inverse relation between energy density (MJ/kg) and energy cost (US dollars/MJ), such that energy-dense foods composed of refined grains, added sugars, or fats may represent the lowest-cost option to the consumer. Third, the high energy density and palatability of sweets and fats are associated with higher energy intakes, at least in clinical and laboratory studies. Fourth, poverty and food insecurity are associated with lower food expenditures, low fruit and vegetable consumption, and lower-quality diets. A reduction in diet costs in linear programming models leads to high-fat, energy-dense diets that are similar in composition to those consumed by low-income groups. Such diets are more affordable than are prudent diets based on lean meats, fish, fresh vegetables, and fruit. The association between poverty and obesity may be mediated, in part, by the low cost of energy-dense foods and may be reinforced by the high palatability of sugar and fat. This economic framework provides an explanation for the observed links between socioeconomic variables and obesity when taste, dietary energy density, and diet costs are used as intervening variables. More and more Americans are becoming overweight and obese while consuming more added sugars and fats and spending a lower percentage of their disposable income on food.”²³

Obesity may be the single largest reason that people are increasingly seeing a link between food and health. As the obesity epidemic rises, health problems that result are emphasized in the media, in health programs across the nation, and even in the educational system. The *American Journal of Clinical Nutrition* reports above, that low-income is associated with lower food expenditures, lower fruit and vegetable consumption, and low quality food intake.

Nutritional IQ is also lower among those with low incomes or lower formal education levels. These two demographic groups provide food retailers with a large opportunity for improving the health of the nation. If retailers begin to provide nutritional education in the store, raising nutritional IQ (among low income and people with less education) is one way to have a substantial impact on America’s overall health status. Providing targeted health information may also be one way to increase healthy food expenditures among these groups. Another alternative would be to partner with health organizations focused on obesity prevention to provide opportunities the store cannot provide alone. A recent interaction with Pediatric Practice Executives from the Child Health Corporation of America indicated a strong desire on the part of hospital executives to partner with the food industry and food retailers to help work on the obesity problem together.²⁴ Health organizations often have tested programs with effective health outcomes and highly developed health literature. Rather than having to develop all these materials from scratch, food retailers can begin to form relationships that will network with other players in the personal health ecology network.

Appendix 1

Survey Methodology

IFTF Health, Nutrition, and Sustainability Survey,
November 2007

Fielded: November 29 – December 3, 2007

SUMMARY

The Institute for the Future developed a survey on a wide variety of topics including health, nutrition, shopping behaviors, and sustainability. Princeton Survey Research Associates International (PSRAI) conducted the Health and Nutrition Survey online from November 29 to December 3, 2007 on behalf of the Institute for the Future. The survey obtained online interviews with a sample of 1,005 adults (ages 18+) who live in the United States. The sample is representative of the U.S. population parameters including income and rural/urban characteristics, ensuring that 50% of respondents were below the median household income in the United States and 20% lived in rural areas. Statistical results were also weighted according to national parameters for sex, age, education, race, Hispanic origin, and region, to correct for known demographic discrepancies. Responses for most questions were collected on a Likert scale that measures positive or negative responses to a statement, giving ordinal measures for most of the results.

LIMITATIONS

Results are based on a sample of 1,005 adults aged 18 or older who have Internet access and are members of Survey Sampling International's SurveySpot panel. Data were weighted so that the demographics of the sample match national population parameters. The margin of error for the entire sample is $\pm 4\%$. Results are presented as though interviews were conducted with a random sample drawn from the entire population. However, since the data were collected online, those with no Internet access were excluded from the sampling frame and are not represented in the sample.

DESIGN AND DATA COLLECTION PROCEDURES SAMPLE DESIGN

PSRAI used the Survey Sampling International SurveySpot panel, a premium source of samples for online surveys, to find respondents. The SurveySpot panel recruits from many sources, including banner ads and RDD telephone recruitment. Unsolicited email or "spam" is not used. The panel is continually growing and currently covers about 4.5 million household members and 1.5 million panelists. Panelists are continuously monitored to prevent under-surveying and over-surveying in an effort to maintain their interest in participating. Panelists are offered rewards with each survey invitation, increasing their likelihood of participation.

QUESTIONNAIRE DEVELOPMENT AND TESTING

IFTF staff developed the final questionnaire with some input from PSRAI on formatting and structure. Larger insights from the ethnographic findings²⁵ fed into the survey construction through ensuring relevance of the survey instrument to different household types and demographics.

WEIGHTING

Weighting is generally used in survey analysis to compensate for patterns of non-response that might bias results. The interviewed sample was weighted to match national parameters for sex, age, education, race, Hispanic origin, and region (parameters derived from U.S. Census 2006 Annual Social and Economic Supplement [ASEC] definitions). In addition, the sample selection ensured that 50% of respondents were below the median household income in the United States and 20% lived in rural areas to match the national parameters.

ORGANICS²⁶ (48%)

While important as a growing market and as a primary avenue of food purchases for those concerned about pesticides and genetically modified foods in their food supply, food retailers are still concerned not to get ahead of the curve. Section II: on Environment and Health describes organics in more detail.

HERBAL PRODUCTS²⁷ (39%)

IFTF explored whether respondents used biologically-based treatments like herbal products, minerals, Ginko or fish oil. Herbal products are thought to provide a variety of health benefits, depending on the product. Although herbal products have not been evaluated for specific health claims by the Food and Drug Administration (FDA), many have scientific evidence and research studies backing up their claims. In addition, products like Ginko are thought to improve concentration and energy levels. Fish oil, or Omega-3 fatty acids from plant-based sources help to reduce risks of heart disease.²⁸ 39% overall reported that they used these types of products in the last six months.

For this purchasing behavior, respondents showed significant differences based on education, income, age, and health status. Functional foods in the herbal category usually require a greater amount of investigation or information to find out which products help with which ailment. People with greater nutritional knowledge may be more likely to purchase these types of products, because they understand the health benefits. That may be one reason we see greater uptake of these types of products among those with higher education levels and among older respondents. We also see a strong correlation between excellent/very good health status and purchase of these types of products.

Appendix 2

Why are some of these health-related products and services important?

This section provides some background information to provide context for why these specific purchasing behaviors have a large health impact.

PROBIOTICS²⁹ (37%)

Probiotics are dietary supplements containing potentially beneficial bacteria; the live cultures are intended to assist the body's naturally occurring intestinal flora to re-establish themselves. In some cases, these beneficial bacteria may help to consume unhealthy bacteria (like certain strains of E-coli that make people sick). Pharmaceutical antibiotics used for different types of bacterial infections (and sometimes unnecessarily prescribed for viruses) are not very selective about which types of bacteria they kill (killing good bacteria along with bad). Replenishing the beneficial types of bacteria (probiotics) is thought to restore balance and improve health. 37% of respondents overall reported purchasing products including probiotics in the last six months.

MONITORS FOR HEALTH CONDITIONS³⁰ (22%)

People who bought products to monitor a health conditions like a glucometer, or blood pressure or heart-rate monitor are more likely to be managing a chronic condition or supporting a family member with a health condition. For people with chronic disease, monitoring their condition is an important way to stay healthy.

CHOLESTEROL-REDUCING FOOD³¹ (19%)

Sterol esters, derived from plant materials, have been shown to reduce levels of low-density lipoproteins (LDL)—the bad form of cholesterol. High levels of LDL compared to high-density lipoproteins (HDL) cholesterol have been linked to increased plaque build-up and an increased risk of heart disease and/or hypertension. 19% of consumers overall reported that they buy these food products. Although those purchasing products including sterol esters is somewhat small, the market penetration of these products in the United

States has been very low, compared to Europe. In Europe, high profile health education campaigns about the efficacy of sterol esters at reducing the risks associated with heart disease helped smooth the way for purchase uptake rates of margarine that included these plant sterols, despite the cost being 2 to 3 times more expensive than the regular forms of margarine. When the company tried to expand to the United States, very few people were informed about the positive benefits of the product, thereby not understanding its increased cost. Trials with adding sterol esters to orange juice and other products increased the distribution, but actual implementation rates remain fairly low.

MET WITH A NUTRITIONIST³² (16%)

Nutritionists and registered dietitians can go a long way to reduce the complexity of health information as it relates to personal diets and family food strategies. However, access to this resource has typically been very low in the health care field. In order to have a health plan cover the cost of a nutritionist or registered dietitian, a client must be referred by their general practitioner, with a health condition that is directly impacted by their diet (like diabetes or occasionally severe obesity). Few people pay out of pocket for health services like this one. In addition, access to nutritionists in the context of people's day to day activities is usually very low. Many registered dietitians are either on staff at large institutions like hospitals or universities or are part of health care clinics or provider institutions. Despite the separation of nutritionists from the context of the grocery store (or the location in which most people are making their food choices), 16% of survey respondents reported that they had met with a nutritionist in the last six months. Some grocery stores are testing new strategies, such as offering access to nutritionists right in the store, which may dramatically increase the behavior of going to see a nutritional practitioner in the next decade.

JOINED A WEIGHT-LOSS PROGRAM³³ (11%)

Obesity is one of the nation's top health priorities, being a risk factor for a variety of health conditions (like diabetes, heart disease, and even neuropathy).³⁴ As a result, weight loss is no longer merely an appearance issue. Instead, weight/body mass has become a serious health indicator. While many people across the nation are purchasing diet pills and attempting a variety of weight watching strategies, 11% of respondents overall specifically joined a weight loss program to help them with their health goals.

This finding indicates that joining a specific weight loss program does depend on income level, resulting in a high level of need in the general populace. According to the American Journal on Clinical Nutrition, "the highest rates of obesity occur among population groups with the highest poverty rates and the least education."³⁵ However, only 6% of those with the lowest household incomes join weight loss programs. This gap leaves a large opportunity space to engage obesity among low income consumers.

Endnotes

1 Question 38: Which of the following statements comes closest to how you feel about the connection between the well being of the environment and your personal health?

2 Question 25: Which of the following statements comes closest to how you feel about the connection between your overall health and the food you eat?

3 For more information on how to engage with the connection between environment and health, refer to the Spectrum of Green Health forecast on the *Future of Health and Wellness in Food Retailing* Map, and the companion *The Future of Health and Wellness in Food Retailing: Forecasts and Implications* memo.

4 GEMI and BSR, IFTF Forecasts. Signals Aggregation. Increasing attention placed on global climate change, the cost of oil, and the impact of toxins on our food supply and in our water are all indicators that this awareness has gone mainstream.

5 April 14, 2008 issue of *Newsweek* “Who’s the Greenest of Them All?” highlights how environmental concerns have reached mainstream media.

6 Question 39: Have you purchased any organic food products – that is, foods produced without pesticides or synthetic chemical fertilizers – in the last six months?

7 Respondents were allowed to select as many reasons as they wanted.

8 Attitude/behavior types are defined in the introduction.

9 Question 41: Are you willing to pay more for organic foods, or not?

10 Self-reported health status has been shown to be an excellent measure in public health studies, a strong indicator of an individual’s overall actual health status.

11 Question 20 C,D,E,F

12 Question 21 A

13 Question 7 A,B,D

14 Question 37 personal and community sustainability

15 For more information on networking and health, please refer to IFTF’s forecast on the Biocitizen located on the Map and in the Implications Report. <Production, should we put proper titles here?>

16 For background information regarding the importance of some of these products, please refer to Appendix II.

17 The connection consumers make between food and health is discussed in detail in section V.

18 Steve Gundrum, CEO Mattson Foods. Expert Interview.

19 Attitude vs. health behavior literature indicates that health behaviors are more difficult to implement than health attitudes or health knowledge.

20 Ecology indicates a much larger contextual application, indicating the interplay between the entire framework for managing health.

21 18d. Gotten a routine medical check-up at an in-store clinic...In the LAST SIX MONTHS, have you

22 D7. Which of the following BEST describes the place where you now live?

23 Drewnowski A, Specter SE. Poverty and obesity: the role of energy density and energy costs. *Am J Clin Nutr* 2004;79(1):6-16.

24 IFTF presentation to PPE group from Child Health Corporation of America. Denver, February 26, 2008.

25 Ethnographic Interviews conducted by IFTF staff in October 2007.

26 Question 39: Have you purchased any organic food products—that is, foods produced without pesticides or synthetic chemical fertilizers—in the past SIX MONTHS?

27 Question 19: Next is a list of things some people do to improve their health or appearance while others do not. In the last six months, have you? C: Used biologically-based treatments like herbal products, minerals, Ginkgo or fish oil.

28 American Health Association. Usually, it is the ratio of Omega-3 to Omega-6 fatty acids that matters. We obtain far higher levels of Omega-6 fatty acids in the standard American diet. Supplementing with Omega-3 fatty acids found in fish, some types of nuts, and plant-based foods help to create more healthy ratios that help to reduce heart disease.

29 Question 18: The next set of questions are about things you might do or considerations you might make regarding your personal health and well-being. E: Bought food products with probiotics that claim to help regulate the digestive system like Activia yogurt.

30 Question 18A: Bought products to monitor a health conditions like a glucometer, or blood pressure or heart-rate monitor

31 Question 18F: Bought food products containing sterol ester that claim to help reduce LDL cholesterol like Becel margarine.

32 Question 18H: Met with a nutritionist to change your diet to eat healthier or lose weight

33 Question 18G: Joined a weight loss program like Weight Watchers or Jenny Craig.

34 Mokdad AH, Ford ES, Bowman BA, Dietz WH, Vinicor F, Bales VS, et al. Prevalence of obesity, diabetes, and obesity-related health risk factors, 2001. *JAMA* 2003;289(1):76-9.

35 Drewnowski A, Specter SE. Poverty and obesity: the role of energy density and energy costs. *Am J Clin Nutr* 2004;79(1):6-16.