
USDA FOOD SAFETY & INSPECTION SERVICE □
FOOD SAFETY EDUCATION STAFF □
FOOD THERMOMETER EDUCATION CAMPAIGN □

**Food Thermometer Use □
Among Boomburb Family □
Observational Research Participants □**

**FOLLOW-UP
RESULTS & FINDINGS**

Prepared by

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February 1, 2005

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BACKGROUND

THE TARGET

Since 2001, The USDA Food Safety Education Staff has used the Food Thermometer Education Campaign to pursue a social marketing approach in its program to encourage all Americans to cook using food thermometers. Early in this process, the campaign identified parents of children under the age of 10 as the primary target, since children have above-average risk for food borne illnesses and the parents were amenable to behavior change that could increase the safety of their children. This target was further divided into four distinct groups, and one of those four, "Boomburbs," was selected for initial outreach and education with the food thermometer use message. "Boomburbs" are mid- to upscale suburban and metropolitan fringe families with above-average interests in purchasing new gadgets and a propensity to undercook meats, among other defining characteristics.

OBSERVATIONAL RESEARCH

In September of 2002, a group of 19 "Boomburbs" families was invited to a research event. In the first half of the event, the families were observed while grilling meats while thermometers lay at the ready. Then the parents were interviewed about their cooking knowledge, habits, beliefs and preferred sources of cooking information. During the last portion of the event, the families were given a demonstration about using food thermometers, a package of food safety information, and several types of food thermometers to use at home. Based on the observations and interviews, it was determined that none of these families were using food thermometers for everyday cooking of hamburgers or chicken breasts. That placed Boomburb families in the *Pre-contemplation* Stage of Behavior Change before the event. The demonstration of food thermometer use and techniques by a professional chef enduring the second half of the event was designed to advance the participating parents into the *Contemplation* Stage or *Trial* Stage of Behavior Change after the event.

THIS FOLLOW-UP

In September of 2004, a one-page follow-up was mailed to families that participated in the 2002 event. The intent was to discover if food thermometer use behavior had changed. Out of the 19 original families, 16 families had current mailing addresses, and 8 of them responded.

FINDINGS

As stated above, prior to the food thermometer use demonstration at September 2002 event, food thermometers were rarely in use by these families. When they were deployed, it was for traditional holiday roasts and sometimes for other large cuts of meat. These families showed no awareness of the need to use food thermometers for everyday meat meals and smaller cuts of meat.

The results of the follow-up show that, once exposed to food thermometer information in the form of demonstration and literature, awareness of the need to use food thermometers increases and the use of food thermometers increases. Most of the respondents now use a food thermometer sometimes or more often. Particularly where children are concerned, thermometer use, and the awareness of its value, is increased. And, when not used, their use is often contemplated, showing a shift away from *Pre-contemplation* into *Contemplation* and *Trial*.

While the sample size is very small, a pattern emerges that provides a framework for understanding how people advance through the Stages of Behavior Change. There are three distinct groupings: *The Unmoved*, *the Experimenters* and *the Converts*. Most of them were in the *Experimenters* and *Converts* categories. We can learn from them what convinced them to change their behavior and what would encourage them to even increase their use of thermometers in the future.

The most consistent behavior was the non-use of thermometers when cooking burgers. Clearly, additional focus needs to address this lack of connecting the at-risk behavior and the food thermometer solution. Though awareness has increased with this behavior among some participants, more awareness needs to be generated.

The follow-up also included a list of sources for cooking information, and the results show the same patterns seen in the Observational Research findings.

Follow-up discussions with some of the respondents provided insights into those who are among the *Converts* group as to why and just how they changed their behaviors.

A parent of a 7 and 10 year olds indicated three factors that helped her decide to use a food thermometer: 1. Finding out how easy it was to use the new thermometers, 2. Learning about the dangers of illness, and, 3. Seeing it being used in person. This mother also talked about how things are different now that she uses a thermometer: "I feel safer...I buy disposables for burgers at Giant [a major grocery retailer in the Washington, DC metropolitan area] all the time."

A mother of 4 children (3 currently under 10 years of age) spoke about why she decided to begin using a food thermometer. "We are very concerned about eating good food for health. The demonstration of modern food thermometers and how to use them" encouraged her to begin using the thermometers regularly. While she never prepares burgers at home, "I use the thermometer you gave me for all meats we eat, and follow the rules for each type of meat."

RECOMMENDATIONS

"Show and Tell" works. While not moving every participant into the *Trial* or *Maintenance* Stages, the food demonstrations at the Observational Research event, along with the educational materials and thermometer samples clearly has influenced the behavior of many participants. Awareness is substantially increased, experimentation and regular use have increased and a willingness to change behavior has been markedly shown.

This follow-up points to such demonstration events as a particularly viable method of disseminating food thermometer use education with productive results. Future Food Thermometer Education Campaign activities should consider the variety of ways that these types of demonstration events could be used. Partnerships with non-profits, corporations and educational organizations could provide the financial resources and trusted information sources that can advance Boomburbs participants out of *Pre-contemplation* and into more advanced stages of Behavior Change.

**APPENDIX A: □
RESULTS OF FOLLOW-UP □**

PART ONE	# Respondents	%
1. Are there any children under the age of 10 living in your household?		
Yes	6	75.0%
<i>(Children under 10 during 2002 study have aged out of “under 10” since)</i> No	2	25.0%
2. About how many times a week do you prepare meals at home that include meat?		
0 times	0	0.0%
1-2	0	0.0%
3-4	3	37.5%
5-6	3	37.5%
7 or more	2	25.0%
PART TWO		
1. How often do you use a food thermometer when you cook or grill meats?		
Always	1	12.5%
Most times	1	12.5%
Sometimes	5	62.5%
Never	1	12.5%
2. The times when you don't use a food thermometer when cooking or grilling meat, do you think about using one?		
Yes	4	50.0%
No	4	50.0%
3. How often do you use a food thermometer when you cook or grill meat for your children under age 10?		
Always	1	12.5%
Most times	2	25.0%
Sometimes	2	25.0%
Never	3	37.5%
4. The times when you don't use a food thermometer when you cook or grill meat for your children under age 10, do you think about using one?		
Yes	5	62.5%
No	3	37.5%
5. How often do you use a food thermometer when you cook or grill hamburger patties?		
Always	2	25.0%
Most times	1	12.5%
Sometimes	1	12.5%
Never	4	50.0%
6. The times when you don't use a food thermometer when you cook or grill hamburger patties, do you think about using one?		
Yes	2	75.0%
No	6	25.0%

PART 3: SOURCES OF INFORMATION

	MOST	LEAST
TRUSTED SOURCES	Health professionals	Non government organizations
	Local schools	News media
	Friends/relatives	Celebrities/pop stars
	US Department of Agriculture (USDA)	
	Federal government agencies	
USED SOURCES	Books on cooking	Adult classes
	Friends/relatives	K-12 classes
	Internet	4H
	Magazines	Non-government organizations
	Television	
	Newspaper	

**APPENDIX B: □
SURVEY FORMS □**

① **Directions:** Please ask the person in household who cooks most often to complete and return this form.
Check "y" next to the option that best reflects your answer to each question.

Part 1

1. Are there any children under the age of 10 living in your household?
 Yes No
2. About how many times a week do you prepare meals at home that include meat?
 0 times (Please go to part 3)
 1-2 times
 3-4 times
 5-6 times
 7 or more times

Part 2

- The following section asks about your typical meal preparation. When responding to each question, please consider both your indoor and outdoor cooking and/or grilling.
3. How often do you use a food thermometer when you cook or grill meats?
 Always (Please, go to question #5)
 Most times
 Sometimes
 Never

4. The times when you don't use a food thermometer when you cook or grill meat, do you think about using one?
 Yes No
5. How often do you use a food thermometer when you cook or grill meat for your children under age 10?
 Always (Please, go to question #7)
 Most times
 Sometimes
 Never
6. The times when you don't use a food thermometer when you cook or grill meat for your children under age 10, do you think about using one?
 Yes No
7. How often do you use a food thermometer when you cook or grill HAMBURGER PATTIES?
 Always (Please go to Part 3)
 Most times
 Sometimes
 Never
8. The times when you don't use a food thermometer when you cook or grill HAMBURGER PATTIES, do you think about using one?
 Yes No

Part 3

	9. How much do you trust food preparation information from the following sources?			
	Very Low	Low	High	Very High
Celebrities/popular stars	<input checked="" type="checkbox"/>			
Federal government agencies			<input type="checkbox"/>	
Food companies			<input type="checkbox"/>	
Friends/relatives			<input type="checkbox"/>	
Health professionals			<input type="checkbox"/>	
Local schools			<input type="checkbox"/>	
4-H			<input type="checkbox"/>	
News media		<input type="checkbox"/>		
Non-governmental organizations		<input type="checkbox"/>		
State government agencies				<input type="checkbox"/>
U.S. Department of Agriculture (USDA)				<input type="checkbox"/>

	10. How often do you use these sources for information about food preparation?			
	Never	Sometimes	Often	Always
Adult classes		<input type="checkbox"/>		
K-12 classes		<input type="checkbox"/>		
Books on cooking			<input type="checkbox"/>	
Federal government agencies				<input type="checkbox"/>
Friends/relatives			<input type="checkbox"/>	
Internet		<input type="checkbox"/>		
Magazines			<input type="checkbox"/>	
4-H			<input type="checkbox"/>	
Newspapers			<input type="checkbox"/>	
Non-governmental organizations			<input type="checkbox"/>	
Radio		<input type="checkbox"/>		
State government agencies				<input type="checkbox"/>
Television				<input type="checkbox"/>

What number we can call you at for a Follow-up Phone Call?
 () - - - DAY EVENING
 What time of day is best to call?

Please postmark and mail your completed survey in the enclosed postage-paid envelope by **September 24, 2004**.
 Thank you for your assistance with this study.