

**Media Attitudes with Respect to Raw Milk Consumption:  
A Pilot Study of a Food Risk Behavior**

A Senior Honors Thesis

Presented in Partial Fulfillment of the Requirements  
for graduation with distinction in Dietetics  
in Human Ecology  
at The Ohio State University

By

**Jessica Castronova-Brooks**

The Ohio State University

June 2011

Project Advisers: Dr. Lydia Medeiros, Professor  
Dr. Anne Smith, Associate Professor  
Department of Human Nutrition

**Abstract:**

Consuming milk that has not been pasteurized is a risk behavior for foodborne illness that some people are actively seeking. For educational purposes, it is important to better understand what factors motivate a person to make certain decisions in order to understand their behavior. This study focuses on the information from media channels that is influencing consumer decisions. The objective of this research was to identify individual characteristics that influence the channel beliefs, or salience and perceptions of various media outlets, of a person. This information can be used to better understand the motivation to partake in risk behavior. The method used was a survey. Study participants were asked about which media outlets they found most salient, their perception of the media as biased, as well as individual characteristics including age and political philosophy. Their opinions about media and preferred media outlets were compared to their individual characteristics. The purpose of this comparison was to find relationships between individual characteristics and channel beliefs, leading to a better understanding of their decision making process. The study has found consumers of raw milk and pasteurized milk to be similar in their perceptions of the media bias. However, subjects indicated a difference in media channel preference based on age and type of milk consumed. To successfully reach a target audience it is crucial to understand their perceptions of media and preferred channels. These findings are important because the ultimate goal of the overarching research is to provide educational materials related to this food risk behavior.

## **Introduction:**

Raw milk is milk that has not been pasteurized. Pasteurization is a heating and cooling process that is applied in an effort to lessen the pathogen content. Raw milk may potentially harbor bacteria known to be a threat to human health including *Campylobacter jejuni*, *Escherichia coli*, *Salmonella*, *Listeria monocytogenes*, and *Yersinia enterocolitica*. Studies of bulk-tank, unpasteurized milk have identified the presence of these bacteria.<sup>1,2</sup> The amount of bacteria was found to be within the state guidelines, but these guidelines are set with the assumption that the milk is to be pasteurized prior to consumption. Consuming the milk raw could expose a person to the dangers of these pathogens. Exposure to some of these organisms has been shown to not only cause severe foodborne illness, but chronic arthritic symptoms as well.<sup>1</sup> Milk is a known carrier of bovine tuberculosis and brucellosis. Although these milkborne diseases are not common in the United States, milk from clinically healthy animals can become contaminated with bacteria that are potentially harmful to humans who consume it.<sup>3</sup> Since pasteurization has become standardized for commercially distributed milk the incidence of food borne illness related to ingestion of contaminated milk has declined dramatically.<sup>4</sup> Although dairy products currently account for only 1% of foodborne illness outbreaks, 70% of these are due to raw milk products. Interstate commerce of raw milk is not legal in the United States, and different states enforce varying levels of control of the product.

Twenty-five states, including Ohio, have prohibited the sales of raw, unpasteurized milk for human consumption; however, people who own the cow have full rights to the milk. While it has always been common for dairy farming families to consume raw milk<sup>2</sup>, herd-sharing programs have recently become more popular and serve as a way for a non-farmer to gain access to unpasteurized milk. Previous research has found pathogenic bacteria present in raw bulk-tank

milk which farm families are consuming<sup>2</sup>, however no research was found specific to the milk that is being distributed to others. In a herd-share organization non-farmers purchase “shares” in a farmer’s herd. This allows for legal, partial ownership of dairy cows, and therefore the milk they produce. According to a non-profit, internet-based educational resource of raw milk science and policy, about 1-3% of the U.S. population consumes raw milk.<sup>5</sup> The growth of this trend has sparked media attention in the past few years. News stories and editorials featuring raw milk have appeared in nationally distributed media such as the New York Times.

The overarching study of which this is a part, seeks to find the reasons people have for choosing to consume raw milk. The USDA discourages the use of unpasteurized milk and dairy products, citing the potential bacterial risks described above. However, there are some organizations which encourage raw milk consumption for various claimed health benefits including prevention of asthma and allergies, resolving lactose intolerance, and curing scurvy.<sup>6</sup> These sources of information often claim that raw milk is safer to consume than pasteurized, but provide no valid studies demonstrating this claim. This study has received much media attention in local newspapers as well as widespread criticism among raw milk advocates.

As part of a pilot study, this research attempts to gather information about media perceptions and preferences of milk consumers for the purpose of better understanding their decision making process. A person’s individual characteristics, including age, previous exposure to foodborne illness, and political philosophy, will impact a person’s channel beliefs, ultimately influencing the amount of time and energy that will be spent processing risk information.<sup>7</sup> The objectives of this study are to identify relationships between individual characteristics and media perceptions, as well as differences between raw and pasteurized milk consumers. The research hypotheses and expected outcomes are described below. The amount of attention given to

sources of information about milk safety will differ by age and type of milk consumed. Older subjects and raw milk consumers will pay more attention because they may have a higher perceived susceptibility to the risk. The amount of attention given to sources of information about milk safety will be positively associated with exposure to food borne illness. Persons with hazard experience will have a higher perceived susceptibility. Perception of the media as biased will differ by political philosophy and type of milk consumed. The "hostile media effect" is commonly seen in people who identify as having a strong political philosophy. This observed phenomenon predicts that persons with a stronger political philosophy will have a stronger perception of the media as biases against them. Raw milk consumers may be included in this group because of the energy they must expend to get raw milk, especially in states like Ohio where sales are illegal.

### **Methods:**

This study included adults, aged 18 years or older, who drink milk. Subjects were recruited through flyers (see appendix A) posted at cafes, grocery and health food stores, and on campus property in Columbus and Wooster, Ohio, as well as a press release through Ohio State University Extension. This study was approved by the institutional review board at the Ohio State University; a copy of the subject consent form is included in appendix B.

Subjects met in homogenous focus groups of either raw or pasteurized milk drinkers. They responded to a series of prompts about their consumption of milk and dairy products, opinions of pasteurization, homogenization, local, and organic. Focus groups were held at the Ohio State University main campus or other university facility in Ohio. Subjects were given an

81 item survey (see appendix C) to be filled out after attending a focus group. Subjects filled out the survey either immediately following the focus group or at home. This study focused on the survey items relating to individual characteristics and channel beliefs; a detailed description of these items is provided (Table 1).

Independent variables included self-reported individual characteristics of subjects. The survey items used to collect this data have been found to be valid by previous study.<sup>8</sup> Dependent variables measured in this study were media perception and media attention. Media attention in this study referred to use of television, newspaper, and radio, as well as discussion with peers, as a source of information. These survey items have also been found to be valid by previous study.<sup>9</sup> The survey items in these prior studies were based on the theory of planned behavior.<sup>7,8,9</sup> These surveys were conducted around the Great Lakes region comparing respondents' individual characteristics to media attitudes with regard to the risk behavior of consuming fish from polluted lake waters.<sup>8,9</sup>

Data was analyzed using IBM SPSS version 19, Chicago, Illinois and Microsoft Excel 2007. Statistical methods utilized included Pearson correlation and independent samples t-test.

## **Results:**

### **Subjects:**

Fifty-seven subjects participated in this study. Individual characteristics of raw (n=22) and pasteurized (n=35) milk consumers were found to be similar in gender, race/ethnicity, and political philosophy (Fig. 1). All raw milk consumers also identified as white/non-Hispanic, while pasteurized consumers reported more varied ethnicities. The two groups were found to be different in household income and highest achieved education level ( $p \leq .05$ ) with raw milk

consumers reporting higher on each. The mean age of raw ( $42\pm 1.7$  years) and pasteurized ( $42\pm 3.0$  years) milk consumers was similar (Table 2). Both groups' self-reported political philosophy followed a nearly normal distribution centered on "neutral".

**Hypothesis 1: Amount of attention given to sources of information about milk safety will differ by age and type of milk consumed.**

Age was positively associated to the amount of attention given to all sources of information about milk safety ( $r=.345$ ) in both raw and pasteurized milk consumers combined ( $p\leq .01$ ). Newspaper stories about milk safety ( $r=.385$ ) and information on radio about milk safety ( $r=.403$ ) were found to have a positive relationship to age ( $p\leq .01$ ) (Table 3). Raw milk consumers tended to report less attention given to all mass media sources and more attention given to interpersonal sources of information (Table 4); however, this trend was not significant.

**Hypothesis 2: Amount of attention given to sources of information about milk safety will be positively associated with exposure to food borne illness.**

Six percent of pasteurized and 9% of raw milk consumers reported having been medically diagnosed with a foodborne illness. Persons who reported being medically diagnosed with a food borne illness gave more attention to all sources of information about food safety (Fig. 3). There was no difference between groups. This relationship was consistent across all sources, but not found to be statistically significant.

**Hypothesis 3: Perception of the media as biased will differ by political philosophy and type of milk consumed.**

Media bias was a computed variable based on two survey items asking subject's level of agreement with statements that the media is biased, sensationalized, and exaggerated. Mean scores of all political philosophies and both milk types indicated a perception of the media as biased (Fig. 4). No significant difference in bias score was found between groups.

## **Conclusions:**

The subjects in this study had similar individual characteristics with the exception of raw milk drinkers reporting higher income and education levels. A higher income and education level will impact a person's ability to gather information, potentially leading to a more informed decision to partake in the risk behavior.<sup>7</sup> This difference also appeared in focus group discussion; raw milk consumers had more specific reasons for choosing raw and seemed to have researched their reasoning (data not shown). This difference would be expected considering that the sale of raw milk is illegal in Ohio. Consumers must expend more resources to obtain the product.

The amount of attention subjects gave to forms of information relating to milk safety increased with age. This was consistent with previous research which found that as age increases, concern about health and safety risk also rises.<sup>10</sup> This was also similar to results which found that the amount of attention given to information about water safety increased with age in a population residing on the Great Lakes.<sup>9</sup> The lack of significant difference between raw and pasteurized was surprising given that prior research has suggested a relationship between education level and information gathering.<sup>11</sup> This prior study found that a larger gap in education level was associated with more attention being given to risk information.

Subjects in this study reported prior exposure to foodborne illness at a much higher rate (7%) than the national average of less than 3%.<sup>12</sup> This was especially surprising because raw milk consumers, of whom 9% reported prior exposure, are continuing to engage in a food risk behavior. Persons who reported being medically diagnosed with foodborne illness did tend to pay more attention to all sources of information about milk safety. This relationship was

consistent with previous research which found that subjects with foodborne illness or water parasite experience gave significantly more attention to information sources about these risks.<sup>7,8</sup> The fact that such a high percentage of raw milk consumers have been exposed to foodborne illness and continue to risk further exposure implies that their perceived benefits of consuming the product outweigh the costs, or risk of illness.

Mean scores of subjects in all five political categories and both milk categories indicated a perception of the media as biased. The anticipated result would have been a stronger perception of bias with a stronger political philosophy (both "very conservative" and "very liberal"). The result from this study is not entirely consistent with the commonly seen "hostile media effect". Had this theory held true, subjects who identified as less extreme in political philosophy would have had a lower bias score.<sup>13</sup> These findings are also inconsistent with previous research which indicated a relationship between media bias and trust with political philosophy.<sup>9</sup> In order to better understand these results it would have been helpful to know exactly what the subject defined as "media" when responding to survey items. Different subjects likely thought of different media outlets.

This study of media attitudes provides an interesting perspective because of the media attention the overall study itself was given. Articles and letters to the editor appeared in the Columbus Dispatch, Akron Beacon Journal, and numerous blogs about the overarching research investigating the reasons why people choose raw milk. Many of these articles could be found on websites advocating raw milk and contained very negative comments about the study including warnings urging people to avoid participating, fears that participants would somehow be punished, and proclamations that the research was a waste of tax-payer money. The media attention given could have affected the responses of participants as well as impacting who

decided to participate. In recent years as the popularity of raw milk has risen, so has media coverage of it. In the last five years the topic has been covered by the New York Times, National Public Radio's Morning Edition, Washington Times, Seattle Times, and many others, usually multiple times.

The limiting factors of this study included sample size and geographic area. More subjects would be required to confirm trends and attain significant results; a necessary sample size would be between 377 and 6,489 subjects based on power analysis. The current study included only subjects from Ohio. Because the status of raw milk varies by state, subjects must be recruited from a wider array of locations to make results more generalizable. Half of states allow the sale of certified raw milk, raw milk which comes from a farm that is registered and subject to state inspection. People who consume raw milk under different circumstances, such as in states where certified raw milk is available in grocery and convenience stores, may have much different opinions than people in Ohio.

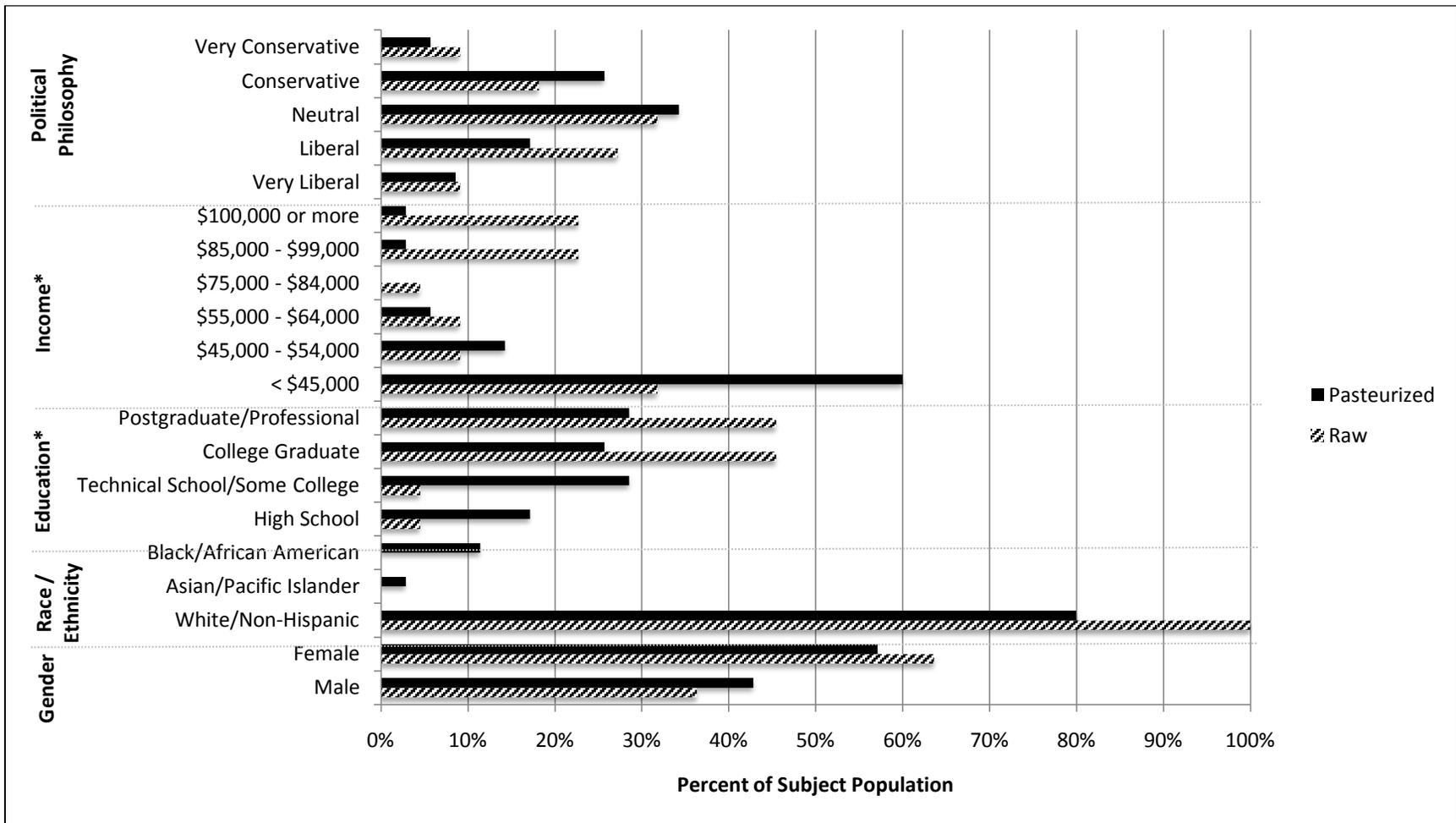
Future research of media attitudes in raw milk consumers should focus on a wider variety of media outlets. This study focused on television, newspaper, discussion with peers, and radio, but it may have been more insightful to also include blogs, websites, and books. As mentioned above, future research should focus on a larger and more varied sample size.

## References:

1. Jayarao B, Henning D. Prevalence of Foodborne Pathogens in Bulk Tank Milk. *Journal of Dairy Science*. 2001;84:2157-62
2. Jayarao B, Donaldson S, Straley B, Sawant A, Hedge N, Brown J. A Survey of Foodborne Pathogens in Bulk Tank Milk and Raw Milk Consumption Among Farm Families in Pennsylvania. *Journal of Dairy Science*. 2006; 7: 2451-8.
3. LeJeune J, Rajala-Schultz P. Unpasteurized Milk: A Continued Public Health Threat. *Clinical Infectious Diseases*. 2009;48:93-100
4. Centers for Disease Control and Prevention, Achievements in public health, 1900–1999: *Safer and healthier foods*. 1999; 48:905-13.
5. Raw Milk Q&A. *Real Raw Milk Facts*. (18 May 2011). Retrieved May 22, 2011, from <http://www.realrawmilkfacts.com>
6. Fallon S. Fresh, Unprocessed (Raw) Whole Milk: Safety, Health and Economic Issues. *Real Milk*. Retrieved May 22, 2011, from <http://www.realmilk.com/rawmilkoverview.html>
7. Griffin R, Dunwoody S, Neuwirth K. Proposed Model of the Relationship of Risk Information Seeking and Processing to the Development of Preventive Behaviors. *Environmental Research*. 1999; 2: S230-S245
8. Griffin R, Neuwirth K, Dunwoody S, Giese J. Information Sufficiency and Risk Communication. *Media Psychology*. 2004; 6: 23-61
9. Griffin R, Neuwirth K, Geise J, Dunwoody S. Linking the Heuristic-Systematic Model and Depth of Processing. *Communication Research* 2002; 29: 705
10. Fischer G, Morgan M, Fischhoff B, Nair I, Lave L. What risks are people concerned about? *Risk Analysis*. 1991; 11:303-14
11. Griffin R. Energy in the Eighties: Education, Communication, and the Knowledge Gap. *Journalism Quarterly*. 1990; 3:554-66
12. Scallan E, Hoekstra R, Angulo F, Tauxe R, Widdowson M, Roy S, Jones J, Griffin P. Foodborne illness acquired in the United States—major pathogens. *Emerg Infect Dis*. 2011 Jan; [Epub ahead of print]
13. Gunther A, Schmitt K. Mapping Boundaries of the Hostile MEdia Effect. *Journal of Communication*. 2004; 1:55-70

**Tables and Figures:**

<b>Table 1. Survey description.</b>	
<b>Survey Item</b>	<b>Possible Answers</b>
What is your gender?	Male, Female
What is the highest level of education you have achieved?	Primary School, High School, Technical School or some College, College Graduate, Postgraduate or professional
What is your age (to your nearest birthdate)?	(subjects were provided a blank space to enter responses) <sup>1</sup>
Which racial or ethnic group do you identify yourself with?	White/Non-Hispanic, Hispanic/Latino, American Indian or Alaska Native, Asian or Pacific Islander, Black/African-American
How do you rate your political philosophy?	very liberal, liberal, neutral, conservative, very conservative
Have you ever been <b>medically</b> diagnosed with a foodborne illness?	Yes, No, Don't remember/don't know <sup>2</sup>
The media often exaggerate and sensationalize the news.	Strongly agree, Agree, Not sure, Disagree, Strongly disagree <sup>3</sup>
News media often represent their own bias and interest.	Strongly agree, Agree, Not sure, Disagree, Strongly disagree <sup>3</sup>
<b>For the next questions, on a scale of 0 to 10, how much attention do you pay to the following?<sup>4</sup></b>	
TV news stories about the food safety of milk and dairy foods.	
Newspaper stories about food safety of milk and dairy products.	
Discussions among friends, coworkers, or family that turn to the food safety of milk and dairy products.	
Information on the radio about the food safety of milk and dairy products.	
<ol style="list-style-type: none"> <li>1. Responses written by subjects were recorded exactly as written.</li> <li>2. Responses of “No” and “Don't know/don't remember” were collapsed into a single category for ease of comparison.</li> <li>3. Responses from items “The media often exaggerate and sensationalize the news” and “News media often represent their own bias and interest” were positively correlated to one another and used to calculate an overall media-bias score for each subject.</li> <li>4. The scale indicated 0=“None at all” and 10=“A lot”.</li> </ol>	



**Figure 1. Subjects description.**

\*p<.05 between raw and pasteurized

<b>Table 2. Subjects description.</b>		
Variable	Type of Milk Consumed	
	Raw (n=22)	Pasteurized (n=35)
Mean Age <sup>1</sup>	42	42
Medical diagnosis of foodborne illness <sup>2</sup>	2	2

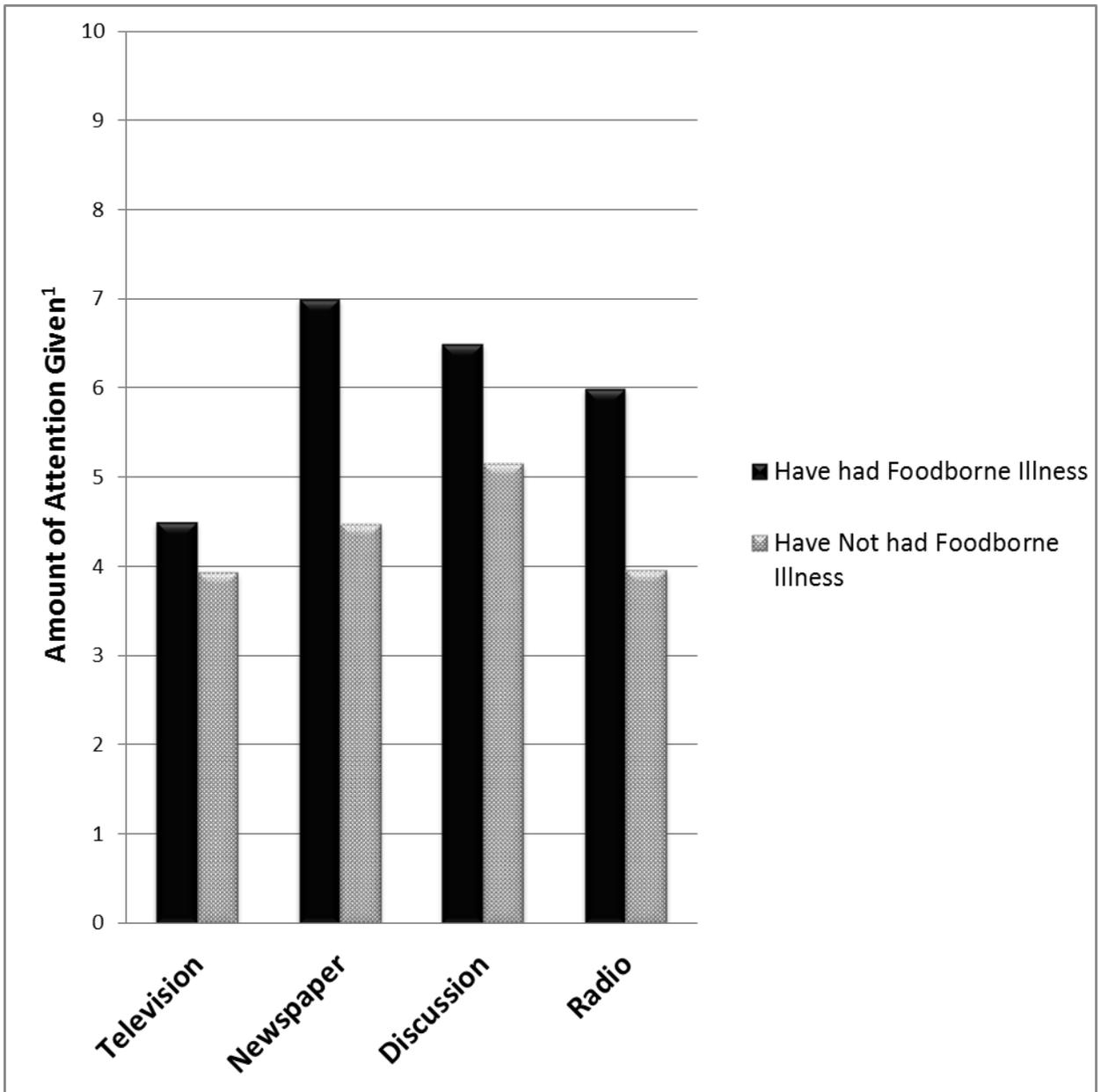
<sup>1</sup> Mean age reported to the nearest year.  
<sup>2</sup> Number of subjects responding “yes” when asked if they had ever been medically diagnosed with foodborne illness

<b>Table 3. Amount of attention given to information sources correlated to age.<sup>1</sup></b>			
Information Source	Type of Milk Consumed		
	Raw (n=21) <sup>2</sup>	Pasteurized (n=35)	Total (n=56)
Television stories about milk safety	.051	.296	.227
Newspaper stories about milk safety	.281	.444 *	.385 *
Discussion with peers about milk safety	.152	.192	.156
Information on Radio about milk safety	.309	.459 *	.403 *

<sup>1</sup> Figures in table represent Pearson Correlation.  
<sup>2</sup> One subject was omitted due to incomplete data.  
\* p<.01

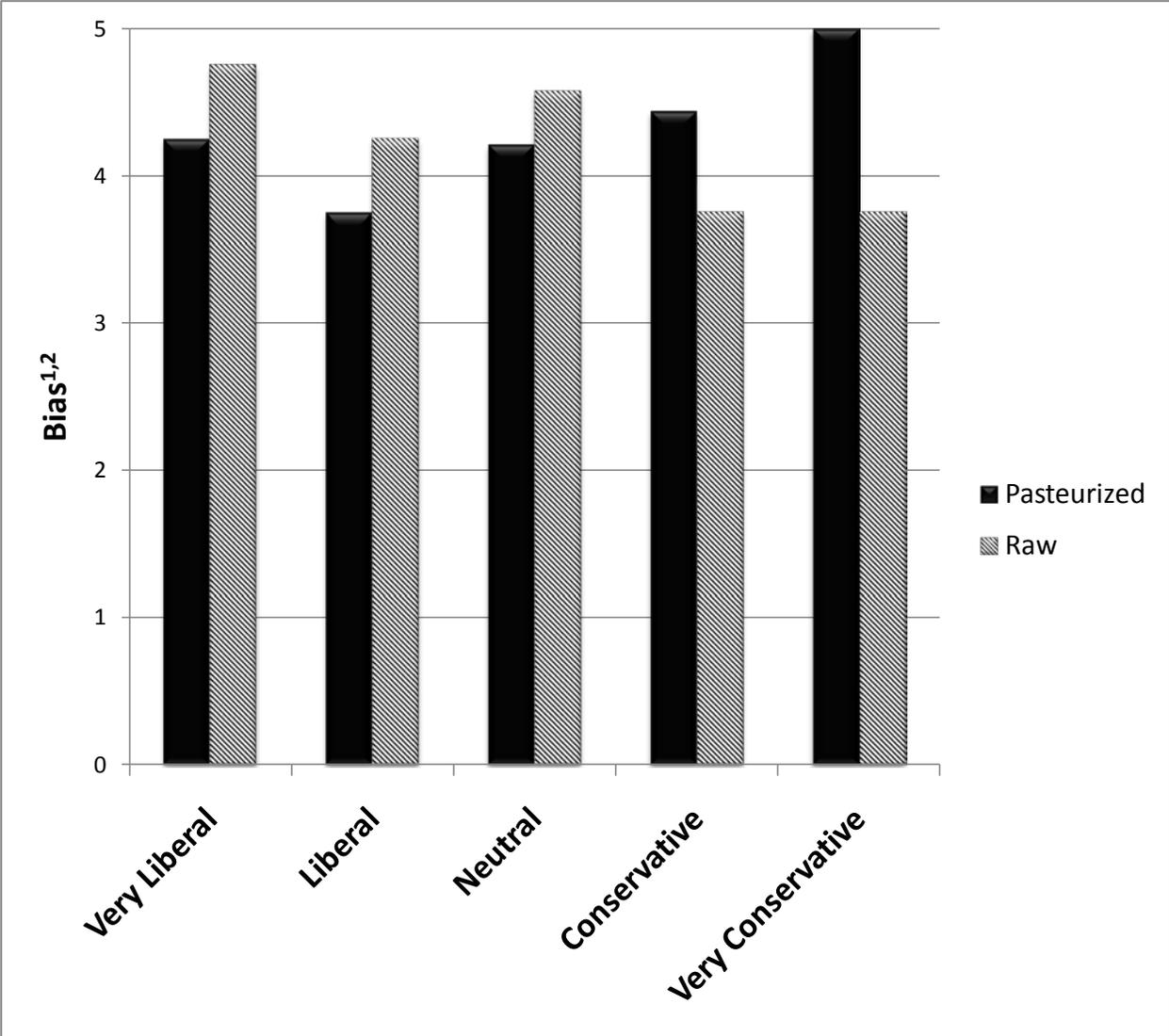
<b>Table 4. Amount of attention given to information sources.<sup>1</sup></b>		
Information Source	Type of Milk Consumed	
	Raw (n=21) <sup>2</sup>	Pasteurized (n=35)
Television stories about milk safety	3.5	4.3
Newspaper stories about milk safety	4.4	4.8
Discussion with peers about milk safety	6.1	4.7
Information on Radio about milk safety	4.3	4.0

<sup>1</sup> Figures in table represent mean score of the group. Possible values range from 0, meaning no attention at all, to 10, meaning a lot of attention.  
<sup>2</sup> One subject was omitted due to incomplete data.



**Figure 2. Attention paid to various information sources by people who have and have not been medically diagnosed with a foodborne illness.**

1. Amount of attention reported on an eleven point scale where 0= "None at all" and 10= "A lot".



**Figure 3. Perception of the media as biased related to self-reported political philosophy of pasteurized and raw milk consumers.**

1. Bias refers to a computed score based on agreement to statements that the media is biased, exaggerated and sensationalized.
2. 1= "Strongly disagree", 5= "Strongly agree"



# Do you drink MILK?

## We Need You For a Milk and Dairy Products Focus Group and Health Assessment Study

Researchers with the Department of Human Nutrition at Ohio State University are seeking people who drink milk or eat dairy products to participate in a focus group discussion and health assessment regarding safety and the nutrition quality of milk.

Participants will meet twice for up to 2 hours to on each study day:

- Complete a brief (approximately 30 minute) survey
- Participate in a moderated discussion group with 5 to 10 others
- Participant in a short health assessment
- Complete a dietary assessment
- Provide us with a sample of your milk for nutrient analysis

When:

- To be announced – please call for listing of dates and times

Where

- Ohio State University Campus, Campbell Hall
- OARDC – OSU Wooster Campus – Food Animal Health Program

Time Involved:

- About half a day

Compensation:

- Up to \$50 cash
- Refreshments

How do you sign up?

Please call

Janet Buffer, M.S., R.D., Project Coordinator at 614 247-8388

## **Appendix A**

Lydia C. Medeiros, Ph.D., R.D., Project Director at 614-292-2699

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32

## The Ohio State University Consent to Participate in Research

**Study Title: Enhancement of Educational And Extension Communications for the Prevention of Milkborne Diseases**

**Researcher: Dr. Lydia Medeiros**

**Sponsor: USDA, National Integrated Food Safety Initiative**

**This is a consent form for research participation.** It contains important information about this study and what to expect if you decide to participate.

**Your participation is voluntary.**

Please consider the information carefully. Feel free to ask questions before making your decision whether or not to participate. If you decide to participate, you will be asked to sign this form and will receive a copy of the form.

**Purpose:**

The purpose of the study is to examine the nutrient intake of those consuming raw milk when compared to those consuming pasteurized milk and to determine if any differences in nutrient intake has any influence on obesity and central adiposity. By raw milk we mean any milk or dairy product that was not pasteurized or homogenized before consumption. By conventional milk we mean any milk or dairy product that has been pasteurized, homogenized and fat content standardized.

**Procedures/Tasks:**

Upon arrival, you will be taken to a private room where data collection will begin. Your 4-day food record will be reviewed to ensure completeness. Anthropometric measurements will be gathered, these include our height, weight, waist circumference and sagittal abdominal diameter. Measurement of your waist and sagittal diameter will require you to lift your shirt above your waist and to loosen the waist of your slacks or shorts. All data collection will be conducted by employees of The Ohio State University.

33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73

**Duration:**

This session should last approximately 2 hours. You may leave the study at any time. If you decide to stop participating in the study, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled. Your decision will not affect your future relationship with The Ohio State University.

**Risks and Benefits:**

The information gained from this study will help health professionals understand any nutritional differences between raw and conventional milk consumers. The result may be improved information that helps us tailor nutrition interventions and diet plans to raw milk consumers.

It is not possible to identify all potential risks in research procedures, but the researchers have taken reasonable safeguards to minimize any known and potential, but unknown, risks. It is not anticipated that any of the questions asked will lead to emotional distress; however, if you are uncomfortable for any reason, you have the option to leave the discussion group at any time without recourse

**Confidentiality:**

Efforts will be made to keep your study-related information confidential. However, there may be circumstances where this information must be released. For example, personal information regarding your participation in this study may be disclosed if required by state law. Also, your records may be reviewed by the following groups (as applicable to the research):

- Office for Human Research Protections or other federal, state, or international regulatory agencies;
- The Ohio State University Institutional Review Board or Office of Responsible Research Practices;

There will be no identifying information that will link your name or any other personally identifiable information to your survey, food –record, raw milk sample (if one is obtained) and anthropometric measurements.

**Incentives:**

You will be paid \$15 for the completion of the food record, \$15 for the completion of the milk survey, \$5 for a milk sample and \$5 for your participation in the physical assessment to compensate you for your time and participation.

74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103

**Participant Rights:**

You may refuse to participate in this study without penalty or loss of benefits to which you are otherwise entitled. If you are a student or employee at Ohio State, your decision will not affect your grades or employment status.

If you choose to participate in the study, you may discontinue participation at any time without penalty or loss of benefits. By signing this form, you do not give up any personal legal rights you may have as a participant in this study.

An Institutional Review Board responsible for human subjects research at The Ohio State University reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

**Contacts and Questions:**

For questions, concerns, or complaints about the study you may contact Dr. Lydia Medeiros at 614 292-2699 or medeiros.1@osu.edu

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.

If you are injured as a result of participating in this study or for questions about a study-related injury, you may contact Dr. Lydia Medeiros at 614 292-2699 or medeiros.1@osu.edu

**Appendix B**

**CONSENT**  
**Behavioral/Social Science**

**IRB Protocol Number: 2009B301**  
**IRB Approval date: 08/23/2010**  
**Version: 2.2**

104 **Signing the consent form**

105

106 I have read (or someone has read to me) this form and I am aware that I am being asked to  
107 participate in a research study. I have had the opportunity to ask questions and have had them  
108 answered to my satisfaction. I voluntarily agree to participate in this study.

109

110 I am not giving up any legal rights by signing this form. I will be given a copy of this form.

111

_____	_____
Printed name of subject	Signature of subject
	_____ AM/PM
	Date and time
_____	_____
Printed name of person authorized to consent for subject (when applicable)	Signature of person authorized to consent for subject (when applicable)
	_____ AM/PM
_____	_____
Relationship to the subject	Date and time

112

113

114

115 **Investigator/Research Staff**

116

117 I have explained the research to the participant or his/her representative before requesting the  
118 signature(s) above. There are no blanks in this document. A copy of this form has been given  
119 to the participant or his/her representative.

120

_____	_____
Printed name of person obtaining consent	Signature of person obtaining consent
	_____ AM/PM
	Date and time

121

**Milk Survey**  
**Enhancement of Educational and Extension Communications for the Prevention of Milkborne Diseases**

The following questions will help us better understand the background and opinions of the people who participate in this focus group and health assessment study. We would appreciate your answering each of these questions. However, you may omit any question if you feel uncomfortable with answering or find it too personal.

What types of milk and dairy products do you drink?

Check the box that applies to you personally

	Yes	No	Sometimes
<b>Example</b> Do you drink milk?	<input checked="" type="checkbox"/>		

**Questions**

1.	Do you drink <b>homogenized</b> milk?			
2.	Do you drink <b>unhomogenized</b> milk?			
3.	Do you drink <b>pasteurized</b> milk?			
4.	Do you drink <b>unpasteurized</b> milk?			
5.	Do you eat dairy products made from <b>pasteurized</b> milk?			
6.	Do you eat dairy products made from <b>unpasteurized</b> milk?			
7.	Do you drink milk <b>produced locally</b> ?			
8.	Do you eat dairy products <b>produced locally</b> ?			
9.	Do you drink <b>organic</b> milk?			
10.	Do you eat dairy products made with <b>organic</b> milk?			

11. Where do you obtain the milk and dairy products you consume? **Check all that apply**

- Produce own milk
- Farm/cow sharing
- Grocery
- Farm market
- Neighbor/relative/gifts
- Other – please name \_\_\_\_\_

12. Do you produce your own milk?

- Yes
- No

If you do not produce your own milk, please go to question 13.

A. If you produce your own milk, what type of animal produces the milk? **Check all that apply**

- Dairy cow
- Dairy goat
- Sheep
- Other – please name \_\_\_\_\_

B. If yes, do you **pasteurize** the milk before you drink?

- Yes
- No

13. Do you make your own dairy products?

- Yes
- No

**If no, please go to question 14**

A. If yes, what type of dairy products do you make? **Check all that apply**

- Cheese
- Yogurt
- Butter
- Other – please name \_\_\_\_\_

B. If yes, what type of animal produces the milk? **Check all that apply**

- Dairy cow
- Dairy goat
- Sheep
- Other – please name \_\_\_\_\_

C. If yes, do you use **pasteurized** milk or **pasteurize** your own the milk before you make the dairy products?

- Yes
- No

**Tell Us About You**

14. Who does most of the food shopping for your household?

- Self
- Other Household Member
- Shared among Household Members

15. Who currently prepares most of the food for your household?

- Self
- Other Household Member
- Shared among Household Members

16. What is your gender?

- Male
- Female

17. What is the highest level of education you have achieved?

- Primary School
- High School
- Technical School or some College
- College Graduate
- Postgraduate or professional

18. What is your age (to your nearest birthdate)? \_\_\_\_\_ years

19. Which racial or ethnic group do you identify yourself with?

- White/Non-Hispanic
- Hispanic/Latino
- American Indian or Alaska Native
- Asian or Pacific Islander
- Black/African-American

20. Roughly, what was your total household income last year from all sources?

- Less than \$45,000
- \$45,000-\$54,000
- \$55,000-\$64,000
- \$65,000-\$74,000
- \$75,000-\$84,000
- \$85,000-\$99,000
- \$100,000 or more

21. How do you rate your political philosophy?

- very liberal
- liberal
- neutral
- conservative
- very conservative

**For the next set of questions, please mark the circle that best describes how you feel about the statement.**

22. I have a sufficient amount of knowledge about milk and dairy products for my **personal** use and safety.

- Strongly agree
- Agree
- Not sure
- Disagree
- Strongly disagree

23. To what extent do you believe that your actions affect your health?

- A great deal
- Some
- Not much
- Not at all

24. To what extent do you believe that your actions affect the health of others?

- A great deal

- Some
- Not much
- Not at all

25. Have you ever been **medically** diagnosed with a foodborne illness?

- Yes
- No
- Don't remember/don't know

26. Have you had a foodborne illness, but **did not** seek medical care?

- Yes
- No
- Don't remember/don't know

27. Have any of your close friends or relatives ever been **medically** diagnosed with a foodborne illness?

- Yes
- No
- Don't remember/don't know

28. Do you believe that any of your close friends or relatives have had foodborne illness, but **did not** seek medical care?

- Yes
- No
- Don't remember/don't know

29. People who are important to me would expect me to stay on top of information about the food safety of milk and dairy products.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

30. Generally speaking I want to do what people who are important to me think I should do.

- Strongly agree
- Agree

- Neutral
- Disagree
- Strongly disagree

31. In my life, it would be easy for me to avoid becoming ill from foodborne illness caused by milk or dairy products.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

32. Government officials care about the health and safety of people like me.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

33. Eventually, science will find a way to solve most human health problems.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

34. Government is doing a competent job of protecting people's health from risks related to the consumption of milk and dairy products.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

35. I trust government to protect me from risks related to the consumption of milk and dairy products.

- Strongly agree
- Agree
- Neutral

- Disagree
- Strongly disagree

For the next questions, mark where your opinion lies on a scale from 0 to 10.

	Not very likely										Very likely	
	0	1	2	3	4	5	6	7	8	9	10	

**Example**

When you think about milk, how likely are you to drink 3 glasses each day								✓			
---	--	--	--	--	--	--	--	---	--	--	--

Questions											
36.	How <b>likely</b> are you to get a foodborne illness in the future from drinking milk or eating dairy products?										
37.	If you were to get a foodborne illness from drinking milk or eating dairy products, how <b>serious</b> would this illness be?										
38.	When you think about the possible health risks posed to you from drinking milk or eating dairy products, how much <b>worry</b> do you feel?										
39.	When you think about the possible health risks posed to you from drinking milk or eating dairy products, how much <b>anger</b> do you feel?										
40.	When you think about the possible health risks posed to you from drinking milk or eating dairy products, how much <b>uncertainty</b> do you feel?										

For each of the following questions, choose the best answer.

41. If you have diarrhea, it's okay to prepare food for others in the family if you wash your hands.

- Agree
- Disagree

Not sure

42. When you can't see any pink color inside a cooked hamburger patty you know all of the harmful germs have been killed and the hamburger is safe to eat.

- Agree
- Disagree
- Not sure

43. Cooking eggs until both the yolk and the white are firm will kill harmful germs.

- Agree
- Disagree
- Not sure

44. Using the same cutting board to cut up raw chicken and then cut raw vegetables for a salad is safe as long as you wipe the board off with a clean cloth between the different foods.

- Agree
- Disagree
- Not sure

45. If you use a dishcloth to wipe up liquid from meat or chicken, you can safely continue to use the cloth for washing dishes if you rinse the dishcloth in hot water.

- Agree
- Disagree
- Not sure

46. Head lettuce is more likely to have high microbial counts than pre-washed (bagged) lettuce.

- Agree
- Disagree
- Not sure

47. There is less risk for bacterial contamination of whole tomatoes compared to pre-cut tomatoes.

- Agree
- Disagree
- Not sure

For the next questions, indicate whether those who are at high-risk for foodborne illness (pregnant women, the elderly, infants, children, or those with compromised immune systems) should “avoid” it or if it’s “okay to eat” the food.

48. Eggs with runny yolks.

- Avoid
- Okay to eat
- Not sure

49. Raw fish or seafood like sushi, sashimi, cerviche, or raw oysters.

- Avoid
- Okay to eat
- Not sure

50. Alfalfa or other raw sprouts.

- Avoid
- Okay to eat
- Not sure

51. Cold (straight out of the package) hot dogs.

- Avoid
- Okay to eat
- Not sure

52. Soft cheese made from unpasteurized milk, like Brie or Camembert.

- Avoid
- Okay to eat
- Not sure

53. Juices and smoothies made with raw fruits and vegetables.

- Avoid
- Okay to eat
- Not sure

54. A banana without washing the skin first.

- Avoid
- Okay to eat
- Not sure

55. Cut cantaloupe without washing the rind first.

- Avoid
- Okay to eat
- Not sure

56. Raw unpasteurized milk.

- Avoid
- Okay to eat
- Not sure

**Read each of the following statements and mark the answer that is the closest match to your own opinion.**

57. If I wanted to, I could easily get all the information I need about the food safety of milk and dairy products.

- Strongly agree
- Agree
- Not sure
- Disagree
- Strongly disagree

58. It is hard for me to get useful information about the food safety of milk and dairy products.

- Strongly agree
- Agree
- Not sure
- Disagree
- Strongly disagree

59. The media often exaggerate and sensationalize the news.

- Strongly agree
- Agree
- Not sure

- Disagree
- Strongly agree

60. News media often represent their own bias and interest.

- Strongly agree
- Agree
- Not sure
- Disagree
- Strongly disagree

61. News stories are just a series of unconnected events that don't add up to much.

- Strongly agree
- Agree
- Not sure
- Disagree
- Strongly disagree

62. When the same information appears in many places, I'm more likely to believe it.

- Strongly agree
- Agree
- Not sure
- Disagree
- Strongly disagree

63. News stories with statistics are more believable than those without.

- Strongly agree
- Agree
- Not sure
- Disagree
- Strongly disagree

64. Individual news stories may seem like bits and pieces, but in the long run they form a meaningful pattern.

- Strongly agree
- Agree
- Not sure
- Disagree

- Strongly disagree

For the next questions, on a scale from 0 to 10, how much attention do you pay to the following?

		None at all										A lot
		0	1	2	3	4	5	6	7	8	9	10
<b>Example</b>												
The nightly local news.					✓							
<b>Questions</b>												
65.	TV news stories about the food safety of milk and dairy foods.											
66.	Newspaper stories about food safety of milk and dairy products.											
67.	Discussions among friends, coworkers, or family that turn to the food safety of milk and dairy products.											
68.	Information on the radio about the food safety of milk and dairy products.											

Read each of the following statements and mark the answer that is the closest match to your own opinion.

69. When I encounter information about the food safety of milk and dairy products, I focus on only a few key points.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

70. If I have to act on information about the food safety of milk and dairy products, the advice of **one** expert is good enough for me.

- Strongly Agree
- Agree
- Neutral

- Disagree
- Strongly Disagree

71. When I see or hear information about the food safety of milk and dairy products, I rarely spend much time thinking about it.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

72. There is far more information on the food safety of milk and dairy products than I personally need.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

73. After I encounter information about the food safety of milk and dairy products, I am likely to stop and think about it.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

74. If I need to act on information about the food safety of milk and dairy products, the more viewpoints I get the better.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

75. It is important for me to interpret information about the food safety of milk and dairy product in a way that applies directly to my life.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

76. When I encounter information about the food safety of milk and dairy products, I read or listen to most of it, even though I may not agree with the perspective.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

**For the next set of questions, please choose the answer that best fits your behaviors.**

77. How much sun exposure have you received on your hands and face over the past 15 days?

- Less than 15 minutes per day
- 15 to 30 minutes per day
- 31 to 1 hour per day
- Greater than 1 hour per day

78. How often on average do you wear sunscreen?

- Always
- Sometimes
- Rarely
- Never

79. What is the typical SPF of the sunscreen lotion that you use?

- None

- <8
- 8
- 15
- 30
- >30

80. Are you currently taking any weight loss drugs or supplement?

- Yes
- No

A. If yes, please list the drug(s)/supplement(s) \_\_\_\_\_

**Use the following definitions to answer the following question.**

Sedentary – little or no exercise in the week

Low Active – Exercise/sports for 30 minutes 1 to 3 days a week

Active- Exercise/sports for 30 minutes 3 to 5 days a week

Very Active – Exercise/sports for 30 minutes 6 to 7 days a week

81. Based on these definitions, how you would classify you average daily physical activity?

- Sedentary
- Low Active
- Active
- Very Active

**Thank you.**

**Please hand this survey to the moderator when you are finished.**