STUDENTS’ TASTE FOR ORGANIC FOOD: A LOOK INTO INFLUENCES OF PERCEPTIONS

A Thesis

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By

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ABSTRACT

Organic farming became one of the fastest growing sectors of U.S. agriculture during the 1990s (USDA Economic Research, 2003). The aim of this study was to explore and describe what influenced college students' perceptions of organic foods. More specifically, to describe whether labels, brands, and prices of organic food influence students' perceptions; to describe whether selected groups influence students' perceptions; to describe how students perceive selected groups' perceptions of organic food; and to determine whether there is a significant difference among students' gender, college major, and child rearing location description to their possible influencers of organic food. The method was a survey with an N=207 with a response rate of 91%. The population consisted of undergraduate students enrolled in a Contemporary Issues class during Fall Quarter 2006 within the College of Food, Agriculture and Environmental Sciences' (FAES) at The Ohio State University.

For selected groups, respondents' families had the most influence on students' perceptions of organic foods; however, students viewed all the selected groups as having positive perceptions of organic food, except for politicians. For this population, television news affects perceptions more than newspapers. No significant differences were found with gender, child rearing location, and college to possible influencers of organic food perceptions.
Dedicated to my parents who provided support every baby step along the way.
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CHAPTER 1

INTRODUCTION

All humans need food and, since 1916, supermarkets have been the place where most purchase the food they require (Piggly Wiggly, 2006). Food is a common necessity that crosses all socioeconomic statuses, ethnicities, cultures, ages, and genders. Even for people who rarely think beyond their next meal, food and eating are inevitable aspects of the sustainability of human life – rural or urban.

While consumers\textsuperscript{1} stroll down grocery aisles with lists in hand, new products bombard the shelves daily creating an array of choices for them. Communication within a grocery store is a unique experience. Nonverbally, food packaging speaks to consumers: “Fat-free,” “All Natural,” and “Organic” are words found on labels; however, the effect(s) of these signals is unclear, as well as the question of whether the products’ marketing strategies or other forces spark consumers’ interests and willingness to buy. Many of these products are examples of the recent needs and public opinions of the U.S. population (and international countries) involving food production.

Since the early 1990s, Americans have experienced grocery fads from Olestra (fake fat) to low-carbohydrate products that are found in such diets as the well-known

\textsuperscript{1} Consumption is the use of a product and a consumer is the person who buys, prepares, or eats the product (Peter & Olsen, 1996).
Atkins and South Beach diets. Food manufacturers made these products to meet the market demand inspired by public opinion. Agricultural issues, most importantly ones involving food, have remained central foci in public communication involving environmental and human health issues. Although the 20th century agricultural techniques yielded increased food production, at the same time this technology generated widespread social changes. One particular market experiencing a steady increase since the 1970s – and expansive growth since the 1990s – is organic food.

The National Organic Standards Board (1995, p. 26) defined "organic" as:

Organic agriculture is an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony.

Many people, today, seem to be jumping on the organic bandwagon. Traditional food manufacturers such as Frito-Lay, Ragu, Orville Redenbacher, and Ocean Spray – hardly known for their nutritious offerings – added organic items to their production in 2005. McDonald’s currently is market-testing an organic coffee in New England. Even traditional supermarkets and retail stores are beginning to offer these products, which used to be found only in health-food stores or at farmers’ markets. Wal-Mart, an international discount retailer, put 400 organic products on its shelves during summer 2006 (Kabel, 2006). Organic house brands are sprouting up throughout the grocery industry, such as Safeway's O, Giant Eagle’s Nature's Basket, Kroger’s Whole Health, and Publix’s Greenwise.

Over the past decade, the organic food industry grew with organic-only supermarkets opening throughout the United States. Whole Foods Market, founded in
1980, is now the world's leading retailer of natural and organic foods, with 181 stores in North America and the United Kingdom. Whole Foods Market is even the largest grocery store in Manhattan, which opened in 2005. In the 2005 fourth quarter, Whole Food Markets sales increased 20% to $1.1 billion (Whole Foods Market, 2005). A food industry revolution has been occurring and many scholars, advertisers, and food producers believe this revolution is in organic foods.

Organic farming became one of the fastest growing sectors of U.S. agriculture during the 1990s (Dimitri & Richman, 2000). Organic food production is a potential way to lower input costs, decrease reliance on nonrenewable resources, attain high-value markets and premium prices, and enhance farm income. Organic farming systems exclude the use of synthetic (man-made) chemicals in crop production and prohibit the use of antibiotics and hormones in livestock production – simply, all natural.

Consumption levels of organic food helped the U.S. organic food industry reach $10.8 billion in consumer sales in 2003, according to the Organic Trade Association’s 2004 Manufacturers Survey. The survey also found that the organic food market grew an estimated 17% to 21% each year since 1997, while the entire food market grew from 2% to 4% per year during the same time period. A surprising result reported from the same survey was organic meat, poultry, and fish represented a mere 1% of organic food sales, but expanded by 78% during 2003. Fruits and vegetables remained the largest category in 2003 (Appendix A), accounting for 42% of sales (USDA Economic Research Service, 2003). In a demonstration of just how quickly the organic food phenomenon caught on, independent studies are the only statistics for this market because U.S. organic food production was not part of the Census of Agriculture until 2002. The number of organic
farmers or organic farmland changes in the United States is impossible to approximate because no data or archives exist. The next agricultural Census is scheduled for 2007 and the National Business Journal estimated that U.S. sales of organic products would reach $17.8 billion that year (USDA Economic Research Service, 2003).

Although data on organic food production are limited, the USDA is taking active steps to remedy this situation. Recently, on February 25, 2006, the USDA’s Economic Research Service (ERS) hosted "Briefing and Roundtable: USDA Surveys and Organic Sector Data Needs." USDA managers of several major agricultural surveys in the Agricultural Marketing Service, National Agricultural Statistics Service, and ERS discussed their surveys and opportunities for expanding them to include organic production and marketing. Representatives from USDA agencies and several organic interest groups attended, including the Organic Trade Association and the Organic Farming Research Foundation.

Many researchers in the private and public sectors are now conducting studies on the buying habits and demographics of consumers of organic foods, according to the USDA, and most have produced varied data. Depending on the type of survey, sample size, and geographic coverage, results have reached different conclusions. Ultimately, however, previous research found some general themes: consumers prefer organically produced food because of perceived health attributes and concerns of pesticide residues, overall environmental fears, and farm-worker safety (Regmi, 2001).

Possibly, consumers are eating more organically because of growing research that demonstrates some farming chemicals are linked to cancer, birth defects, infertility, and antibiotic resistance (Fleming, Gómez-Marín, Zheng, Ma, & Lee, 2003). Other
environmental concerns that generate changes in eating habits and consumption are pollution and soil erosion. Many consumers see organic farming as an alternative to those who are concerned about the environment. Organic food is sometimes perceived as being less damaging to the environment compared to conventional methods (Williams & Hammitt, 2001).

The increase in public awareness and interest has become newsworthy. Since food involves humans, food also involves publics. In communication studies, many theories might explain how the media affected this mass public opinion or vice-versa. Agenda setting and framing contribute in some way to the rise in sales of organic foods. But because of the overwhelming response the USDA received from the public concerning the labeling of organic food, organic food is an issue that involves everyone from elites and environmentalists to even the small-town journalist.

Unlike other global trends, the United States is not the first country to make organic eating popular. The United States and Europe share a roughly 40-year history of regulations of genetically modified foods and the European Union (EU) has also experienced sustained growth in the organic sector. In 2005, Germany experienced an 11% increase in the organic market (Organic Europe, 2006).

Today, the European Union and the United States differ in their philosophies on how to address organic food. The EU actively promotes growing its organic sector by using a wide variety of policies designed to increase the amount of land farmed organically. Conversely, the United States takes a free-market approach. The United States’ policies intend to aid market development through national standards and certification and federally funded grants that support research, education, and marketing.
for organic agriculture (Dimitri & Oberholtzer, 2006). The policy approaches adopted by the United States and the European Union reflect perspectives and histories that the EU and U.S. governments have involving agriculture.

Recent research also shows that other countries are joining the trend in organic farming. According to The World of Organic Agriculture 2006 – Statistics and Emerging Trends study conducted by The International Federation of Organic Agriculture Movements (IFOAM), the Swiss Research Institute of Organic Agriculture (FiBL), and the Foundation Ecology & Farming (SOEL), more than 31 million hectares of farmland are under organic management worldwide, an increase of five million hectares in one year. China has seen major developments with nearly three million hectares of pastoral land recently certified.

Although research about organic food consumer habits is a relatively new topic, the production of organic foods has a long history. Many believe that the introduction of genetically modified foods and farm chemicals created the distinction of organic food; however, that belief is untrue. Organic food has a history that dates to the devastation of the Dust Bowl in the 1930s, a time that marked the beginning of soil conservationism. Tillage practices up until the 1930s were excessive and destroyed the soil's structure. The organic matter in the soil was oxidized because of the air, creating the loss of soil structure (USDA Cooperative State Research, Education, and Extension Service, 2006).

Many characteristics in the study of organic food might explain why the surge in sales and popularity. Since the 1960s, the United States has experienced demographic changes. Some of the demographic shifts include: age distribution, slowing population growth, median family structure changes, and the workforce gender makeup.
(Govindasamy & Italia, 1999) Research suggests that higher-income families (Thompson, 1998) and females (Govindasamy & Italia, 1999) are more likely to be informed about food issues.

Public anxiety involving health appeared to be the main motive for organic food sales (Saba & Messina, 2003). Reasons for this concern range from consumer regulation trust decline (Warren, Hillers, & Jennings, 1990) and recent food scares (Miles & Frewer, 2001). Past studies have attempted to describe the organic food consumer. This study attempted to uncover which factors influence organic food's recent popularity and what drives the U.S. population to view organic food as beneficial.

Purpose of Study

The purpose of this study was to explore and describe the accessible population's perception influencers of organic food. The study focused on an accessible population from The Ohio State University (OSU) undergraduates in the College of Food, Agriculture and Environmental Sciences' (FAES) class Contemporary Issues. Contemporary Issues (597) is a series of classes offered to all undergraduate students and is required in FAES and other departments. The survey concentrated on whether the labels, brands, and prices of organic food influence students' perceptions and whether selected groups and the media influence students' perceptions of organic food. Along with exploring and describing the perceptions through a survey, part of the study also was comparative. This aspect of the study identified whether there was a significant difference among the students' gender, college major, or childhood rearing location description in regards to their perceptions' influencers of organic food.
The accessible population described above was appropriate to be surveyed because the majority of the students are enrolled in agriculture related majors. These students will be the leaders of tomorrow’s agricultural industries. Whether public interest in agriculture rises or decreases, agriculture is necessary for life and agricultural education must continue. Future leaders may affect potential policies and practices.

The results of the study provided a better understanding of the perceptions and influences of the accessible population that can be used in lobbying, marketing, and education. Since upper class college students are relatively new consumers in the grocery market, to learn what influences their perceptions of organic food is important. Also, labeling of organic foods is a current topic in public opinion and legislation.

Research Objectives

The objectives of this study were to determine the perceptions about organic food among a selected group at OSU using survey research. Questionnaire responses supplied an enhanced understanding of the influences affecting consumer demand of organic food. Specific objectives of this study included:

O1: To describe the degree to which labels, brands, and prices of organic food influence students’ perceptions of organic food.

O2: To describe how students perceive the selected groups’ perceptions of organic food.

O3: To describe the degree of influence to which selected groups have on the students’ perceptions of organic food.
O4: To describe the degree of influence that media has on their perceptions of organic food.

O5: To determine if there is a significant difference between gender and their perception influencers of organic food.

O6: To determine if there is a significant difference between college major and their perception influencers of organic food.

O7: To determine if there is a significant difference among childhood rearing location description (rural, suburban, or urban) to their perception influencers of organic food.

Significance of the Study

The study has significance for many agricultural constituencies, including the public at large. Farmers might benefit from the information about influencers of organic food perceptions specific to their products. If farmers have a better understanding of influences and perceptions, they might be persuaded to switch to or produce more organic foods. The findings also will give farmers more information on a targeted audience for marketing purposes.

Grocery proprietors might benefit from the findings to better serve their consumers. Columbus has a population of 730,008, according to a 2004 U.S. Census estimate, and is home to eight colleges and universities. The city has a total of 69,957 individuals between the ages of 18 and 25, comprising approximately 10% of Columbus’s total population – an estimate that does not include college students who
consider their family residence as their permanent residence (U.S. Census, 2004). The mean age of people living in Columbus is 32 (U.S. Census Bureau, 2004).

OSU's Columbus campus has a total enrollment of 38,479 undergraduates and of those students approximately 8,900 (23%) students live in dormitories (OSU, 2006). Therefore, most students live off campus and obtain their meals through means other than dining halls.

Advertising and marketing companies might also benefit from the findings. Learning more about who and what influences perceptions will lead them to better marketing strategies. Knowledge on the specific market, which is quickly expanding, but also lacks comprehensive research-based information, would be resourceful information for advertisers and marketers. For example, if family members influence perceptions, advertisements featuring families may be a better sales strategy.

Finally, this study adds to the body of knowledge of research involving communication (specifically media) and public opinion theories (McCombs & Shaw, 1972; Page & Shapiro, 1992; Price & Zaller, 1993). Survey responses attempted to explore and describe the impact of the media and selected groups on issues involving organic food and the U.S. public. Since the study of influencers of perceptions of organic food is relatively a new research area, the study should introduce new curiosity and research questions about food, food labeling, the media, health, and diet.

This study will expand the knowledge base that pertains to all those involved in organic food production and sales. By providing information in the area of public
opinion, this research can fill gaps in the literature on influences of organic food perceptions and assist those involved in organic food to help educate and persuade consumers.

Limitations

Like all studies, this research had limitations. First, the information was collected through surveys. Surveys about attitudes have no “true” answers (Bradburn, Sudman, & Wansink, 2004), as attitudes are subjective states that can change easily. Individuals go through many cognitive processes in answering questionnaires. However, questionnaire responses tend to be limited in time, making deliberation for the respondent not an option. Bassilil and Fletcher (1991) concluded that respondents take less than five seconds to answer an attitude question. Within those five seconds, a logical process—sometimes overlapping—makes individuals come to decisions.

For the objective questionnaire inquiries, a limitation was memory effect. Tourangeau, Rips, and Rasinski (2000) concluded that the more demanding a question is on memory, the less accurate the response. Bradburn, Rips, and Shevell (1987) found that respondents forget details and then generalize memories.

When using a survey method, the researcher must also be aware of measurement error. Two types of measurement error are: systematic and nonsystematic. Systematic errors can be invalid (the measure does not respond to the construct) or bias (irrelevant influences). Nonsystematic errors can be random errors (ambiguous questions, reporting errors) or residual variance (situation influence). These limitations must be recognized to report accurate research.
Although context effects with this survey were minimized, another limitation with the study was the survey was conducted at a single institution and in only in select classes. Using students from one university will control some characteristics, while at the same time, present a limited scope. This study did not represent the entire population and only represented the population surveyed.

Another limitation to this study is the existence of nonattitudes. Nonattitudes can be defined as giving an opinion with little or no familiarity with the topic. They resemble attitudes, but a foundation to the opinion is lacking (i.e., there is no underlying affective, fairly stable disposition that guides the answer). The respondent does not understand what is being asked; instead, the response is based on circumstances surrounding the interview, other knowledge/opinions, or on a whim.

Nonattitudes pose a problem for survey researchers as they make survey data unreliable. Attitudes are supposed to reflect an affect; however, nonattitudes lack that affective component. Thus, nonattitudes are unstable and subject to change. Nonattitudes are relevant to this study because if a student is not a consumer or purchaser of organic foods, then they would possess nonattitudes.

When studying media effects, distinction between whether the media was the sole influencer is difficult to measure. Also, when reporting advertising effects, many advertisements influencers are subliminal and therefore the respondent is incapable of measuring the advertisements influence (Moore, 1982).

Defining organic food as one category is also a limitation. Organic products are not all the same and assuming they are is a limitation within the study.
Definition of Terms

Below are the definitions of key terms in this study. Following each definition is its operational definition in regards to this research.

Accessible Population: OSU 597 classes for Autumn Quarter 2006 in the College of Food, Agriculture, and Environmental Sciences. These classes are: (a) Problems and Policies in World Population, Food, and Environment, (b) Issues Concerning Use of Animals by Humans, and (c) Pesticides, Alternatives, and the Environment.

Perception: a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor (Eagly & Chaiken, 1993). Operationally defined as a summation of each respondent's answers for each question on a 6-point Likert scale.

Characteristics: a feature that helps to identify, tell apart, or describe recognizably; a distinguishing mark or trait. Operationally defined as the following:

1) College major: of or relating to the field of academic study in which a student specializes. Operationally defined as area of academic emphasis OSU respondent reports (nominal characteristic).

2) Gender: the state of being male or female (typically used with reference to social and cultural differences rather than biological ones). Operationally defined as a survey respondent reports self as male or female (nominal characteristic).

3) Childhood Rearing Location: Rural areas comprise of open country and settlements with fewer than 2,500 residents. Urban areas comprise larger places and densely settled areas around them. An urban cluster (otherwise identified as suburban) of at least 10,000 persons is a micropolitan area (U.S. Census Bureau, 2006). Operationally defined as location OSU respondent reports as rural, suburban, or urban.
Selected Groups: The selected groups in this study consist of: family, friends, celebrities, politicians, OSU professors, and green-focused non-profit organizations.

Selected Media: The selected media for this study consist of: advertisements, print newspapers, and television.

Research Objectives Related to Questionnaire

Questions one through three described and explored Objective 1.

Questions four, six, eight, 10, 12, and 14 described and explored Objective 2.

Questions five, seven, nine, 11, 13, and 15 described and explored Objective 3.

Questions 16 through 24 described and explored Objective 4.

Question 25 determined the relationship in Objective 5.

Question 26 determined the relationship in Objective 6.

Questions 27 and 28 determined the relationship in Objective 7.
CHAPTER 2

LITERATURE REVIEW

Three main categories of research are in this literature review. Because public opinion crosses all academic disciplines as well as food consumption, this literature review will be divided into the following sections: (a) organic food history and the U.S. government; (b) media influences: advertisements, education, and communication theories; (c) the USDA and public deliberation. The literature review also focused on why the variables of gender, college major, and childhood rearing location should be studied.

Organic Food History and the U.S. Government

The concept of organic farming originates with pioneers who wanted to build a permanent agriculture, which ultimately means the sustainability of healthy soil. Traditional farming is inherently organic. However, a subculture began in the late 1930s, led by Sir Albert Howard. This new philosophy saw ecological interrelatedness – by integrating green manures, composts, and recycled sewage into the soil, the healthy soil would then produce pest- and disease-free crops and pass these qualities to humans who consumed the organic food (Beeman & Pritchard, 2001). The composting is the most
important element of organic farming. The layered organic waste material becomes a rich humus that is a natural fertilizer and conditions the soil (Lansing, 1970). Walnut Acres was the first farm in the United States to produce a brand of organic food in 1946.

The introduction of chemicals in farm inputs changed agriculture drastically. Chemicals such as DDT (the first modern pesticide in 1939) and urea (a component of fertilizer and animal feed that promotes growth) became progressive methods of farming. Organic farming continued to be competitive but it was not until the 1960s when there became a clear distinction of farming methods and the food produced.

The 1960s began a new public opinion of organic food with the groundbreaking book *Silent Spring* by Rachel Carson (1962). Carson was a pioneer in detailing and evaluating the impact of chemicals on nature. The book’s popularity raised public awareness of the ecological consequences of using chemicals in farming. Along with water pollution and the energy crises of the 1970s, farming practices and their effects became an issue of debate. States like California, which developed the California Certified Organic Farmers, and Oregon, which initiated the Oregon–Washington Tilth Organic Producers Association, took leadership roles in regulating food (Baker, 1999).

The 1980s brought a farm crisis, reminiscent of what occurred in the 1930s, with farm bank foreclosures and bankruptcies. Farmers needed a strategy to stay in business, which eventually led some to organic farming. They learned that potential benefits from organic farming systems included improved soil tilth and productivity, lower energy use, and reduced use of pesticides (USDA Economic Research Service, 2006). Farms went organic for financial reasons and added greatly to the organic farming sector. The 1980s also marked the emergence of sustainable agriculture. Sustainable agriculture provides a
conceptual framework and key principles to guide future development of farming practices and systems that are economically viable, environmentally sound, and socially responsible (University of California Sustainable Agriculture Research and Education Program, 2006).

The USDA proposed to Congress the Organic Foods Production Act (OFPA) as part of the 1990 Farm Bill. Because state laws were inconsistent or nonexistent, lack of enforcement and fraud threatened organic food. The unity and pressure formed by organic farmers, consumers, animal welfare activists and environmentalists forced organic labeling to be an aspect of the agenda. Then, in 1992, the National Organic Standard Board was created to define national standards for organic certification. Organic food sales reached $1 billion in 1993.

Over the next four years, the USDA held public hearings to acquire feedback as it developed the national organic standards. The USDA proposed and published the National Organic Program (NOP), a rule detailing organic production, handling and labeling requirements as an Amendment to the Organic Foods Production Act. Industry, consumers, farmers, and environmental groups developed U.S. organic standards after 10 years of discussion, two proposed rules, and more than 300,000 public comments from a record-breaking letter-writing campaign to the USDA (Burros, 2000). Public opinion and debate played a vital role in the laws regarding organic standards and food labeling in 2000, which will be discussed further in the Literature Review.

“Certified organic” means that agricultural products have been grown and processed according to USDA’s national organic standards and certified by USDA-accredited state and private certification organizations. Organic regulations did not exist
until Congress passed the Organic Foods Production Act of 1990 to establish national standards for organically produced commodities. This legislation requires that all but the smallest organic growers must be certified by a state or private agency accredited under the national standards administered by USDA's National Organic Program (NOP). In 2002, USDA's regulations on production, handling, and processing of organically grown agricultural products became effective. Currently, the four levels of organic food covered by the NOP are: “100% Organic”; “Organic” (at least 95% organic); “Made with Organic Ingredients” (70% organic); and, “Some Organic Ingredients” (less than 70%).

In 2004, the United States Department of Agriculture (USDA) attempted to lessen federal organics standards that U.S. public opinion made into law in 2002. Foods labeled as "USDA Organic" could contain pesticides on produce, potentially contaminated fishmeal as feed for livestock, and hormones and antibiotics in dairy cattle under this proposed legislation. Strong-minded, citizens groups and the organic food industry united in resistance. Food labeling is one of the many topics that public opinion has had on the food industry.

Recent programs and interest groups banned together to publicize the organic movement and educate those unfamiliar with environmental issues such as pesticides and hormones in food through such techniques as communication, lobbyists, and education. U.S. resident's interest and awareness on organic food began in the 1960s and continues today. An American today might find it difficult to imagine that an early documented cover story was in Life magazine's, December 11, 1970 edition depicting a woman with a backpack full of vegetables and a headline that read “Organic: New and Natural.” The
cover story is familiar to some of today’s headlines. Just on January 11, 2006, the *New York Times* published a story titled: “Idealism for Breakfast,” which focused on organic food.

Influences: Advertisements, Education, and Communication Theories

Many aspects influence perceptions. From family and friends to the media, consumers are confronted with opinions of some kind daily. Some of the industries at the forefront of transforming public opinion are advertising, education, and communication (i.e. the news media).

*Advertisements*

Along with the increase in food availability, food advertisements that encourage food consumption have been a growing niche. The U.S. food supply uses advertising and promotions as crucial elements of marketing. Food marketing in the United States is the second largest advertising sector in the American economy, and the frontrunner of network, spot, and cable television, newspapers, magazines, billboards, and commercial radio (Gallo, 1999). USDA education programs spent $33.3 million in 1997 – an amount that is equal to the millions the food industry spent on cocoa, tea, and coffee advertisements.

In 2001, Walnut Acres, also known as the first organic brand, launched its first advertising campaign, targeting women ages 25 to 49. The reasons Walnut Acres targeted this demographic group could be because research showed that purchasers of organic produce tend to be female aged 30-45, with children and having a higher level of disposable income (Davies, Titterington, & Cochrane, 1995; Thompson, 1998). The
Walnut Acres’ theme was “Live Pure,” and focused on the importance of organic food (Walnut Acres, 2001). The advertising campaign included print ads, 30-second television spots, and 30-second radio spots.

Not only does advertising contribute to organic food sales increases but marketing and brand placement also play an active role. The Hain Celestial Group, Inc. a natural and organic food and personal care products company, partnered with Madison Square Garden (MSG) in early 2006 to sell organic food during all sporting games and events. MSG will sell Hain Celestial’s best-selling Terra Chips, now called the "Official Chip" of MSG (The Hain Celestial Group, 2006). Hain Celestial Group also expanded its relationship with Sesame Workshop, the nonprofit educational organization, and its Healthy Habits for Life initiative with the beginning of its Earth's Best corporate sponsorship of Sesame Street on PBS Kids.

The Organic Trade Association (OTA) launched its own advertising campaign mimicking the opening of a Star Wars movie in May 2005 (Raloff, 2005). The organic-food-growers' five-minute film (which can be viewed on the Internet, Appendix B) opens with Raloff’s description: “Obi-Wan Cannoli entreats Cuke Skywalker to help rescue Princess Lettuce from Darth Tater on the Dark Side of the farm. Along the way, Cuke – the lightsaber-wielding knight – recruits Ham Solo and Chewbroccoli to lead a rebellion in support of organic agriculture.”

OTA’s goal behind the advertising campaign, which used the pop culture Star Wars theme, was an attempt to educate a younger crowd and the organic-foods constituency. The campaign was an effort to provide a light-hearted approach to the choices involving organic foods. OTA gave creative control of the campaign to Free
Range Graphics, a group of artists and communicators with strong views on social issues (with other clients including the Ecological Society of America and Greenpeace).

Grunert (1996) distinguished two kinds of cognitive processes humans experience when exposed to advertising. Automatic processes arise mostly in the subconscious and are learned and slowly change. Strategic processes occur consciously and are adapted to situational circumstances. Grunert concluded that the more a recipient is familiar with an object being advertised, the higher the chance the recipient will pay attention. Therefore, one conclusion for why a Star Wars’ theme was chosen for an organic food advertising campaign could be to attract a younger audience who might not be as knowledgeable about organic food. By choosing a familiar pop culture topic such as Star Wars, Grunert’s research implied that the audience would pay attention more because of the familiarity with Star Wars and not necessarily organic food.

Feelings also play a part in advertising effects. Burke and Edell (1987) stated that understanding a consumer’s feelings is as valuable as understanding that consumer’s thoughts. Therefore, if a consumer had positive feelings towards Star Wars then possibly they would have positive feelings toward organic food after viewing the commercial. Since perceptions, in this context, are a way of regarding, understanding, or interpreting something, positive negative feelings affect perceptions.

Education

The agrarian culture in America is embedded in the roots of American history. The culture is still alive in 2006, but some scholars believe it is slowly withering away. The education of today’s youth and adults on where food comes from, how food is produced, and the importance of eating a balanced diet has become less of a priority for
funding support. Through extension, continuing education is possible throughout the world and is a factor when evaluating public opinion of organic food.

The U.S. Extension Service's strength in education is its ability to link people with current scientific research. Extension does this through its agents who reside in communities and teach at the local level. Interest in research about Extension in the academic community persists; research crosses many disciplines including public policy, communication, rural sociology, and agricultural education. The widespread interest originated from the disciplines' considerable presence in American education.

The transforming character of agricultural education and the new global way of thinking has influenced Extension's advancement. Extension agents, today, continue to disseminate workable solutions to problems in the community. They are the link between the community and continuing education. Today's Extension agents educate community members on a broad range of topics, including consumer affairs, community development, food and water quality, and farming.

Throughout the United States, Land-Grant Universities are placing increased emphasis on organic agriculture through meeting research and extension needs. According to the USDA (2006), North Carolina State University's Center for Environmental Farming Systems, the Minnesota Institute for Sustainable Agriculture at the University of Minnesota, and the University of California at Davis, the UC Organic Farming Research Workgroup, are coordinating research and extension efforts related to organic farming to meet the needs of the organic industry.
Communication Theories – Agenda-setting and Framing

To avoid news is a challenging task for most Americans with the constant bombardment of Internet, radio, television, magazines, and newspapers. Although journalistic endeavors are to be objective and informative, the media does affect audiences. Agenda-setting and framing research attempted to explain the cognitive affects of media messages. These theories tried to identify and evaluate the functions and interactions between society, media, and audiences.

Media technology advances quickly, which makes the idea for Americans to live without – in some way – the media influencing individuals and society very difficult. Kiousis (2005) concluded that agenda-setting is a conceptual framework used to examine how issue salience is created among the publics. In Kiousis’s study on political socialization, the researchers found that agenda setting provided a helpful perspective for understanding how adolescents come to decide what issues are important.

In regards to the organic food movement in the United States, the idea continues to be explored on whether the USDA regulations influenced the legislation agenda or the agenda was affected by the grassroots movement that has been going on for more than a decade that finally gained momentum. Shulman’s (2000) research believed that the agenda could have been a product of mutually reinforcing movements. Shulman concluded that the publicity and the public protest energized on another. Even celebrities like, Willie Nelson, Neil Young, Dave Matthews, and John Mellencamp voiced opinions while the USDA was enacting legislation – and these were celebrities who performed at the 2003 Farm Aid show in Columbus, Ohio. In a 2006 Farm Aid Show, Neil Young encouraged the sold-out crowd to buy organic food for its health benefits and the need to
support small farms (Greene, 2006). The show raised $1.1 million, which goes to farm families and public education for the value of organics.

A notorious example of how the media affected consumers by setting the agenda was in 1989 when 60 Minutes aired a story that drastically changed the way Americans thought about farming overnight (The Museum of Broadcast Communications, 2006). Uniroyal Chemical Co.’s Alar, a pesticide used on apple crops to cause simultaneous ripening, received moderate press coverage until 60 Minutes reported to an estimated 40 million viewers that Alar was a human carcinogen that posed particular risks to children. The public was outraged and forced apple growers to stop using Alar and Uniroyal and had the products pulled off the market.

Although the food beat has a long history within journalism, the frame in which food is portrayed has changed significantly. Studies have investigated the affects of the information frame on perceptions. Gross, Holcomb, and Ward (2002) found that after a positive message about natural beef, individuals who previously were indifferent changed their perceptions to positive.

Today, elite publications such as the New Yorker and newspapers like the New York Times are devoting more to food issues than just recipes. Elite newspapers are considered to be national publications that possess a high circulation with an educated audience. The rise of food as a topic in media has framed food as important. The media tapped into a topic that crosses all boundaries. However, whether the media purposely framed food to change public opinion of organic food policies is a question yet to be researched.
Public Opinion and a Digital Government

Even though communication, as an academic discipline, has a shorter history than most social sciences, scholars marked the beginning of public opinion with the invention of the printing press. The subsequent daily newspapers and other printed material that followed brought together the public and contemporary ideas that were kindled by the news of the day (Cooley, 1909). Today, the Internet has dramatically changed communication and could be viewed as the 21st century printing press that has altered public opinion once again. Grassroots organizations found digital communication as a source to disseminate information to the masses. Several pro-organic organizations utilize the Internet to spread their agendas and educate Web users.

New technology also has brought an innovative kind of digital government. USDA policymakers utilized this technology in 1997 and became one of the first government institutions to introduce a public deliberative approach to legislation. The USDA’s National Organic Program conducted, (Trattner, 1998): “The first fully electronic rule-making for a major regulation in federal history.” The USDA used imaging, electronic document management, and the Internet capabilities to change prior methods.

On Dec. 15, 1997, the USDA announced its National Organic Program proposed rule on the Internet. Within months, the department received an estimated 300,000 comments by e-mail, fax, and mail. The comments were scanned, entered into a database, and made available on the Internet through a searchable Web interface (Friel, 1998).
USDA staff used an electronic document management system to process the comments. The USDA saved $300,000 in copying and labor costs because the system eliminated the need for paper copies of comments. Costs avoided also included the setup of a reading room for the proposed rule by creating a virtual reading room online that ultimately reduced Freedom of Information Act requests. These results are attributed to the ease to comment that encouraged more people than usual to participate.

Overall, the USDA (1997) learned that citizens want accurate food labels. Reasons for accurate labels ranged from personal reasons, like health and ethical reasons, to allergies and religious reasons. Below is an example of one comment:

If this ruling passes, God forbid, then new information must be provided to all consumers on the difference between organic and pseudo-organic produce. There must be new labeling indicating which ‘organic’ produce is free of irradiation, genetic engineering, and sewage sludge fertilizers and which is not. Programs must be put in place to inform and educate the public to the new dangers to our health and well-being imposed on us by the agribusiness power-brokers (Shulman, 2000, p. 12).

Besides the government using technology for deliberation, activist groups are utilizing the electronic tools as well as to forward agendas. The Organic Consumers Association currently has a petition online in support of the 2010 Food Agenda, titled Campaign for Health, Justice, and Sustainability. The petition is in requests for the following items below (Organic Consumers Association, 2006):

By signing the petition below, I call on U.S. elected officials, political candidates, and regulatory agencies to pursue the following three public policies:

(1) Moratorium on all genetically engineered foods & crops unless adequate safety-testing proves they are safe for human health & the
environment. The FDA should require all GE foods to be labeled and safety-tested.

(2) Begin the phase-out of industrial agriculture's damaging practices by banning the most dangerous pesticides as well as hormone implants, antibiotics and rendered animal protein in animal feed. Ban corporate feedlots and intensive confinement of farm animals.

(3) Implement a long-term "transition to organic" program to shift agricultural production in the US from chemical-intensive, industrial farming to at least 30% organic by the year 2010.

Characteristics

The characteristics hypothesized to compare with the objectives are gender, college major, and childhood rearing location of the accessible population. These characteristics are being tested because the researcher believed they could show a significant difference to organic food influencers on perceptions.

Gender

Gender is important in research about food perceptions. According to research by Denton and Walters (2004), women’s health was more influenced by structural and psychosocial determinants and men’s health was more affected by health behaviors. In a study by Bothmer and Fridlund (2005) on the gender differences in health benefits and motivation among Swedish university students, they found that female students showed a higher degree of healthy habits and healthier nutritional habits. However, the study showed no association between nutritional knowledge and knowledge of health food. For the purposes of this study, the researcher intuitively assumed that gender would correlate with the influences of organic food on public opinion.
Gender also may affect tendency to buy organic foods and the importance of food labeling. Overall, research reported that males are less likely than females to use nutritional labeling (Bender & Derby, 1992; Nayga, 1996). Govindasamy and Italia (1999) found that females were 10% more likely than males to use food labeling in grocery-purchasing decisions. Dunlap and Beus (1992) learned that females are more opposed to pesticide residues than males. Huang (1993) concluded that females demonstrated a higher willingness to pay for safety risk reduction. A study conducted by the Food Marketing Institute (2001) found that organic shoppers are more likely to be females and the largest percentage of these shoppers were between the ages of 25-39.

Since the awareness of organic food in the 1960s, female gender roles have changed significantly. The U.S. government established the President’s Commission on the Status of Women in 1963 and with the commission came specific recommendations for improvement, including fair hiring practices, paid maternity leave, and affordable childcare. Although more females are in the workforce now, women remain at 90% the primary grocery shopper and cook (Govindasamy & Italia, 1999).  

*College Major*

When OSU’s FAES College was first established, the College focused on agricultural production. But through the years, the focus of the College has changed. Today, citizens are more environmentally and socially aware because of changes in agriculture production, technological advances, and the fundamental nature of production. A pyramid design guides the work in all areas of FAES. The pyramid focuses on: production efficiency, economic viability, environmental compatibility, and social responsibility (Appendix C).
For the purposes of this study, the researcher intuitively believed that majors at OSU would affect the students' influences of organic food perceptions. An OSU professor might have more influence on a FAES student in regards to organic food more than a student in Humanities. The disciplines within the FAES College view agriculture in many different ways. The pyramid intended to provide a framework for "better understanding differences, engaging more effectively in the public discussion of them, and ultimately resolving them and working together to address societal needs" (FAES, 2006).

*Childhood Rearing Description*

Inequalities in food purchasing habits have many variables, including food price. Organic foods usually are more expensive than non-organic foods. Organic milk prices compared to conventional products were 50 to 72% higher between 1996 and 1999 (Glaser & Thompson, 2000). Market price variations for organic foods correlate with the difficulty to produce crops. Organic bananas compared to conventional bananas many times are priced the same; however, organic cherries can cost dollars more per pound (Macy, 2005).

Several studies show that food consumption patterns are similar among people of high socioeconomic status (Shahar, Shai, Hillel, Avner, & Fraser, 2004). Although little research on organic food perception influencers exist, for the purposes of this study, the researcher intuitively hypothesized that childhood rearing location description would affect influences of organic food perceptions. Also, whether the student ever lived on a farm during his or her lifetime would affect their perceptions of organic food.
Govindasamy and Italia's (1999) found that suburban residents were 23% more likely and rural residents were 20% more likely to read food labels than urban residents. Govindasamy and Italia's research also concluded that organic food consumers were 11% more likely to use labels in purchasing decisions. A Food Marketing Institute study (2001) learned that organic shoppers are usually more educated, earn high annual incomes, and spend more money on groceries.
CHAPTER 3

METHODS

Chapter 3 provides an overview of the quantitative research methods used in this study. Additional topics addressed in the chapter are research design, sample selection, data collection, and data analysis. The instrument used is Appendix D.

Research Design

The purpose of this study was to explore and describe the accessible population's perceptions' influencers of organic food. Quantitative research was used to conduct the study. The study focused on an accessible population of OSU undergraduates in FAES class entitled Contemporary Issues. Contemporary Issues (597 series) is a class offered to, and in some programs required, of all undergraduate Ohio State students. The questionnaire concentrated on the subjects' influences on their perceptions pertaining to labels, brands, and price of organic food and the influences of selected groups and the media on the students' perceptions. Part of the study will also be comparative. The comparison among groups' characteristics identified whether the student's gender or college major had a significant difference on the perceptions' influencers of organic food. Also, whether the students' childhood rearing location related to their influencers'
perceptions. The demographic portion of the survey collected data to address the comparison objectives.

Professors of the 597 class series were contacted through e-mail in August 2006. The e-mail explained the research and requested a day to survey the students. The suggested date of the class was during the second week of classes during Autumn Quarter. The professors were informed the survey would take no longer than 15 minutes. The e-mail also stated that permission to survey their class must be received by September 1, 2006. The e-mail also stated that the proposal was IRB approved and had the support of FAES Associate Dean and Admission Director.

Subject Selection

FAES students have a choice to complete one 597 course as a junior or senior in the following departments within the FAES College: Agricultural, Environmental & Development Economics, Animal Sciences, Food, Agricultural and Biological Engineering, Food Science and Technology, Horticulture and Crop Science, Human and Community Resource Development, and Plant Health Management. Three classes were scheduled for Autumn Quarter 2006. These classes were: Problems and Policies in World Population, Food, and Environment; Issues Concerning Use of Animals by Humans; and, Pesticides, Alternatives, and the Environment.

OSU has a total student population of 37, 411 (Columbus campus) and FAES has 1,353 undergraduate students (Dr. Jill Pfister, personal communication, February 27, 2006). OSU offers 170 undergraduate majors. The main campus is located in Columbus, Ohio, and the accessible population to be surveyed was only from the main campus.
The reasons for studying this group vary. Firstly, the results of the study provided a better understanding of the influences on perceptions of this population that can be used in lobbying, marketing, and education. Secondly, the group was expected to return a high response rate. Thirdly, by surveying students in this College, students already have a basic knowledge of contemporary agricultural issues and they are the future professionals of the field. Fourthly, students from other colleges were enrolled in 597 FAES courses, which the researcher learned during the pilot-test. Therefore, comparisons among colleges were examined.

Content Validity and Reliability

According to Groves et al. (2004) the validity of survey research deals with “the extent to which the survey measure accurately reflects the intended construct” (p. 254). To secure the content validity of the questionnaire, seven experts (Appendix E) reviewed the questionnaire – two experts in methodology and five experts in organic food. The experts were given the questionnaire through e-mail and provided criticism. A minimum of four experts needed to approve the questionnaire items to be considered valid for them.

Reliability is the measurement of variability of answers (Groves et al., 2004). After the questionnaire’s expert review established validity, the questionnaire was pilot-tested during Spring Quarter 2006 in a FAES 597 Animal Science course that had an enrollment of 40 students and the pilot-test had an N=33. If the variance of the response deviations is low and the reliability coefficient approaches 1.0, then the questionnaire will have high reliability. For the purposes of this study, the reliability coefficient must meet
a standard of .6 to .7 (Nunnally & Bernstein, 1994, pp. 264-265) to be considered reliable. The reliability coefficient for the pilot-test was .83.

By thoroughly understanding the survey response process, the questionnaire can be valid and reliable. Also through pilot testing, context effects and question wording problems will be identified. However, the measurement of nonattitudes could be a potential problem for this survey.

Conditions of Testing

The questionnaires were distributed during the first or last 15 minutes of classes. The time of the classes cannot be altered. The questionnaire was distributed in booklet format. Instructions and the IRB research recruitment script were provided on the cover page. Respondents were given the opportunity to ask the moderator questions.

Data Analysis

To determine each respondent’s influences of perceptions, the answers from each item will be tabulated. The instrument and responses were coded and entered into a Statistical Package for the Social Science (SPSS, 2004) database for statistical analysis. Descriptive statistics described the accessible population.

For Objectives 5, 6, and 7 of this study, whether there was a significant difference with the characteristics of gender, college major, and childhood rearing description were identified with the accessible population’s influences of organic food perceptions. A One-Way Anova was used for statistical comparisons to identify the existence of significant differences. An alpha level of .05 was used.
CHAPTER 4

RESULTS

The purpose of this study was to explore and describe the accessible population's perceived influencers of organic food. A quantitative research methodology was used with a questionnaire. The accessible population was OSU undergraduates in FAES classes entitled Contemporary Issues (597). Autumn Quarter had three 597 classes offered: Problems and Policies in World Population, Food, and Environment; Issues Concerning Use of Animals by Humans; and, Pesticides, Alternatives, and the Environment.

Overall Results

Student enrollment during the second week of Autumn Quarter totaled 207 students (N=207) in the classes studied. Questionnaires were distributed during the second week of classes at a convenient time requested from the professors. Total response was 189 students (91%). Nine OSU colleges and 54 majors were represented. The population was comprised of 10% more males than females in the classes. Although 38% of the population responded that they were reared in a rural location, only 25% responded that they lived on a farm.
Nine OSU Colleges with 54 majors were represented with the following percentages: Arts (2%); Biological Sciences (1%); Humanities (10%); Business (24%); Mathematical & Physical Sciences (1%); Social & Behavioral Sciences (23%); Engineering (3%); Food, Agriculture, and Environmental Sciences (37%); and Continuing Education (1%). For the purposes of this study, the Colleges were combined into two groups (A and B). The researcher referred to Group A as soft sciences, which are Colleges with an emphasis on social sciences or the arts, including Business. Group B was categorized as hard sciences, which focus on areas that are objective aspects of nature.

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Percentage (n=189)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>45</td>
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<tr>
<td>Male</td>
<td>55</td>
</tr>
<tr>
<td>Child Rearing Location Description</td>
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</tr>
<tr>
<td>Rural</td>
<td>38</td>
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<tr>
<td>Suburban</td>
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</tr>
<tr>
<td>Urban</td>
<td>19.2</td>
</tr>
<tr>
<td>Did You Ever Live on a Farm?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>25.4</td>
</tr>
<tr>
<td>No</td>
<td>74.6</td>
</tr>
<tr>
<td>Students’ Enrollment in Colleges</td>
<td></td>
</tr>
<tr>
<td>Soft Sciences (A)</td>
<td>59.9</td>
</tr>
<tr>
<td>Hard Science (B)</td>
<td>40.3</td>
</tr>
</tbody>
</table>

Table 4.1: Demographic Characteristics
Results by Objective

O1: To describe the degree to which labels, brands, and prices of organic food influence students’ perceptions of organic food.

The frequencies of responses varied for each question. Price influenced students’ perceptions of organic foods the most when compared to brands and labels (Table 4.2). The brands of food influenced students’ perceptions the least. Brands, labels, and price influenced females’ perceptions of organic food more than males (Table 4.3). However, the largest difference in gender was price perceptions. Sixty-eight percent of males agreed that price influenced their perceptions of organic food compared to 86% of women.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagreement</th>
<th>Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Std</td>
<td>MD</td>
</tr>
<tr>
<td>The brands of organic food products influence my perceptions of organic food.</td>
<td>38.4</td>
<td>19.5</td>
</tr>
<tr>
<td>The labels on organic food products influence my perceptions of organic food.</td>
<td>27.4</td>
<td>14.0</td>
</tr>
<tr>
<td>The prices of organic food influence my perceptions of organic food.</td>
<td>8.5</td>
<td>6.4</td>
</tr>
</tbody>
</table>

Key: Std: Strongly disagree SA: Slightly agree MD: Moderately disagree MA: Moderately agree SD: Slightly disagree StA: Strongly Agree

Table 4.2: Brand, Label, and Price Influences
<table>
<thead>
<tr>
<th>Statement</th>
<th>Male</th>
<th></th>
<th></th>
<th>Female</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>Agreement</td>
<td></td>
<td>Disagreement</td>
<td>Agreement</td>
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<td></td>
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<tr>
<td>The brands of organic food products influence my perceptions of organic</td>
<td>41.2</td>
<td>19.6</td>
<td>14.7</td>
<td>34.9</td>
<td>19.3</td>
<td>9.6</td>
</tr>
<tr>
<td>food.</td>
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<td></td>
<td>17.6</td>
<td>5.9</td>
<td>1</td>
<td>26.5</td>
<td>7.2</td>
<td>2.4</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>The labels on organic food products influence my perceptions of organic</td>
<td>31.1</td>
<td>14.6</td>
<td>10.7</td>
<td>22.9</td>
<td>13.3</td>
<td>7.2</td>
</tr>
<tr>
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<td></td>
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<tr>
<td></td>
<td>27.2</td>
<td>14.6</td>
<td>1.9</td>
<td>30.1</td>
<td>16.9</td>
<td>9.6</td>
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</tr>
<tr>
<td>The prices of organic food influence my perceptions of organic food.</td>
<td>11.7</td>
<td>9.7</td>
<td>9.7</td>
<td>4.7</td>
<td>2.4</td>
<td>7.1</td>
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<td>19.4</td>
<td>22.3</td>
<td>27.3</td>
<td>17.6</td>
<td>25.9</td>
<td>42.4</td>
</tr>
</tbody>
</table>

Key:  
STD: Strongly disagree  
MD: Moderately disagree  
SD: Slightly disagree  
SA: Slightly agree  
MA: Moderately agree  
STA: Strongly Agree

Table 4.3: Brand, Label, and Price Influences by Gender
02: To describe how students perceive selected groups' perceptions of organic food.

The majority of students responded that all the selected groups, except politicians, possessed positive perceptions of organic food (Table 4.4). Most students agreed (81%) that celebrities have positive perceptions of organic food. Green-focused nonprofit organizations came second with 78% of students in agreement that green-focused nonprofits have positive perceptions of organic food.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagreement</th>
<th>Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Std</td>
<td>MD</td>
</tr>
<tr>
<td>I view my family’s perceptions of organic food as positive.</td>
<td>9.1</td>
<td>9.6</td>
</tr>
<tr>
<td>I view my friends’ perceptions of organic food as positive.</td>
<td>9.2</td>
<td>9.7</td>
</tr>
<tr>
<td>I view celebrities’ perceptions of organic food are positive.</td>
<td>6.8</td>
<td>5.6</td>
</tr>
<tr>
<td>I view politicians’ perceptions of organic food are positive.</td>
<td>10.7</td>
<td>14.7</td>
</tr>
<tr>
<td>I view my OSU professors’ perceptions of organic food as positive.</td>
<td>9.5</td>
<td>8.9</td>
</tr>
<tr>
<td>I view green-focused non-profit organizations’ perceptions of organic food as positive.</td>
<td>8.6</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Key:  
Std: Strongly disagree  
MD: Moderately disagree  
SD: Slightly disagree  
SA: Slightly agree  
MA: Moderately agree  
StA: Strongly Agree

Table 4.4: How Students Perceived the Selected Groups’ Perceptions of Organic Food
O3: To describe the degree of influence to which selected groups have on the students’ perceptions of organic food.

For selected groups, respondents’ families had the most influence on students’ perceptions of organic foods with 38% of the population in agreement with the statement (Table 4.6). Politicians influenced students’ perceptions the least with only 7% agreement. Although students perceived celebrities as having positive attitudes of organic foods, only 15% of students responded that celebrities influenced their perceptions.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagreement</th>
<th>Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Std</td>
<td>MD</td>
</tr>
<tr>
<td>My family’s perceptions of organic food influence my perceptions of organic food.</td>
<td>35.5</td>
<td>14.0</td>
</tr>
<tr>
<td>My friends’ perceptions of organic food influence my perceptions of organic food.</td>
<td>39.6</td>
<td>16.0</td>
</tr>
<tr>
<td>Celebrities’ perceptions of organic food influence my perceptions of organic food.</td>
<td>56.8</td>
<td>17.3</td>
</tr>
<tr>
<td>Politicians’ perceptions of organic food influence my perceptions of organic food.</td>
<td>63.4</td>
<td>19.7</td>
</tr>
<tr>
<td>My OSU professors’ perceptions of organic food influence my perceptions of organic food.</td>
<td>50</td>
<td>14.3</td>
</tr>
<tr>
<td>Green-focused non-profit organizations’ perceptions of organic food influence my perceptions of organic food.</td>
<td>48.9</td>
<td>15.4</td>
</tr>
</tbody>
</table>

Key:  
- Std: Strongly disagree  
- MD: Moderately disagree  
- SD: Slightly disagree  
- SA: Slightly agree  
- MA: Moderately agree  
- StA: Strongly Agree

Table 4.5: Selected Groups’ Influences of Students Organic Food Perceptions
<table>
<thead>
<tr>
<th>Selected Group</th>
<th>Percentage of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>38.2</td>
</tr>
<tr>
<td>Friends</td>
<td>25.2</td>
</tr>
<tr>
<td>Celebrities</td>
<td>15.2</td>
</tr>
<tr>
<td>Politicians</td>
<td>6.5</td>
</tr>
<tr>
<td>Green-focused non-profits</td>
<td>23.6</td>
</tr>
</tbody>
</table>

Table 4.6: Percentage Agreement that Selected Groups Influenced Students’ Perceptions

O4: To describe the degree of influence that media has on their perceptions of organic food.

Media did not have as much influence on students’ perceptions as expected. Advertisements affect students with 53% responding that advertisements positively affect their organic food perceptions. Approximately one-third of students regularly read and/or watch news stories about organic food, but only 14% responded that they search for news stories focusing on organic foods.

An interesting finding was that when asked whether an article in an elite newspaper positively or negatively affected their perceptions of organic food, 20% agreed that a positive article changed their perceptions and 20% agreed that a negative article changed their perceptions. However, when asked a similar question using the medium of television the percentage increased. Television news programs that highlighted the positive aspects of organic food changed 26% of students’ perceptions and when negative aspects were highlighted 24% responded that the story changed their perceptions. This leads to the conclusion that television news affects perceptions more than elite newspapers for this population.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagreement</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Std</td>
<td>MD</td>
<td>SD</td>
<td>SA</td>
<td>MA</td>
<td>StA</td>
</tr>
<tr>
<td>Organic food advertisements positively affect my perceptions of organic food.</td>
<td>24.6</td>
<td>7.1</td>
<td>15.8</td>
<td>38.8</td>
<td>10.4</td>
<td>3.3</td>
</tr>
<tr>
<td>Organic food advertisements negatively influence my perceptions of organic food.</td>
<td>37.4</td>
<td>18.1</td>
<td>26.9</td>
<td>7.7</td>
<td>4.4</td>
<td>5.5</td>
</tr>
<tr>
<td>I regularly read news stories about organic food when they appear in print media.</td>
<td>36.4</td>
<td>18.2</td>
<td>10.7</td>
<td>24.6</td>
<td>4.8</td>
<td>5.3</td>
</tr>
<tr>
<td>I regularly watch news stories about organic food when they appear on television.</td>
<td>37.5</td>
<td>14.7</td>
<td>12.0</td>
<td>24.5</td>
<td>8.7</td>
<td>2.7</td>
</tr>
<tr>
<td>I search for news stories (in all media) about organic food.</td>
<td>63.4</td>
<td>14.5</td>
<td>8.6</td>
<td>8.6</td>
<td>3.8</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Key:  
Std: Strongly disagree  
MD: Moderately disagree  
SD: Slightly disagree  
SA: Slightly agree  
MA: Moderately agree  
StA: Strongly Agree

Table 4.7: Media and Students’ Organic Food Perceptions
<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagreement</th>
<th>Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>StD</td>
<td>MD</td>
</tr>
<tr>
<td>I read a newspaper article in an elite newspaper (such as the New York Times) on the positive aspects of eating more organically. The story changed my perceptions of organic food.</td>
<td>56.4</td>
<td>15.1</td>
</tr>
<tr>
<td>I read a newspaper article in an elite newspaper (such as the New York Times) on the negative aspects of pesticides on vegetables. The story changed my perceptions of organic food.</td>
<td>59.1</td>
<td>14.9</td>
</tr>
<tr>
<td>I watched a journalistic TV program (such as 20/20) on the positive aspects of eating more organically. The story changed my perceptions of organic foods.</td>
<td>52.2</td>
<td>11.0</td>
</tr>
<tr>
<td>I watched a journalistic TV program (such as 20/20) on the negative aspects of pesticides on vegetables. The story changed my perceptions of organic foods.</td>
<td>53.0</td>
<td>12.6</td>
</tr>
</tbody>
</table>

Key:  
StD: Strongly disagree  
MD: Moderately disagree  
SD: Slightly disagree  
SA: Slightly agree  
MA: Moderately agree  
StA: Strongly Agree

Table 4.8: Influence of Newspapers and Television News
Differences Among Selected Groups

Whether there was a significant difference among characteristics of gender, college major, and childhood rearing location description were identified with the accessible population’s perception of organic food. A One-Way Anova was used for statistical comparisons to identify the existence of significant differences. An alpha level of .05 was appropriate and is commonly used in social sciences.

A Likert scale, otherwise referred to as a summated rating scale, was used to generate means summed across questions. The sums are assumed to be internal in scale of measurement.

O5: To determine if there is a significant difference between the students’ gender and their perception influencers of organic food.

No significant difference existed in regard to students’ gender (Table 4.9). Therefore, students are a homogenous group. Gender does not play a significant role in the selected influences or perceptions presented in this study.

O6: To determine if there is a significant difference between the students’ college major and their perception influencers of organic food.

No significant difference existed in regard to students’ college major (Table 4.10). Among majors, students are a homogenous group, regardless of their academic interests and backgrounds. College major does not play a significant role in the selected influences or perceptions presented in this study.

46
To determine if there is a significant difference among the students' childhood rearing location description (rural, suburban, or urban) to their perception influencers of organic food.

No significant difference was found in regard to child rearing location description (Table 4.11). A safe conclusion is that geographic rearing (rural, suburban, or urban) does not affect students' influences or perceptions of organic food. Childhood rearing location description does not play a significant role in the selected influences or perceptions presented in this study.
<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>104</td>
<td>84</td>
</tr>
<tr>
<td>Mean</td>
<td>63.06</td>
<td>61.25</td>
</tr>
<tr>
<td>S.D.</td>
<td>1.557</td>
<td>1.625</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>151.846</td>
<td>151.846</td>
<td>.636</td>
</tr>
<tr>
<td>Within Groups</td>
<td>186</td>
<td>44297.404</td>
<td>238.696</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>187</td>
<td>44549.250</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.9: One-Way Anova for Students’ Gender and Their Perception Influencers of Organic Food
\( \alpha = .05 \)
## College Major Group

<table>
<thead>
<tr>
<th></th>
<th>Group A Soft Sciences</th>
<th>Group B Hard Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>112</td>
<td>74</td>
</tr>
<tr>
<td>Mean</td>
<td>61.12</td>
<td>63.62</td>
</tr>
<tr>
<td>S.D.</td>
<td>16.076</td>
<td>15.46</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1</td>
<td>279.733</td>
<td>279.733</td>
<td>1.171</td>
</tr>
<tr>
<td>Within Groups</td>
<td>184</td>
<td>43938.896</td>
<td>238.798</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>185</td>
<td>44218.629</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.10: One-Way Anova for Students’ College Major and Their Perception Influencers of Organic Food

α = .05
Child Rearing Location Description

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Suburb</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>71</td>
<td>80</td>
<td>35</td>
</tr>
<tr>
<td>Mean</td>
<td>64.93</td>
<td>60.38</td>
<td>61.20</td>
</tr>
<tr>
<td>S.D.</td>
<td>14.3</td>
<td>16.687</td>
<td>14.693</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>829.561</td>
<td>414.718</td>
<td>1.739</td>
</tr>
<tr>
<td>Within Groups</td>
<td>183</td>
<td>43652.998</td>
<td>238.541</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>185</td>
<td>44482.559</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.11: One-Way Anova for Students' Child Rearing Location and Their Perception Influencers of Organic Food

\[ \alpha = .05 \]
CHAPTER 5

DISCUSSION

Organic farming became one of the fastest growing sectors of U.S. agriculture during the 1990s (USDA Economic Research, 2003). The aim of this study was to explore and describe what influences college students' perceptions of organic foods. The method was a survey with an N=207, and a response rate of 91% (n=189). The population consisted of undergraduate students enrolled in a Contemporary Issues class during Fall Quarter 2006 within the College of Food, Agriculture and Environmental Sciences (FAES) at The Ohio State University. Nine OSU Colleges with 54 majors were represented in the accessible population.

Questionnaire responses supplied an enhanced understanding of the influences affecting consumer demand of organic food. Specific objectives of this study included:

O1: To describe the degree to which labels, brands, and prices of organic food influence students' perceptions of organic food.

O2: To describe how students perceive the selected groups' perceptions of organic food.

O3: To describe the degree of influence to which selected groups have on the students' perceptions of organic food.
O4: To describe the degree of influence that media has on their perceptions of organic food.

O5: To determine if there is a significant difference between gender and their perception influencers of organic food.

O6: To determine if there is a significant difference between college major and their perception influencers of organic food.

O7: To determine if there is a significant difference among childhood rearing location description (rural, suburban, or urban) to their perception influencers of organic food.

Summary of Conclusions

The frequencies of responses varied for each question. Price influenced students’ perceptions of organic foods the most, compared to brands and labels, with 77% of students agreeing that price was an influencer. The brands of food influenced students’ perceptions the least with only 31% in agreement that brand was an influencer. Labels had some influence with 50% in agreement. However, brands, labels, and price influenced female perceptions of organic food more than male perceptions (Table 4.3).

For selected groups, respondents’ families had the most influence on the students’ perceptions of organic foods with 38% of the population agreeing that their families influenced their perceptions. Friends influenced students’ perceptions of organic foods closely behind family with 25% in agreement, and green-focused non-profit organizations followed closely at 24% (Table 4.6). Politicians influenced students’
perceptions the least with only 7% agreement. However, the majority of students responded that all of the selected groups, except politicians, had positive perceptions of organic food. Celebrities topped that category with 82% of students agreeing that celebrities possessed positive perceptions of organic foods, with green-focused non-profit organizations at a close second with 79%.

Media did not have as much influence on students’ perceptions as expected. Advertisements do affect students with 53% responding that advertisements do positively affect their organic food perceptions (Table 4.7). Yet, only approximately one-third of students responded that they regularly read and/or watch news stories about organic food. Only 14% responded that they search for news stories on organic foods.

An interesting finding was the percentage difference involving newspaper and television news. When asked whether an article in an elite newspaper positively or negatively affected the students’ perceptions of organic food, 20% agreed that a positive article changed their perceptions, and 20% agreed that a negative article changed their perceptions. However, when asked a similar question using the medium of television the percentage increased. Television news programs that highlighted the positive aspects of organic food changed 26% of students’ perceptions and when negative aspects were highlighted, 24% responded that the story changed their perceptions. The finding led to the conclusion that television news affected perceptions more than elite newspapers for this population.

No significant differences were found among gender, college major, and childhood rearing location description compared to organic food perceptions and influencers. A possible explanation for gender could be that at the average age of a college senior,
respondents had not assumed gender roles yet. Also, if students are not consumers of organic food, they may have expressed nonattitudes. Although family members have the most influence on students’ perceptions of organic food, the comparisons among student’s childhood rearing location description found no significant difference. An implication would be that students’ families would possess the same perceptions.

Recommendations and Implications

This study is significant because results provide researchers additional information on what and how public opinion about organic food is generated. College-aged students are the first group of young adults who are experiencing the rise in organic food sales and grocers. In the past two years, three new organic-focused grocers opened in Columbus, Ohio – all first openings in Ohio. Whole Foods opened its second largest store in 2005 (Whole Foods, 2005); in early 2006, Fresh Market opened its first doors in Columbus (Showalter, 2006); and, two Sunflower Markets opened in Columbus in 2006 (Campus Partners, 2006). Specifically, on the OSU campus, Sunflower Market opened in summer 2006 and has the goal of offering low prices for students on organic food (Campus Partners, 2006).

Rapid growth in consumer demand frequently generates transformations within the industry. Recommendations to organic food stakeholders would be to advertise organic food’s benefits. Since 53% of students agreed that advertisements positively influence their perceptions, stakeholders should not only advertise products but also
organizations, research, and political campaigns in regard to organic food. Advertisers should specifically target college campuses and television programming for adults ages 18-24.

Many advertising campaigns that use celebrity spokespeople – like *Got Milk?*, which encourages milk consumption and features a celebrity with a milk mustache in the print campaign – have been memorable and successful. However, this study’s research concluded that celebrities do not have much influence with this population’s organic food perceptions. Therefore, the use of a celebrity spokesperson would not be recommended for any organic food advertising.

Politicians also should not be used in advertising or as representation of special interest groups. Politicians possessed the least influence and students also perceived them to have the least positive perceptions of organic food. Results indicated that advertisements should be family or friend based because those selected groups influenced students’ perceptions the most.

Newspaper and television news results indicated that news stories should be sold more aggressively to television. Advertisement practitioners should place ads on television and public relations practitioners should pitch stories to television news shows more than to newspapers. Television news stories influenced students’ positive perceptions of organic foods 6% more students than print newspaper articles (Table 4.8). Intuitively, television advertisements might exert better influence than print advertisements.

Since child rearing location description had no significant difference with students’ perceptions and influencers of organic food, advertising should be spread across
geographic locations. However, industries should research and be aware of accessibility to products before advertising in certain locations. Also, media in rural, suburban, and urban areas should produce stories on organic foods.

For educational purposes, extension educators should offer materials on organic foods. Since family, friends, and green-focused nonprofits influenced students’ perceptions, intuitively, extension educators would influence as well. Extension educators also have the capability to educate about current organic food research and to inform community members of legislation regarding labels. Although the media have influence, organic food stories are often buried in newspapers and do not receive much attention. As results from this study indicated, students do not search for stories about organic food (Table 4.7).

Application to Knowledge

Most of the results supported previous research reviewed in Chapter 2. Labels slightly affected females’ perceptions more compared to males. Research reported that males are less likely than females to use nutritional labeling (Bender & Derby, 1992; Nayga, 1996). Dunlap and Beus (1992) found that females are more opposed to pesticide residues than males. Huang (1993) concluded that females demonstrated a higher willingness to pay for safety risk reduction. A study conducted by the Food Marketing Institute (2001) found that organic shoppers are more likely to be females and the largest percentage of these shoppers were between the ages of 25-39. However, this study also reported that brands and price influenced females’ organic food perceptions more than males.
Implications for Further Study

The implications for future studies are boundless in regards to organic food. Just as sales of organic food have increased, so too has research on the topic. However, research on perceptions and buying habits of organic food continue to be limited. More research has been conducted in Europe than the United States, which is ironic since the United States globally produces the most food.

This study should be replicated with a larger sample at OSU and again at a different institution. Although child rearing location description found no significant difference in relation to influencers of organic food, geographic location might play a more significant role in the findings if studies were conducted at different universities. The study also could use different classes to survey. Even though this study focused primarily on college seniors who had majors in the College of Food, Agriculture, and Environmental Sciences, a future study should include different age groups, considering both undergraduates and graduate students. By surveying different ages, variability in age relationships could be examined with major study variables. Students or individuals in their early 20s should be researched because they are new consumers to the grocery market and their current perceptions may not alter with age. As this demographic becomes older and assumes gender and family roles, their perceptions, especially females, would then trickle down to their children.

Further research should focus on one specific commodity instead of organic food as a monolithic entity. Students may only buy one commodity and, therefore, not consider themselves organic food consumers. Or, students may perceive specific commodities differently.
Future studies should explore and describe students’ perceptions of organic food. This study only focused on influences of perceptions and not what the perceptions actually are. Other influences that were not explored include the taste of organic food, animal welfare, and health. Whether students perceive organic food to be healthier or safer is important in evaluating perceptions. Other perceptions that have not been explored are whether students perceive the taste of organic food to be different and if the satisfaction of buying locally grown food is a positive influence of purchasing organic food.

Although newspapers and television news stories focusing on organic food were explored in relation to influence, the Internet was not included. Younger people today use the Internet and many receive their news primarily through the Internet. Therefore, future studies should also include Internet news (either in print or video) as influencers of perceptions. Because this study focused on influences of perceptions, research is needed on the buying habits and overall perceptions. A study comparing the buying habits and perceptions of organic food at different colleges would add greatly to organic food research.

Universities across the United States – including Yale University, which is at the forefront – are offering students more organic food choices in dining halls. Research on how this change in dining halls is affecting students’ dining choices and even college enrollment choices can be further studied. Another topic related to college dining halls would be to look at how the offering organic food is affecting perceptions.

Further research could also investigate which products students are buying when they do purchase organic food. Many organic grocers like Whole Foods and Wild Oats
sell prepared meals in individual servings. A possible conclusion is that students, who are purchasing food for one and may not cook, choose to buy the prepared meals regardless of whether the ingredients are organic.

Agricultural issues stir controversy. Discussions involving the environment, economy, safety, and health all have impacts on organic food. If organic food sales continue to rise, intuitively that means organic food perceptions will continue to change. Perceptions are not usually stagnant.

Understanding influences of perceptions is important in all industries. Researchers must ask the question of: Why do individuals think that way? Learning what most influences individuals is knowledge that can be used in all realms of society, especially with regard to public policy and governmental issues.

By identifying factors influencing the increase in organic food sales, researchers are exploring the impact of influences. Influences play a part in sales and organic food is a topic that stirs debate on both sides of the issue. On one hand, many believe the more production of food the better, while others believe that higher returns are not worth the cost to human, animal, and environmental health. Only time will predict if organic food’s recent popularity will continue throughout the 21st century or if it is just another fad in American history.
List of References


ir.net/ireye/ir_site.zhtml?ticker=HAIN&script=410&layout=-6&item_id=804546.


Statistical Package for the Social Science (SPSS) software for Mac OS X, Rel. 11.0.3.2004. Chicago: SPSS Inc.


APPENDICES
APPENDIX A

ORGANIC FOOD PRODUCTS
New organic product introductions are led by beverages, prepared foods, and snacks

Number of products


Graph taken from *Amber Waves*, retrieved on February 28, 2006, from

http://www.ers.usda.gov/AmberWaves/April05/Indicators/researchareas.htm
APPENDIX B

ORGANIC TRADE ASSOCIATION’S ADVERTISEMENT
(http://www.storewars.org/noflash/index.html).

The Organic Trade Association’s five-minute short movie,

*Store Wars: The Organic Rebellion.*
APPENDIX C

FAES COLLEGE PYRAMID
FAES College Pyramid
APPENDIX D

SURVEY INSTRUMENT
Students' Appetite for Organic Food

For the purposes of this study, organic food is defined as food from plants and animals that have been grown without the use of synthetic (man-made) fertilizers or pesticides, and without antibiotics, growth hormones, and feed additives.

Perceptions can be defined as a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor.

Research Recruitment Script

My name is Amy Beaudreault and this questionnaire will be used for research in the Department of Human and Community Resource Development. If you agree to participate, the questionnaire will take no more than 15 minutes and your responses will remain completely confidential. Your participation is voluntary, you can refuse to answer questions that you do not wish to answer, and you can refuse to participate or withdraw at any time without penalty or repercussion. If you have any questions, please contact beaudreault.1@osu.edu
Key
1 = Strongly disagree  4 = Slightly agree
2 = Moderately disagree  5 = Moderately agree
3 = Slightly disagree  6 = Strongly agree

I. Organic Food Purchasing Influences

Indicate the degree to which you agree or disagree with the following statements.

1. The brands of organic food products influence my perceptions of organic food.

2. The labels on organic food products influence my perceptions of organic food.

3. The prices of organic food influence my perceptions of organic food.

II. Perceptions & Public Opinion

4. My family’s perceptions of organic food influence my perceptions of organic food.

5. I view my family’s perceptions of organic food as positive.


7. I view my friends’ perceptions of organic food as positive.

8. Celebrities’ (musicians, actors, artists, writers, athletes) perceptions of organic food influence my perceptions of organic food.

9. Celebrities’ (such as musicians, actors, artists, writers, athletes) perceptions of organic food are positive.


11. I view politicians’ (local or national) perceptions of organic food as positive.

12. My OSU professors’ perceptions of organic food influence my perceptions of organic food.
Key
1 = Strongly disagree  4 = Slightly agree
2 = Moderately disagree  5 = Moderately agree
3 = Slightly disagree  6 = Strongly agree

13. I view my OSU professors' perceptions of organic food as positive.  

14. Green-focused non-profit organizations' (such as Greenpeace and Farm Aid) perceptions of organic food influence my perceptions of organic food.  

15. I view green-focused non-profit organizations' (such as Greenpeace and Farm Aid) perceptions of organic food as positive.  

III. Media and Organic Food Perceptions

16. Organic food advertisements (including radio, newspapers, television, billboards, direct mail, Internet, etc.) positively influence my perceptions of organic food.  

17. Organic food advertisements (including radio, newspapers, television, billboards, direct mail, Internet, etc.) negatively influence my perceptions of organic food.  

18. I regularly read news stories about organic food when they appear in print media.  

19. I regularly watch news stories about organic food when they appear on television.  

20. I search for news stories (in all media including: radio, newspapers, television, billboards, direct mail, Internet, etc.) about organic food.  

21. I read a newspaper article in an elite newspaper (such as the New York Times) on the positive aspects of eating more organically. The story changed my perceptions of organic food.  

22. I read a newspaper article in an elite newspaper (such as the New York Times) on the negative aspects of pesticides on vegetables. The story changed my perceptions of organic food.
23. I watched a journalistic TV program (such as 20/20) on the positive aspects of eating more organically. The story changed my perceptions of organic foods.

24. I watched a journalistic TV special on the negative aspects of pesticides on vegetables. The story changed my perceptions of organic food.

IV. Demographics

25. What is your gender? (circle one)
   a) Male
   b) Female

26. What is your major at The Ohio State University?

a) Rural (i.e. nonmetropolitan, Woodsfield, OH)
   b) Suburb (i.e. micropolitan, Springfield, OH)
   c) Urban (i.e. metropolitan, Columbus, OH)

27. Did you ever live on a farm? (circle one)
   According to the USDA, a farm is any place from which $1,000 or more of agricultural products were sold in one year.
   a) No
   b) Yes

28. When you were a youth (up to 13-years-old) what type of area did your family reside in for the majority of those years?
   According to the U.S. Census Bureau, rural areas comprise open country and settlements with fewer than 2,500 residents. Urban areas comprise larger places and densely settled areas around them. An urban cluster of at least 10,000 persons is a micropolitan area.
   a) Rural (i.e. nonmetropolitan, Woodsfield, OH)
   b) Suburb (i.e. micropolitan, Springfield, OH)
   c) Urban (i.e. metropolitan, Columbus, OH)

THANK YOU
APPENDIX E

EXPERTS
Methodology Experts

Larry Miller, Ph.D.: Dr. Miller is a Professor at OSU in Human and Community Resource Development. He teaches Research Methods and has extensive knowledge in research methodology.

Gerald Kosicki, Ph.D.: Dr. Kosicki is an Associate Professor at OSU in Communication and is also the director of the Center for Survey Research. He teaches classes in public opinion and communication statistics.

Organic Food Experts

Marvin Batte, Ph.D.: Dr. Batte is a Professor at OSU in Agriculture, Environmental and Developmental Economics. His research includes consumer willingness to pay for organic and locally produced foods and other differentiated food products.

Neil Hooker, Ph.D.: Dr. Hooker is an Assistant Professor at OSU in Agriculture, Environmental and Developmental Economics. His work focuses on the economics of food quality.

H.G. Parsa, Ph.D.: Dr. Parsa is an Associate Professor at OSU in the Department of Consumer Sciences. His work focuses on changing trends in American food habits and their impact on the hospitality industry.
Deborah Stinner, Ph.D.: Dr. Stinner is a Research Scientist in the Ohio Agricultural Research and Development Center. She also is the administrator coordinator for OARDC's Interdisciplinary Organic Food and Farming Education and Research Program (OFFER).

Richard Moore, Ph.D.: Dr. Moore is an Associate Professor at OSU in Human and Community Resource Development and also holds an appointment in the Anthropology department. His research includes organic and sustainable farming and environmental policy.