

## Attitudes of Well-Educated Consumers Toward the US Government's Food Safety Efforts

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**Abstract:** This study attempted to determine which segments of highly educated consumers are more or less confident regarding the efforts of the US Government toward food safety. Such a determination could assist the government in developing social impact assessments or risk analyses. Those who had changed eating habits as a result of a bad-food incident were more likely to view the Government as needing to do more. However, many were able to regard a personal bad food experience as well as media-reported "epidemics" as relatively isolated incidents, thus not causing them to feel a need for more Governmental efforts.

**Key Words:** food safety, government, regulation, attitudes, consumers, eating habits

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### Background

Food safety and the US Government's role in ensuring it continue to be a major concern (Blue 2009; Degnan 2008; DeWaal and Plunkett 2009; Shames 2007). In the summer of 2009, for example, a Food Safety Working Group established by US President Obama recommended a food safety approach based on three principles: prioritizing prevention, strengthening surveillance and enforcement, and improving response and recovery. Other plans supporting a new food safety system that is focused on preventive controls (not just response) and on holding companies responsible for safety problems have been recently introduced or passed by the US House of Representatives (H.R. 2749, H.R.1332, H.R.875), supported by both the Health and Human Services and the USDA and also backed by various consumer groups and farm-to-table industries (Taylor 2009). The Consumers Union is also on record as strongly calling for greater Government regulation (Consumers Union 2009).

Yet even with all of this support, the complexity of such regulation (Bruns et al. 1991) may lead these reform efforts to fall short unless the US Congress does its part by modernizing food safety laws that hold members of the food supply chain responsible (Scott-Thomas 2009). Normally, what the US Congress chooses to support depends in large measure on the extent to which their contributors and their voters support a proposed plan or solution. Consumer attitudes regarding food safety regulation are important (Haworth 2002; Todt et al. 2009). They can be an important step toward the development of social impact assessments or other approaches to integrating consumer information into risk analyses by government (Macfarlane 2002).

So where does the public stand on this issue? A recent survey indicates that many Americans feel that the food industry is not doing enough to assure food safety (American Society for Quality 2009). Another suggests that while Americans are generally confident regarding food safety, their confidence in the Government's ability to maintain a safe food supply is lower than in the past

(Morales 2008). Still another suggests that the decline in public perceptions of food safety indicates a need for a better understanding of consumer attitudes (Wentholt et al. 2009). A recent study in the UK suggests that, regardless of socio-demographics, consumers are distrustful of food assurance programs (Eden et al. 2008). However, other research has shown that various consumer segments have different views regarding food safety practices and Government regulation of the food industry (Antle 1999; Kennedy et al. 2008; Worsley and Lea 2008).

With that in mind, and given current efforts to expand food safety regulation, we wondered about a particular segment of the consumer market--highly educated consumers. As a result of their high level of education, would they have a high level of concern about food safety or would they have a high level of confidence in what the US Government is already doing. That information could be useful in designing future educational programs about food safety. For these reasons, we surveyed well-educated consumers to obtain more information that could be used to provide input regarding regulation and regulatory efforts. More specifically, we examined the survey data to determine the attitudes of this consumer segment toward the US Government's food safety efforts.

### The Survey

During the early part of 2009, SurveyMonkey.com<sup>®</sup> was used to gather information about food safety attitudes among well-educated consumers. Respondents were asked to think of a time when they had either heard about or experienced an incident involving food safety and then were given 12 follow-up items and seven demographic items to complete. Using multiple college and university email lists to obtain responses, a total of 313 individuals from 33 states responded to the survey. Our sample differed from the general population in that over 98% had at least attended college and more than 40% had doctoral degrees. Almost one-third indicated incomes of greater than \$100,000. They were approximately evenly split in terms of gender (49.3% female; 50.7% male). They were somewhat older than the general population, with almost 30% over age 60, 0% under age 19, and the remaining ages 19-60 were 70%, as compared to the national distribution of 17% over 60, 30% under 19, and the remaining 53% between ages 19-60 (U.S. Census Bureau 2009).

### General Results

The respondents to the survey generally viewed food as being relatively safe, although less safe than water. Overall, they seemed fairly confident that the Government is doing enough to assure food safety.

However, some respondents were less sure about the Government's ability to do so. Those differences within the group of respondents are what we examine here.

We expected that personally getting sick from eating food would have a major impact on an individual's attitudes about the Government's efforts in ensuring food safety in general and about specific sources or contaminants in the food supply. However, as can be seen in Table 1, that was not necessarily the case. Apparently, many of the well-educated consumers in this study were able to regard a personal experience as an isolated incident so that it had little or no effect on their attitude about the Government's efforts or about food safety in general.

**Table 1. Attitudes Toward Food Sources and Contaminants, According to Whether Individuals Have Personally Experienced Food-Borne Illness**

	Personally been sick (n = 182)	Never been sick (n = 113)
<b>General</b>		
Government's Food Safety Efforts	2.66	2.88
Food Safety Improving	2.87	2.94
<b>Food Safety Attitudes— Sources:</b>		
Fast-food	3.32	3.43
Full-service	3.82	3.81
Farms	3.85	3.85
Imported	2.93	2.98
Groceries	3.80	3.86
Farmers' markets	3.50	3.67
<b>Food Safety Attitudes— Contaminants:</b>		
Rodent droppings	3.15	3.21
Added in manufacture	2.77	2.87
Diseases (e.g. Hepatitis B)	3.07	3.02
Bacteria (e.g. e-coli)	2.65	2.81*
Added by employees	3.14	3.21
Added by terrorists	3.34	3.28
Pet food	3.32	3.33

\* p < 0.05

\*\* p < 0.01

\*\*\* p < 0.001

Note: Attitudes were coded as follows:

In general, how safe do you feel these sources are?

Very safe	5	Reasonably safe	4
Unsure	3	Somewhat risky	2
Very risky	1		

How concerned are you about the following sources of possible food contamination?

Not at all	4	I think about it	3
I worry about it	2	It frightens me	1

So, in another effort to determine how this sample of well-educated consumers felt about the current efforts of Government, we separated the respondents into two groups based on their views as to whether the Government (1) is doing enough to assure food safety or (2) is not doing enough to improve food safety. We included two general attitudes—one about the efforts of Government and the other about whether food safety is improving—which verified that the two groups were, in fact, different from one another. As would be expected, virtually all the attitude measures for these two groups were significantly different (Table 2).

**Table 2. Attitudes Toward Food Sources and Contaminants, According to Whether Individuals Think That the Government is Doing Enough to Assure Food Safety**

	Government is doing enough (n = 111)	Government is not doing enough (n = 145)
General Government's Food Safety Efforts	4.07	1.67***
Believe Food Safety Is Improving	3.45	2.50***
Concern about Food Sources:		
Fast-food	3.72	3.08***
Full-service	4.11	3.66***
Farms	4.10	3.73***
Imported	3.31	2.73***
Groceries	4.13	3.60***
Farmers' markets	3.59	3.53
Concern about Contaminants:		
Rodent droppings Added in manufacture	3.33	3.06**
Diseases (e.g. Hepatitis B)	3.08	2.60***
Bacteria (e.g. e-coli)	3.15	2.99
Added by employees	2.91	2.63**
Added by terrorists	3.32	3.06**
Pet food	3.56	3.11***
	3.56	3.12***

\* p < 0.05

\*\* p < 0.01

\*\*\* p < 0.001

Note: Attitudes were coded as follows:

In general, how safe do you feel these food sources are?

Very safe 5 Reasonably safe 4  
 Unsure 3 Somewhat risky 2  
 Very risky 1

How concerned are you about the following sources of possible food contamination?

Not at all 4 I think about it 3  
 I worry about it 2 It frightens me 1

Having verified that the two groups differ in their attitudes regarding the Government's role, we next examined their demographic characteristics (Table 3). Somewhat surprisingly, given prior findings (e.g. Heiman et al. 2000), there were only two significantly different characteristics: (1) gender and (2) a change in eating habits resulting from a bad food experience.

**Table 3. Demographic Characteristics According to Attitude About Government's Food Safety Efforts**

	Government is doing enough (n = 111)	Government is not doing enough (n = 145)
Personally Had Gotten Sick:		
Yes	60.91%	66.21%
No	36.49%	33.79%
Changed Eating Habits	40.91%	59.31%***
Yes	59.09%	40.69%***
No		
Gender:		
Female	36.04%	58.44%***
Male	63.96%	40.56%***
Age:		
Under 45	42.34%	41.26%
45 to 59	33.33%	27.27%
60 or older	24.32%	31.47%
Employment:		
Employed	88.29%	83.33%
Not Employed	11.71%	16.67%
Education:		
No Degree	17.27%	14.79%
Degree	82.73%	85.21%
Income:		
< \$60,000	27.52%	26.09%
\$60,000-\$100,000	21.10%	25.36%
Over \$100,000	39.45%	28.26%
Not Disclosed	11.93%	20.29%

\* p < 0.05

\*\* p < 0.01

\*\*\* p < 0.001

What is there in the experience of these individuals that might account for their different attitudes toward the Government's efforts? To find out more about that, we first examined the incidents using a qualitative analysis program, Symphony Content Analysis Software® (White 2009). That analysis clearly identified food poisoning and peanut butter as the most frequent terms among the incidents. It is important to note here that the respondents did not report having had a bad experience with peanut butter but rather they had become aware of a nationally reported safety scare reported by the Government and the media. Next, we examined the specific incidents reported by the two groups (gender and changed eating habits). The incidents typically focused on a source for the food problem, which we coded into 27 categories and then collapsed into 22 by combining ten fast-food and full-service restaurant categories into five "restaurant" categories.

#### Attitudes Associated With Gender

The respondents in this sample were approximately evenly split in terms of gender, with 49.3% females; and 50.7% males. They showed some interesting differences in their thinking about whether the government should be doing more or is already doing enough.

**Government Is Doing Enough.** Of those who thought that the Government was already doing enough, about two-thirds were male and only one-third were female (Table 3), and the distribution of reported incidents was quite different for males versus females (Table 4, columns 2 and 4). These males tended to refer to incidents reported in the national news about vegetables and nuts, and less often to problems with which they had personal experience (e.g., pet food, salads in restaurants, and milk served at home). Not surprisingly, perhaps, those who didn't see a need for the Government to do more also did not seem unduly alarmed at these incidents. As one male explained about the peanut butter incident, "Didn't impact me at all...just talked about it around the dinner table." Other examples are cited later in this discussion. That somewhat nonchalant attitude was also true of some female respondents, too ("I checked web site and the peanut butter I used was not on it"), but females generally referred more to problems which they or people they knew had personally experienced rather than contaminations reported by the media.

**Table 4. Frequency of Incidents Reported, by Gender and Attitudes Toward Government's Food Safety Efforts**

	Female (n = 101)		Male (n = 88)	
	Government			
	doing enough	not doing enough	doing enough	not doing enough
Chinese contaminants in the news	3.03%	4.35%		4.76%
Chinese food imported				
Chinese restaurant		2.90%		2.38%
Fish - home				
Fish - restaurant		5.80%	6.52%	9.52%
Meat (non-fish) - home				2.38%
Meat (non-fish) - restaurant	15.15%	4.35%	6.52%	9.52%
Meat (non-fish) in news	9.09%	1.45%	8.70%	4.76%
Milk	3.03%	1.45%		
Non-Chinese imports in news	3.03%	1.45%		
Peanuts in news	33.33%	36.23%	34.78%	33.33%
Pet food	3.03%	1.45%		
Salads - home		1.45%		
Salads - restaurant	6.06%	4.35%		2.38%
Tylenol		1.45%	4.35%	2.38%
Vegetables - home		1.45%		
Vegetables - restaurant		2.90%		
Vegetables in news	15.15%	17.39%	21.74%	16.67%
Other foods - home	3.03%	2.90%	2.17%	2.38%
Other foods - restaurant		4.35%	8.70%	4.76%
Other	3.03%	1.45%		4.76%
Other nuts in news	3.03%	2.90%	6.52%	

Note: Fast-food and full-service restaurant incidents are combined. Not all respondents provided incidents. Blank cells represent 0.00%.

**Government Is Not Doing Enough.** The distribution of reported incidents was very similar for the two sexes (Table 4, Columns 3 and 5) even though, as shown earlier in Table 3, the group thinking that Government could/should do more to promote food safety consists of more females than males (60% vs. 40%). Females (Table 4, Column 3) referred to a wider variety of problem sources (19 versus 13) and reported a large number of incidents focused on restaurants. Males who felt the Government is not doing enough (Column 5) mentioned similar sources but also reported more incidents dealing with fish and meat. Females also cited more examples of grocery items for home-preparation than did males. Purchased items included both foods

that were already contaminated and foods that “went bad” too quickly; e.g., “spoiled food purchased at store,” “sour milk in a new container just opened and with an expiration date three weeks away,” and “a jar of queso I purchased at the grocery.” This more personal involvement may explain why a larger number of females indicated they were not satisfied with the Government’s current efforts.

Additional information incorporating male and female responses is included in the following discussion of eating habits.

### Attitudes Associated With Bad Food Experiences

In the second analysis, the responses were analyzed to determine whether bad food experiences seem to have affected the respondents’ perceptions of the Government’s success in ensuring food safety. To that end, we divided the individuals according to (1) whether they had or had not changed their eating habits as a result of a bad food incident they either experienced or heard about through the media, and then (2) whether they felt the Government is doing a good job or needs to do more. These findings are presented in Table 5.

**Table 5. Frequency of Incidents Reported, According to Changes in Eating Habits and Attitudes Toward Government’s Food Safety Efforts**

	Changed Eating Habits (n = 149)		Did Not Change Eating Habits (n = 65)	
	Government			
	doing enough	not doing enough	doing enough	not doing enough
Chinese contaminants in the news	2.17%	5.06%		3.13%
Chinese food imported				
Chinese restaurant		3.80%		
Fish - home				
Fish - restaurant	2.17%	3.80%	6.06%	15.63%
Meat (non-fish) - home		1.27%		
Meat (non-fish) - restaurant	10.87%	5.06%	9.09%	9.38%
Meat (non-fish) - news	6.52%	2.53%	12.12%	3.13%
Milk		1.27%	3.03%	
Non-Chinese imports in news	2.17%	1.27%		3.13%
Peanuts in news	30.43%	34.18%	39.39%	37.50%
Pet food	2.17%	1.27%		

Salads - home		1.27%		
Salads - restaurant	4.35%	3.80%		3.13%
Tylenol	2.17%	1.27%	3.03%	3.13%
Vegetables - home		1.27%		
Vegetables - restaurant		1.27%		3.13%
Vegetables - news	21.74%	17.72%	15.15%	15.63%
Other foods prepared - home		3.80%	6.06%	
Other foods prepared - Restaurant	6.52%	6.33%	3.03%	
Other	2.17%	2.53%		3.13%
Other nuts - news	6.52%	1.27%	3.03%	3.13%

Note: Fast-food and full-service restaurant incidents are combined. Not all respondents provided incidents. Blank cells represent 0.00%.

**Changed Eating Habits.** Those who had changed their eating habits (Table 5, columns 2-3) reported about twice as many incidents (125 versus 65) in a wider variety of categories (20 versus 15) than those who had not changed (Table 5, Columns 4-5). Those who had changed also differed according to whether they felt the Government could do more (Column 3) or whether they felt the Government was doing enough (Column 2). For example, those who were less satisfied cited instances in 20 different categories versus 13 categories for the more satisfied group. However, there seemed to be no clear pattern. For the changed-eating-habit group that felt the Government could do more (Column 3), the proportion of incidents referring to events in the news is greater in some categories (Chinese contaminants, Chinese restaurants, and peanuts) and less in others such as meat [non-fish], vegetables, and other nuts.

*Government is Doing Enough.* We had anticipated that virtually all individuals who had experienced or heard about incidents that had caused them to change their eating habits would also be less satisfied with the Government’s food safety efforts. Yet that was not always the case (Table 5, Column 2). Some respondents mentioned incidents such as eating canned pistachios, chicken, or clams in a stew, chili, pastrami sandwich in a bar, etc.. Others cited the foods that had been the center of concern on a national or regional level relatively recently: lettuce, spinach, tomatoes, peanuts, and pistachios. One comment about food cooked outside the home is typical: “A friend got food poisoning from a taco salad at [a national fast-food chain], and it took me years to eat at [that chain] again.” Another respondent told a similar story about getting terribly ill after eating sushi years ago. Nevertheless, these two individuals, like

some others who changed their eating habits, still say that the Government is doing enough.

Maybe all the press coverage of recalled problem foods like peanuts, lettuce, and tomatoes actually made consumers, especially male consumers, feel comfortable with what their Government is already doing. Perhaps in their minds the responsibility and blame lie somewhere other than with the Government. Unfortunately, feeling comfortable with Government efforts may lead some consumers to act in a manner that counteracts those very safety efforts (Miljkovic et al. 2008; Miljkovic et al. 2009).

*Government Is Not Doing Enough.* Not surprisingly, perhaps, those individuals who still recall bad food experiences from long ago would report having changed their eating habits and would want the Government to provide more reassurance for the future (Table 5, Column 3). As explained by one female who had been hospitalized after eating at a well-known restaurant: "I've had a few other situations and I've given birth naturally after a long labor, and the food poisoning was much, much worse than anything else I've experienced." Another referred to a respected national chain where she and her friend got salmonella poisoning from chicken and never ate there again. Still another said that she will not eat in a mall food court because of the experience her mother had many years ago in another state, and another has changed eating habits forever because of her brother's experience with food poisoning while traveling in a distant city. A male respondent who feels the Government should do more told about getting very ill after contracting campylobacteria, a reportable illness, from grilled chicken salad. He was interviewed by the State Department of Public Health and, understandably, still feels today that the Government is not doing enough to assure food safety.

Others in this same group had similar feelings based on incidents that they or someone they know has experienced. Some indicated they have avoided the one food establishment where they had a bad experience; others have shunned all restaurants in that chain where the bad experience occurred. Others stay away from "open" food such as salad bars. One elderly person who changed eating habits indicated that she is "extremely cautious when incidents are reported because the young and elderly are most vulnerable to medical mistakes and food contamination." Not surprisingly, these people want the Government to do more.

**Did Not Change Eating Habits.** Within the group that did not change eating habits (Table 5), there were pronounced differences between those who were satisfied with the current efforts of Government (Column 4) and those who were less so (Column 5). For the latter group, fish, vegetables, and salads in restaurants were reported in far greater numbers while meat (non-fish)

items in the news and other foods prepared at home were reported in far fewer numbers.

*Government Is Doing Enough.* Some people who don't change their eating habits after a food safety scare are apparently not concerned enough to think that the problem warrants greater Government regulation. As mentioned earlier, perhaps all the press coverage of the recall of problem foods like peanuts, lettuce, and tomatoes actually makes some consumers feel that their Government is already doing its part. That certainly appeared to be the case with some of our respondents (Table 5, Column 4). They expressed seemingly rational reasoning in statements such as, "I really didn't let [the peanut butter scare] affect my eating habits because I think it is silly to close yourself off to every little scare that comes out." One man explained, "Most of the incidents ... are relatively isolated occurrences. Maybe I believe in the law of large numbers or something so I just take my chances." Another pointed out that, in the case of the peanut butter, "it was known where it came from so we avoided those brands but not others." Another guy said that he threw out his Pistachio nuts during the national contamination episode but "will buy them again when I hear the all clear." Similarly, one female explained, "I usually continue to purchase those items because I figure with all the exposure in the media, there is little to no chance that these items are still toxic, because they would be recalled by the time I make it to the store."

Those who had personally experienced food-borne illness also gave rational explanations for not changing eating habits and not expecting the Government to do more. One told about eating something while traveling that caused food poisoning: "[I] did not associate the episode with anything other than bad food preparation in an isolated incident and did not change eating habits." Another said, "My wife, 3 friends and I got extremely sick after eating something at a restaurant. We speculate it was the salmon spread on one of the appetizers [but] I still eat at restaurants and still eat salmon. I just think the specific restaurant had some bad food or bad handling of the food." And another expressed similar confidence: "I began feeling ill nearly 2 hours after I ate a medium-rare hamburger at [a national sit-down chain]. Although I do not go [there] anymore, it does not stop me from ordering medium rare at any other restaurant."

*Government is Not Doing Enough.* Some respondents had not changed their eating habits after getting ill or after hearing about others' bad experiences, but they still feel that the Government should do more (Table 5, Column 5). One young woman indicated that, even though she has heard about all the food scares in the media, "in all situations my personal eating habits did not change because I purchase mostly locally produced (and often organic) foods which are virtually never impacted in these situations." A female who "purchased

some catfish at a grocery store, and it was bad, because the whole family got sick that night” indicated she didn’t let the incident influence her eating habits but thinks that the Government should do more.

One young man clearly did not let his experience affect him too adversely, but he still thinks his Government should do more. He said that he got food poisoning probably from bad clam chowder but that he “still went to the restaurant in question—just never ate the clam chowder there again [but] have had clam chowder from other places since.” Another commented that “we threw away a few peanut related products, and know of several people that wouldn’t buy spinach and several other veggies during the salmonella issue. But we grow much of our own or get it from neighboring farms.” In other words, they have not been too concerned for themselves, but they still feel that the Government should do more.

### Discussion and Conclusion

This study of food safety attitudes attempted to determine what seems to account for the attitudes of more highly educated consumers regarding the efforts of the US Government toward food safety. Such a determination would be a step toward the development of social impact assessments or other approaches to integrating consumer information into risk analyses by the Government (Macfarlane 2002). It could also assist the scientific community in developing more effective approaches in educating both regulators and the general public about food safety (Francis 1995). We found that gender and changed eating habits were most closely associated with differing attitudes. Specifically, females and males who changed their eating habits as a result of a bad-food incident were more likely to view the Government as needing to do more. These groups, then, would likely be strong supporters of legislation to increase the Government’s role in assuring food safety.

We anticipated that a person’s attitudes about the Government’s current efforts in ensuring food safety in general and about specific sources or contaminants in the food supply would be affected by the individual’s personal experience with food-borne illnesses. Apparently, though, many of the well-educated consumers in this study were able to regard a personal bad food experience as an isolated incident so that it had little or no effect on their attitude about the Government’s efforts or about food safety in general.

Of those who thought that the Government is already doing enough, almost two-thirds were male. Perhaps in their minds the responsibility and blame lie somewhere other than on the Government. It should be noted, of course, that just because respondents say that the Government is doing enough does not necessarily mean that these individuals would oppose additional efforts to

further improve food safety. Also, the fact that our respondents tended to retain memories of food problems suggests to us that, even though they feel that the Government is already doing well, they may be willing to listen to arguments in favor of new legislation. If the incidents of contaminated imported foods and other products continue to rise, or if any country begins to experience incidents of foods contaminated by terrorists, the public’s attitude may swing quickly toward demanding—not just accepting—more Government protection.

We recommend that future research look in more detail at well-educated consumers with regard to changes in food safety legislation. Such research could examine the knowledge and the ability of well-educated consumers versus lesser educated consumers to take more responsibility for improving their own personal food safety through foods to be served at home and foods served at eating establishments. Future studies across the educational spectrum may be useful in determining the types of constraints that consumers would oppose or would welcome and what price they are willing to pay for the extra costs that may be passed along from the farm-to-table food suppliers.

### References

- American Society for Quality. 2009. Food safety: Majority of Americans feel industry doesn't do enough. Available at: <http://www.asq.org/media-room/press-releases/2009/20090311-food-safety.html>.
- Antle JM. 1999. Benefits and costs of food safety regulation. *Food Policy* 24: 605-623.
- Blue G. 2009. Food, publics, science. *Public Understanding of Science*, in press. OnlineFirst, April 7.
- Bruns M, Kliebenstein J, McKean J. 1991. The Complexity of Food Safety Regulation. *J. of Agribusiness* 9: 55-70.
- Consumers Union. 2009. Consumers union urges Congress to take action on Food Safety Enhancement Act. Available at: [http://www.consumersunion.org/pub/core\\_food\\_safety/013763.html](http://www.consumersunion.org/pub/core_food_safety/013763.html).
- Degnan FH. 2008. Food safety. In: Adams DG., Cooper, RM, Hahn MJ, Kahan JS. (Eds.), *Food and Drug Law and Regulation* (2). Washington, Food and Drug Law Institute.

- DeWaal CS, Plunkett DW. 2009. Building a Modern Food Safety System for FDA Regulated Foods. White Paper. In: Center for Science in the Public Interest, Washington. <http://www.gallup.com/poll/108955/despite-salmonella-cases-americans-confident-food-safety.aspx>.
- Eden S, Bear C, Walker G. 2008. The sceptical consumer? Exploring views about food assurance. *Food Policy* 33(6), 624-630.
- Francis FJ. 1995. Food Safety: Inferences for the Scientific Community. *J. of Agribusiness* 13, 77-83.
- Haworth NL. 2002. Safety regulations. Macmillan Encyclopedia of Death and Dying, Available at: <http://www.encyclopedia.com/doc/1G2-3407200248.html>.
- Heiman A, Just DR, Zilberman D. (2000). "The Role of Socioeconomic Factors and Lifestyle Variables in Attitude and the Demand for Genetically Modified Foods." *J. of Agribusiness* 18, 249-260.
- Kennedy J, Worosz M, Todd EC, Lapinski MK. 2008. Segmentation of US consumers based on food safety attitudes. *British Food J.* 110(6-7): 691-705.
- Macfarlane R. 2002. Integrating the consumer interest in food safety: The role of science and other factors. *Food Policy* 27(1): 65-80.
- Miljkovic D, Nganje, W, Nhembe E. 2008. Offsetting behavior: Consumers' response to food safety policies. *Choices* 23(3).
- Miljkovic D, Nganje W, Onyango B. 2009. Offsetting behavior and the benefits of food safety regulation. *J. of Food Safety* 29(1): 49-58.
- Morales L. 2008. Despite salmonella cases, Americans confident in food safety. Available at: <http://www.gallup.com/poll/108955/despite-salmonella-cases-americans-confident-food-safety.aspx>.
- Scott-Thomas C. 2009. Food safety reform: Not a century too soon. Available at: <http://www.foodqualitynews.com/Legislation/Food-safety-reform-Not-a-century-too-soon>.
- Shames L. 2007. Federal oversight of food safety. Available at: <http://www.gao.gov/new.items/d07785t.pdf>.
- Taylor MR. 2009. From a statement by Sr. Advisor to the Commissioner of the FDA, before the House Committee on Agriculture. Available at: <http://www.house.gov/agriculture/testimony/111/h071609/Taylor.pdf>.
- Todt O, Munoz E, Gonzalez M, Ponce G, Estevez B. 2009. Consumer attitudes and the governance of food safety. *Public Understanding of Science* 18(1), 103-114.
- U.S. Census Bureau, Population Division. 2009. Age Data of the United States. Available at: <http://http://www.census.gov/population/www/socdemo/age/agebyage.html>.
- Wentholt MTA., Rowe G, König A, Marvin H JP, Frewer LJ. 2009. The views of key stakeholders on an evolving food risk governance framework: Results from a Delphi study. *Food Policy*, 34 (6): 539-548.
- White, L. 2008. Symphony Content Analysis Software, v.2.3.0.2. Available at: <http://www.activejava.com>.
- Worsley A, Lea E. 2008. Consumer concerns about food and health. *British Food J.*, 110(10-11): 1106-1118.