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Final Report

Public Opinion of Food in Florida

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Executive Summary

Public Opinion of Food in Florida

OCTOBER 2014

Introduction

In Florida and throughout the United States, food-related issues such as food safety and use of new food technologies continue to be top concerns among consumers. Since consumers' opinions regarding food issues is important to both the sustainability of the agricultural industry and human life as we know it, the UF/IFAS Center for Public Issues Education (PIE Center) initiated a study to explore the attitudes, perceptions, and opinions of Floridians around food issues. This survey examined what Floridians think about (1) their perceptions of food safety of various food products, (2) their concerns regarding food safety, (3) their overall attitude toward food safety, (4) their knowledge of food safety practices (5) their perceptions of genetically modified food, and (6) their intent to purchase genetically modified food.

Key Findings

The key findings of the study include the following:

- The majority of respondents agreed or strongly agreed that fruits and vegetables were safe.
- Respondents identified eggs and milk as the safest animal products, followed by whole cuts of meat (steak, pork chops, chicken), ground products (sausage, ground beef), and seafood.
- Respondents were slightly more worried about the safety of growth hormones in food than bacteria in food.
- The majority of respondents were only slightly or not at all worried about the safety of organic, local, and all natural food.
- The majority of respondents were worried about the safety of pesticide and antibiotic residues in food, while about half of respondents reported concerns with the safety of food additives and preservatives.
- Florida residents were more concerned about the safety of food prepared at a restaurant than in their kitchen.
- Just under half the respondents agreed or strongly agreed that food safety is a major concern, while slightly less respondents agreed or strongly agreed that food safety is a major concern of Americans.
- The most respondents indicated that health professionals were a somewhat trustworthy or very trustworthy source to deliver accurate food safety information.
- About half of respondents indicated they learned about food safety on television, from their parents, and through online sources.
- Most respondents did not understand the science of genetically modified food nor could they identify what foods were genetically modified, but a large portion had read or heard about the technology.
- Respondents were generally unsure about the benefits of genetically modified food and believed that the technology tampered with nature.
- When asked about purchasing intent, respondents indicated they were unsure about purchasing food labeled as "containing genetically modified ingredients" and were more willing to purchase products labeled as "free of containing genetically modified ingredients."
- Respondents were unsure if they would purchase certain genetically modified products. The exceptions were that more people *would not* buy genetically modified seafood and *would* buy clothes containing genetically modified fibers.

- About one-third of the respondents were unsure if they had purchased genetically modified food in the past or in the present.

Background

In Florida and throughout the United States, food-related issues such as food safety and genetically modified food continue to be top concerns among consumers. Food safety is a topic often covered in the media and it is an issue that consumers commonly worry about. The issue of genetically modified food continues to be debated by consumers.¹ Genetically modified food, while widely not understood by consumers, leaves consumers skeptical and unsure whether they should be eating foods containing genetically modified ingredients. Several states have considered legislation for labeling genetically modified products throughout the last year.

Examining consumers' opinions regarding food related issues is important to both the sustainability of the agricultural industry and human life as we know it. Florida has over 9.25 million acres of farmland and a variety of agriculture commodities that contribute \$7.8 billion in sales to the state's economy (National Agricultural Statistic Service, 2011). Therefore, examining food issues where production and consumption intersects is essential to the future of food.

This survey specifically examined:

- The public's perceptions as to safety of various food products
- The public's concerns regarding food safety
- The public's overall attitude toward food safety
- The public's knowledge of food safety practices
- The public's perceptions of genetically modified food
- The public's intent to purchase genetically modified food

Methods

In October 2014, an online survey was distributed to a representative sample of Florida residents using non-probability sampling. Qualtrics, a survey software company, distributed the survey link to 770 Florida residents, 18 or older. Of these potential respondents, 524 completed responses were recorded. To ensure that the data were representative of the Florida population according to the 2010 U.S. Census (seen in Table 1), the data were weighted to balance geographic, age, gender, and race/ethnicity data with the Florida population (Kalton & Flores-Cervantes, 2003). Weighting procedures are commonly used in non-probability samples to compensate for selection, exclusion, and non-participation biases (Baker et al., 2013).

Public opinion research commonly utilizes non-probability samples to make population estimates (Baker, et al., 2013). According to previous literature, non-probability samples can yield results comparable and in some cases better than probability-based samples (Abate, 1998; Twyman, 2008; Vavreck & Rivers, 2008).

The survey instrument was created using both researcher-developed questions and questions replicated and adapted from previous studies. Questions addressing food safety were replicated and adapted from Sapp and Bird (2003); Redmond and Griffith (2004); Ergönül (2013); International Food Information Council (2013, 2014);

¹The FDA has suggested that "genetically modified" is the incorrect term as most plant varieties have been modified through breeding procedures. "Genetic engineering" or "biotechnology" are the more appropriate terms to describe products, such as Roundup® ready corn, that are commonly referred to as GMOs. However, due to the familiarity of GMOs to consumers and the discussion of GMOs in the media, the term "GMO" was used throughout this survey.

Diehl, Pracht, Forthum and Simmone (2010); and Byrd, Maurer, Wheatley, Schaffner, Bruhn and Blalock (2007). Finally, questions regarding GMOs were replicated and adapted from various studies (Osgood, Succi, & Tannenbaum, 1971; Frewer, Howard, & Shepherd, 1997; Roe & Teisl, 2007; Rumble & Leal, 2013; & Hallman & Metcalf, 1993).

The survey was reviewed by a panel of experts, listed in the acknowledgements, for face and content validity before implementation.

Description of Respondents

Table 1: Weighted demographics of survey respondents

| Demographic Category | % |
|--|------|
| Gender | |
| Male | 48.9 |
| Female | 51.1 |
| Ethnicity | |
| Hispanic | 22.5 |
| Race | |
| Native American | 0.2 |
| Asian | 3.0 |
| African American | 17.0 |
| White | 77.1 |
| Age | |
| 19 and younger | 1.3 |
| 20-29 years | 12.8 |
| 30-39 years | 12.2 |
| 40-49 years | 14.2 |
| 50-59 years | 13.5 |
| 60-69 years | 11.1 |
| 70-79 years | 7.4 |
| 80 and older | 4.9 |
| Rural Urban Continuum | |
| Metro- Counties in metro areas of 1 million population or more | 63.1 |
| Metro- Counties in metro areas of 250,000 to 1 million population | 25.7 |
| Metro- Counties in metro areas of fewer than 250,000 population | 4.8 |
| Nonmetro- Urban population of 20,000 or more, adjacent to a metro area | 3.5 |
| Nonmetro- Urban population of 2,500 to 19,999, adjacent to a metro area | 2.6 |
| Nonmetro- Completely rural or less than 2,500 urban population, adjacent to a metro area | 0.3 |

Political Beliefs and Affiliation

A Democratic political affiliation was reported by 33% of respondents, followed closely by Republican affiliation (27%), and Independent affiliation (27%) (Figure 1). Additionally, 41% of respondents reported moderate political ideologies (Figure 2).

Figure 1. Political Affiliation

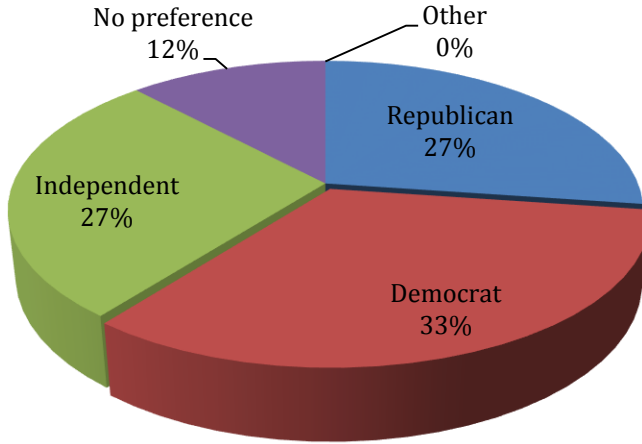
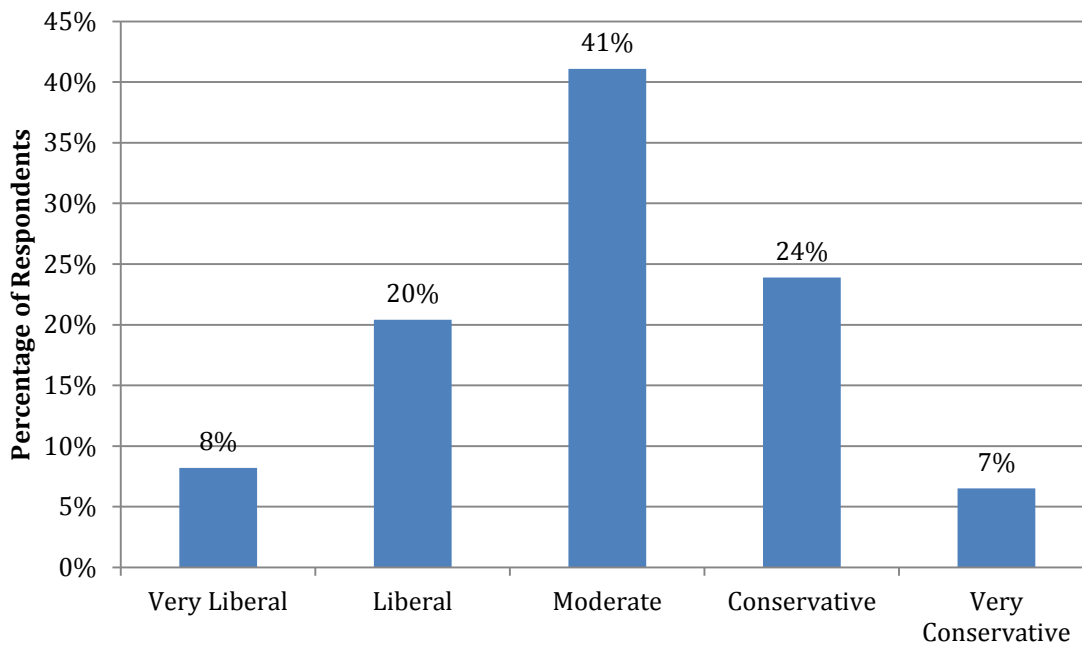


Figure 2. Political ideological leaning



Results

Importance of Florida Issues

Respondents were asked to rate the level of importance they associated with 15 specific issues on a five-point scale (1 = *Not at all important*, 2 = *Slightly important*, 3 = *Fairly important*, 4 = *Highly important*, 5 = *Extremely important*). Respondents could also indicate that they were *Unsure* of the importance they associated with an issue. Table 1 details the percent of respondents who rated each issue as *Highly important* or *Extremely important*. Respondents identified the economy and healthcare as the most important issues, at 88% and 84% respectively. Food production practices rated 8th out of 10 issues at 61%.

Table 2. Importance level of issues

| Florida Issue | % of respondents rating the issue extremely or highly important |
|----------------------------|---|
| The economy | 88% |
| Health care | 84% |
| Water | 74% |
| Taxes | 74% |
| Public education | 72% |
| Environmental Conservation | 71% |
| Housing and foreclosures | 65% |
| Food production | 61% |
| Immigration | 59% |
| Climate change | 51% |

Importance of Food Issues

Respondents were asked to rate the level of importance they associated with four specific food issues on a five-point scale (1 = *Not at all important*, 2 = *Slightly important*, 3 = *Fairly important*, 4 = *Highly important*, 5 = *Extremely important*). Table 2 details the percent of respondents who rated each issue as *Highly important* or *Extremely important*. Respondents identified food safety and food costs as the most important food issues, at 90% and 89% respectively.

Table 3. Importance Level of Food Issues

| Food Issue | % of respondents rating the issue extremely or highly important |
|---|---|
| Food safety | 90% |
| Food costs | 89% |
| Food security | 78% |
| Environmental impact of food production | 71% |

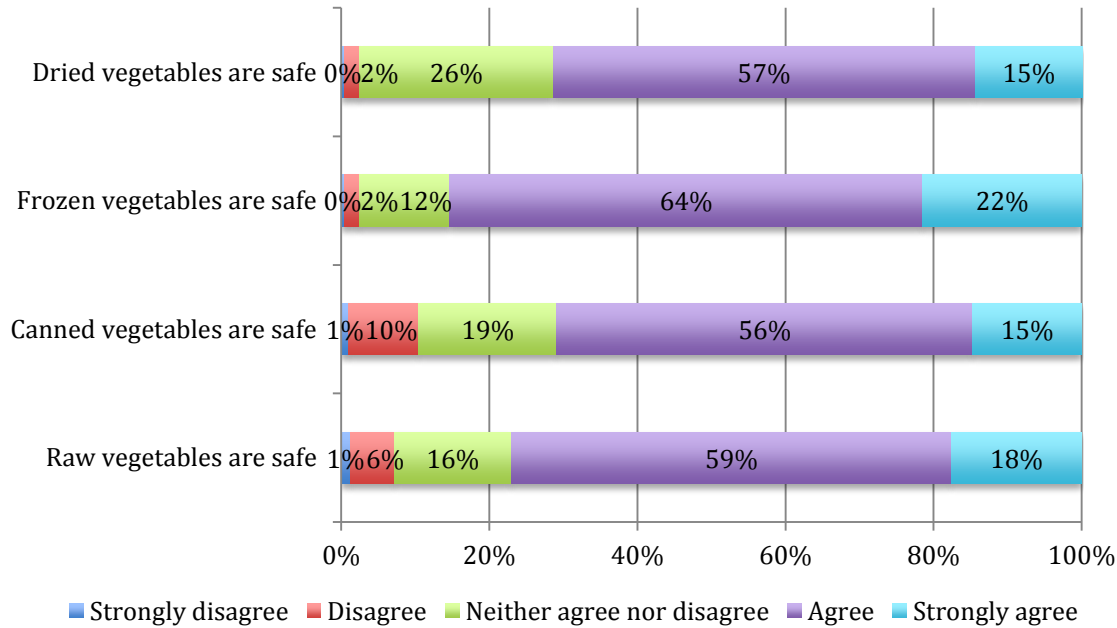
Food Safety Perceptions

Respondents were asked a series of questions about their perceptions of the safety of different food products. These questions asked respondents to rate their level of agreement with statements on a five-point scale (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Neither agree nor disagree*, 4 = *Agree*, 5 = *Strongly agree*).

Perceived Food Safety – Vegetables

The majority of respondents agreed that vegetables were safe whether dried, frozen, canned, or raw (Figure 3). Frozen vegetables were perceived to be the most safe, as 86% of respondents agreed or strongly agreed they were safe.

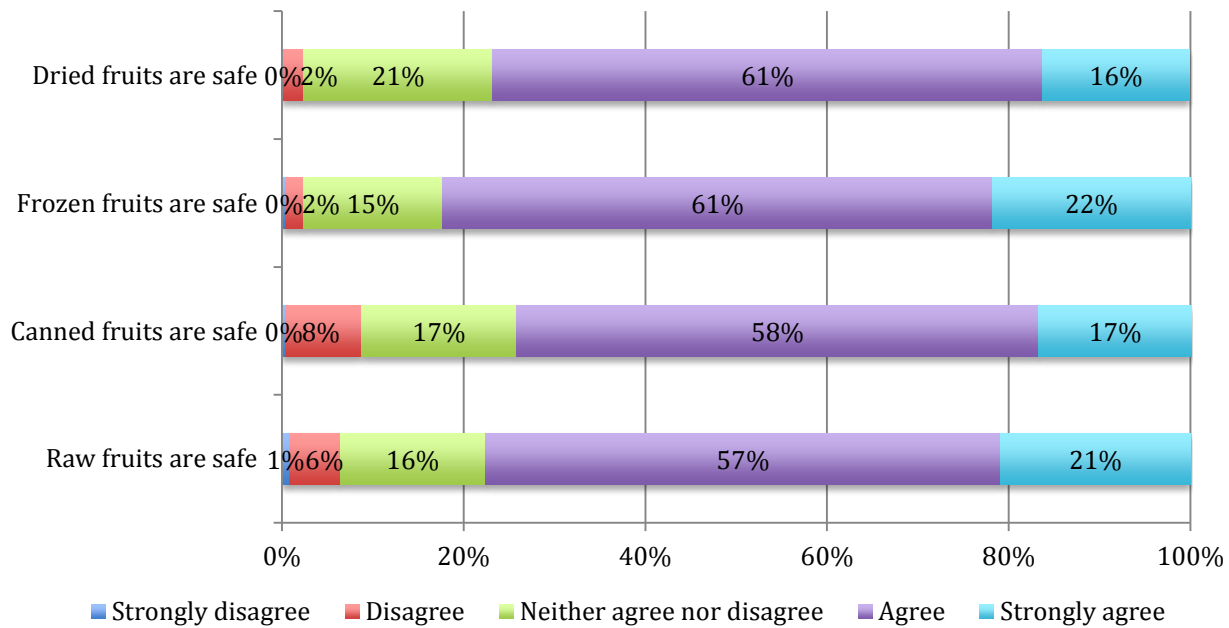
Figure 3. Perceived food safety – Vegetables



Perceived Food Safety – Fruits

The majority of respondents agreed that fruits were safe whether dried, frozen, canned, or raw (Figure 4). Frozen fruits were perceived to be the most safe, as (83%) of respondents agreed or strongly agreed they were safe.

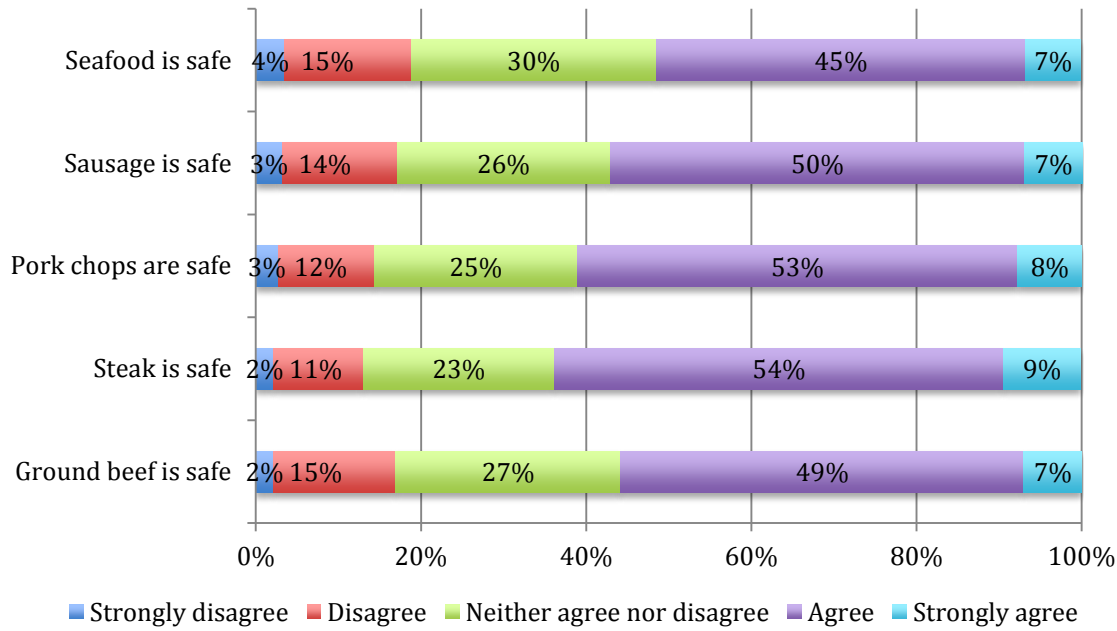
Figure 4. Perceived food safety – Fruit



Perceived Food Safety –Beef, Pork, and Seafood

Steak was perceived as the safest beef or pork product, with 63% of respondents stating they agreed or strongly agreed steak was safe (Figure 5). Seafood had the lowest level of agreement with 52% of respondents agreeing or strongly agreeing that seafood was safe.

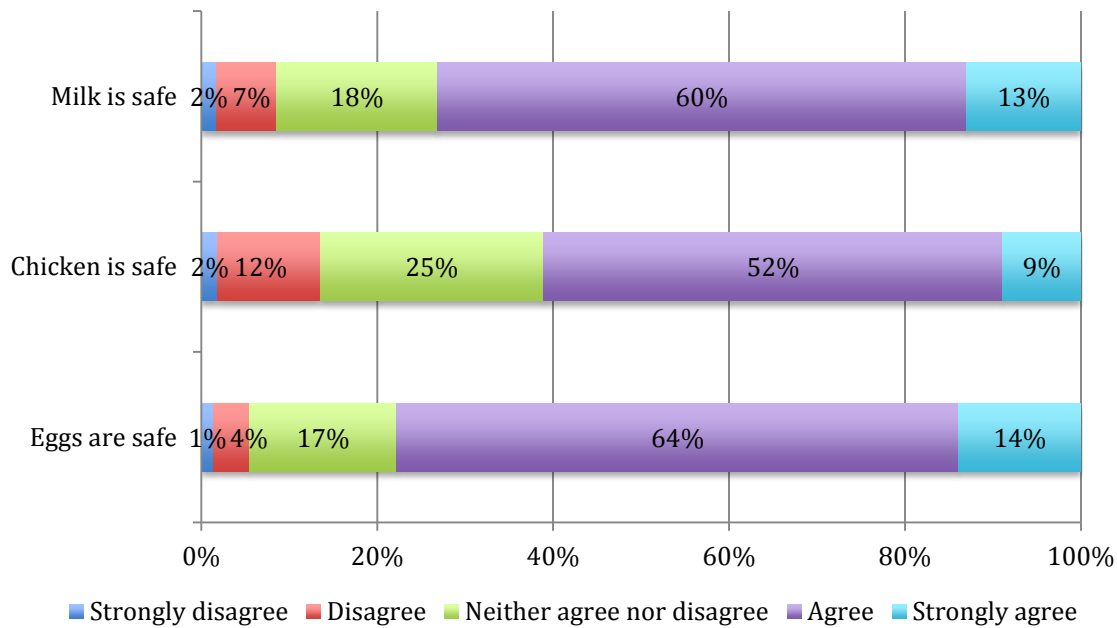
Figure 5. Perceived food safety –Beef, pork, and Seafood



Perceived Food Safety – Poultry and Dairy

The majority of respondents agreed that eggs and milk were safe with 78% and 73% agreeing or strongly agreeing, respectively (Figure 6). Chicken, however, was only perceived to be safe by 61% of respondents.

Figure 6. Perceived food safety – Poultry and dairy



Food Safety Message-Attitudes

Respondents were asked to indicate on a five-point semantic differential scale which word their attitude most closely aligned with when completing the sentence “Following the four food safety steps of cleaning, separating, cooking and chilling is...” (Table 4). Respondents indicated they felt that following the four food safety steps were more wise than foolish ($M = 4.81$), more important than unimportant ($M = 4.81$), more good than bad ($M = 4.81$), more beneficial than harmful ($M = 4.78$), more positive than negative ($M = 4.75$) and more necessary than unnecessary ($M = 4.72$).

Table 4. Food Safety Message-Attitudes

| Statement | M | SD |
|-------------------------|------|-----|
| Foolish: Wise | 4.81 | .53 |
| Important: Unimportant* | 4.81 | .49 |
| Good: Bad* | 4.81 | .49 |
| Positive: Negative* | 4.78 | .56 |
| Beneficial: Harmful* | 4.77 | .55 |
| Unnecessary: Necessary | 4.72 | .60 |

Note: Responses based on semantic differential scale from 1 to 5 with the word on the left being equal to 1 and the word on the right being equal to 5.

*Reverse-coded item

Food Safety Message-Perceived Personal Control

Respondents were asked to indicate on a five-point semantic differential scale which words their perceived personal control most closely aligned with when completing the sentence “Following the four food safety steps of cleaning, separating, cooking and chilling is...” (Table 5). Respondents indicated they felt following the four food safety steps was possible for them ($M = 4.78$), up to them ($M = 4.77$), in their control ($M = 4.71$), practical for them ($M = 4.60$) and easy for them ($M = 4.57$).

Table 5. Food Safety Message-Perceived Personal Control

| Statement | M | SD |
|--|------|-----|
| Not possible for me: Possible for me | 4.78 | .56 |
| Not up to me: Up to me | 4.77 | .58 |
| Not in my control: In my control | 4.71 | .67 |
| Not practical for me: Practical for me | 4.60 | .75 |
| Not easy for me: Easy for me | 4.57 | .78 |

Note: Responses based on semantic differential scale from 1 to 5 with the word on the left being equal to 1 and the word on the right being equal to 5.

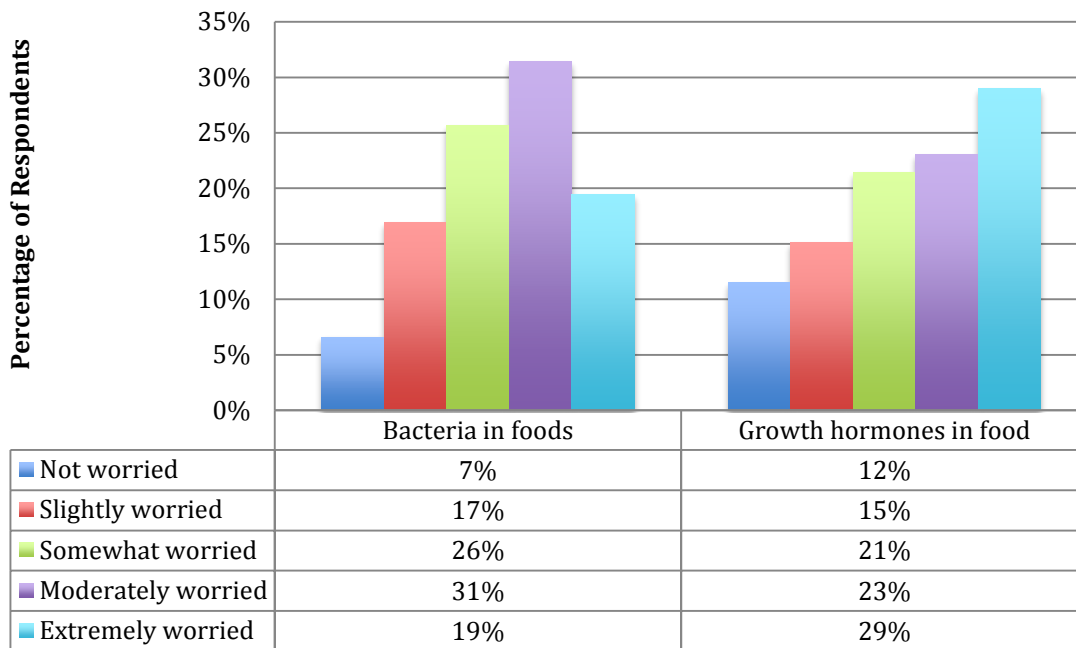
Food Safety Concerns

Respondents were asked a series of questions about the level of worry they associated with food safety. They were asked questions about the safety of naturally occurring food threats, food ingredients, food production, residues in food, and food preparation. These questions asked respondents to rate their level of worry on a five-point scale (1 = *Not worried*, 2 = *Slightly worried*, 3 = *Somewhat worried*, 4 = *Moderately worried*, 5 = *Extremely worried*).

Food Safety Concerns – Naturally Occurring

Respondents reported they were slightly more worried about the safety of growth hormones in food than the safety of bacteria in foods (Figure 7). Of the respondents, 52% were moderately or extremely worried about the safety of growth hormones in food, while 50% were moderately or extremely worried about the safety of bacteria in foods.

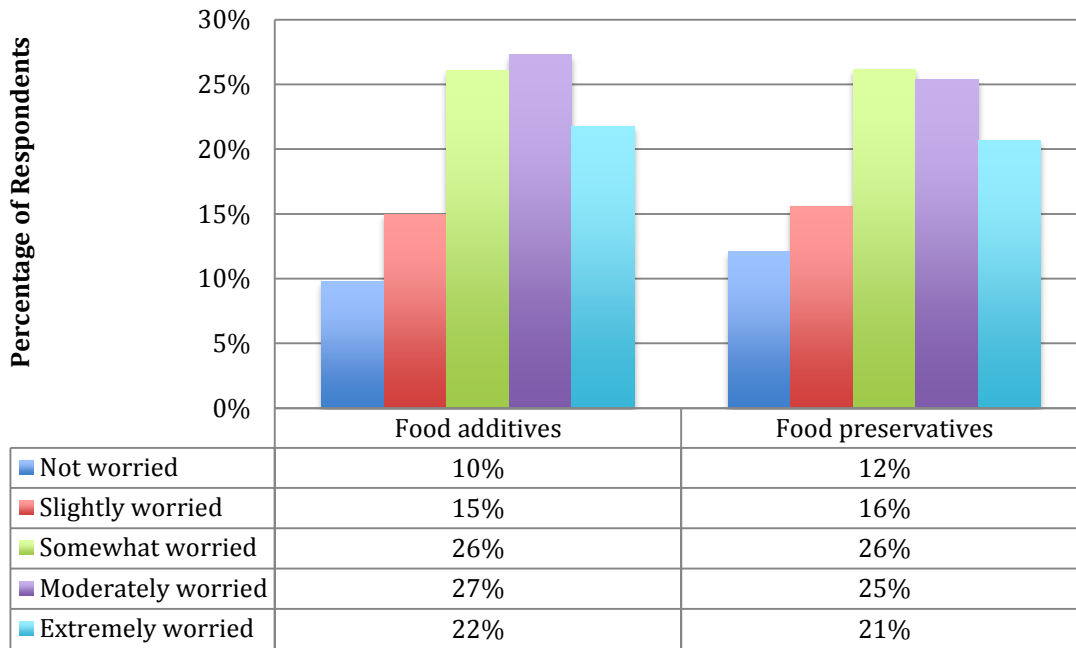
Figure 7. Food Safety Concerns – Naturally Occurring



Food Safety Concerns – Food Ingredients

Respondents reported they were somewhat or moderately worried about the safety of food additives and food preservatives (Figure 8). Fifty-three percent were somewhat or moderately worried about the safety of food additives, while 51% were somewhat or moderately worried about the safety of food preservatives.

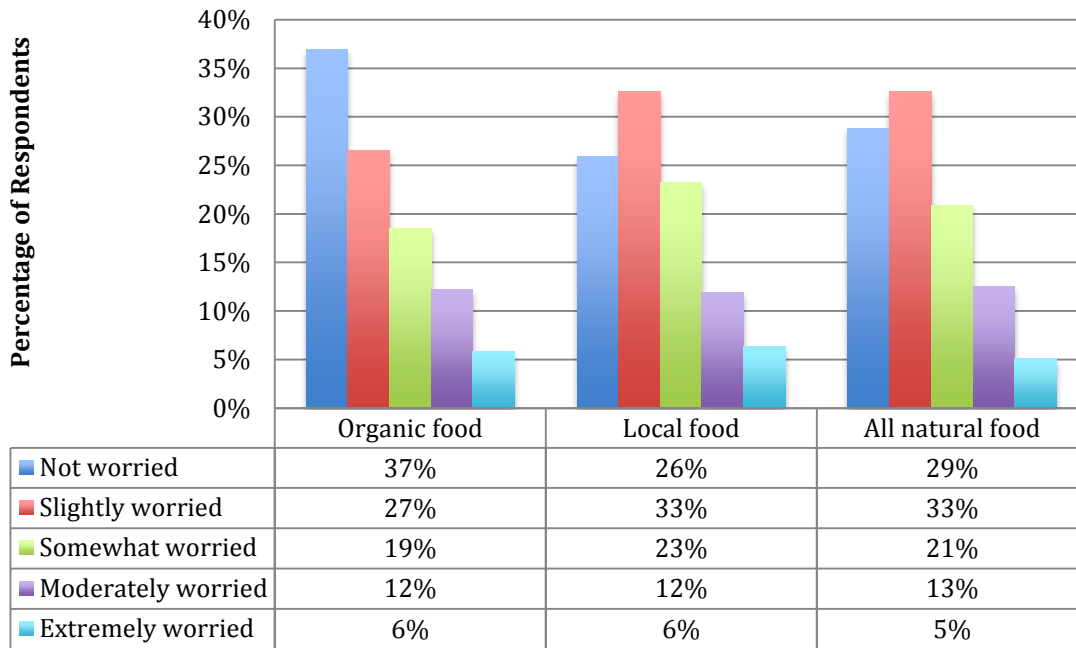
Figure 8. Food Safety Concerns – Food Ingredients



Food Safety Concerns – Production Type

The majority of respondents were not as worried about the safety of organic, local, and all natural food when compared to other questions (Figure 9). Of the respondents, 64% were either not worried or only slightly worried about the safety of organic food, followed by all natural food (62%), and local food (59%).

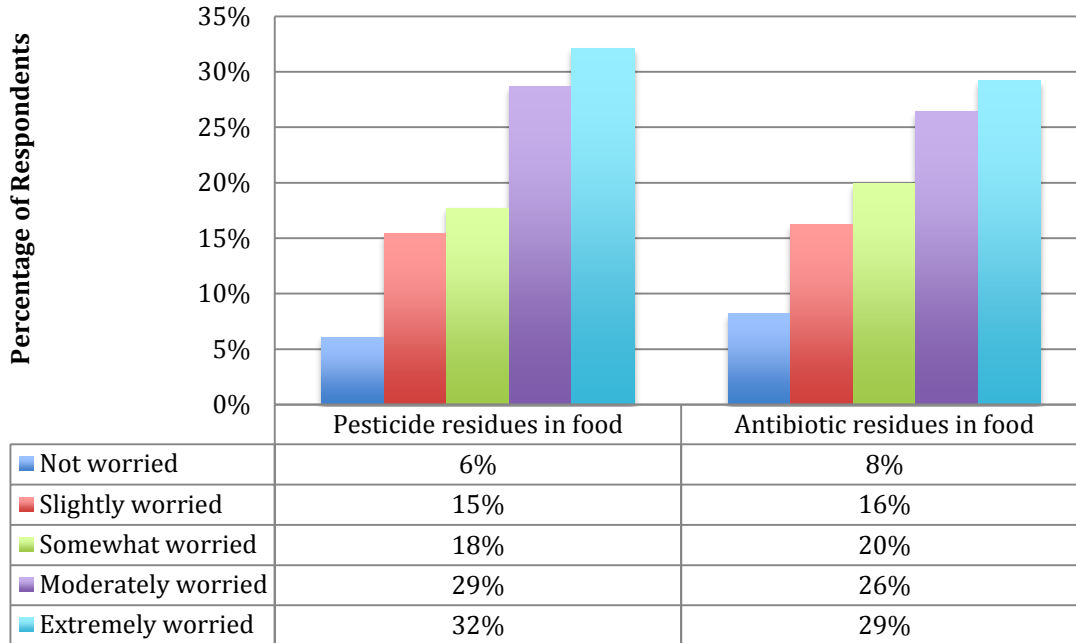
Figure 9. Food Safety Concerns – Production Type



Food Safety Concerns – Residues

The majority of respondents indicated high levels of concern regarding the safety of pesticide and antibiotic residues in food, with slightly more concern regarding the safety of pesticide residues in food (Figure 10). Of the respondents, 94% were at least slightly worried about the safety of pesticide residues in food. Similarly, 91% of respondents were at least slightly worried about the safety of antibiotic residues.

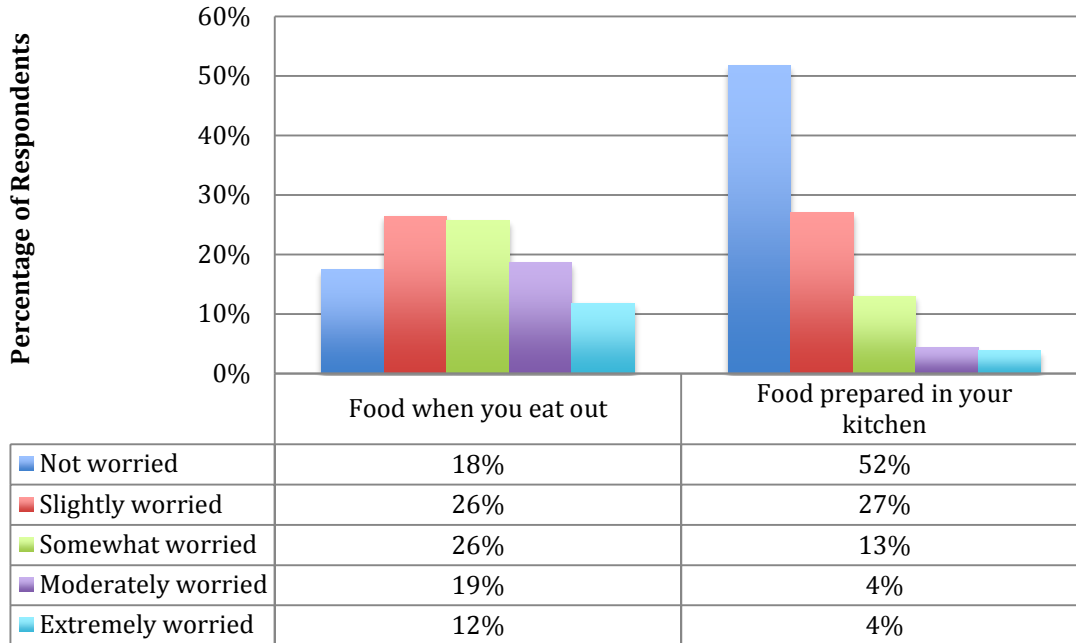
Figure 10. Food Safety Concerns – Residues



Food Safety Concerns – Food Preparation

Respondents were less worried about the safety of the food prepared in their kitchen than they were about the safety of food when they ate out at a restaurant (Figure 11). Of the respondents, 57% were somewhat, moderately, or extremely worried about the safety of food when they ate out. However, only 21% of respondents were somewhat, moderately, or extremely worried about the safety of food prepared in their kitchen.

Figure 11. Food Safety Concerns – Food Preparation



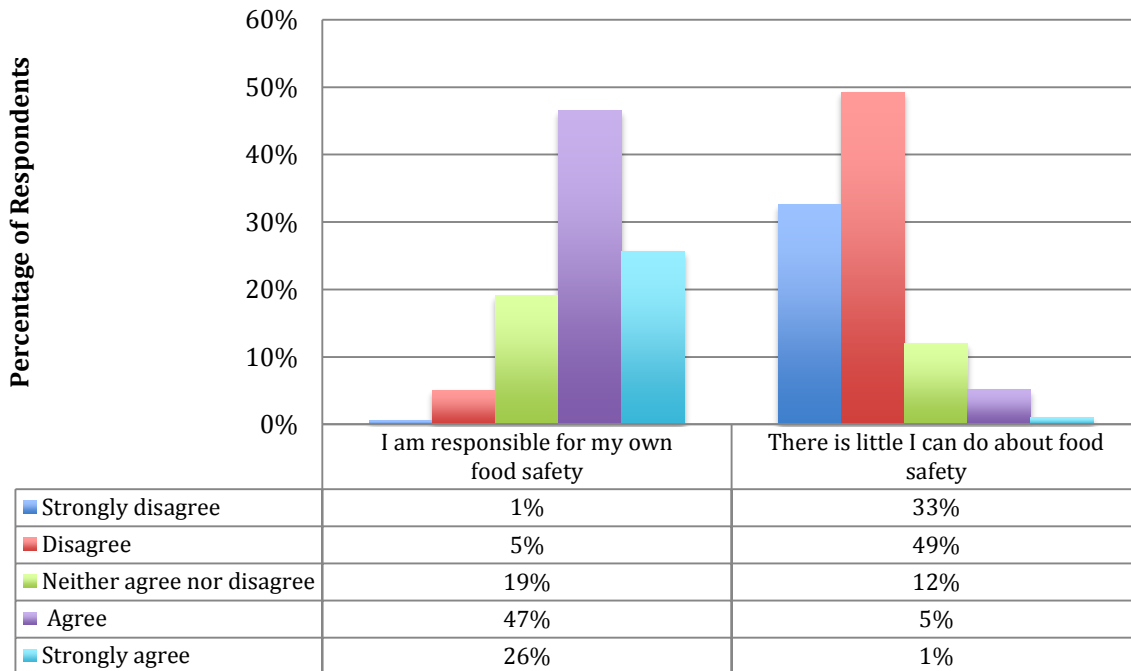
Food Safety Attitudes

Respondents were asked a series of questions about their attitude toward food safety. Attitudes about their personal control of food safety, perceived food safety risk, and food safety concerns were all collected. These questions asked respondents to rate their level of agreement with statements on a five-point scale (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Neither agree nor disagree*, 4 = *Agree*, 5 = *Strongly agree*).

Food Safety Attitudes – Personal Control

Of the respondents, 73% agreed or strongly agreed food safety was their responsibility (Figure 12), while a majority of respondents disagreed or strongly disagreed that there is little they can do about food safety (82%).

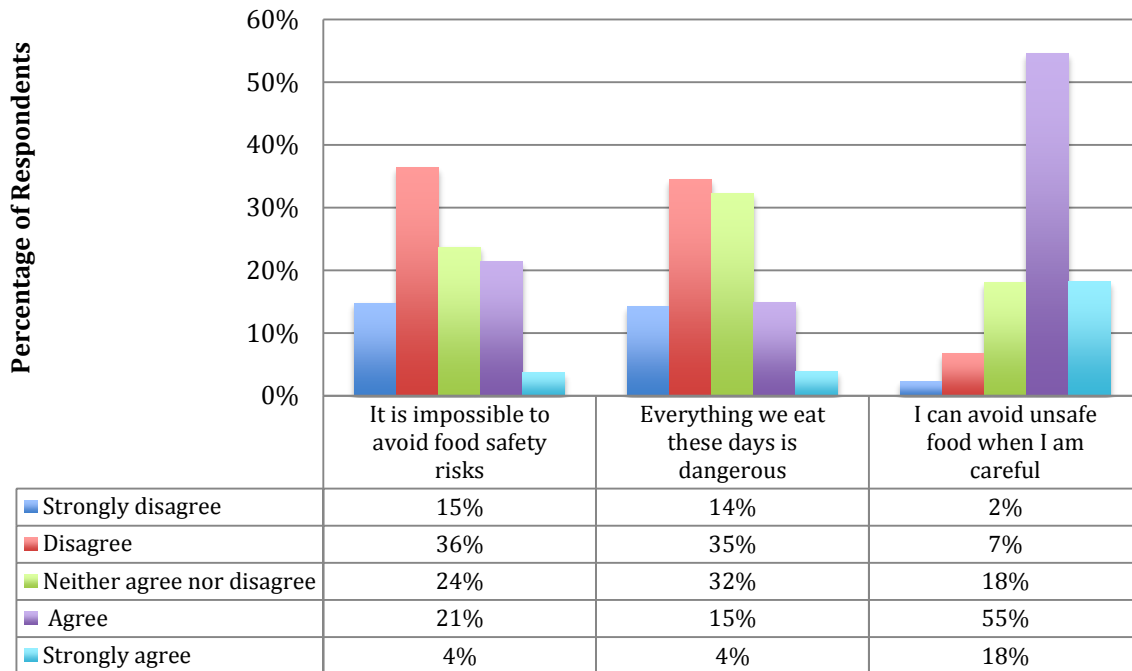
Figure 12. Food Safety Attitudes – Personal Control



Food Safety Attitudes – Perceived Risks

Of the respondents, 51% disagreed or strongly disagreed it was impossible to avoid food safety risks (Figure 13). However, nearly a quarter of the respondents felt neutral (neither agree nor disagree) about avoiding food safety risks (24%). Strong disagreement or disagreement was reported by 49% of the respondents regarding the statement “Everything we eat these days is dangerous,” while 32% of respondents felt neutral (neither agree nor disagree) about the statement. The majority (73%) of respondents agreed or strongly agreed they could avoid unsafe food when they were careful.

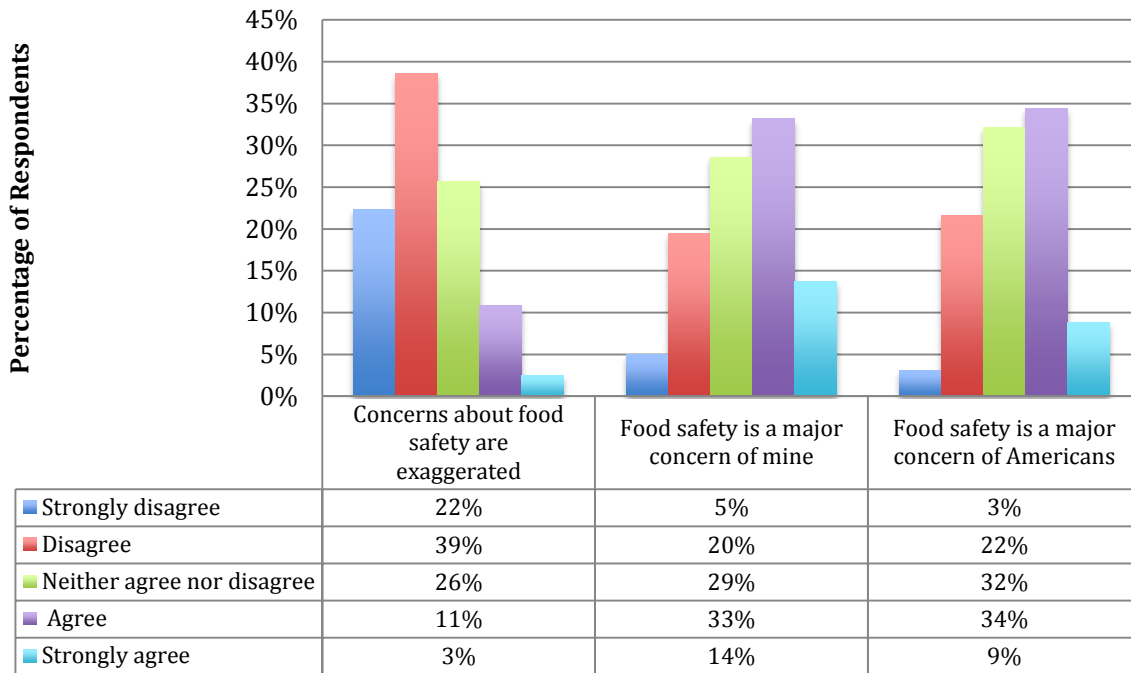
Figure 13. Food Safety Attitudes – Perceived Risks



Food Safety Attitudes – Concerns

About a third of the respondents gave neutral (neither agree nor disagree) responses for each question regarding food safety concerns (Figure 14). In addition, 61% of respondents disagreed or strongly disagreed that concerns about food safety were exaggerated. Slightly more respondents agreed or strongly agreed food safety was a greater concern of their own (47%) when compared to their perceived sense of the level of concern of other Americans (43%).

Figure 14. Food Safety Attitudes – Concerns



Food Safety Behaviors

Respondents were asked a series of questions about their food safety behaviors. These questions asked respondents to rate their frequency of engagement in each of the identified food safety behaviors on a 5-point scale (1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Often*, 5 = *Always*).

Personal Food Safety Behaviors

The majority of respondents reported they always wash their hands before preparing food (74%), separate raw meat, poultry, and seafood from ready-to-eat products (68%), wash fruits and vegetables before eating (66%), look for expiration dates on food before eating (62%), and wash hands before eating (57%) (Table 6).

Table 6. Personal Food Safety Behaviors

| | Never | Rarely | Sometimes | Often | Always |
|---|--------------|---------------|------------------|--------------|---------------|
| Wash hands before preparing food | 0% | 1% | 7% | 18% | 74% |
| Separate raw meat, poultry, and seafood from ready to eat products | 2% | 4% | 9% | 17% | 68% |
| Make sure that fresh fruits and vegetables are washed before eating | 1% | 2.7% | 7% | 23% | 66% |
| Look for expiration dates on food before eating | 1% | 3% | 10% | 24% | 62% |
| Wash hands before eating food | 0% | 3% | 12% | 27% | 57% |
| Disinfect counters before preparing food | 3% | 10% | 20% | 29% | 38% |
| Defrost frozen foods in the refrigerator or microwave | 5% | 9% | 24% | 30% | 32% |
| Read food labels for food safety information | 3% | 9% | 30% | 32% | 26% |
| Peel edible skins from fresh fruits and vegetables before eating | 9% | 24% | 33% | 19% | 15% |

Knowledge of Food Safety Behaviors

Respondents were asked a series of questions about their knowledge with regards to food safety behaviors. These questions asked respondents to determine whether the statements were true or false where 1 = *True* and 2 = *False*. The majority of respondents exhibited a good knowledge of most food safety behaviors. However, 59% of respondents were incorrect in their belief that the statement “Meat should be rinsed under cold water before cooking” was true.

Table 7. Knowledge of Food Safety Behaviors

| | True | False |
|--|-------------|--------------|
| It is very important to wash your hand with soap and water before you eat or touch food | 99% | 1% |
| The cutting board used for raw meat or poultry should be washed before being used for fruits and vegetables | 97% | 3% |
| Cooked foods should be tightly wrapped or covered and put in the refrigerator within two hours | 95% | 5% |
| Meat, poultry and fish should be kept in the coldest part of the refrigerator | 94% | 6% |
| Keeping refrigeration at 40°F or below is one of the most effective ways to reduce the risk of foodborne illness | 93% | 7% |
| Ground meat and poultry should be thoroughly cooked until there is no pink or red in the middle | 91% | 9% |
| Eggs should be cooked until the white and yolk are not wet and runny | 81% | 19% |
| Fruits and vegetables cannot cause food poisoning* | 6% | 94% |
| Eating raw eggs and meat is healthy because they have extra vitamins* | 9% | 91% |
| Leaving frozen foods on the kitchen counter is the best way to defrost them* | 13% | 87% |
| Ground meat will stay fresh in the refrigerator for four to five days* | 38% | 62% |
| Meat should be rinsed under cold water before cooking* | 59% | 41% |

*Indicates false statement

Food Safety Information

Respondents were asked how trustworthy or untrustworthy they found health professionals, friends or family, the government, and food manufacturers as sources to deliver accurate food safety information. Respondents could answer *Very untrustworthy*, *Somewhat untrustworthy*, *Neither trustworthy nor untrustworthy*, *Somewhat trustworthy* or *Very Trustworthy*.

Sources of Food Safety Information

When considering who was a trustworthy source to deliver accurate food safety information, 82% of respondents indicated that health professionals were a somewhat trustworthy or very trustworthy source (Table 8). Fifty-eight percent of respondents indicated the government was a somewhat trustworthy or very trustworthy source while 51% of respondents indicated friends or family members were a somewhat trustworthy or very trustworthy source of food safety information. Only 39% of respondents indicated food manufacturers were a somewhat trustworthy or very trustworthy source of food safety information.

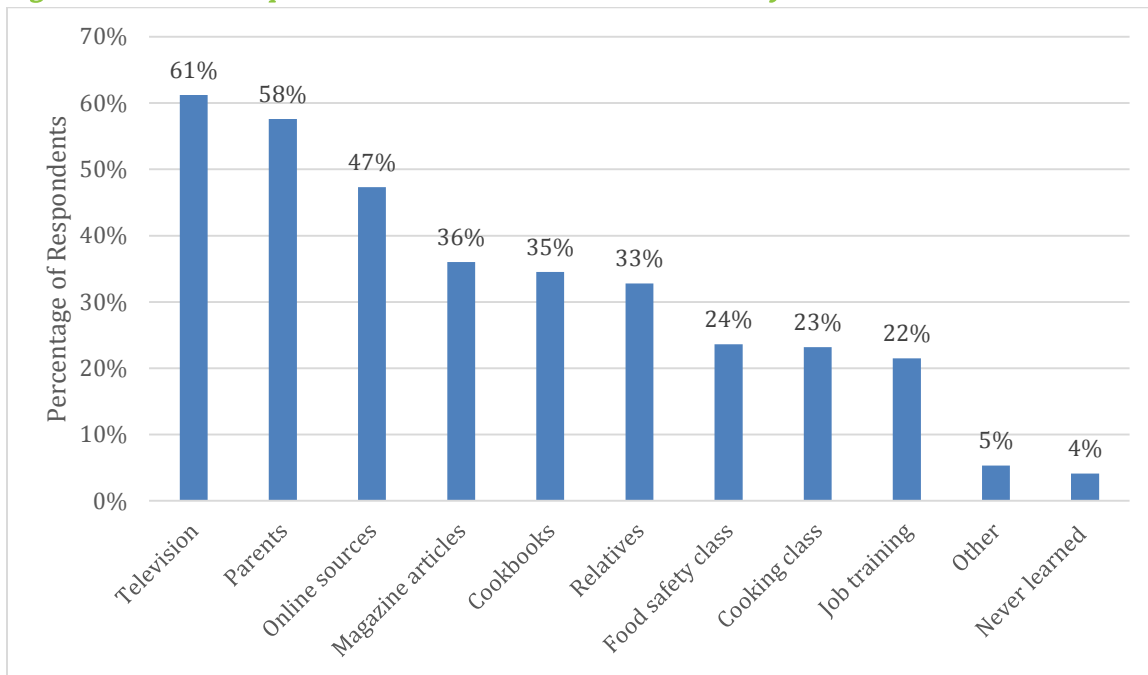
Table 8. Sources of Food Safety Information

| | Very untrustworthy | Somewhat untrustworthy | Neither trustworthy nor untrustworthy | Somewhat trustworthy | Very trustworthy |
|--|--------------------|------------------------|---------------------------------------|----------------------|------------------|
| Health Professionals (doctor, nurse, dietitian) | 2% | 3% | 13% | 47% | 35% |
| Friends or family members | 3% | 10% | 37% | 40% | 11% |
| The government (e.g. FDA, USDA) | 8% | 15% | 18% | 43% | 15% |
| Food manufacturers | 8% | 23% | 30% | 34% | 5% |

Where Respondents have Learned about Food Safety

Respondents were asked where they have learned about food safety (Figure 15). After checking all responses that applied, respondents indicated they learned about food safety from the television (61%), from their parents (58%) and through online sources (47%).

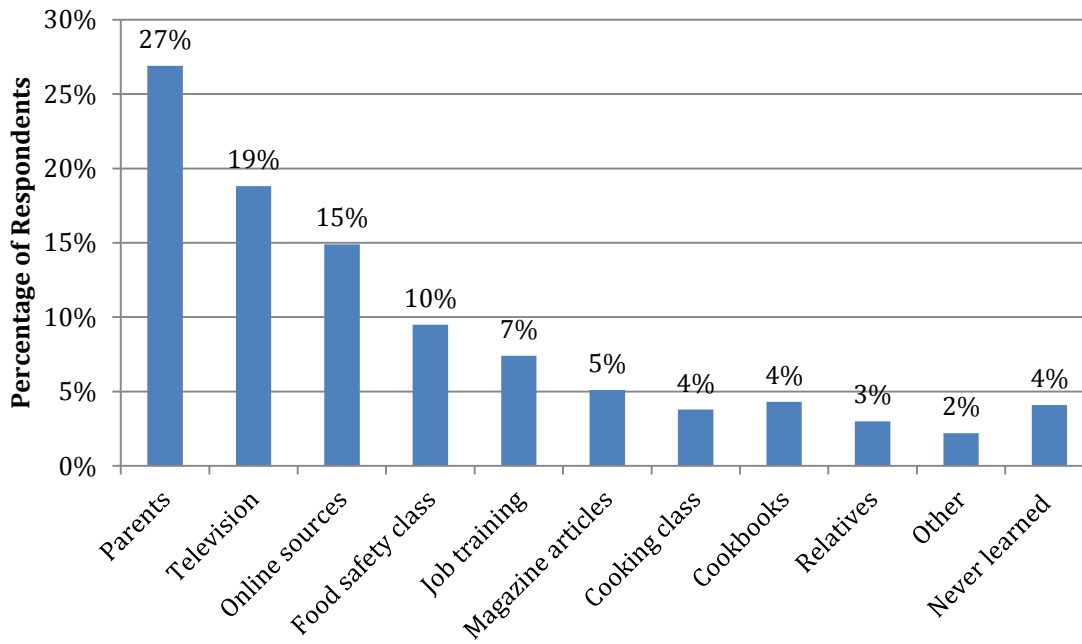
Figure 15. Where Respondents have Learned about Food Safety



Where Respondents have Learned Most about Food Safety

Respondents were asked where they learned the most about food safety (Figure 16). Respondents indicated they learned the most about food safety from their parents (27%), from the television (19%) and through online sources (10%).

Figure 16. Where Respondents Learned Most about Food Safety



Genetically Modified Food

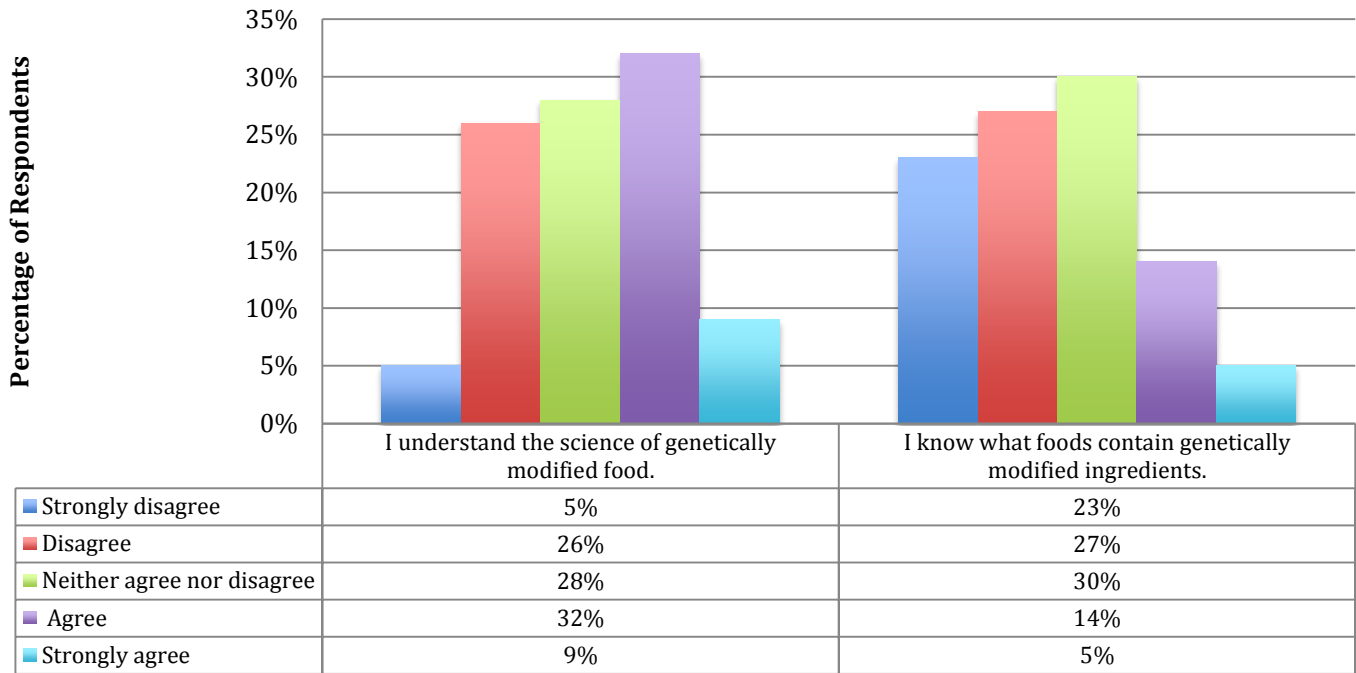
Perceptions of Genetically Modified Food

The survey asked respondents to report their knowledge of genetically modified food. Additionally, questions asked the respondents to indicate their beliefs toward perceived advantages and disadvantages of genetic modification, as well as current regulations. These questions asked respondents to rate their level of agreement with statements on a five-point scale (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Neither agree nor disagree*, 4 = *Agree*, 5 = *Strongly agree*). Respondents also were asked to indicate their beliefs about genetically modified food. They were asked to rate their attitude on a five-point semantic differential scale using bipolar adjectives.

Genetically Modified Food Knowledge

Many respondents (32%) agreed that they understood the science of genetically modified food, but only 9% strongly agreed with the statement (Figure 17). Only 19% of the respondents agreed or strongly agreed that they knew what foods contained genetically modified ingredients.

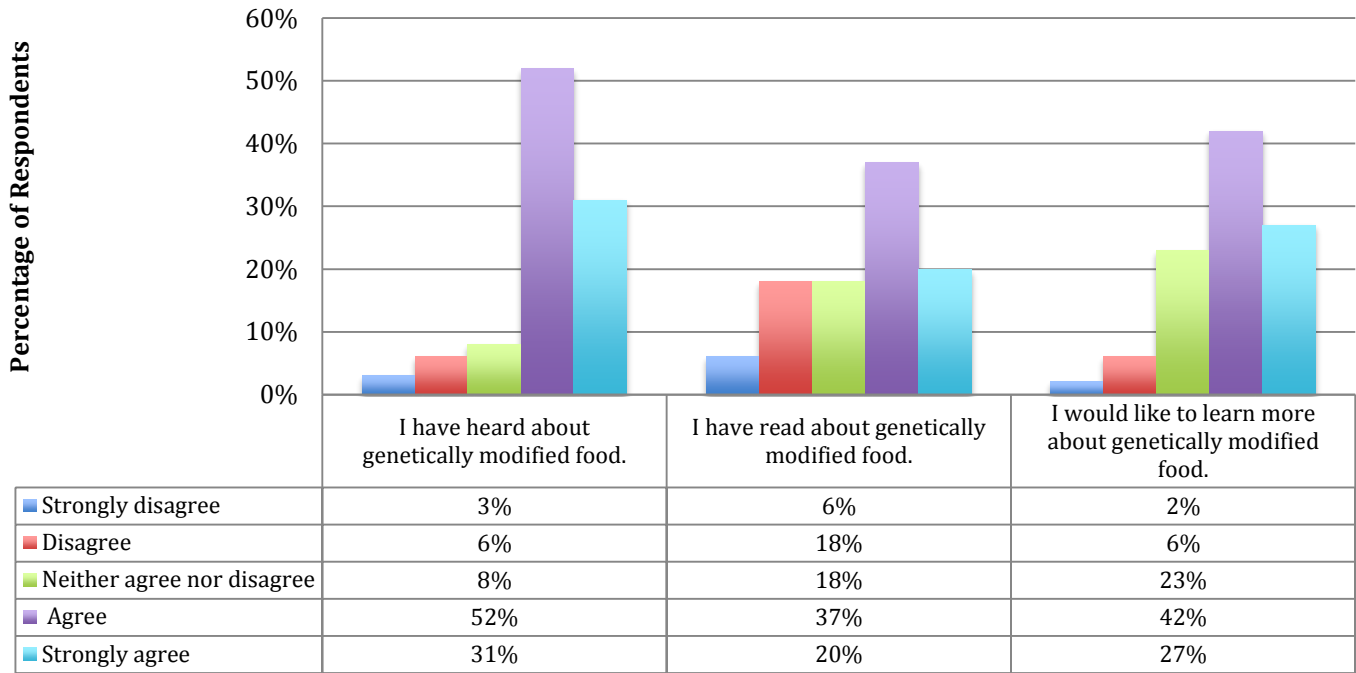
Figure 17. Genetically Modified Food Knowledge



Learning about Genetically Modified Food

A majority of respondents agreed or strongly agreed (83%) that they had heard about genetically modified food, while just over half of the respondents (57%) agreed or strongly agreed that they had read about genetically modified food (Figure 18). Sixty-nine percent of respondents reported that they would like to learn more about genetically modified food.

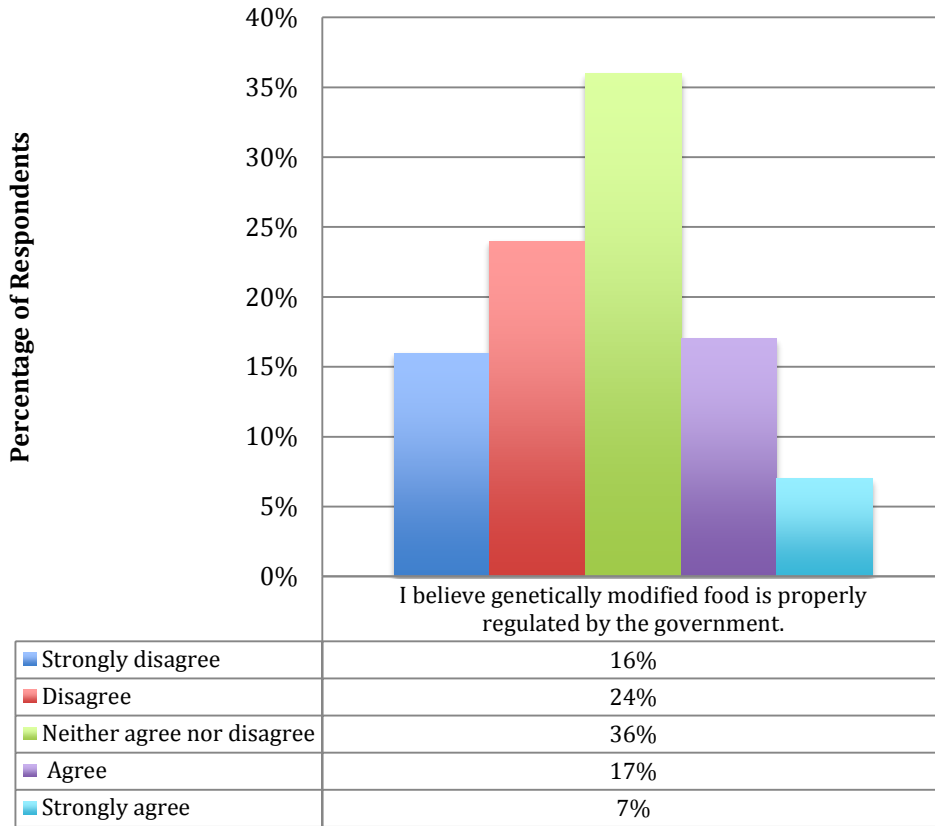
Figure 18. Learning about Genetically Modified Food



Genetically Modified Food Regulations

When asked if genetically modified food was properly regulated, many respondents (36%) were unsure (Figure 19).

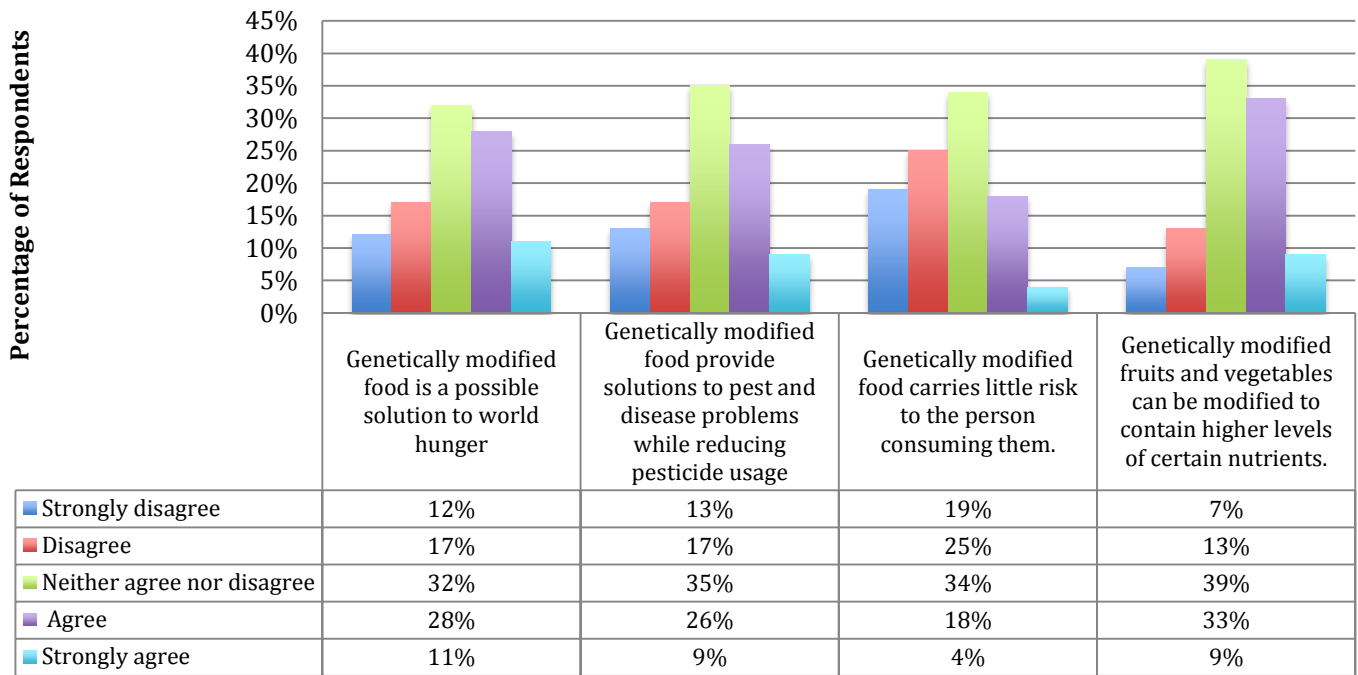
Figure 19. Genetically Modified Food Regulations



Genetic Modification Beliefs – Advantages

When asked about the benefits of using genetically modified food, most respondents were unsure (Figure 20). Thirty-two percent of respondents were unsure if genetically modified food offered a possible solution to world hunger, but 39% did agree or strongly agree with the statement. Similarly, most respondents neither agreed nor disagreed that genetically modified food helped provide solutions to reducing pesticide use (35%), carried little risk to those consuming them (34%), and could modify fruits and vegetables to contain higher levels of nutrients (39%). The benefit that the most respondents agreed or strongly agreed with (42%) was that genetic modification could alter fruits and vegetables to contain higher levels of nutrients.

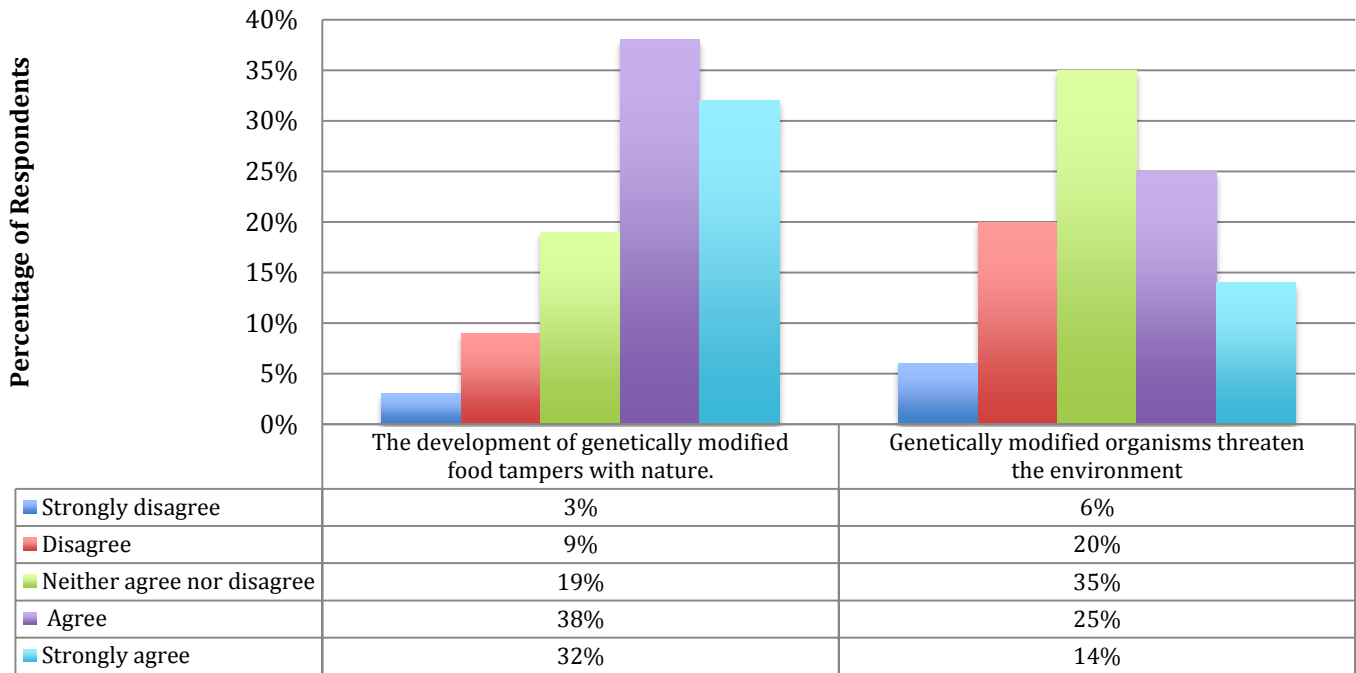
Figure 20. Genetic Modification Beliefs - Advantages



Genetic Modification Beliefs – Disadvantages

The large percentage of respondents agreed or strongly agreed (70%) that the development of genetically modified food tampers with nature (Figure 21). Only 38% of respondents agreed or strongly agreed that genetically modified food threatened the environment and 35% were unsure (neither agree nor disagree).

Figure 21. Genetic Modification Beliefs - Disadvantages



Genetically Modified Food Beliefs

Respondents were asked to indicate on a five-point semantic differential scale which word their attitude most closely aligned with when completing the sentence “I believe genetically modified food is...” (Table 9).

Respondents felt that genetically modified foods were more artificial than natural with a mean of 1.84. Attitudes were more neutral to slightly unfavorable concerning the healthiness (2.40), safety (2.54), benefits (2.40), wholesomeness (2.31), and necessity (2.37) of genetically modified food.

Table 9. Genetically modified food beliefs

| Statement | <i>M</i> | <i>SD</i> |
|-----------------------------|----------|-----------|
| Natural: Artificial* | 1.84 | 1.00 |
| Unhealthy: Healthy | 2.40 | 1.45 |
| Dangerous: Safe | 2.54 | 1.19 |
| Beneficial: Not Beneficial* | 2.40 | 1.16 |
| Wholesome: Not Wholesome* | 2.31 | 1.13 |
| Unnecessary: Necessary | 2.37 | 1.27 |

Note: Responses based on semantic differential scale from 1 to 5 with the word on the left being equal to 1 and the word on the right being equal to 5.

*Reverse-coded item

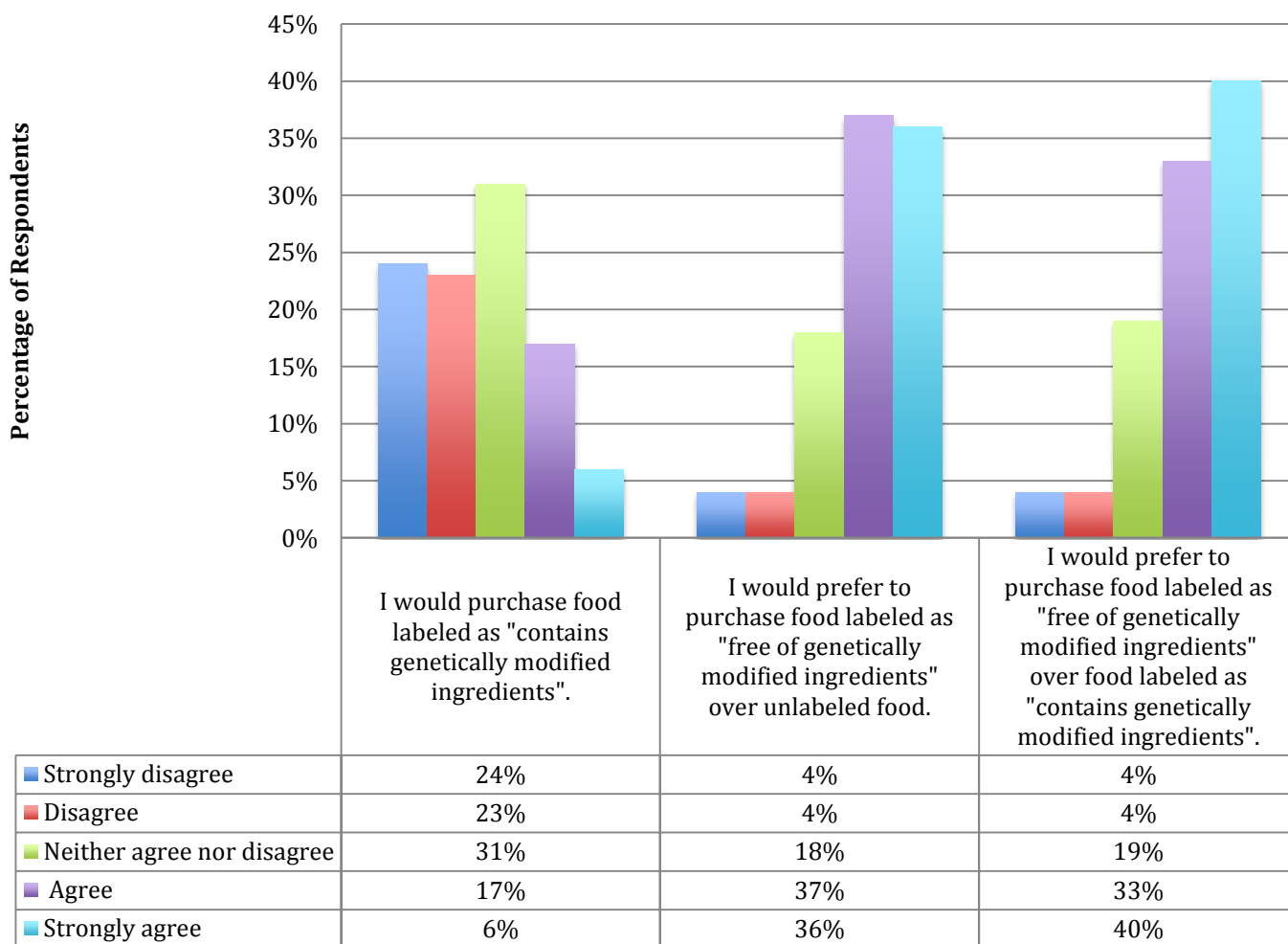
Genetically Modified Food Purchasing Intent

Respondents were asked a series of questions about their genetically modified food purchasing intent. Questions included purchasing intent in general, when given a scenario, and with specific products. Additional questions asked purchasing intent for genetically modified products in the past, present, and future. These questions asked respondents to rate their level of agreement with statements on a five-point scale (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Neither agree nor disagree*, 4 = *Agree*, 5 = *Strongly agree*).

Intent to Purchase – General

Only 23% of participant agreed or strongly agreed that they would purchase food labeled as “containing genetically modified ingredients” (Figure 22). Conversely, the large majority of respondents agreed or strongly agreed that they would purchase food labeled as “free of genetically modified ingredients” over unlabeled food (73%) or over food labeled as “containing genetically modified ingredients (73%)”.

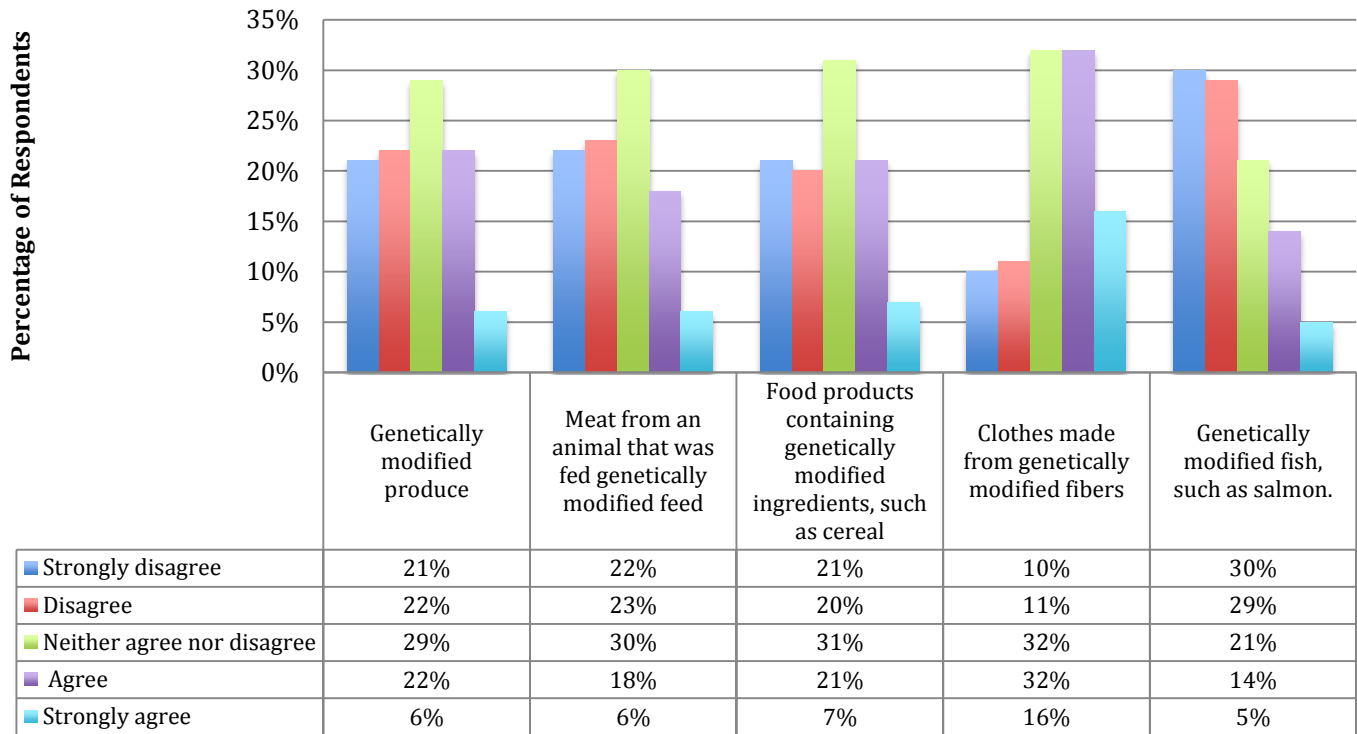
Figure 22. Intent to Purchase – General



Intent to Purchase – Product Specific

When asked about purchasing specific products, many respondents (29%-32%) neither agreed nor disagreed that they would purchase specific items like produce, meat, clothes, or food containing genetically modified ingredients (Figure 23). The exception was with genetically modified fish. Twenty-one percent neither agreed nor disagreed, but 59% disagreed or strongly disagreed that they would purchase genetically modified fish. The item most people agreed or strongly agreed that they would purchase was clothes made from genetically modified fibers (48%).

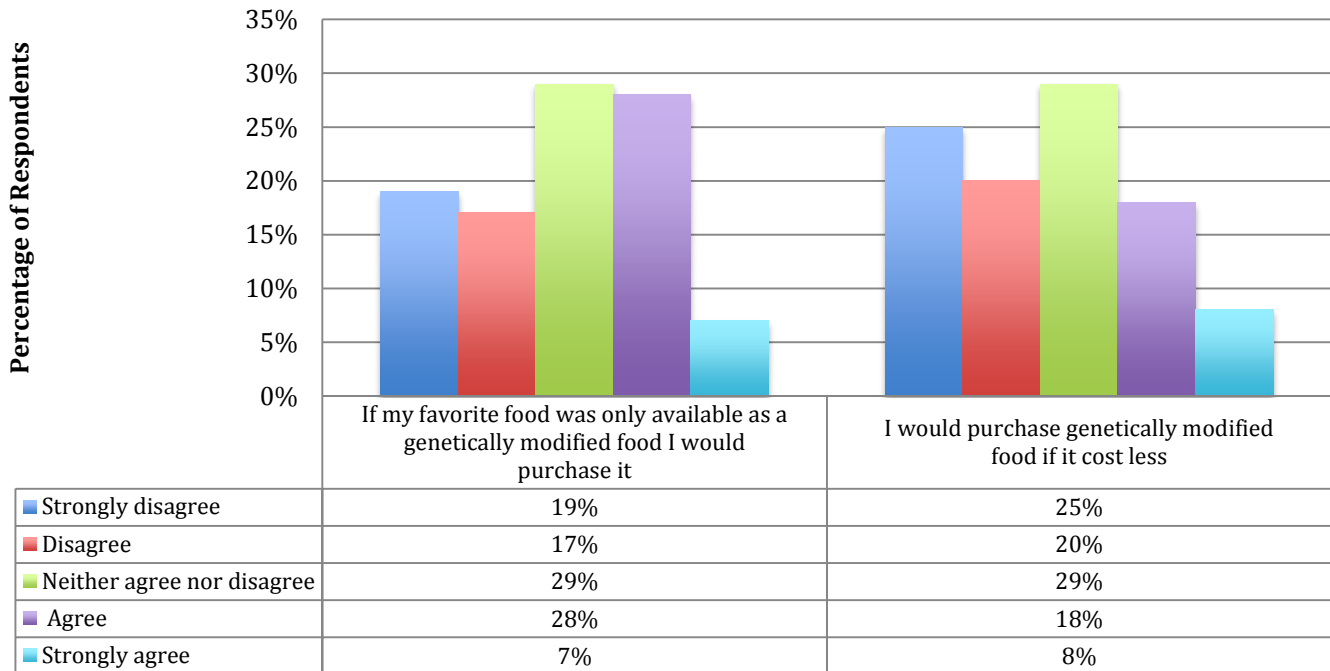
Figure 23. Intent to Purchase – Product specific



Intent to Purchase – Genetically Modified Food Scenario

Similar to previous purchasing intent questions, about one-third (29%) of respondents were unsure of their purchasing intent in the following scenarios (Figure 24). Respondents were divided with whether or not they would purchase their favorite food if it was only available as a genetically modified food. Thirty-six percent disagreed or strongly disagreed with the statement and 35% agreed or strongly agreed. Forty-five percent disagreed or strongly disagreed that they would purchase genetically modified food if it cost less.

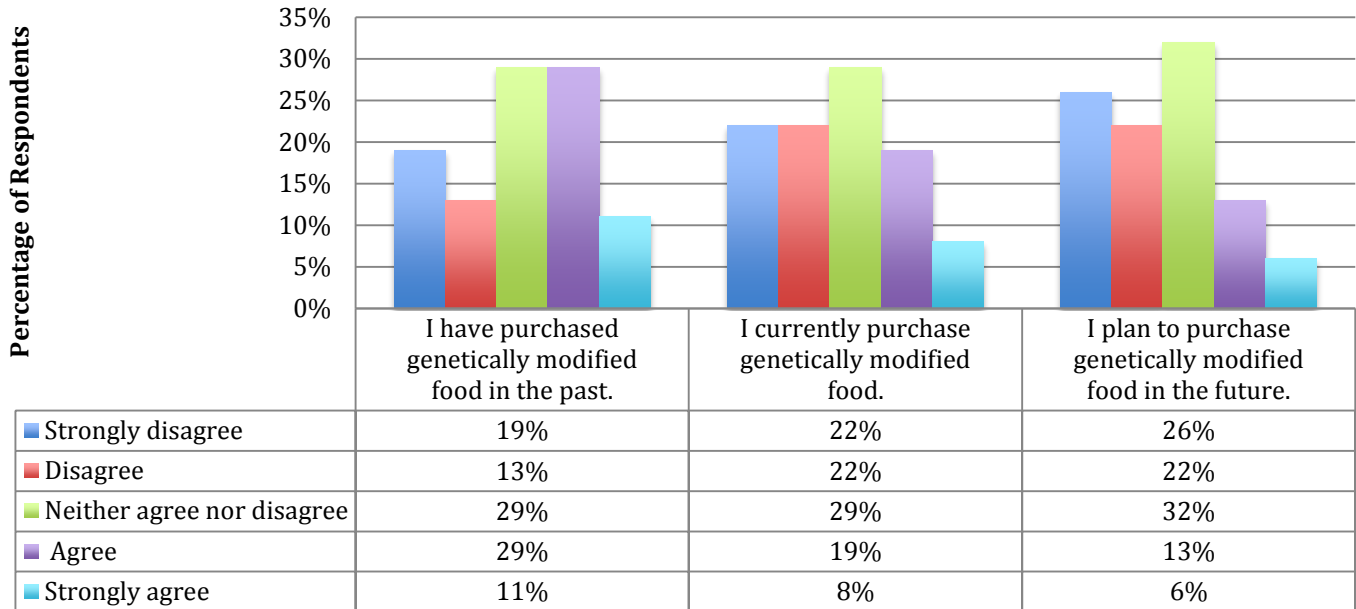
Figure 24. Intent to Purchase – Genetically modified food scenario



Intent to Purchase – Past, Present, and Future

Once again, approximately one-third (29%-32%) of respondents were unsure (neither agree nor disagree) of their purchasing history and future-purchasing intent of genetically modified food (Figure 25). A number of people agreed or strongly agreed (40%) that they had purchased genetically modified food in the past. Approximately 27% of respondents agreed or strongly agreed they still purchased genetically modified food, and fewer (19%) agreed or strongly agreed that would purchase in the future.

Figure 25. Intent to Purchase – Past, Present, and Future



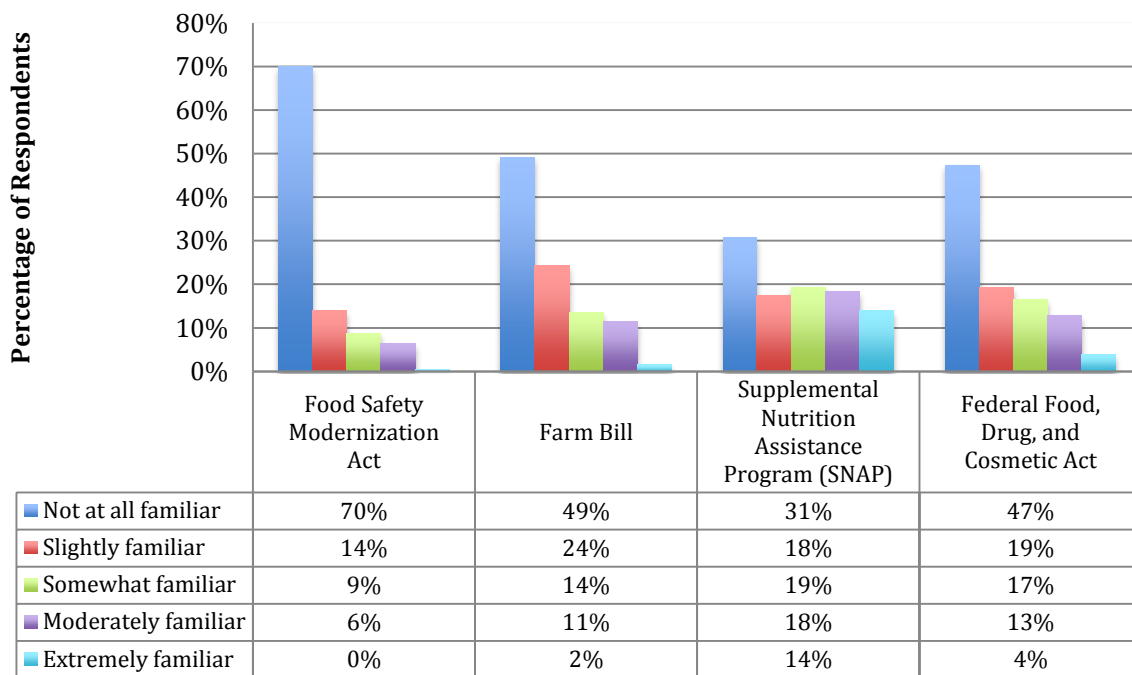
Food Policy Familiarity

Respondents were asked to rate their familiarity with four food-related policies: The Food Safety Modernization Act, the Farm Bill, the Federal Food, Drug, and Cosmetic Act, and the Supplemental Nutrition Assistance Program. These questions asked respondents to rate their level of familiarity with each policy on a five-point scale (1 = *Not at all familiar*, 2 = *Slightly familiar*, 3 = *Somewhat familiar*, 4 = *Moderately familiar*, 5 = *Extremely familiar*).

Respondents' Familiarity with Food Policy

The majority of respondents were not at all familiar or only slightly familiar with all of the food policies they were presented with (Figure 26). Of the respondents, 84% were not at all familiar or only slightly familiar with the Food Safety Modernization Act, followed by the Farm Bill (73%), Federal Food, Drug, and Cosmetic Act (66%), and Supplemental Nutrition Assistance Program (49%).

Figure 26. Respondents' Familiarity with Food Policy



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