

# Developing Effective Wording and Format Options for a Children's Nutrition Behavior Questionnaire for Mothers of Children in Kindergarten

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**By ORC Macro**

## **Abstract**

This study focuses on a set of eating habit questions proposed for inclusion in the U.S. Department of Education's Early Childhood Longitudinal Survey, Birth Cohort. The study assesses the wording and format of a series of questions for mothers of children in kindergarten and/or first grade regarding the child's food consumption habits. Most mothers were able to answer questions on their child's eating habits by using a variety of recall strategies or by using references. Most mothers used recall strategies, such as the recall of preferences and special events or a child's specific likes or dislikes. They also used references, such as the presence of a menu or snacking policies at school. Mothers did not generally struggle with terminology, but some words and concepts required clarification. The biggest problem in answering the questions was the combination of not remembering what foods were eaten and the desire to reflect socially acceptable and beneficial eating behaviors.

**This study was conducted by the ORC Macro under a cooperative research contract with USDA's Economic Research Service (ERS) Food and Nutrition Assistance Research Program (FANRP) (ERS project representative: Elizabeth Frazão). The views expressed are those of the authors and not necessarily those of ERS or USDA.**

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### Appendix A: Wave 1 Data Collection Guides

- A. Cognitive Interview Guide
- B. Focus Group Moderator's Guide

### Appendix B: Wave 2 Data Collection Guides

- A. Cognitive Interview Guide
- B. Focus Group Moderator's Guide

## Executive Summary

This research study focuses on a set of proposed eating habit questions for inclusion in the U.S. Department of Education's Early Childhood Longitudinal Survey, Birth Cohort (ECLS-B).

The Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA) is interested in obtaining a better understanding of the design considerations, with respect to interview wording and format, for a series of questions to be asked of mothers of children in kindergarten and/or first grade (Grades K-1), regarding their child's food consumption habits. These questions are planned for potential incorporation into the Grades K-1 waves of data collection for the U.S. Department of Education's Early Childhood Longitudinal Survey, Birth Cohort (ECLS-B).

The overall objectives of this study were to determine what time period works best for parents (mothers) in responding to a series of questions on food consumption habits of their kindergarteners and/or first grade children, and to determine how parents understand the questions and identify any areas of difficulty or confusion in them or the response options.

To answer these objectives, the following research questions were developed:

- a. Do the respondents interpret the questions, as asked, in the manner intended by ERS? If not, are there changes in wording that will improve understanding?
- b. What time period do respondents feel more comfortable with, in responding to the questions—for example, the past 24 hours or the past week?
- c. Are the response options suggested by ERS appropriate? Are respondents able to use these response options to describe their children's behavior? If not, are there changes in response options that would be more appropriate?

A special concern for this research is not only determining what changes may need to be made to improve the usability of the questions for mothers as proxies, but also considerations of comparability between the proposed set for mothers of K/grade 1 children and the existing questions used with fifth graders.

To address the research questions, this study included two waves of data collection with mothers of kindergarten and /or first grade children, with a total of 36 respondents. Each wave of the study included a set of cognitive interviews with nine respondents and one focus group with nine participants. This approach allowed for the development of iterative findings as alternative questions and response options were analyzed. The first wave of the study served as an exploratory wave, broadly investigating how mothers of kindergarten and 1<sup>st</sup> grade students interpreted and responded to the questions. The second wave served as a more in-depth testing ground for alternatives emerging from the Wave 1 findings. On the basis of the findings of Wave 1, a revised set of questions was developed for testing in Wave 2 of the study. The revised questions incorporated changes that dramatically impact mother's ability to answer the questions and response options as related to the initial findings. In Wave 2, this revised set of questions was tested. The recommendations for the eating habits questions were then developed from the review of the Wave 2 findings, along with relevant comparisons to the Wave 1 outcomes.

### Conclusions and Recommendations

Overall, most mothers were able to answer the questions on their child's eating habits by reporting to a variety of recall strategies, such as the recall of preferences and special events, the recall of a child's specific eating habits (likes or dislikes), or using references such as the presence of a menu, snacking policies at school or with afterschool sports, and rules established for eating away from home. Mothers did not generally struggle with terminology used the questions, but there were some words and concepts that require clarification to improve mothers' ability to answer the questions more easily. First, clarification for the term "regular milk" should be added. Additionally, as mothers in both waves of the study commented, the questions are very clear about what to include, but not clear about what to include in the responses, particularly for questions on other vegetables, and potatoes that were not fried.

There were some specific areas of underestimation that were related to how mothers interpreted the question. The data collection revealed that mothers are not always considering all of the fruits and vegetables that their child may have consumed when answering the respective questions on carrots, potatoes, and other vegetables. Mothers most often struggled with coming up with a frequency for fruit or vegetable consumption for their child. Part of this was due to the fact that the item was consumed often by children, but not necessarily completely eaten at one sitting.

Perhaps most problematic for the mothers participating in this study were problems encountered due to the combination between limits on the ability to recall what foods were consumed and the desire to reflect socially acceptable and beneficial eating behaviors for young children. Mothers struggled with addressing the fluctuation from day to day in the kinds of foods their child may have consumed, particularly for items consumed regularly, such as milk, fruits and vegetables and 100% fruit juice. This impacted their preference for supplying an answer for only the past twenty-four hours, as well as their ability to develop a response for the past seven days. A key emerging theme was the existence of a tension between the desire to be accurate in their responses and the inability to remember every opportunity for consumption of the particular food item. The accompanying conversations with mothers provide some limited indication that this was in part due to the desire to "talk a good diet," as some mothers provided commentary on the health benefits of particular choices. Mothers repeatedly wanted to provide the most accurate answer in their responses, particularly in regards to questions about healthy foods choices, like vegetables and fruits. In response to the need to select one choice in answering a question, many mothers commented that they wished the questions were clearer about whether an average response was a correct answer, particularly if they wanted to use the daily response options.

The findings also illustrate the need for additional reminders to help mothers recall all other opportunities where their child may have consumed a food. The cognitive interviewing and focus groups revealed some areas when mothers grossly underestimated the number of times their child consumed a food item. The most common reason for underestimation stemmed from the fact that mothers often forgot to include times such as school, play dates, or sporting activities in their responses. Cognitive probing revealed that many mothers just didn't think of these times automatically. Mothers needed the reminder to include eating that occurred outside of the presence no matter how scheduled their patterns of feeding the child might have been. Additionally, language or instruction prior to the eating habit questions needs to be added to the

questionnaire to help mothers focus on the food their child actually consumed, and not what they offered or prepared.

Most mothers were able to recall what their child consumed over the past twenty-four hours more easily than over the past seven days. However, while mothers admitted that this would be much easier, there was some hesitancy on the part of mothers for answering in this manner. Barriers to answering for just the past twenty-four hours included the tensions mothers experienced in wanting to provide the response that best described what their child ate, combined with the concern that answering for a day did not reflect the best of their child’s eating habits, particularly if the day in question did not follow the “normal” schedule. The findings suggest that the best way for mothers to answer the questions would be either to provide clear instructions asking for an average for the week, or to ask specifically about fewer days—a one to three-day period was suggested by mothers in this study. Overall, the findings suggest that it is easier for mothers to tally foods on a daily basis than recalling what was consumed over the whole week. This tallying method could be applied to either answering for the past twenty-four hours, or providing a response for the past seven days. However, based on the data provided by mothers in this study, using only the past twenty-four hours would limit the answers mothers give to questions on green salad, fast food, French fries and fried potatoes, other vegetables, consumption of soda pop and drinks that were not 100% fruit juice, and to a lesser extent, candy, ice cream, cookies and similar items, as well as potato chips, pretzels, Fritos, and other salty snack foods.

Next, the specific recommendations developed for each eating habit question are presented. The tables present the original eating habit question, followed by the revised question, and the rationale for making changes. When no changes outside of the adding the statement “including school activities, play dates, sports, and the weekend” to the question as described above are suggested, the question is not included below.

**Q1:** During the past 7 days, how many glasses of milk did your child drink? Include all types of milk, including cow’s milk, soy milk or any other kind of milk; include the milk your child drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.

- 1 *Child did not drink milk during the past 7 days.*
- 2 *1 to 3 glasses during the past 7 days.*
- 3 *4 to 6 glasses during the past 7 days.*
- 4 *1 glass per day.*
- 5 *2 glasses per day.*
- 6 *3 glasses per day.*
- 7 *4 or more glasses per day.*
- DK *DON’T KNOW*
- RF *REFUSED*

**Revised Q1:** During the past 7 days, including school activities, play dates, sports, and the weekend, how many glasses of milk did your child drink? Include all types of milk, including cow's milk, soy milk or any other kind of milk; include the milk your child drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.

- 1 *Child did not drink milk during the past 7 days*
- 2 *1 to 3 times during the past 7 days*
- 3 *4 to 6 times during the past 7 days*
- 4 *1 time per day*
- 5 *2 times per day*
- 6 *3 times per day*
- 7 *4 or more times per day*
- DK *DON'T KNOW*
- RF *REFUSED*

**Rationale:** Adding the statement referencing other times where a child may have consumed the food provided more complete responses by mothers in Wave 2 of the study, although it may have also complicated the tallying process for some mothers using the times per day response options. However, the inclusion of the statement did prompt mothers to consider a wider range of times when their child may have consumed a food item in the question set than the original question did. Changing “glasses” to “times” makes all of the response options consistent and removes the possibility that mothers become frustrated by calculations that convert glasses to servings and then to “times.”

**Q2.** What kind of milk did your child usually (most often) drink during the past 7 days?

- 1 *Whole milk*
- 2 *2% milk.*
- 3 *Skim milk.*
- 4 *Low fat or 1% milk.*
- 5 *Soy milk.*
- 6 *Both regular milk and soy milk.*
- 7 *Some other kind of milk.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Revised Q2.** What kind of milk did your child usually (most often) drink during the past 7 days?

- 1 *Whole milk*
- 2 *2% milk.*
- 3 *Skim milk.*
- 4 *Low fat or 1% milk.*
- 5 *Soy milk.*
- 6 *Both **regular cow's milk** and soy milk.*
- 7 *Some other kind of milk.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Rationale:** The wording of “regular cow's milk” improved mothers understanding of the question by making the response option clearer. Add a response option to account for mothers whose child did not consume any milk. The question set as tested did not include a skip pattern for mothers who provided the response “my child did not consume milk in the past seven days” in question 1. Either a skip pattern should be added, referring these respondents directly to

question 3, or a response option of “none of the above, child didn’t drink milk” needs to be added to question 2.

**Q5.** During the past 7 days, how many times did your child eat fresh fruit such as apples, bananas, oranges, berries, or other fruit such as applesauce, canned peaches, canned fruit cocktail, or frozen berries? (Do not count fruit juice.)

1 *Child did not eat fruit during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

DK *DON'T KNOW*

RF *REFUSED*

**Revised Q5.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child eat fresh fruit such as apples, bananas, oranges, berries, or other fruit such as applesauce, canned peaches, canned fruit cocktail, frozen berries or dried fruit? (Do not count fruit juice.)

1 *Child did not eat fruit during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

DK *DON'T KNOW*

RF *REFUSED*

**Rationale:** Adding the words dried fruit made the list of fruit choices complete for mothers and provided them with an opportunity to include all fruit in their response. Clearer guidance on self-service snacking and how to count it should be developed. This was one of the most challenging questions for mothers to ask due to the popularity of fruit and the variability with which it was consumed by children in this age category. In order to address the frustration mothers experienced when tallying the fruit for the times per day option and to address underestimates, guidance on the accuracy desired for the response would be helpful. Specifically, mothers need some direction on how to calculate a “time” for self-service snacking.

**Q7.** During the past 7 days, how many times did your child eat potatoes? (DO NOT count French Fries, fried potatoes, or potato chips).

1 *Child did not eat potatoes during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

DK *DON'T KNOW*

RF *REFUSED*

**Revised Q7.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child eat potatoes? (DO NOT count French Fries, fried potatoes, potato chips, tater tots, or sweet potatoes).

- 1 *Child did not eat potatoes during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*

DK *DON'T KNOW*

RF *REFUSED*

**Rationale:** In addition to the prompting statement described above, adding the wording tater tots and sweet potatoes assisted mothers in knowing what kinds of potatoes to exclude from their response to this question.

**Q9.** During the past 7 days, how many times did your child eat other vegetables? (DO NOT count green salad, potatoes, French fries, or carrots.)

- 1 *Child did not eat other vegetables during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*

DK *DON'T KNOW*

RF *REFUSED*

**Revised Q9.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child eat other vegetables? (DO NOT count green salad, potatoes, French fries, or carrots.)

- 1 *Child did not eat other vegetables during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*

DK *DON'T KNOW*

RF *REFUSED*

**Rationale:** In addition to the prompting statement described above, better wording or clearer instruction should be provided for Q9 to help mothers know how to classify vegetables served in mixes, or as the main component of a main dish need to be added based on the findings of both Wave 1 and Wave 2. This clarification would help mothers to produce more accurate counts to incorporate in their responses. The recommended statement is phrased as “*Include vegetables like those served as a stir fry, soup or stew in your response.*”



**Q10.** During the past 7 days, about how many times did your child eat a meal or snack from a fast food restaurant such as McDonald's Pizza Hut, Burger King, KFC (Kentucky Fried Chicken), Taco Bell, Wendy's and so on? Would you say?

- 1 *Child did not eat food from a fast food restaurant during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Revised Q10.** During the past 7 days, including school activities, play dates, sports, and the weekend about how many times did your child eat a meal or snack from a fast food restaurant with no wait service such as McDonald's, Pizza Hut, Burger King, KFC (Kentucky Fried Chicken), Taco Bell, Wendy's and so on? Consider both eating out, carry out and delivery of meals in your response. Would you say:

- 1 *Child did not eat food from a fast food restaurant during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Rationale:** The addition of this language appeared work well in clarifying the kinds of places mothers should consider in answering the question about fast food. In particular, focus group respondents did not seem to struggle with including any meal that their child had eaten out at any type of restaurant in their response to the revised question. This wording seemed to alleviate mothers conceptualizing fast food as any eating outside of the home.

**Q11.** During the past 7 days, how many times did your child eat candy, ice cream, cookies, cakes, brownies, or other sweets? Would you say:

- 1 *Child did not eat sweets during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Revised Q11.** During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat candy (including Fruit Roll Ups and similar items), ice cream, cookies, cakes, brownies, or other sweets? Would you say:

- 1 *Child did not eat sweets during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Rationale:** In addition to the prompting statement described above, adding the wording "Fruit Roll-Ups or similar snacks" helped mothers to know where to classify these food items. Reporting for the foods included in this question was a sensitive topic, one that may be subject to underestimates.

**Q13.** During the past 7 days, how many times did your child eat French fries or fried potatoes?

- 1 *Child did not eat French fries or fried potatoes during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Revised Q13.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child eat French fries or fried potatoes?

- 1 *Child did not eat French fries or fried potatoes during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Rationale:** In addition to the prompting statement described above, this question should be moved to appear after the potato question, and be the new Question 8. Mothers in Wave 2 recommended that this question be paired conceptually with the question on potatoes. They suggested that such a pairing would help mothers answer the question by making it easier to recall and answer questions on potato consumption. Also moving the question to follow after the original question 7 lessens the probability that mothers who answered the fast food question will view this question as asking for the same information.

## Introduction to the Research

This research study focuses on a set of proposed eating habit questions for inclusion in the U.S. Department of Education's Early Childhood Longitudinal Survey, Birth Cohort (ECLS-B). The Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA) is interested in obtaining a better understanding of the design considerations, with respect to interview wording and format, for a series of questions to be asked of mothers of children in kindergarten and/or first grade (Grades K-1), regarding their child's food consumption habits. These questions are planned for potential incorporation into the Grades K-1 waves of data collection for the U.S. Department of Education's Early Childhood Longitudinal Survey, Birth Cohort (ECLS-B).

Increasing concern about children's diet and the development of childhood obesity provides a foreground for this research. The ECLS-B provides a unique opportunity to collect longitudinal data on the development of children's eating behaviors from birth through early childhood. Past research on the ECLS-K has explored the best response options for fifth graders. In this study, the focus is on parents' ability to answer a similar set of test questions as proxies for their kindergarten and/or first grade children. While this study does not directly compare first grade children's responses to those provided by parents, it does provide some insight into the factors impacting parents' ability to recall their kindergarten and/or first grade child's eating behavior.

The overall objectives of this study were to determine what time period works best for parents (mothers) in responding to a series of questions on food consumption habits of their kindergarteners and/or first grade children, and to determine how parents understand the questions and identify any areas of difficulty or confusion in them or the response options.

To answer these objectives, the following research questions were developed:

- a. Do the respondents interpret the questions, as asked, in the manner intended by ERS? If not, are there changes in wording that will improve understanding?
- b. What time period do respondents feel more comfortable with, in responding to the questions—for example, the past 24 hours or the past week?
- c. Are the response options suggested by ERS appropriate? Are respondents able to use these response options to describe their children's behavior? If not, are there changes in response options that would be more appropriate?

A special concern for this research is not only determining what changes may need to be made to improve the usability of the questions for mothers as proxies, but also considerations of comparability between the proposed set for mothers of K/grade 1 children and the existing questions used with fifth graders.

## Overview of the Research Design

The research design developed for this study was influenced by existing research on dietary recall and cognitive abilities of respondents in three main areas:

- the ability of parents to recall dietary consumption for their children,
- parents' desires to over or under-report consumption of particular food items,
- and the types of cognitive cues that may be helpful in promoting better accuracy of dietary recall.

The ability of parents to recall dietary consumption for their children. Despite the variety of methods available to collect dietary intake information, the accuracy of dietary intake data provided by adults remains a problem, both in cases where they are asked to respond for themselves as well as for young children. Problems in accurately recalling what was consumed range from memory lapses, to inability to judge portion sizes, to intentional misreporting to lower the consumption of less socially acceptable foods. Adults frequently do not recall what they ate, or they misreport how much of it they consumed.<sup>1</sup> These recall difficulties are also evident when asking parents to report on the eating habits of young children. Recent studies on the recall ability of parents when reporting on the food consumption of their children age 6 or under indicate that both mothers and fathers are reasonably accurate in recalling their child's food intake, but only within the past 24 hours. However, over the course of several meals, parents' recall provides a somewhat less accurate measure of actual foods eaten, portion sizes, and nutrient levels consumed.<sup>2</sup>

Parents' desires to over or under-report consumption of particular food items. Research on parents' ability to serve as proxies for children in reporting dietary habits suggests that parents may also feel more pressure to only report that their child has consumed socially acceptable foods, even if their eating patterns in reality do not reflect the ideal healthful diet. In this situation, parents over-report the consumption of foods perceived to be healthier and under-report those perceived to be less healthy. Studies have demonstrated that under-reported intake may not affect all foods equally but may involve only certain types of foods, such as snacks.<sup>3</sup> This possibility was also of particular relevance in this study, as it relates directly to parents' use of the response options in the questions, as well as questionnaire item wording that may unintentionally make parents feel the need to inflate the number of times their child has consumed more healthful foods and/or deflate the number of times their children consumed less healthful foods.

The types of cognitive cues that may be helpful in promoting better accuracy of dietary recall.

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<sup>1</sup> Byers, T., J. Marshall, E. Anthony, R. Fiedler, and M. Zielezny. 1987. The reliability of dietary history from the distant past. *American Journal of Epidemiology*, 125, 999–1011.

<sup>2</sup> Basch, C. E., S. Shea, R. Arliss, I. R. Contento, J. Rips, B. Gutin, et al. 1990. Validation of mothers' reports of dietary intake by four to seven year-old children. *American Journal of Public Health*, 80, 1314–1317.

<sup>3</sup> Poppitt, S. D., D. Swann, A. E. Black, and A. M. Prentice. 1998. Assessment of selective under-reporting of food intake by both obese and non-obese females in a metabolic facility. *International Journal of Obesity*, 22, 303–311.

The accompanying discussion that parents may engage in when reporting their child’s consumption might provide insight into the types of contextual cues that become important for prompting better recall of eating habits and more complete responses. Recent research in improving the accuracy of recall of dietary intake advocates a new sensitivity to ways in which conversations about eating behaviors can better communicate the types of foods consumed, as well as the patterns of consumption. Asking respondents to describe everyday food consumption, noting cues for difficult areas of reporting, leads to a more accurate recall of food intake.<sup>4</sup> It may be the case that these cues either take the form of certain words or concepts that could be incorporated into revised questions or serve as a cross-check of the information parents provide on their child’s eating behavior.

**The Study Design**

To address the research questions, this study included two waves of data collection with mothers of kindergarten and /or first grade children. Both waves included a set of cognitive interviews with nine respondents and one focus group with nine participants. This approach allowed for the development of iterative findings as alternative questions and response options were analyzed. The first wave of the study served as an exploratory wave, broadly investigating how mothers of kindergarten and 1<sup>st</sup> grade students interpreted and responded to the questions. The second wave served as a more in-depth testing ground for alternatives emerging from the Wave 1 findings. On the basis of the findings of Wave 1, a revised set of questions was developed for testing in Wave 2 of the study. The revised questions incorporated changes that dramatically impact mother’s ability to answer the questions and response options as related to the initial findings. In Wave 2, this revised set of questions was tested. The recommendations for the eating habits questions were then developed from the review of the Wave 2 findings, along with relevant comparisons to the Wave 1 outcomes.

**Number Of Study Participants**

Each wave of the study consisted of a series of in-depth cognitive interviews (with a total of 9 participants) followed by one focus group. Table 1 summarizes the composition of respondents and data collection activities for both waves of the study.

**Table 1. Summary of Data Collection Approach**

Data Collection Activity	Study Wave	
	Wave 1: Exploratory Number of respondents	Wave 2: Modified Questions Number of respondents
In-depth cognitive interviews	9	9
Focus group	9	9
<b>Total number of respondents (36 mothers)</b>	18	18

<sup>4</sup> Tapsell, L. C., V. Brenninger, and J. Barnard. 2000. Applying conversation analysis to foster accurate reporting in the diet history interview. *Journal of the American Dietetic Association*, 100(7), 818–824.

## A Summary Description of the Research Methodology Employed

Cognitive interviewing and focus groups were the methods developed to answer the research questions posed by this study. The research design was also developed to include only mothers as the primary proxy respondents. This was done because the typical respondents of the ECLS are mothers, who are interviewed face-to-face.

Each set of individual interviews and focus group contained a mix of income levels and racial/ethnic groups. The recruitment strategy for this study targeted mothers of different marital status, racial/ethnic groups, and income levels and also included mothers with more than one child in the target grade levels to assess any additional difficulties that may exist in recalling the food consumption of only one child.

**Cognitive Interviews.** The cognitive interviews were developed to ascertain more in-depth understanding of mothers' abilities to recall what their child consumed and over what period of time, use the food categories correctly, use the response options correctly, and describe any difficulties encountered with the questions. While modality is not being tested in this study, the cognitive interviews also provided some insight into how mothers perform in a one-on-one interviewing environment in answering the test questions.

In Wave 1, using the original set of test questions, interview participants were asked to provide their answer to each question, and then to indicate whether the question was easy for them to answer and how certain they were that their response was correct. After answering the set of questions, the interviewee was then read her answers and asked to describe how she arrived at an answer, including what things she was thinking of, how she answered for time where food was consumed away from home, and how she distinguished between what her kindergarten or first grade child consumed versus any other children in their household. The Wave 2 cognitive interviews were conducted in a similar fashion, but used a revised set of test questions that incorporated the findings from Wave 1. Each cognitive interview concluded with the interviewer presenting the participant with a \$75.00 stipend for their time and transportation costs.

The cognitive interviews incorporated some of the latest practices in encouraging respondents' to better report what their child may have consumed. This was done through the use of probes that encouraged conversations on children's activities, daily schedules and preferences, with the intention of jogging the memory of parents by recalling specific events and their relation to foods asked about in the test set of questions.

**Focus Groups.** The focus groups were designed to provide insight into broader topics related to mothers' ability to answer the test questions. The focus groups were used to explore mothers' understanding of the dietary habit questions and response options. The focus groups targeted some specific components of understanding mothers' use of the response options and ability to produce responses— these included focusing on their reasoning processes, their understanding of concepts and language, as well as their ability to accurately recall information.

Each focus group began with introductions and an overview of ground rules to promote discussion. After a general description of the eating habit questions, mothers were read each question, and then asked to select a response option. After each question was answered, the moderator used the guide to develop specific topics such as understanding what food items mothers think of when asked to respond to the questions, the span of time mothers believe they can accurately recall what was consumed, how they track the consumption of food by the child, contextual cues that may exist for parental knowledge about what was or was not consumed at school, and how they respond to the time increments for the response options (times a day vs. 7 days). After the two-hour focus group concluded, each mother received a \$75.00 stipend for her time and transportation costs.

## Development of the Study Guides

The data collection study guides for this research were developed by deconstructing the set of eating habit questions to focus on the meanings implied and the strategies used to arrive at answers. Key topical areas for the development of the study guides for the cognitive interviews and focus groups included understanding parents' general thought processes as they answer questions about their child's/children's eating habits, exploring the cognitive limitations, if any, to parents' ability to recall children's consumption patterns, and understanding how parents recall dietary consumption for periods of time when the child is away from home. The research guides in both waves of the study focused on discovering the areas where mothers indicated that there were notable distinctions in cognitive interpretation of the questions and response options. In this way, the emphasis of the research was on the types of changes that could potentially improve mothers' ability to answer the ECLS questions. Another consideration for this study was the need to maintain comparability between this set of eating habit questions and those currently used by fifth graders in the ECLS. This need for comparability focused the analysis on notable changes deemed necessary to improve the understanding and cognition of mothers, rather than improving the questions by less dramatic means, such as wordsmithing the questions.

The following discussion presents the findings for both waves of the study. In each section, the research questions are presented, along with notable findings for each. Each discussion begins with a description of the demographic characteristics of the respondents, followed by discussion on understanding of the terminology, recall ability and preferences for answering for times per day versus times over the course of week, and use of the response options.



## Study Findings: Wave 1

In Wave 1 of this study, the cognitive interviews and focus group were used to gather initial data about mothers' ability to answer the set of test questions in an appropriate manner. While mothers were generally able to answer the test questions, there were some notable areas of difficulty encountered with regards to terminology used, answering over a period of time (24 hours vs. a week), and using the response options. Table 2 presents the original set of questions used for this round of data collection.

**Table 2. The Initial Set of ECLS-B Test Questions**

1. During the past 7 days, how many glasses of milk did your child drink? Include all types of milk, including cow's milk, soy milk or any other kind of milk; include the milk your child drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.

- 1 *Child did not drink milk during the past 7 days.*
- 2 *1 to 3 glasses during the past 7 days.*
- 3 *4 to 6 glasses during the past 7 days.*
- 4 *1 glass per day.*
- 5 *2 glasses per day.*
- 6 *3 glasses per day.*
- 7 *4 or more glasses per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

2. What kind of milk did your child usually (most often) drink during the past 7 days?

- 1 *Whole milk*
- 2 *2% milk.*
- 3 *Skim milk.*
- 4 *Low fat or 1% milk.*
- 5 *Soy milk.*
- 6 *Both regular milk and soy milk.*
- 7 *Some other kind of milk.*
- DK *DON'T KNOW*
- RF *REFUSED*

3. During the past 7 days, how many times did your child drink 100% fruit juices such as orange juice, apple juice, or grape juice? Do not count punch, Sunny Delight, Kool-Aid, sports drinks, or other fruit-flavored drinks.

- 1 *Child did not drink 100% fruit juice during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

4. During the past 7 days, how many times did your child drink Soda pop (for example, Coke, Pepsi, or Mountain Dew), sports drinks (for example, Gatorade), or fruit drinks that are not 100% fruit juice (for example, Kool-Aid, Sunny Delight, Hi-C, Fruitopia, or Fruitworks)?

- 1 *Child did not drink any during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Table 2. The Initial Set of ECLS-B Test Questions**

5. During the past 7 days, how many times did your child eat fresh fruit such as apples, bananas, oranges, berries, or other fruit such as applesauce, canned peaches, canned fruit cocktail, or frozen berries? (Do not count fruit juice.)

1 *Child did not eat fruit during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

DK *DON'T KNOW*

RF *REFUSED*

6. During the past 7 days, how many times did your child eat green salad?

1 *Child did not eat green salad during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

DK *DON'T KNOW*

RF *REFUSED*

7. During the past 7 days, how many times did your child eat potatoes? (DO NOT count French Fries, fried potatoes, or potato chips).

1 *Child did not eat potatoes during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

DK *DON'T KNOW*

RF *REFUSED*

8. During the past 7 days, how many times did your child eat carrots?

1 *Child did not eat carrots during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

DK *DON'T KNOW*

RF *REFUSED*

**Table 2. The Initial Set of ECLS-B Test Questions**

9. During the past 7 days, how many times did your child eat other vegetables? (DO NOT count green salad, potatoes, French fries, or carrots.)

- 1 *Child did not eat other vegetables during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

10. During the past 7 days, about how many times did your child eat a meal or snack from a fast food restaurant such as McDonald's Pizza Hut, Burger King, KFC (Kentucky Fried Chicken), Taco Bell, Wendy's and so on? Would you say:

- 1 *Child did not eat food from a fast food restaurant during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

11. During the past 7 days, how many times did your child eat candy, ice cream, cookies, cakes, brownies, or other sweets? Would you say:

- 1 *Child did not eat sweets during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

12. During the past 7 days, how many times did your child eat potato chips, corn chips (Fritos, Doritos), Cheetos, pretzels, popcorn, crackers or other salty snack foods?

- 1 *Child did not eat salty snack foods during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Table 2. The Initial Set of ECLS-B Test Questions**

13. During the past 7 days, how many times did your child eat French fries or fried potatoes?
- 1 *Child did not eat French fries or fried potatoes during the past 7 days.*
  - 2 *1 to 3 times during the past 7 days.*
  - 3 *4 to 6 times during the past 7 days.*
  - 4 *1 time per day.*
  - 5 *2 times per day.*
  - 6 *3 times per day.*
  - 7 *4 or more times per day.*
- DK *DON'T KNOW*  
RF *REFUSED*

In Wave 1, nine cognitive interviews were conducted and nine mothers participated in the focus group, for a total of 18 mothers as respondents in this wave of the study. Interestingly, half of the mothers in Wave 1 were stay-at-home moms who spent a great deal of time with their youngest children, including those in the kindergarten or first grade.

Overall, Wave 1 respondents were diverse by age, ethnicity/race, income, and by number of children in the household. Out of the nine cognitive respondents, 33% were African American, and 67% were Caucasian, with one respondent identifying as Hispanic /Latino. Most of the mothers interviewed had completed at least some college, but there were two respondents that only had a high school education. The mothers that participated in the cognitive interviews were slightly older parents: four mothers were in the 40-49 age group, while three mothers were in the 30-39 age group. In Wave 1, three mothers were parents of kindergarten children, while the remaining had first graders. Five of the mothers interviewed had three or more children, while three mothers had only one child. The focus group participants were similarly diverse by age, ethnicity/race, income, and by number of children in the household. Four of the nine mothers were African American, while five were Caucasian. Half of the mothers in the focus group had more than one child, and most of the mothers had some college or completed college.

#### Understanding Of The Terminology

- a. Do the respondents interpret the questions, as asked, in the manner intended by ERS? If not, are there changes in wording that will improve understanding?

Table 3 presents the answers provided to the eating habit questions by Wave 1 respondents in the cognitive interviews. As the table depicts, none of the respondents refused to answer the questions, nor did any provide a “don’t know” response. The distribution of responses suggests that mothers were generally able to use the given response options appropriately.

**Table 3. Answers Provided To The Eating Habit Questions By Wave 1 Cognitive Interview Respondents**

Food Item	Question Response Options						
	Child did not eat/drink during the past 7 days.	1 to 3 times during the past 7 days.	4 to 6 times during the past 7 days.	1 time per day.	2 times per day.	3 times per day.	4 or more times per day.
Milk	1	0	0	1	6	0	1
100% juice	0	3	2	3	0	1	0
Drinks not 100% fruit juice	0	3	2	3	1	0	0
Fresh fruit	0	2	1	1	5	0	0
Green salad	3	5	1	0	0	0	0
Potatoes (not fried)	3	5	1	0	0	0	0
Carrots	2	4	2	1	0	0	0
Other vegetables	2	0	3	0	3	1	0
Fast food	3	6	0	0	0	0	0
Candy, ice cream, cookies, cakes, brownies, or other sweets	0	1	1	7	0	0	0
Salty snacks	0	5	2	1	1	0	0
French fries or fried potatoes	1	6	2	0	0	0	0

Table 4 provides the mean ratings for ease of answering the questions. Those mothers who completed a cognitive interview were asked to rate the difficulty of each question. Specifically, they were asked whether each question was “really easy,” “kind of easy,” or “not so easy.” A mean rating was calculated for these responses as a way of targeting conceptual understanding. Similar 3-point rating scales have been used successfully in other cognitive development studies. Table 4 shows the difficulty ratings for each survey item, ranked by the mean difficulty rating. The results suggest that, overall, the mothers interviewed found it fairly easy to answer the questions. On average, mothers rated the items as somewhere between “really easy” and “kind of easy.” Overall, ratings of “not so easy” were relatively rare.

Questions on drinks that were not 100% fruit juice, green salad, fast food, and French fries or fried potatoes were the easiest for mothers to answer, perhaps because these items were consumed less frequently over the course of seven days and therefore easier to recall because child consumption of them was rare, or they were consumed in the context of a “special treat” or event (birthday celebration, a party, or Halloween for example).

**Table 4. Mean Ratings Of Ease Of Answering The Eating Habit Questions**

Question Number	Food Item	Mean Rating	Rating Scale		
			Very Easy	Somewhat Easy	Not At All Easy
		1= "very easy" to 3 ="not at all easy"	(%)	(%)	(%)
Q3	100% juice	1.6	56	33	11
Q1	Milk	1.4	67	22	11
Q5	Fresh fruit	1.4	67	22	11
Q8	Carrots	1.3	78	11	11
Q9	Other vegetables	1.3	67	33	0
Q7	Potatoes (not fried)	1.2	78	22	0
Q11	Candy, ice cream, cookies, cakes, brownies, or other sweets	1.2	78	22	0
Q12	Salty snacks	1.2	78	22	0
Q2	Type of milk	1.1	78	11	0
Q4	Drinks not 100% fruit juice	1.0	100	0	0
Q6	Green salad	1.0	100	0	0
Q10	Fast food	1.0	100	0	0
Q13	French fries or fried potatoes	1.0	100	0	0

The most difficult questions for mothers to answer were those on consumption of 100% fruit juice, milk, fresh fruit and carrots, as depicted in table 4. Table 5 presents the mean ratings for certainty of answers. For each eating habit question, respondents were asked how sure they were of their answers. Respondents might give an answer that does reflect what their child consumed, while being unsure of the answer. The existence of this type of tension indicates that mothers may have felt unsure about the soundness of their answers; methods used to arrive at an answer or were unclear about some of the terminology being used in the question. In the interviewing, respondents' answers to these questions served as a basis for further probing into how mothers arrived at their answers. Additionally, these responses were used as the basis for calculating a "mean certainty rating" for each of the concepts. Based on the analysis of the terminology used, which identified few problems, the mean certainty ratings highlight food items where mothers were unsure of whether their answer was accurate, accounting for for all of the food their child may have consumed. When compared to the mean ratings calculated for ease of the question (table 4), the answers in table 5 seem to confirm that mothers did indeed experience some difficulty in answering questions on consumption of milk, 100% fruit juice, carrots and fresh fruit.

Further analysis of the cognitive responses indicates that many mothers experienced some difficulty with these questions (Q3, Q1, Q5 and Q8) because they encountered difficulty in recalling and tallying the number of times their child consumed 100% fruit juice, milk, fruit, and carrots. Many mothers indicated that these items were consumed daily, and that they had a baseline schedule for offering them to their child. However, difficulties were encountered because their child's preferences and consumption fluctuated from day to day. For example, if a child did not finish his or her milk at breakfast, the mother may have offered the milk later in the day to compensate for this non-consumption, which was outside of "normal" milk drinking times for the child. Additionally, as will be discussed further below, about one half of the mothers interviewed indicated that it was easier to think about their child's consumption for these specific items on a daily basis (within the past twenty-four hours), and was difficult to remember what was consumed over a seven-day period of time. One half of the mothers did express the ability to recall what their child had consumed over the past seven days by thinking about consumption in terms of eating a particular item a daily basis. Conversely, mothers reported less difficulty and higher certainty of their responses in regards to items such as green salad, French fries, and drinks that were not 100% fruit juice because consumption of these items was extremely rare or occurred in the context of an event, such as a sporting activity, party or other special occasion.

**Table 5. Mean Certainty Ratings for the Eating Habit Questions**

Question Number	Food Item	Mean Rating	Rating Scale		
		1= "very sure" to 3 = "not at all sure"	Very Sure	Somewhat Sure	Not At All Sure
			(%)	(%)	(%)
Q1	Milk	1.4	67	22	11
Q3	100% fruit juice	1.3	78	11	11
Q8	Carrots	1.3	78	11	11
Q5	Fresh fruit	1.3	67	33	0
Q9	Other vegetables	1.3	67	33	0
Q11	Candy, ice cream, cookies, cakes, brownies, or other sweets Sweet snacks	1.2	78	22	0
Q13	French fries or fried potatoes	1.2	78	22	0
Q4	Drinks not 100% fruit juice	1.1	89	11	0
Q7	Potatoes (not fried)	1.1	89	11	0
Q12	Salty snacks	1.1	89	11	0
Q6	Green salad	1.0	100	0	0
Q2	Type of milk	1.0	100	0	0
Q10	Fast food	1.0	100	0	0



## Understanding the Language Used In Each Question

Overall, mothers in the interviews and focus groups did not struggle with any of the terminology used in the question. Mothers in both the one-on-one interviews and focus group defined “100% fruit juice,” “sports drinks” and “green salad” in similar ways. However, there were several questions where mothers wanted more clarification about what foods were actually being referenced. A general comment emerging from the focus group was that the questions on fruits, vegetables, and snacks were relatively clear about what to exclude, but not clear on what to include. For example, three mothers in the one-on-one interviews and slightly more than half of the mothers in the focus group questioned what foods were included with potatoes as a category for Q7. The main issue arising for mothers in the cognitive interviews was whether to include items such as instant potatoes in their responses, while others wanted to know if tater tots fell in the category of “fried potatoes.” In the focus group, most of the nine mothers indicated that they were not sure where to include sweet potatoes, or potatoes that were the main part of a dish, but were mixed with other things, like scalloped potatoes or mashed potatoes.

Other areas where mothers wanted clarification on the terminology, or where their responses were inconsistent, are described below. This discussion includes both the cognitive interviews and focus group.

**Regular milk.** “Regular milk” is included as a response option in Q2. In both the cognitive interviews and focus group, there was some confusion among the respondents about what “regular milk” actually was. Some respondents thought it was the same as whole milk, while others believed that “regular” referred to the type of milk that was regularly consumed by their child (for example, 2% milk). Others thought that it was every other kind of milk besides soy milk, and two respondents of the 18 in this wave of the study thought it was the kind of milk one would get directly from a farm.

**Other vegetables.** In regards to the question on additional vegetables consumed (Q9), about half of the mothers participating in the focus group, and 2 cognitive interviewees (6 of 18 total respondents or 33%) were not sure how to count dishes that included both rice and vegetables, or similarly soups with vegetables. They simply did not include these dishes in their responses. This confusion provided an opportunity for mothers to undercount the other types of vegetables consumed by their child.

**Fast food.** The description provided by mothers on how they arrived at their answers for this question revealed a lack of clarity about the concept “fast food.” Overall, among both the cognitive interviewees and focus group participants, half of the mothers conceptualized fast food as any eating outside of the home, so even if the child had an entree that wasn't from the basic kids menu (French fries, chicken nuggets, hamburger) at a real restaurant, some mothers counted this as “fast food.” The remaining respondents viewed “fast food” as the type of food specifically consumed at the chains listed in the question. The effect of this conceptualization was that mothers did not count items that were not eaten at the specific chains listed in the question, so there was a gray area for food eaten at places like Boston Market, Subway, and Arby's, or Chinese restaurants. In reviewing the cognitive data, the respondents generally mentioned the specific restaurant in connection with describing what their child ate, but there were two mothers who wondered whether to include delivery of food (pizza, Chinese) they had ordered.

**Question 11 on consumption of candy, ice cream, cookies, cakes, brownies, or other sweets, and Question 12 on consumption of potato chips, corn chips (Fritos, Doritos), Cheetos, pretzels, popcorn, crackers or other salty snack foods.** While all of the mothers in Wave 1 were able to come up with answers for these questions, the discussion of their responses revealed that mothers might be tallying foods inaccurately, based on how they conceptualize the items as a part of a specific food category, for example, “sweet snacks” versus “salty snacks”, or “snacks high in fat.” In particular, mothers participating in the focus group seemed to be somewhat unsure of their responses.

The focus group findings indicated that a few mothers felt uncertain about their responses to Q11 and Q12 because they were unsure of the core distinctions dividing foods that should be a part of their responses for Q11 versus those that should be included in responses for Q12. For example, some mothers thought the major distinction was the amount of fat in a snack, while others perceived the questions to be about “good snacks” versus “bad snacks.” Mothers were also reluctant to lump things like crackers or popcorn with things they perceived to be worse for their children, such as “bad” salty snacks like chips. Mothers also didn't know how to classify things like Fruit Roll Ups, granola bars, or fruit bars. These concerns combined to create some uncertainty about the accuracy and appropriateness of the answers mothers provided to these questions, slightly increasing the difficulty experienced in deriving an answer to these questions, as the ratings in table 4 present.

**Soda pop.** There was some indication that the terminology used in Q3 on the consumption of drinks that are not 100% fruit juice could cause parents to intentionally underestimate their response. Two mothers who were interviewed indicated that the words “soda pop” had a negative connotation because parents did not want to report their child had consumed these types of drinks. For example:

*Wave 1 Respondent 3: “Parents don’t want to say their child had “soda” because of the negative connotation.”*

Additional descriptive discussion provided by some mothers in the cognitive interviews and the focus group for Wave 1 indicated that parents felt somewhat sensitive about the topic of soda pop, as they made it a point to communicate that they were conscious of the negative health effects of these types of drinks. For example, slightly fewer than half of the mothers in both the interviews and focus group very assertively commented that they never ever allowed their child to consume soda pop, but then reluctantly acknowledged that if their child had attended a birthday party or similar event over the past seven days, they most likely would have consumed soda pop. Other parents shared that they did try to consciously limit the amount of sugar their child consumed, so soft drinks and even drinks that weren't 100% juice weren't “the best.” For example:

*Wave 1 Cognitive Interviewee 2: “We don’t have it [soda] at home regularly.”*

Based on these responses, it might be the case that parents focus on drinks that are not 100% juice and sports drinks when providing an answer, and intentionally ignore or misrepresent the amount of soda consumed because of this sensitivity to a socially less desirable drink for young children. Thus, the question's wording might unintentionally provide parents with an "out" for under-reporting consumption of soft drinks by grouping this item with other drinks that are perceived as less sensitive because they are not as "bad" for their child.

Finally, all of the mothers in the focus group, and about half of the cognitive interview respondents (13 respondents) indicated that the questions are clear about what to exclude, but not clear about what to include. This impacted the answers that mothers provided for the questions on potatoes, as mentioned earlier, but also for the questions on eating fruits other vegetables and snack items.

### Recall Ability And Preferences for Answering For Times Per Day Versus Times Over The Course Of A Week

- a. What time period do respondents feel more comfortable with, in responding to the questions—for example, the past 24 hours or the past week?

Based on the analysis of data, mothers were able to recall what their child consumed over the past twenty-four hours more easily than over the past seven days. It was easier for mothers to come up with a response for one day, but not necessarily their preference. This was due to the fact that the response for one day may not have reflected the full range of what their child consumed, and mothers did express some sensitivity to sharing that their child had consumed appropriate amounts of healthy choices, such as milk, vegetables, carrots, and drinks that were not 100% fruit juice. For some mothers, answering questions on green salad, other vegetables, French fries and fast food consumption for only the past twenty four hours would greatly reduce the likelihood of their inclusion and suggest that their children do not consume these items at all, rather than in limited amounts. Many mothers in both the cognitive interviews and focus group indicated that for items that were consumed more frequently, it was easier to use the daily response options rather than the number of times of the past seven days, because it was too difficult to remember the detail about opportunities for the child to consume the item over the past week at one time.

In response to the need to select one choice in answering a question, many mothers commented that they wished the questions were clearer about whether an average response was a correct answer, particularly if they wanted to use the daily response options. This was true for providing an answer for only the past twenty-four hours as well. A repeated request by mothers in the cognitive interviewing was for the questions to ask about the average week or day, or the normal pattern, rather than the specific consumption of food items. Generally, mothers seemed to express a preference for providing an average response over a few days or a week when indicating what their child had consumed. When asked, how many days they could best recall their child's consumption, most mothers initially indicated that they could do so for up to a week,

but that they could best recall what had happened for a more limited range of days, such as the past three days. Additional reasons for this preference were pursued further in Wave 2 of the study.

*Difficulties in Using the Response Options for Responding for the Past Seven Days.* When considering the issue of providing a response for the past week, many mothers in both the cognitive interviews and focus group struggled with addressing the fluctuation from day to day in the kinds of foods their child may have consumed, particularly for items consumed regularly, such as milk, fruits and vegetables and 100% fruit juice when providing a response. A key emerging theme was the existence of a tension between the desire to be accurate in their responses and the inability to remember every opportunity for consumption of the particular food item. The accompanying conversations with mothers provide some limited indication that this was in part due to the desire to “talk a good diet,” as some mothers provided commentary on the health benefits of particular choices. Mothers repeatedly wanted to provide the most accurate answer in their responses, particularly in regards to questions about healthy foods choices, like vegetables and fruits. For questions on consuming French fries or fried potatoes, fast food and green salad, mothers more readily supplied answers in terms of times per week, primarily because their child rarely ate these items, or the consumption of the item occurred at limited intervals, like a “dine out night.”

Mothers in the focus group repeatedly expressed the desire for an option for “1 to 2 times per day.” Recall that some mothers in the cognitive interviews felt frustrated by their inability to come up with what they believed to be an accurate response due to the daily fluctuation in their child’s actual consumption. A majority of mothers in the focus group recommended that a response option of “1 to 2 times per day” be added so that they could produce more accurate answers of what their child consumed. Some mothers indicated that this option would help them to not develop an average response, but to more accurately reflect what was consumed, particularly as they were tallying times of consumption on a daily basis. Mothers believed that such a response option would allow them to honestly answer for times when they were not exactly sure how much their child had consumed, but were certain of the range of times when consumption took place. For example, many mothers know their child had consumed at least one glass of milk per day, but there was a possibility the child had two glasses, due to other events. Rather than guessing two glasses or selecting 1 glass, mothers wanted a response option that allowed them to answer with the best average of consumption for the day. The desire for this response was also expressed for responding for only the past twenty-four hours as well.

### Using the Response Options

- b. Are the response options suggested by ERS appropriate? Are respondents able to use these response options to describe their children’s behavior? If not, are there changes in response options that would be more appropriate?

A notable finding from Wave 1 was that mothers used a variety of cognitive strategies to develop their answers, often combining methods to develop an answer for one question. The discussion of mother's strategies for arriving at an answer revealed that recalling what their child ate over the past seven days or even for the past twenty-four hours was not without some challenges.

#### *Strategy 1: Recall Of Preferences And Events*

Some mothers based their answers on a combination of their recollection of key events over the course of a week (or day), and the kinds of foods they purchased, prepared or bought over the course of the week (or day). For example, some mothers indicated that they knew their child consumed a particular food item because they had prepared it twice over the past seven days and the child normally liked to eat the specific item. This kind of strategy seemed most effective when considering a longer period of time.

#### *Strategy 2: Recall Of Child Specific Eating Habits*

Others mothers provided answers based exclusively on their child's eating habits. Questions on milk, carrots, and green salad were most often answered in this manner. Instead of answering for what the child actually ate over the course of the past seven days or the past day, some mothers provided answers that used their child's normal behavior to fill in gaps in recollection. In a modification of this, mothers based answers on approximation of what food was left in the refrigerator and their child's eating preferences.

#### *Strategy 3: References*

For some mothers, the presence of a menu, snacking policies at school or with afterschool sports, and rules established for eating away from home— either with a babysitter or with other relatives— helped them to determine what their child had consumed. Some mothers carefully reviewed the menu with a child to review the choices with them before a meal was purchased at school. For other mothers (six total respondents in Wave 1), the menu was relied upon as a source of what was normally served or generally offered to their child, without full knowledge or recollection of the specifics. In other words, some mothers determined that their child had not consumed an item at school because they did not recall seeing it on the menu, and it seemed inconsistent with what had been served previously. Some mothers who used the menu as a cue stated that they generally know what was on the menu, but not necessarily for the specific seven days being asked about. This general knowledge was helpful in eliminating specific foods that were never served or not available like snack foods and kinds of milk or fruit juice available at school, but less helpful in recalling items that were served, like fruit or other vegetables.

Many mothers, in both the interviews and particularly in the focus group, expressed some frustration because they could not determine precisely what their child had consumed. Four cognitive interview respondents indicated that this was a reoccurring problem for them in supplying an answer, while seven of the nine focus group respondents indicated that this was the

case. Upon further probing in both settings, some of these mothers resolved this tension by providing an average amount consumed by their child over the past seven days. Others provided an average based on what was normal in a seven-day period for their child, while still others simply did not include times when they could not be positive of what their child consumed in their answers, both in terms of answering for the past twenty-four hours and for providing a response covering the past seven days. Additional complications included how to calculate an amount consumed when the child may not have eaten all of the food offered. This complication existed for answering for just the past twenty-four hours and for providing answers over the past seven days.

Generally, mothers understood the time ranges described in the response options, and had no problem conceptualizing the past seven days, which was generally understood to include the weekend and previous five weekdays. However, mothers did have some difficulties in using the response options to classify their answer in the ranges provided. An emerging theme for mothers in both the interviews and focus group was struggling to understand the term “time” for their child’s consumption patterns. Three mothers in the interviews and six of nine mothers in the focus group indicated that they had some trouble with the questions because they wanted to respond in terms of a serving or a portion size, rather than a “time.” In thinking about “time” as a sitting or meal time, a majority of the focus group respondents expressed that it would be easier for them in many cases to supply the number of servings versus “time,” due to the fact that their child may eat either 1 carrot or a whole bag at one sitting, and this did not seem to be an accurate reflection of what was consumed. Still, when the issue of serving was raised, some mothers also noted that determining a serving could be equally problematic.

The cognitive interviewing and focus group revealed some areas when mothers grossly underestimated the number of times their child consumed a food item. The most common reason for underestimation stemmed from the fact that mothers often forgot to include times such as school, play dates, or sporting activities in their responses. Cognitive probing revealed that many mothers just didn’t think of these times automatically.

The follow up discussion revealed that mothers focused more on times when their child was with them in answering the question except for school, perhaps because it was easier to determine and answer. In some cases, as with the milk questions, the interviews indicated that the question wording was helpful by reminding them to include specific school meal times, such as breakfast or lunch. For questions that did not include this type of specific reference, mothers did not generally include outside activities that their child participated in their responses, such as play dates, after school care, or sporting events, unless they packed a snack.

This trend was also confirmed in the focus group discussion, where a majority of the mothers (six of nine) did not include the full range of times where their child may have eaten a snack or meal. A mother from the focus group commented that “*I totally forgot about soccer, and we provided the snacks this week.*” However, the underestimation also occurred because mothers did not want to count events that were not the norm. For example, if the child had attended a birthday party, or consumed Halloween candy, some mothers reluctantly provided an answer to consumption of sweets because it wasn’t the “norm” for their child.

There were some specific areas of underestimation that were related to how mothers interpreted the question. The data collection revealed that mothers are not always considering all of the

fruits and vegetables that their child may have consumed when answering the respective questions on carrots, potatoes, and other vegetables. Mothers most often struggled with coming up with a frequency for fruit or vegetable consumption for their child. Part of this was due to the fact that the item was consumed often by children, but not necessarily completely eaten at one sitting.

About a one third of the mothers interviewed one-on-one indicated that their child was able to go to the refrigerator and obtain a fruit or vegetable item as a snack with limited supervision. This practice of “self-serve snacking” is where the child goes to the refrigerator to have carrots or grapes and can have that fruit in unlimited quantities. The only way mothers reported being able to track the consumption of this type of food is that “when it is gone, it's gone.” The impact of this type of eating on the responses mothers provided in interviews and during the focus group was that mothers simply excluded these foods from their count, thus underestimating the fruits and vegetables their child may have consumed. Further probing revealed that mothers recalled that their children consumed these fruits and vegetables, but that they didn't count them because there wasn't any place to record them and no guidance on how to quantify the food being consumed as a “time.” It was difficult for mothers to determine when a “time” began and ended in regards to this type of snacking.

In the Wave 1 focus group, where this issue was discussed at length, some mothers thought a “time” might be however long it took the child to obtain and consume the food, while others were concerned about how much food should be included in the self-serve snacking period, particularly as the quantity could vary dramatically from day to day and even within the course of a day. In particular, four mothers in the focus group described their frustration at counting the one or two carrots their child consumed during a self-service snack with the same weight as the whole bag of carrots the child may have consumed as a latter snack during the day. One mother indicated that if she was specifically asked, she would have simply counted all of the vegetables or fruits that the child obtained in a self-service mode as one “time,” no matter how much food was actually consumed.

Other counting discrepancies arose as well. Some mothers determined that their child consumed a food item by the fact that they had prepared it or served it. This raised the issue of whether mothers automatically counted an item as being consumed, simply because they recalled offering it, rather than whether the child actually ate the item at a mealtime.

However, it was also the case that some mothers could clearly and accurately recall what their child had consumed both at home and at school because their child had few if any outside opportunities to consume food items outside of their presence. These four mothers communicated that:

*Wave1 Cognitive Interviewee 3: “I know everything they put in their mouths.”*

*Wave1 Cognitive Interviewee 2: “I know what I serve him.”*

Interestingly, further analysis revealed that most of these mothers either had a kindergarten child who did not attend school all day, or a child that did not receive a meal at school. In the remaining cases, serious food allergies necessitated a stricter schedule and monitoring by a parent to ensure that the child did not consume a prohibited item.

## Notable Areas For Follow-Up In Wave 2

The findings from Wave 1 generally indicated that mothers were indeed able to answer the questions, but that some improvements could improve their ability to provide more accurate answers, as well as some limited clarification on the kinds of foods to include in their responses.

Most notably, all of the questions received an additional statement at the beginning designed to assist mothers in recalling all of the places where their child may have consumed a food item. This was done to address cases where mothers' descriptive statements indicated that they only thought about food that they served or prepared or eating that occurred in their presence. The addition of the statement was felt to help in cutting down on the gross underestimates mothers seemed to be making because they simply didn't consider all possible eating opportunities. Specifically, wording was added to the response option "regular milk," to help respondents better understand what regular milk referred to, as mothers in Wave 1 did not quite understand what was being referred to. Additional descriptive words were added to give mothers more detail so that they could properly respond to Q7 and Q9. Finally, clarifications were added to Q10 on fast food, and Q11 on consumption of candy, ice cream, cookies, cakes, brownies, or other sweets. These changes were not so great that they dramatically alter the meaning of the questions, but they were felt to provide needed clarity that would either improve mothers' ability to use the response options themselves, or provide more accurate answers based on their recollections.

The response option "1 to 2 times a day" was also added, although with caution. The main purpose for adding this response option to the Wave 2 questions was to determine whether this option would be widely used if offered, and how it might function in helping to resolve the tension between providing the best answer and accounting for fluctuation in a child's actual consumption. The Wave 2 cognitive interviews also included specific probes on answering times per day versus times per week. These were included to further develop the findings on answering preferences discussed under research question b, including answering for the past twenty-four hours, and to gather additional data on the implications of adding the "1 to 2 times per day" response option.



## Study Findings: Wave 2

The results of Wave 1 served as the basis for revising the questions. The questions were revised in an attempt to make them easier to understand and answer accurately. The purpose of Wave 2 was to test the revised set of questions. As with Wave 1, Wave 2 had 18 respondents, nine cognitive interviewees and nine focus group participants.

Overall, Wave 2 respondents were also diverse by age, ethnicity/race, and income and by number of children in the household. Four of the cognitive interviewees were African American, one was Asian and three were Caucasian. All of the mothers except for one had completed some higher education beyond high school. Out of these eight respondents, two mothers had completed postgraduate education. Five of the cognitive interviewees had two children. Three respondents had only one child and one respondent had three children.

For the Wave 2 focus group, five mothers were African American, one mother was Asian American, and the remaining were Caucasian. Seven mothers also had two school-aged children. Three mothers had some college education or less, while the remaining participants had completed college.

Table 7 presents the initial revisions made to the set of test questions based on the analysis of the Wave 1 data. Changes are underlined.

**Table 7. The Revised Set of ECLS-B Test Questions Used in Wave 2 Cognitive Interviews**

1. During the past 7 days, including afterschool activities, sports, and the weekend, how many glasses of milk did your child drink? Include all types of milk, including cow's milk, soy milk or any other kind of milk; include the milk your child drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.

- 1 *Child did not drink milk during the past 7 days.*
- 2 *1 to 3 glasses during the past 7 days.*
- 3 *4 to 6 glasses during the past 7 days.*
- 4 *1 glass per day.*
- 5 *1 to 2 glasses per day*
- 6 *2 glasses per day.*
- 7 *3 glasses per day.*
- 8 *4 or more glasses per day.*

2. What kind of milk did your child usually (most often) drink during the past 7 days?

- 1 *Whole milk*
- 2 *2% milk.*
- 3 *Skim milk.*
- 4 *Low fat or 1% milk.*
- 5 *Soy milk.*
- 6 *Both regular cow's milk and soy milk.*

**Table 7. The Revised Set of ECLS-B Test Questions Used in Wave 2 Cognitive Interviews**

7 *Some other kind of milk.*

3. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child drink 100% fruit juices such as orange juice, apple juice, or grape juice? Do not count punch, Sunny Delight, Kool-Aid, sports drinks, or other fruit-flavored drinks.

1 *Child did not drink 100% fruit juice during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

5 *1 time per day.*

6 *1 to 2 times per day*

6 *2 times per day.*

7 *3 times per day.*

8 *4 or more times per day.*

4. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child drink Soda pop (for example, Coke, Pepsi, or Mountain Dew), sports drinks (for example, Gatorade), or fruit drinks that are not 100% fruit juice (for example, Kool-Aid, Sunny Delight, Hi-C, Fruitopia, or Fruitworks)?

1 *Child did not drink any during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

7 *1 time per day.*

8 *1 to 2 times per day*

6 *2 times per day.*

7 *3 times per day.*

9 *4 or more times per day.*

5. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat fresh fruit such as apples, bananas, oranges, berries, other fruit such as applesauce, canned peaches, canned fruit cocktail, or frozen berries (Do not count fruit juice.)

1 *Child did not eat fruit during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *1 to 2 times per day*

6 *2 times per day.*

7 *3 times per day.*

8 *4 or more times per day.*

6 During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat green salad?

1 *Child did not eat green salad during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *1 to 2 times per day*

6 *2 times per day.*

7 *3 times per day.*

8 *4 or more times per day.*

**Table 7. The Revised Set of ECLS-B Test Questions Used in Wave 2 Cognitive Interviews**

7. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat potatoes? (DO NOT count French Fries, fried potatoes, potato chips or sweet potatoes).

- 1 *Child did not eat potatoes during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *1 to 2 times per day*
- 6 *2 times per day.*
- 7 *3 times per day.*
- 8 *4 or more times per day.*

8. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat carrots?

- 1 *Child did not eat carrots during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day*
- 5 *1 to 2 times per day.*
- 6 *2 times per day.*
- 7 *3 times per day.*
- 8 *4 or more times per day.*

9. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat other vegetables, such as sweet potatoes or broccoli? (DO NOT count green salad, potatoes, French fries, or carrots.)

- 1 *Child did not eat other vegetables during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *1 to 2 times per day.*
- 6 *2 times per day.*
- 7 *3 times per day.*
- 8 *4 or more times per day.*

10. During the past 7 days, including afterschool activities, sports, and the weekend, about how many times did your child eat a meal or snack from a fast food restaurant with no wait service such as McDonald's Pizza Hut, Burger King, KFC (Kentucky Fried Chicken), Taco Bell, Wendy's and so on? Consider both eating out, carry out and delivery of meals in your response. Would you say:

- 1 *Child did not eat food from a fast food restaurant during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
5. *1 to 2 times per day.*
- 6 *2 times per day.*
- 7 *3 times per day.*
- 8 *4 or more times per day.*

**Table 7. The Revised Set of ECLS-B Test Questions Used in Wave 2 Cognitive Interviews**

11. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat candy (including Fruit Roll Ups and similar items), ice cream, cookies, cakes, brownies, or other sweets? Would you say:

- 1 *Child did not eat sweets during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *1 to 2 times per day.*
- 6 *2 times per day.*
- 7 *3 times per day.*
- 8 *4 or more times per day.*

12. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat potato chips, corn chips (Fritos, Doritos), Cheetos, pretzels, popcorn, crackers or other salty snack foods?

- 1 *Child did not eat salty snack foods during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *1 to 2 times per day*
- 6 *2 times per day.*
- 7 *3 times per day.*
- 8 *4 or more times per day.*

13. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat French fries or fried potatoes?

- 1 *Child did not eat French fries or fried potatoes during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *1 to 2 times per day.*
- 6 *2 times per day.*
- 7 *3 times per day.*
- 8 *4 or more times per day.*

### Understanding Of The Terminology

- a. Do the respondents interpret the questions, as asked, in the manner intended by ERS? If not, are there changes in wording that will improve understanding?

Table 8 presents the answers provided by Wave 2 respondents to the eating habit questions. Similar to Wave 1 respondents, there were no mothers who refused to answer the question, nor did any provide a “don’t know” response. The distribution of responses suggests that mothers were generally able to use the given response options appropriately. What is interesting is to see

the way in which mothers in this wave of the interviewing use the new response option “1 to 2 times per day”. The option “1 to 2 times per day” was used by mothers for the items consumed on an everyday basis by small children with some frequency: milk, 100% fruit juice, and fresh fruit in particular.

**Table 8. Answers Provided To The Eating Habit Questions By Wave 2 Cognitive Interview Respondents**

Food Item	Question Response Options							
	Child did not eat/drink during the past 7 days	1 to 3 times during the past 7 days	4 to 6 times during the past 7 days	1 time per day	1 to 2 times per day	2 times per day	3 times per day	4 or more times per day
Milk	0	2	1	0	3	2	0	1
100% fruit juice	0	1	2	3	3	0	0	0
Drinks not 100% fruit juice	0	2	2	0	0	0	1	0
Fresh fruit	0	1	0	1	5	2	0	0
Green salad	4	3	2	0	0	0	0	0
Potatoes (not fried)	4	5	0	0	0	0	0	0
Carrots	2	4	3	0	0	0	0	0
Other vegetables	2	0	2	2	2	1	0	0
Fast food	3	6	0	0	0	0	0	0
Candy, ice cream, cookies, cakes, brownies, or other sweets	0	0	4	2	3	0	0	0
Salty snacks	1	4	3	0	1	0	0	0
French fries or fried potatoes	4	5	0	0	0	0	0	0

As in Wave 1, items that were consumed less frequently include green salad, potatoes that were not fried, fast food, and French fries or other fried potatoes. Notably, “4 or more times per day” was only selected once, as was “3 times per day.”

**Table 9. Mean Ratings Of Ease Of Answering The Eating Habit Questions**

Question Number	Food Item	Mean Rating	Rating Scale		
		1= "very easy" to 3 ="not at all easy"	Very Easy	Somewhat Easy	Not At All Easy
			(%)	(%)	(%)
Q11	Candy, ice cream, cookies, cakes, brownies, or other sweets	1.7	44	44	11
Q12	Salty snacks	1.6	44	56	0
Q7	Potatoes (not fried)	1.4	67	22	11
Q9	Other vegetables	1.4	56	44	0
Q1	Milk	1.3	67	33	0
Q3	100% fruit juice	1.3	67	33	0
Q8	Carrots	1.2	78	22	0
Q4	Drinks not 100% fruit juice	1.2	78	22	0
Q5	Fresh fruit	1.1	89	11	0
Q6	Green salad	1.1	89	11	0
Q2	Type of milk	1.1	89	11	0
Q10	Fast food	1.1	89	11	0
Q13	French fries or fried potatoes	1.0	100	0	0

The mean ratings indicate that there are some key differences between Wave 1 and Wave 2. For example, respondents in Wave 2 found the questions on candy, ice cream, cookies, cakes, brownies, or other sweets, salty snacks, potatoes (not fried) and other vegetables to be most difficult to answer. In Wave 1, questions on milk, 100% fruit juice and fresh fruit consumption were most difficult. Recall that Wave 2 interviews included some additional wording designed to help mothers recall all of the opportunities where their child may have consumed a food item. It is likely that this language increased the difficulty for some of these questions where the food item was consumed less frequently over all, as mothers were specifically asked to think about and account for times what their child ate when their child was not in their presence. As will be described further below, quite a few mothers in the cognitive interviews readily admitted that they could not be sure their child actually ate an item away from home. Additionally the use of the “1 to 2 times per day” option for the items that were most difficult in Wave 1 suggests that this response option decreased the difficulty by providing a means to account for fluctuation in what the child actually consumed when mothers used the daily tally method for coming up with an answer, for responding for just the past twenty-four hours and for developing a response that covered the past week. The following quotes from some of the interviews add some insight to how mothers approached the questions in Wave 2:

*Wave 2 Cognitive Interviewee 1: It was hard to keep track of everything, afterschool, with their dad. It was difficult...trying to remember when exactly. Was it this week or last week? You know, recalling the seven days backward, to a specific date.*

*Wave 2 Cognitive Interview 3: It {the question} was pretty easy. But I think that -- just trying to think -- again, think back to, you know, the kinds of food she ate the last seven days. But I think it's easier like when I think of, okay, well, that was something they had. I think just accounting for the variability is hard. I was just trying to think of what we ate last week and what she -- like when she bought a school lunch, what was on the menu, where we were.*

### Understanding the Language Used In Each Question

Overall, the additional language clarified the questions for mothers and improved the recall of consumption that occurred outside of the mother's presence, thus improving the completeness of responses. As with Wave 1, mothers clearly understood terms like "green salad," "sports drinks," and "100% fruit juice." However, mothers in the Wave 2 focus group felt that the language included in Q9 to prompt "other types of vegetables" was not helpful and recommended eliminating it completely.

**Q1, "glasses" of milk.** Wave 2 focus group respondents raised some issues with the language "glasses." In Q1, the mothers felt that using the term "glasses" did not seem to fit in with the rest of the questions, and it made them wonder if what they provided as a glass was appropriate, or if they had misunderstood the question. A natural outcome from the discussion about glasses was what glass size (8 oz, 6 oz) was considered a serving. This discussion made four respondents think about how much is in a serving and convert what they believed their child had consumed into "servings" based on their understanding, instead of how often milk was provided. Other mothers focused on how many times their child actually had milk.

**The addition of the statement "including afterschool activities, sports, and the weekend" to each question.** The addition of this wording at the beginning of each question did indeed help mothers in both the interviews and the focus group to better recall opportunities where their child may have consumed the food items in each of the eating habit questions. Five mothers in the cognitive interviews, and most of the mothers in the focus group commented that they liked the reminder, because it helped them to think about all the places where their child may have consumed something. Two focus group respondents noted that having the reminder in every question made the questions seem a bit longer, but these mothers still affirmed the value of having the language for each question, rather than just once or twice with a question. A few mothers in the focus group and two mothers in the interviews suggested also adding the words "play date," as that was the main activity kindergarteners might be at outside of the home, as many were too young to play an organized sport.

**The addition of "with no wait service" and "Consider both eating out, carry out and delivery of meals in your response." to Q10.** The addition of this language appeared to work well in clarifying the kinds of places mothers should consider in answering the question about eating fast food. In particular, focus group respondents did not seem to struggle with whether or



not to include all of the meals their child ate outside of the home in a restaurant in their response to the revised question.

**Addition of “Fruit Roll Ups and similar items” to Q 11.** Mothers in the cognitive interviews did not raise any concerns with the addition of this language. Mothers in the focus group indicated that it helped them to better classify the foods their child had consumed by knowing to include Fruit Roll Ups and similar snacks in responses to Q11. However, a few mothers still felt that these types of foods were “better snacks” than the others included on the list, and expressed some reluctance at having to include them in their response to this question.

**Potatoes that were not French fries or fried.** The inclusion of the wording “sweet potatoes” on the DO NOT COUNT list for Q7 was viewed as moderately helpful.

**Other Food Classification Issues.** Some mothers still encountered difficulties in classifying other vegetables that were included as a major portion of a main dish, or served in a mix. Two of the interviewees simply didn’t count these foods, while three of the focus group respondents expressed that they weren’t sure where to classify these items, which included things like stir fry and the vegetables that were a part of a soup. One mother in the focus group raised the question about where to count vegetable juice. Fewer mothers than in Wave 1 raised concerns with knowing what kind of potatoes to include in Q7.

Two mothers who completed an interview recommended adding the words “dried fruit” to the list of fruits provided in Q5. These mothers indicated that the addition of this wording would assist them in knowing whether to include dried fruit as a part of their child’s fruit consumption, given that the question currently asks for fresh, canned and frozen fruit. This language was added to the question for the focus group, where it was well received.

As with Wave 1, mothers in Wave 2 were surprised that other dairy foods, specifically cheese and yogurt, were not asked for. Once again, many mothers wanted to provide an answer for overall dairy consumption, particularly if their child had milk allergies and obtained calcium in some other way. Even among mothers whose children did drink a lot of milk, it was felt that the exclusion of cheese and yogurt didn’t provide them with an opportunity to best reflect what their child consumed. Mothers raised similar concerns about the exclusion of meats, breads and grains, and water as well. The general comments about the exclusion of these items focused on mothers having a better understanding of the intent of the questions, as many believed that the food categories that were asked about didn’t communicate a full picture of the basic consumption of their child.

## Recall Ability And Preferences for Answering For Times Per Day Versus Times Over The Course Of A Week

- b. What time period do respondents feel more comfortable with, in responding to the questions—for example, the past 24 hours or the past week?

Respondents talked more readily in this wave of the study about difficulties they faced in recalling what had occurred over the past seven days. Four of the nine interviewees commented that it was challenging for them to recall what had actually taken place over the last week and what foods their child had actually consumed. They expressed a preference for providing an answer for a shorter period of time. In particular, mothers who provided this feedback seemed to be trying to recall specific events or changes to their routine schedule in order to make determinations about what their child had consumed. When asked to respond for the past week, these mothers selected the response options that used the language times per day, as responding in terms of times per week was viewed as too complex to recall as a whole.

As with Wave 1, respondents demonstrated a preference for answering questions for items consumed more frequently with the “times per day” options. Most mothers in the cognitive interviews communicated that this was easier for them, because they could tally up the items their child had easier on a day-to-day basis. Overall, the items per week option was used for foods consumed less frequently, as described in Wave 1. Mothers did seem to use the “1 to 2 times a day” option for items consumed more regularly as well, particularly fresh fruit. It seems as if this option did provide mothers with a means of answering the question using the daily tally method.

As with Wave 1, mothers were able to recall what their child consumed over the past twenty-four hours more easily than over the past seven days. However, while mothers admitted that this would be much easier, there was some hesitancy on the part of mothers for answering in this manner. Barriers to answering for just the past twenty-four hours included the tensions mothers experienced in wanting to provide the response that best described what their child ate, combined with the concern that answering for a day did not reflect the best of their child’s eating habits, particularly if the day in question did not follow the “normal” schedule. In the Wave 2 focus group discussion, about half of the mothers indicated that the best way for mothers to answer the questions would be either to provide clear instructions asking for an average for the week, or to ask specifically about fewer days. These mothers believed that it was easier to tally foods and reconcile the fluctuation in their child’s preferences by answering for one to three days instead of the week. The main reason seemed to be the better ability to recall with more accuracy what was eaten.

It is interesting to note that when asking mothers about the past twenty four hours, the additional descriptive information provided by mothers still indicated that the recall strategies described earlier were used, particularly relying on a menu, or viewing offering a food the same as the child consuming it. This type of reconstruction of what may have been consumed still occurred, thus there were still areas for misrepresentation to occur even when asking about the past twenty-four hours.

## Using the Response Options

- c. Are the response options suggested by ERS appropriate? Are respondents able to use these response options to describe their children's behavior? If not, are there changes in response options that would be more appropriate?

Mothers in Wave 2 understood the time ranges described in the response options, and had no problem conceptualizing the past seven days, which was generally understood to include the weekend and previous five weekdays. As with Wave 1, Wave 2 interviewees and focus group participants described using a variety of cognitive strategies to develop their answers, often combining methods to develop an answer for one question.

Once again, many mothers in both the interviews and particularly in the focus group expressed some frustration because they could not determine precisely what their child had consumed for either the past day or past seven days. Five cognitive interview respondents indicated that this was a reoccurring problem for them in supplying an answer, while six of the nine focus group respondents indicated that this was the case. As with the Wave 1 respondents, mothers used the strategies of recalling what they had purchased, their child's regular habits and schedule, and what was left in the refrigerator at the end of the week to reconstruct what food items were consumed by their child. Mothers in this wave of the interviewing more readily discussed the fact that they could only guess what their child may have consumed at school, and that there was no real way of knowing. Many mothers relied on knowing what they served as a means of answering the question. About half of the mothers who used this strategy commented that while it was easy to remember what they prepared for a meal, it was much more difficult to determine whether their child ate the food, or how much of the food the child ate. The following statements are examples of how mothers used different strategies to develop their response to what their child consumed.

*Wave 2 Cognitive Interviewee 5: "I pretty much fix all their meals. So I know what they have."*

*Wave 2 Cognitive Interviewee 4: "I know what activities are planned on different days, so that way I can -- based on the activities, I can somewhat guess whether or not they're more likely to be out and grab fast food, which would mean most likely they would drink soda or some other watered-down juice product."*

*Wave 2 Cognitive Interviewee 8: "I just try to average in the times I'm not certain about, like, okay, thinking, you know, how many play dates? How many other things did she do that I'm not certain about?"*

Based on analysis of the descriptions of how mothers arrived at their answers, some mothers still relied upon a strategy of determining an average response for their child, even though the question wording does not indicate that they should do so. This was the case for answering for either the past day or the past seven days. As the previous quote illustrates, some mothers described thinking about how many times an item was served and rounding it off to arrive at their answer.

Mothers in Wave 2 confirmed that self-service snacking was not an unusual practice. It was also still the most problematic for mothers in terms of tallying a number of times per day for the reasons stated in Wave 1. However, some of the discussion provided additional insight as to how mothers incorporated these practices into their responses. One cognitive interviewee commented that she just counted times, while another mother said that her child usually told her when he was going to refrigerator, so she could generally track how often he snacked on foods in this fashion.

In Wave 2, mothers in the focus group also experienced difficulty in classifying some of the responses because of the language “times.” Five of nine mothers in the focus groups indicated that they had some trouble with the questions because they wanted to respond in terms of a serving or a portion size, rather than a “time.” This concern was discussed further as mothers compared the wording of the response options across all of the questions. A few mothers in this focus group stated that for them, figuring out a serving would have been easier. As a way of shifting the focus away from the term serving, some mothers suggested that the language for all of the response options refer to “times.”

As with Wave 1, there were some mothers who determined that their child consumed a food item by the fact that they had prepared it or served it. This raises the possibility that additional language or instruction needs to be added to the question to remind mothers not to count consumption in this manner.

## Conclusions and Recommendations

Overall, most mothers were able to answer the questions on their child's eating habits by reporting to a variety of recall strategies, such as the recall of preferences and special events, the recall of a child's specific eating habits (likes or dislikes), or using references such as the presence of a menu, snacking policies at school or with afterschool sports, and rules established for eating away from home.

Mothers did not generally struggle with terminology used in the questions, but there were some words and concepts that require clarification to improve mothers' ability to answer the questions more easily. First, clarification for the term "regular milk" should be added. Additionally, as mothers in both waves of the study commented, the questions are very clear about what to include, but not clear about what to include in the responses, particularly for questions on other vegetables, and potatoes that were not fried.

Perhaps most problematic for the mothers participating in this study were problems encountered due to the combination between limits on the ability to recall what foods were consumed and the desire to reflect socially acceptable and beneficial eating behaviors for young children. Mothers struggled with addressing the fluctuation from day to day in the kinds of foods their child may have consumed, particularly for items consumed regularly, such as milk, fruits and vegetables and 100% fruit juice. This impacted their preference for supplying an answer for only the past twenty-four hours, as well as their ability to develop a response for the past seven days. A key emerging theme was the existence of a tension between the desire to be accurate in their responses and the inability to remember every opportunity for consumption of the particular food item. The accompanying conversations with mothers provide some limited indication that this was in part due to the desire to "talk a good diet," as some mothers provided commentary on the health benefits of particular choices. Mothers repeatedly wanted to provide the most accurate answer in their responses, particularly in regards to questions about healthy foods choices, like vegetables and fruits. In response to the need to select one choice in answering a question, many mothers commented that they wished the questions were clearer about whether an average response was a correct answer, particularly if they wanted to use the daily response options.

The findings also illustrate the need for additional reminders to help mothers recall all other opportunities where their child may have consumed a food. The cognitive interviewing and focus groups revealed some areas when mothers grossly underestimated the number of times their child consumed a food item. The most common reason for underestimation stemmed from the fact that mothers often forgot to include times such as school, play dates, or sporting activities in their responses. Cognitive probing revealed that many mothers just didn't think of these times automatically. Mothers needed the reminder to include eating that occurred outside of the presence no matter how scheduled their patterns of feeding the child might have been. Additionally, language or instruction prior to the eating habit questions needs to be added to the questionnaire to help mothers focus on the food their child actually consumed, and not what they offered or prepared. Recall that a popular strategy for determining what the child had consumed was for mothers to reflect on what meals they had prepared over the course of the week, or what food they have offered, without any clear reflection on whether or not the child had actually consumed the item. A similar problem occurred when considering foods children may have

consumed at school: mothers know what they sent packed in a lunch or snack, but unless the child came home with the food, they was no clear way for mothers to determine if what was offered was actually eaten. While the school consumption is harder to track, wording can be added to help mothers distinguish between what was offered and was actually eaten.

While the “1 to 2 times a day” option was used by mothers and did seem to address a core problem, it may be possible to resolve the issue in some other fashion that does not alter the responses to prohibit comparability with the Grade 5 ECLS questions. This could be accomplished by providing language that will give mothers clear guidance on whether their answers should be averages or as precise as possible. This language would assist the development of responses by helping mothers to focus more specifically on how they should count the items they are considering for inclusion in their responses, and also provide a solution to whether or not the “1 to 2 times per day” option is indeed viable. If the guidance provided instructs respondents to calculate their answers as an average, then mothers would have less need for an option like “1to 2 times per day”, which functions well because it allows mothers to account for fluctuation in daily consumption patterns. If they are calculating an average, mothers could more readily make a determination between options like “1 time a day”, or “2 times a day.”

Most mothers were able to recall what their child consumed over the past twenty-four hours more easily than over the past seven days. However, while mothers admitted that this would be much easier, there was some hesitancy on the part of mothers for answering in this manner. Barriers to answering for just the past twenty-four hours included the tensions mothers experienced in wanting to provide the response that best described what their child ate, combined with the concern that answering for a day did not reflect the best of their child’s eating habits, particularly if the day in question did not follow the “normal” schedule. The findings suggest that that the best way to for mothers to answer the questions would be either to provide clear instructions asking for an average for the week, or to ask specifically about fewer days—a one to three-day period was suggested by mothers in this study. Overall, the findings suggest that it is easier for mothers to tally foods on a daily basis than recalling what was consumed over the whole week. This tallying method could be applied to either answering for the past twenty-four hours, or providing a response for the past seven days. However, based on the data provided by mothers in this study, using only the past twenty-four hours would limit the answers mothers give to questions on green salad, fast food, French fries and fried potatoes, other vegetables, consumption of soda pop and drinks that were not 100% fruit juice, and to a lesser extent, candy, ice cream, cookies and similar items, as well as potato chips, pretzels, Fritos, and other salty snack foods.

However, the underlining issue of whether or not it is acceptable or desirable to provide an average response for a given time period (twenty-four hours, past seven days or some other time frame) would need to be clarified in order to improve respondents’ ability to answer the questions, particularly when additional language asking respondents to consider a wider range of potential eating times is added to the questions.

The following discussion presents the recommendations developed for the eating habit questions. The recommendations were developed after careful review of the findings in both Wave 1 and 2.

The discussion presents the original question, the revised question and the rationale for making changes. The original eating habit question is presented first.

**Q1:** During the past 7 days, how many glasses of milk did your child drink? Include all types of milk, including cow's milk, soy milk or any other kind of milk; include the milk your child drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.

1 *Child did not drink milk during the past 7 days.*

2 *1 to 3 glasses during the past 7 days.*

3 *4 to 6 glasses during the past 7 days.*

4 *1 glass per day.*

5 *2 glasses per day.*

6 *3 glasses per day.*

7 *4 or more glasses per day.*

DK *DON'T KNOW*

RF *REFUSED*

**Revised Q1:** During the past 7 days, including school activities, play dates, sports, and the weekend, how many glasses of milk did your child drink? Include all types of milk, including cow's milk, soy milk or any other kind of milk; include the milk your child drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.

1 *Child did not drink milk during the past 7 days*

2 *1 to 3 times during the past 7 days*

3 *4 to 6 times during the past 7 days*

10 *1 time per day*

5 *2 times per day*

6 *3 times per day*

7 *4 or more times per day*

DK *DON'T KNOW*

RF *REFUSED*

**Rationale:** Adding the statement referencing other times where a child may have consumed the food provided more complete responses by mothers in Wave 2 of the study, although it may have also complicated the tallying process for some mothers using the times per day response options. However, the inclusion of the statement did prompt mothers to consider a wider range of times when their child may have consumed a food item in the question set than the original question did. Changing “glasses” to “times” makes all of the response options consistent and removes the possibility that mothers become frustrated by calculations that convert glasses to servings and then to “times.”



**Q2.** What kind of milk did your child usually (most often) drink during the past 7 days?

- 1 Whole milk
- 2 2% milk.
- 3 Skim milk.
- 4 Low fat or 1% milk.
- 5 Soy milk.
- 6 Both regular milk and soy milk.
- 7 Some other kind of milk.
- DK DON'T KNOW
- RF REFUSED

**Revised Q2.** What kind of milk did your child usually (most often) drink during the past 7 days?

- 1 Whole milk
- 2 2% milk.
- 3 Skim milk.
- 4 Low fat or 1% milk.
- 5 Soy milk.
- 6 Both **regular cow's milk** and soy milk.
- 7 Some other kind of milk.
- DK DON'T KNOW
- RF REFUSED

**Rationale:** The wording of “regular cow’s milk” improved mothers understanding of the question by making the response option clearer. Add a response option to account for mothers whose child did not consume any milk. The question set as tested did not include a skip pattern for mothers who provided the response “my child did not consume milk in the past seven days” in question 1. Either a skip pattern should be added, referring these respondents directly to question 3, or a response option of “none of the above, child didn’t drink milk” needs to be added to question 2.

**Q3.** During the past 7 days, how many times did your child drink 100% fruit juices such as orange juice, apple juice, or grape juice? Do not count punch, Sunny Delight, Kool-Aid, sports drinks, or other fruit-flavored drinks.

1 *Child did not drink 100% fruit juice during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Revised Q3.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child drink 100% fruit juices such as orange juice, apple juice, or grape juice? Do not count punch, Sunny Delight, Kool-Aid, sports drinks, or other fruit-flavored drinks.

1 *Child did not drink 100% fruit juice during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Rationale:** The rationale for the statement referencing additional times where children may be consuming food is described above. No other changes are recommended.

**Q4.** During the past 7 days how many times did your child drink Soda pop (for example, Coke, Pepsi, or Mountain Dew), sports drinks (for example, Gatorade), or fruit drinks that are not 100% fruit juice (for example, Kool-Aid, Sunny Delight, Hi-C, Fruitopia, or Fruitworks)?

1 *Child did not drink any during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Revised Q4.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child drink Soda pop (for example, Coke, Pepsi, or Mountain Dew), sports drinks (for example, Gatorade), or fruit drinks that are not 100% fruit juice (for example, Kool-Aid, Sunny Delight, Hi-C, Fruitopia, or Fruitworks)?

1 *Child did not drink any during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Rationale:** In addition to the prompting statement described above, no changes are recommended. It should be mentioned that findings in both waves of the study indicate that this question does have some sensitive aspects for parents, ones that may cause them to talk a good diet and underestimate the number of sodas their child consumed.

**Q5.** During the past 7 days, how many times did your child eat fresh fruit such as apples, bananas, oranges, berries, or other fruit such as applesauce, canned peaches, canned fruit cocktail, or frozen berries? (Do not count fruit juice.)

1 *Child did not eat fruit during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Revised Q5.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child eat fresh fruit such as apples, bananas, oranges, berries, or other fruit such as applesauce, canned peaches, canned fruit cocktail, frozen berries or dried fruit? (Do not count fruit juice.)

1 *Child did not eat fruit during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Rationale:** Adding the words dried fruit made the list of fruit choices complete for mothers and provided them with an opportunity to include all fruit in their response.

**Additional recommendation:** Clearer guidance on self-service snacking and how to count it should be developed. This was one of the most challenging questions for mothers to ask due to the popularity of fruit and the variability with which it was consumed by children in this age category. In order to address the frustration mothers experienced when tallying the fruit for the times per day option and to address underestimates, guidance on the accuracy desired for the response would be helpful. Specifically, mothers need some direction on how to calculate a “time” for self-service snacking.

**Q6.** During the past 7 days, how many times did your child eat green salad?

1 *Child did not eat green salad during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Revised Q6.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child eat green salad?

1 *Child did not eat green salad during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Rationale:** In addition to the prompting statement described above, no changes are recommended.

**Q7.** During the past 7 days, how many times did your child eat potatoes? (DO NOT count French Fries, fried potatoes, or potato chips).

1 *Child did not eat potatoes during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Revised Q7.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child eat potatoes? (DO NOT count French Fries, fried potatoes, potato chips, tater tots, or sweet potatoes).

1 *Child did not eat potatoes during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Rationale:** In addition to the prompting statement described above, adding the wording tater tots and sweet potatoes assisted mothers in knowing what kinds of potatoes to exclude from their response to this question.

**Q8.** During the past 7 days, how many times did your child eat carrots?

1 *Child did not eat carrots during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Revised Q8.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child eat carrots?

1 *Child did not eat carrots during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Rationale:** In addition to the prompting statement described above, no changes are recommended.

**Q9.** During the past 7 days, how many times did your child eat other vegetables? (DO NOT count green salad, potatoes, French fries, or carrots.)

1 *Child did not eat other vegetables during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Revised Q9.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child eat other vegetables? (DO NOT count green salad, potatoes, French fries, or carrots.)

1 *Child did not eat other vegetables during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Rationale:** In addition to the prompting statement described above, better wording or clearer instruction should be provided for Q 9 to help mothers know how to classify vegetables served in mixes, or as the main component of a main dish need to be added based on the findings of both Wave 1 and Wave 2. This clarification would help mothers to produce more accurate counts to incorporate in their responses. The recommended statement is phrased as *“Include vegetables like those served as a stir fry, soup or stew in your response.”*



**Q10.** During the past 7 days, about how many times did your child eat a meal or snack from a fast food restaurant such as McDonald's Pizza Hut, Burger King, KFC (Kentucky Fried Chicken), Taco Bell, Wendy's and so on? Would you say?

1 *Child did not eat food from a fast food restaurant during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Revised Q10.** During the past 7 days, including school activities, play dates, sports, and the weekend about how many times did your child eat a meal or snack from a fast food restaurant with no wait service such as McDonald's, Pizza Hut, Burger King, KFC (Kentucky Fried Chicken), Taco Bell, Wendy's and so on? Consider both eating out, carry out and delivery of meals in your response. Would you say:

1 *Child did not eat food from a fast food restaurant during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Rationale:** The addition of this language appeared work well in clarifying the kinds of places mothers should consider in answering the question about fast food. In particular, focus group respondents did not seem to struggle with including any meal that their child had eaten out at any type of restaurant in their response to the revised question. This wording seemed to alleviate mothers conceptualizing fast food as any eating outside of the home.

**Q11.** During the past 7 days, how many times did your child eat candy, ice cream, cookies, cakes, brownies, or other sweets? Would you say:

- 1 *Child did not eat sweets during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Revised Q11.** During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat candy (including Fruit Roll Ups and similar items), ice cream, cookies, cakes, brownies, or other sweets? Would you say:

- 1 *Child did not eat sweets during the past 7 days.*
- 2 *1 to 3 times during the past 7 days.*
- 3 *4 to 6 times during the past 7 days.*
- 4 *1 time per day.*
- 5 *2 times per day.*
- 6 *3 times per day.*
- 7 *4 or more times per day.*
- DK *DON'T KNOW*
- RF *REFUSED*

**Rationale:** In addition to the prompting statement described above, adding the wording "Fruit Roll-Ups or similar snacks" helped mothers to know where to classify these food items. Reporting for sweet snacks was a sensitive topic, one that may be subject to underestimates. In describing their answers, mothers repeated their practices of trying not to offer too many of these items to their child, perhaps in an effort to talk a good diet. As one respondent put it, "parents know their kids aren't supposed to have a lot of snacks, but they do serve them and there is some guilt there." [not really clear what this means] A few respondents suggested that framing the question responses as averages or what is normal consumption would help relieve some of the sensitivity associated with this question.

**Q12.** During the past 7 days, how many times did your child eat potato chips, corn chips (Fritos, Doritos), Cheetos, pretzels, popcorn, crackers or other salty snack foods?

1 *Child did not eat salty snack foods during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Revised Q12.** During the past 7 days, including school activities, play dates, sports, and the weekend how many times did your child eat potato chips, corn chips (Fritos, Doritos), Cheetos, pretzels, popcorn, crackers or other salty snack foods?

1 *Child did not eat salty snack foods during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Rationale:** In addition to the prompting statement described above, no other changes are recommended. However, it should be noted that some mothers in both waves of the study perceived this question as sensitive. These mothers felt that some of the snacks on the list were "better" for their child than others and did not want to classify them with items such as Doritos, potato chips, or Cheetos.

**Q13.** During the past 7 days, how many times did your child eat French fries or fried potatoes?

1 *Child did not eat French fries or fried potatoes during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Revised Q13.** During the past 7 days, including school activities, play dates, sports, and the weekend, how many times did your child eat French fries or fried potatoes?

1 *Child did not eat French fries or fried potatoes during the past 7 days.*

2 *1 to 3 times during the past 7 days.*

3 *4 to 6 times during the past 7 days.*

4 *1 time per day.*

5 *2 times per day.*

6 *3 times per day.*

7 *4 or more times per day.*

*DK DON'T KNOW*

*RF REFUSED*

**Rationale:** In addition to the prompting statement described above, this question should be moved to appear after the potato question, and be the new Question 8. Mothers in Wave 2 recommended that this question be paired conceptually with the question on potatoes. They suggested that such a pairing would help mothers answer the question by making it easier to recall and answer questions on potato consumption. Also moving the question to follow after the original question 7 lessens the probability that mothers who answered the fast food question will view this question as asking for the same information (a few mothers in wave two focus group did believe that the fast food question and the question on fried potatoes referred to the exact same foods and viewed them as repetitive).

## APPENDIX A: WAVE 1 DATA COLLECTION GUIDES

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- A. Cognitive Interview Guide
- B. Focus Group Moderator's Guide

## WAVE 1: COGNITIVE INTERVIEW GUIDE

<b>Date:</b>	<b>Interview Time:</b>
<b>Interviewee Name:</b>	<b>Interviewer:</b>
<b>Case ID:</b>	<b>Completed and collected consent form:</b> <input type="checkbox"/>
<b>Number of children in K/Grade 1</b> <b>Number of children in other grades</b> <b>Total number of children</b>	

**INTERVIEWER SCRIPT: GENERAL INTRODUCTION** [In today's interview, I am going to ask you some questions about the kinds of food your child consumes. The purpose of the interview is to see how well the questions can be answered, so there are no right or wrong answers. I'd like for you to take your time when necessary to, so that you can think about your answer. After you answer the questions, I am going to ask you a few follow up questions. In the second part of this interview, we are going to review your answers, and I'm going to ask you to describe how you arrived your answer, or determined how to respond to the question.

While we are discussing the questions, I am going to be recording this interview. The recording is to help me make sure that I have captured all of your responses. The recording will only be used for data analysis and will be kept confidential. Do you have any objections to recording your interview? ]

### **NOTE OBJECTIONS:**

Part I	Part II	Answer/Additional Probes	Comments
<p>1. During the past 7 days, how many glasses of milk did your child drink? Include all types of milk, including cow's milk, soy milk or any other kind of milk; include the milk your child drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.</p> <p>1 <i>Child did not drink milk during the past 7 days.</i>  2 <i>1 to 3 glasses during the past 7 days.</i>  3 <i>4 to 6 glasses during the past 7 days.</i>  4 <i>1 glass per day.</i>  5 <i>2 glasses per day.</i>  6 <i>3 glasses per day.</i>  7 <i>4 or more glasses per day.</i>  DK <i>DON'T KNOW</i>  RF <i>REFUSED</i></p>	<p>In question 1 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <p>1. What you were thinking about as you answered the question?</p> <p>2. What helped you to recall how much milk your child consumed?  ▶ How did you determine the number of glasses your child consumed per day?</p>		
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b></p>	<p>3. How do you know how much milk your child may have drunk away from home?</p>		
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b></p>	<p>4. If more than one child:   What helps you to recall what this K/Grade 1 child drank in comparison to what your other child may have consumed?</p>		
	<p>5. What was most difficult about answering this question? What would you change about it?</p>		

Part I	Part II	Answer/Additional Probes	Comments
	6 What was difficult about the response options that were read to you? What would you change?		
<p>2. What kind of milk did your child usually (most often) drink during the past 7 days?</p> <p>1 Whole milk  2 2% milk.  3 Skim milk.  4 Low fat or 1% milk.  5 Soy milk.  6 Both regular milk and soy milk.  7 Some other kind of milk.  DK DON'T KNOW  RF REFUSED</p>	In question 2 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.		
How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b>	1. What you were thinking about as you answered the question?		
How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b>	2. What helped you to recall the type of milk your child consumed?		
	3. What did <b>regular milk</b> mean to you?		
	4. What was most difficult about answering this question? What		



Part I	Part II	Answer/Additional Probes	Comments
	would you change about it?		
	5. What was difficult about the response options that were read to you?		
<p>3. During the past 7 days, how many times did your child drink 100% fruit juices such as orange juice, apple juice, or grape juice? Do not count punch, Sunny Delight, Kool-Aid, sports drinks, or other fruit-flavored drinks.</p> <p>1 <i>Child did not drink 100% fruit juice during the past 7 days.</i>  2 <i>1 to 3 times during the past 7 days.</i>  3 <i>4 to 6 times during the past 7 days.</i>  4 <i>1 time per day.</i>  5 <i>2 times per day.</i>  6 <i>3 times per day.</i>  7 <i>4 or more times per day.</i>  DK <i>DON'T KNOW</i>  RF <i>REFUSED</i></p>	<p>In question 3 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p>		
<p>How easy is it to answer this question? Is it <b>really easy</b>, <b>somewhat easy</b>, or <b>not at all easy</b>?</p>	<p>1. What you were thinking about as you answered the question?</p> <p>2. What helped you to recall how much 100% fruit juice your child consumed?  ▶ How did you determine the number of servings your child consumed per day?</p> <p>3. What specific 100% fruit juice drinks were you thinking of in your answer?</p>		

Part I	Part II	Answer/Additional Probes	Comments
<p>How sure are you of your response? Are you <b>really sure</b>, <b>somewhat sure</b>, or <b>not so sure</b>?</p>	<p>4. How do you know how much 100% fruit juice your child may have drunk away from home?</p>		
	<p>5. If more than one child: What helps you to recall what this K/Grade 1 child drank in comparison to what your other child may have consumed?</p>		
	<p>6. What was most difficult about answering this question? What would you change about it?</p> <p>7. What was difficult about the response options that were read to you?</p>		
<p>4. During the past 7 days, how many times did your child drink Soda pop (for example, Coke, Pepsi, or Mountain Dew), sports drinks (for example, Gatorade), or fruit drinks that are not 100% fruit juice (for example, Kool-Aid, Sunny Delight, Hi-C, Fruitopia, or Fruitworks)?</p> <p>1 <i>Child did not drink any during the past 7 days.</i></p> <p>2 <i>1 to 3 times during the past 7 days.</i></p> <p>3 <i>4 to 6 times during the past 7 days.</i></p> <p>4 <i>1 time per day.</i></p>	<p>In question 4 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <p>1. What you were thinking about as you answered the question?</p>		

Part I	Part II	Answer/Additional Probes	Comments
<p>5 2 times per day.  6 3 times per day.  7 4 or more times per day.  DK DON'T KNOW  RF REFUSED</p>	<p>2. What helped you to recall how much Soda pop, Sport drinks, or fruit drinks that are not 100% fruit juice your child consumed?</p> <p>8How did you determine the number of servings your child consumed per day?</p>		
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b></p>	<p>3. What specific items were you thinking of in your answer?</p>		
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b></p>	<p>4. How did you answer for time periods when your child is away from home?</p>		
	<p>5. If more than one child: What helps you to recall what this K/Grade 1 child drank in comparison to what your other child may have consumed?</p>		
	<p>6. What was most difficult about answering this question? What would you change about it?</p> <p>9 What was difficult about the response options that were read to you?</p>		
<p>5. During the past 7 days, how many times did your child eat fresh fruit such as apples, bananas, oranges, berries, or other fruit such as applesauce, canned peaches, canned fruit</p>	<p>In question 5 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p>		

Part I	Part II	Answer/Additional Probes	Comments
cocktail, or frozen berries? (Do not count fruit juice.) 1 <i>Child did not eat fruit during the past 7 days.</i> 2 <i>1 to 3 times during the past 7 days.</i> 3 <i>4 to 6 times during the past 7 days.</i> 4 <i>1 time per day.</i> 5 <i>2 times per day.</i> 6 <i>3 times per day.</i> 7 <i>4 or more times per day.</i> DK <i>DON'T KNOW</i> RF <i>REFUSED</i>	1. What you were thinking about as you answered the question?  2. What helped you to recall how much (food item-fresh fruit or other fruit) your child consumed?  10 How did you determine the number of servings your child consumed per day?		
How easy is it to answer this question? Is it <b>really easy</b> , <b>somewhat easy</b> , or <b>not at all easy</b> ?	3. What specific foods were you thinking of in your answer?  4. How did you answer for time periods when your child is away from home?		
How sure are you of your response? Are you <b>really sure</b> , <b>somewhat sure</b> , or <b>not so sure</b> ?	5. If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?		
	6. What was most difficult about answering this question? What would you change about it? ➤ What was difficult about the response options that were read to you?		

Part I	Part II	Answer/Additional Probes	Comments
<p>6. During the past 7 days, how many times did your child eat green salad?</p> <p>1 <i>Child did not eat green salad during the past 7 days.</i></p> <p>2 <i>1 to 3 times during the past 7 days.</i></p> <p>3 <i>4 to 6 times during the past 7 days.</i></p> <p>4 <i>1 time per day.</i></p> <p>5 <i>2 times per day.</i></p> <p>6 <i>3 times per day.</i></p> <p>7 <i>4 or more times per day.</i></p> <p>DK <i>DON'T KNOW</i></p> <p>RF <i>REFUSED</i></p>	<p>In question 6 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <p>1. What you were thinking about as you answered the question?</p> <p>2. What helped you to recall how much (food item green salad) your child consumed?</p> <p>➤ How did you determine the number of servings your child consumed per day?</p>		
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b></p>	<p>3. What specific foods were you thinking of in your answer?</p> <p>11 What's a <b>green salad?</b></p>		
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b></p>	<p>4. How did you answer for time periods when your child is away from home?</p>		
	<p>5. If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</p>		

Part I	Part II	Answer/Additional Probes	Comments
	<p>6. What was most difficult about answering this question? What would you change about it?</p> <ul style="list-style-type: none"> <li>➤ What was difficult about the response options that were read to you?</li> </ul>		
<p>7. During the past 7 days, how many times did your child eat potatoes? (DO NOT count French Fries, fried potatoes, or potato chips).</p> <p>1 <i>Child did not eat potatoes during the past 7 days.</i></p> <p>2 <i>1 to 3 times during the past 7 days.</i></p> <p>3 <i>4 to 6 times during the past 7 days.</i></p> <p>4 <i>1 time per day.</i></p> <p>5 <i>2 times per day.</i></p> <p>6 <i>3 times per day.</i></p> <p>7 <i>4 or more times per day.</i></p> <p>DK DON'T KNOW</p> <p>RF REFUSED</p>	<p>In question 7 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <p>1. What you were thinking about as you answered the question?</p> <p>2. What helped you to recall how much (food item) your child consumed?</p> <ul style="list-style-type: none"> <li>➤ How did you determine the number of servings your child consumed per day?</li> </ul>		
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b></p>	<p>3. How did you answer for time periods when your child is away from home?</p>		
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b></p>	<p>4. If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison</p>		

Part I	Part II	Answer/Additional Probes	Comments
	to what your other child may have consumed?		
	5. What was most difficult about answering this question? What would you change about it? ➤ What was difficult about the response options that were read to you?		
8. During the past 7 days, how many times did your child eat carrots?  1 <i>Child did not eat carrots during the past 7 days.</i> 2 <i>1 to 3 times during the past 7 days.</i> 3 <i>4 to 6 times during the past 7 days.</i> 4 <i>1 time per day.</i> 5 <i>2 times per day.</i> 6 <i>3 times per day.</i> 7 <i>4 or more times per day.</i> DK <i>DON'T KNOW</i> RF <i>REFUSED</i>	In question 8 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.  1. What you were thinking about as you answered the question?  2. What helped you to recall how much (food item) your child consumed? ➤ How did you determine the number of servings your child consumed per day?		
How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b>	3. How did you answer for time periods when your child is away from home?		

Part I	Part II	Answer/Additional Probes	Comments
<p>How sure are you of your response? Are you <b>really sure</b>, <b>somewhat sure</b>, or <b>not so sure</b>?</p>	<p>If more than one child: 4. What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</p>		
	<p>5. What was most difficult about answering this question? What would you change about it? ➤ What was difficult about the response options that were read to you?</p>		
<p>9. During the past 7 days, how many times did your child eat other vegetables? (DO NOT count green salad, potatoes, French fries, or carrots.)</p> <p>1 <i>Child did not eat other vegetables during the past 7 days.</i> 2 <i>1 to 3 times during the past 7 days.</i> 3 <i>4 to 6 times during the past 7 days.</i> 4 <i>1 time per day.</i> 5 <i>2 times per day.</i> 6 <i>3 times per day.</i> 7 <i>4 or more times per day.</i> DK <i>DON'T KNOW</i> RF <i>REFUSED</i></p>	<p>In question 9 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <p>1. What you were thinking about as you answered the question?</p> <p>2. What helped you to recall how much (food item) your child consumed? ➤ How did you determine the number of servings your child consumed per day?</p>		



Part I	Part II	Answer/Additional Probes	Comments
	3. What specific foods were you thinking of in your response?		
How easy is it to answer this question? Is it <b>really easy</b> , <b>somewhat easy</b> , or <b>not at all easy</b> ?	4. How did you answer for time periods when your child is away from home?		
How sure are you of your response? Are you <b>really sure</b> , <b>somewhat sure</b> , or <b>not so sure</b> ?	5. If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?		
	6. What was most difficult about answering this question? What would you change about it? ➤ What was difficult about the response options that were read to you?		
10. During the past 7 days, about how many times did your child eat a meal or snack from a fast food restaurant such as McDonald's Pizza Hut, Burger King, KFC (Kentucky Fried Chicken), Taco Bell, Wendy's and so on? Would you say:	In question 10 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.		
1 <i>Child did not eat food from a fast food restaurant during the past 7 days.</i>	1. What you were thinking about as you answered the question?		

Part I	Part II	Answer/Additional Probes	Comments
<p>2 1 to 3 times during the past 7 days.  3 4 to 6 times during the past 7 days.  4 1 time per day.  5 2 times per day.  6 3 times per day.  7 4 or more times per day.  DK DON'T KNOW  RF REFUSED</p>	<p>2. What helped you to recall how much (food item) your child consumed?</p> <p>➤ How did you determine the number of servings your child consumed per day?</p> <p>3. What specific foods were you thinking of in your response?</p> <p>4. How did you answer for time periods when your child is away from home?</p>		
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b></p>	<p>5. If more than one child:  ➤ What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</p>		
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b></p>	<p>6. What was most difficult about answering this question? What would you change about it?</p> <p>12 What was difficult about the response options that were read to you?</p>		

Part I	Part II	Answer/Additional Probes	Comments
<p>11. During the past 7 days, how many times did your child eat candy, ice cream, cookies, cakes, brownies, or other sweets? Would you say:</p> <p>1 <i>Child did not eat sweets during the past 7 days.</i>  2 <i>1 to 3 times during the past 7 days.</i>  3 <i>4 to 6 times during the past 7 days.</i>  4 <i>1 time per day.</i>  5 <i>2 times per day.</i>  6 <i>3 times per day.</i>  7 <i>4 or more times per day.</i>  DK <i>DON'T KNOW</i>  RF <i>REFUSED</i></p>	<p>In question 11 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <p>1. What you were thinking about as you answered the question?</p> <p>2. What helped you to recall how much (food item) your child consumed?</p> <p>➤ How did you determine the number of servings your child consumed per day?</p>		
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b></p>	<p>3. What specific foods were you thinking of in your response?</p>		
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b></p>	<p>4. How did you answer for time periods when your child is away from home?</p>		
	<p>5. If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</p>		

Part I	Part II	Answer/Additional Probes	Comments
	<p>6. What was most difficult about answering this question? What would you change about it?</p> <ul style="list-style-type: none"> <li>➤ What was difficult about the response options that were read to you?</li> </ul>		
<p>13. During the past 7 days, how many times did your child eat potato chips, corn chips (Fritos, Doritos), Cheetos, pretzels, popcorn, crackers or other salty snack foods?</p> <p>1 <i>Child did not eat salty snack foods during the past 7 days.</i>  2 <i>1 to 3 times during the past 7 days.</i>  3 <i>4 to 6 times during the past 7 days.</i>  4 <i>1 time per day.</i>  5 <i>2 times per day.</i>  6 <i>3 times per day.</i>  7 <i>4 or more times per day.</i>  DK <i>DON'T KNOW</i>  RF <i>REFUSED</i></p>	<p>In question 12 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <p>1. What you were thinking about as you answered the question?</p> <p>2. What helped you to recall how much (food item) your child consumed?</p> <ul style="list-style-type: none"> <li>➤ How did you determine the number of servings your child consumed per day?</li> </ul> <p>3. What specific foods were you thinking of in your response?</p>		
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b></p>	<p>4. How did you answer for time periods when your child is away from home?</p>		

Part I	Part II	Answer/Additional Probes	Comments
<p>How sure are you of your response? Are you <b>really sure</b>, <b>somewhat sure</b>, or <b>not so sure</b>?</p>	<p>5. If more than one child:          ➤ What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</p>		
	<p>6. What was most difficult about answering this question? What would you change about it?          ➤ What was difficult about the response options that were read to you?</p>		
<p>14. During the past 7 days, how many times did your child eat French fries or fried potatoes?</p> <p>1 <i>Child did not eat French fries or fried potatoes during the past 7 days.</i>          2 <i>1 to 3 times during the past 7 days.</i>          3 <i>4 to 6 times during the past 7 days.</i>          4 <i>1 time per day.</i>          5 <i>2 times per day.</i>          6 <i>3 times per day.</i>          7 <i>4 or more times per day.</i>          DK <i>DON'T KNOW</i>          RF <i>REFUSED</i></p>	<p>In question 13 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <p>1. What you were thinking about as you answered the question?</p> <p>2. What helped you to recall how much (food item) your child consumed?          ➤ How did you determine the number of servings your child consumed per day?</p>		

Part I	Part II	Answer/Additional Probes	Comments
How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b>	3. How did you answer for time periods when your child is away from home?		
How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b>	4. If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?		
	5. What was most difficult about answering this question? What would you change about it?  ➤ What was difficult about the response options that were read to you?		

## B. Focus Group Moderator's Guide

# WAVE 1 FOCUS GROUP GUIDE:

## (Mothers of K/Grade 1 ECLS-B Child Habits Study)

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### I. Study Objectives:

1. *Do the respondents interpret the questions, as asked, in the manner intended by ERS? If not, are there changes in wording that will improve understanding?*
2. *Are the response options suggested by ERS appropriate? Are respondents able to use these response options to describe their children's behavior? If not, are there changes in response options that would be more appropriate?*
3. *What time period do respondents feel more comfortable with, in responding to the questions—past 24 hours, the past week, or the past month?*

### II. Introduction:

Thank you for joining us for today's focus group on questions mothers can answer about their kindergarten/first grade child's eating habits. Today we are going to be talking about the eating habits of your children – those in kindergarten and 1<sup>st</sup> grade. We have a set of questions for mothers to answer about certain types of food that your children may eat, and we are interested in whether or not these questions are ones mothers can answer easily and accurately.

### III. Purpose:

These are preliminary questions that you can help us improve. Today, you'll be helping us by answering some questions on how you recall what your child ate, what kinds of foods you think of when asked to respond to certain questions, sharing with us how you came up with your answers and what things would make it easier for you to answer the questions. With your help, the questions that are used in a national survey will be improved.

My name is \_\_\_\_\_, and I am from ORC Macro, the research firm that has been hired to help test these questions. As the moderator for today, my role is to encourage the discussion by asking questions. I'd like to outline some guidelines that will help this discussion.

- You have been asked here to offer your views and opinions; everyone's participation and viewpoints are important: there are no right or wrong answers.
- Detailed explanations are desired.
- Please speak one at a time, so that we can all hear and understand the conversation
- You are being audio-taped and videotaped today
- All of your answers will remain confidential, so feel free to speak your mind. Our review of your answers will report findings as aggregate data.

### IV. Icebreaker:



Before we begin, I'd like to ask everyone to first introduce themselves. Please introduce yourself and tell us what grade your child is in, and what their favorite food is.

## **V. Research Questions (Mothers respond to set of test questions in writing):**

### Review of the Test Set Questions:

*[Instructions (paraphrase)]:* "Now I have some questions about how often your children drink or eat certain things. I will read a question and give you each a moment to think about the question. Please indicate your answer on the sheet I have provided. Please answer the question to the best of your ability. When you're done answering all of the questions, we'll talk about your questions and your answers. Do you have any questions about this process?"  
*[Moderator distributes test questions sheets and pencils to group. Reads set of test questions. If participants ask what the question means, reply with:*

"I can't help you interpret the question or tell you what it means; because that's one of the things we want to learn today. So, use your best judgment and after everyone has a chance to answer the question, we'll talk about what it means."

## **VI. Discussion of Mothers' Comprehension of the Questions:**

*[Instructions (paraphrase)]:* "Now let's talk about what you thought these questions were asking – or what it meant to you. We can talk about words that may have been confusing, or difficulty you had in figuring out whether a certain food is or is not included, and so on. Let's start with question 1."

*Probes: Interviewer should cover the following topics (do not need to cover each topic in detail for each question, if the topic was discussed earlier):*

- How did you answer Question 1? (*Ask mothers to provide their answers for all the questions, and have following discussion for each question, as appropriate*)
- How did you know what your K/Grade 1 child eats and how much this child eats? (*Probe: Ask mothers to describe how they arrived at their answer, including how mother arrived at the exact amount of food/drink stated in the answer*)
- What food items were you thinking about when you answered the question about your child's consumption? [*Ask for examples of items described by the term (e.g., "what are the names of other kinds of [term] that you think of?")*]
- What was difficult about this question (*Probe for explanations of the difficulties*)

- What kind of milk were you thinking of in answering the question? (*Probe for Yohoo as milk*)
- What drinks do you think of when someone says 100% fruit juice? How do you know they are 100% fruit juice?
- What drinks are not 100% fruit juice? (*Probe for examples*). How do you know?
- What's a sports drink?
- What is a green salad? What's included? Did you include these vegetables in other responses?
- What are salty snack foods?
- When you answered the question about other vegetables, what kinds of food were you thinking about? (*Probe for combinations, such as vegetables in soups or stews*)
- What do you consider fried potatoes or French fries to be? (*Vegetable, potatoes etc.. Probe for where parents count these foods*).

## **VII. Mothers' Ability to Use Response Options**

- How often are you typically asked to recall what your child ate?
- For what period of time can you best recall what your K/grade 1 child ate? (*Probe for time period*)
- (Follow-up probe) Can you recall what your child ate for the last 7 days? How do you do this? (*Probe for contextual cue that assist in recall*).
- When you selected an option that was the 7-day period, what 7 days did you include in your answer?
- How did you arrive at an option/ amount for 7 days?
- How did you arrive at the number of times your child consumed an item per day?
- Tell me how you know what foods your child has eaten while they are away from home? (*Probes: Do you regularly ask your child what they ate at school? Do they come home and report? Lunch box checking/lunch money?*)

## **VIII. General Questions**

- How does having more than one child complicate your ability to recall what your K/G1 child ate?

- Can you think of a better way to ask/answer any of these questions?
- What would you change about the response options in these questions?
- What would improve your understanding of the questions?

#### **IX. False Close**

Moderator briefly leaves room to ask project director if there are any other questions that remain unanswered or require further probing.

#### **X. Conclusion and Thank you**

## APPENDIX B: WAVE 2 DATA COLLECTION GUIDES

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- A. Cognitive Interview Guide
- B. Focus Group Moderator's Guide

## WAVE 2 COGNITIVE INTERVIEW GUIDE

<b>Date:</b>	<b>Interview Time:</b>
<b>Interviewee Name:</b>	<b>Interviewer:</b>
<b>Case ID:</b>	<b>Completed and collected consent form:</b> <input type="checkbox"/>
<b>Number of children in K/Grade 1</b>	
<b>Number of children in other grades</b>	
<b>Total number of children</b>	

**INTERVIEWER SCRIPT: GENERAL INTRODUCTION** [In today's interview, I am going to ask you some questions about the kinds of food your child consumes. The purpose of the interview is to see how well the questions can be answered, so there are no right or wrong answers. I'd like for you to take your time when necessary to, so that you can think about your answer. After you answer the questions, I am going to ask you a few follow up questions. In the second part of this interview, we are going to review your answers, and I'm going to ask you to describe how you arrived your answer, or determined how to respond to the question.

While we are discussing the questions, I am going to be recording this interview. The recording is to help me make sure that I have captured all of your responses. The recording will only be used for data analysis and will be kept confidential. Do you have any objections to recording your interview? ]

### **NOTE OBJECTIONS:**

Part I	Part II	Answer/Additional Probes
<p>1. During the past 7 days, including afterschool activities, sports, and the weekend, how many glasses of milk did your child drink? Include all types of milk, including cow's milk, soy milk or any other kind of milk; include the milk your child drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.</p> <p>1 Child did not drink milk during the past 7 days.  2 1 to 3 glasses during the past 7 days.  3 4 to 6 glasses during the past 7 days.  6 1 glass per day.  7 1 to 2 glasses per day  6 2 glasses per day.  7 3 glasses per day.  8 4 or more glasses per day.  DK DON'T KNOW  RF REFUSED</p>	<p>In question 1 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <ul style="list-style-type: none"> <li>• What you were thinking about as you answered the question?</li> <li>• What helped you to recall how much milk your child consumed?</li> <li>• How did you determine the number of servings your child consumed per day?</li> <li>• How do you know how much milk your child may have drunk away from home?</li> <li>• How was the milk your child drank away from home included as a part of your response?</li> <li>• How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy</b>, <b>somewhat easy</b>, or <b>not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>• If more than one child:</li> <li>• What helps you to recall what this K/Grade 1 child drank in comparison to what your other child may have consumed?</li> </ul>	

Part I	Part II	Answer/Additional Probes
How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b>		
	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> <li>• What was difficult about the response options that were read to you?</li> <li>• Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	
<p>2. What kind of milk did your child usually (most often) drink during the past 7 days?</p> <p>1 Whole milk  2 2% milk.  3 Skim milk.  4 Low fat or 1% milk.  5 Soy milk.  6 Both <b>regular cow's milk</b> and soy milk.  7 Some other kind of milk.  DK DON'T KNOW  RF REFUSED</p>	<p>In question 2 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <p>6. What you were thinking about as you answered the question?</p> <ul style="list-style-type: none"> <li>• What helped you to recall the type of milk your child consumed?</li> </ul>	

Part I	Part II	Answer/Additional Probes
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>• What did <b>regular cow's milk</b> mean to you?</li> </ul>	
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure</b>?</p>	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> </ul>	
	<ul style="list-style-type: none"> <li>• What was difficult about the response options that were read to you?</li> </ul>	
<p>3. <b>During the past 7 days, including afterschool activities, sports, and the weekend</b>, how many times did your child drink 100% fruit juices such as orange juice, apple juice, or grape juice? Do not count punch, Sunny Delight, Kool-Aid, sports</p>	<p>In question 3 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p>	



Part I	Part II	Answer/Additional Probes
<p>drinks, or other fruit-flavored drinks.</p> <p>1 <i>Child did not drink 100% fruit juice during the past 7 days.</i></p> <p>2 <i>1 to 3 times during the past 7 days.</i></p> <p>3 <i>4 to 6 times during the past 7 days.</i></p> <p>11 <i>1 time per day.</i></p> <p>12 <i>1 to 2 times per day</i></p> <p>6 <i>2 times per day.</i></p> <p>7 <i>3 times per day.</i></p> <p>8 <i>4 or more times per day.</i></p> <p>DK <i>DON'T KNOW</i></p> <p>RF <i>REFUSED</i></p>	<ul style="list-style-type: none"> <li>• What you were thinking about as you answered the question?</li> <li>• What helped you to recall how much 100% fruit juice your child consumed?</li> <li>• How did you determine the number of servings your child consumed per day?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy?</b></p>	<ul style="list-style-type: none"> <li>• What specific 100% fruit juice drinks were you thinking of in your answer?</li> <li>• How do you know how much 100% fruit juice your child may have drunk away from home?</li> <li>• How was the 100% fruit juice your child drank away from home included as a part of your response?</li> </ul>	
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b></p>	<ul style="list-style-type: none"> <li>• How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> <li>• If more than one child:</li> <li>• What helps you to recall what this K/Grade 1 child drank in comparison to what your other child may have consumed?</li> </ul>	
	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> </ul>	

Part I	Part II	Answer/Additional Probes
	<ul style="list-style-type: none"> <li>Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	
<p>4. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child drink Soda pop (for example, Coke, Pepsi, or Mountain Dew), sports drinks (for example, Gatorade), or fruit drinks that are not 100% fruit juice (for example, Kool-Aid, Sunny Delight, Hi-C, Fruitopia, or Fruitworks)?</p>	<ul style="list-style-type: none"> <li>In question 4 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</li> <li>What you were thinking about as you answered the question?</li> </ul>	
<p>1 Child did not drink any during the past 7 days.  2 1 to 3 times during the past 7 days.  3 4 to 6 times during the past 7 days.  13 1 time per day.  14 1 to 2 times per day  6 2 times per day.  7 3 times per day.  8 4 or more times per day.  DK DON'T KNOW  RF REFUSED</p>	<ul style="list-style-type: none"> <li>What helped you to recall how much Soda pop, Sport drinks, or fruit drinks that are not 100% fruit juice your child consumed?</li> <li>How did you determine the number of servings your child consumed per day?</li> <li>What specific items were you thinking of in your answer?</li> </ul>	
	<ul style="list-style-type: none"> <li>How did you answer for time periods when your child is away from home?</li> <li>How were the Soda pop, Sport drinks, or fruit drinks that are not 100% fruit juice that your child drank away from home included as a part of your response?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy</b>, <b>somewhat easy</b>, or <b>not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	

Part I	Part II	Answer/Additional Probes
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b></p>	<ul style="list-style-type: none"> <li>• If more than one child:</li> <li>• What helps you to recall what this K/Grade 1 child drank in comparison to what your other child may have consumed?</li> </ul>	
	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> <li>• What was difficult about the response options that were read to you?</li> <li>• Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	
<p>5. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat fresh fruit such as apples, bananas, oranges, berries, or other fruit such as applesauce, canned peaches, canned fruit cocktail, or frozen berries? (Do not count fruit juice.)</p> <p>1 <i>Child did not eat fruit during the past 7 days.</i>  2 <i>1 to 3 times during the past 7 days.</i>  3 <i>4 to 6 times during the past 7 days.</i>  6 <i>1 time per day.</i>  7 <i>1 to 2 times per day</i>  6 <i>2 times per day.</i>  7 <i>3 times per day.</i>  8 <i>4 or more times per day.</i>  DK <i>DON'T KNOW</i></p>	<p>In question 5 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <ul style="list-style-type: none"> <li>• What you were thinking about as you answered the question?</li> <li>• What helped you to recall how much (food item-fresh fruit or other fruit) your child consumed?</li> <li>• How did you determine the number of servings your child consumed per day?</li> <li>• What specific foods were you thinking of in your answer?</li> </ul>	

Part I	Part II	Answer/Additional Probes
<p><i>RF REFUSED</i></p>	<ul style="list-style-type: none"> <li>• How did you answer for time periods when your child is away from home?</li> <li>• How were the fresh fruits that your child ate away from home included as a part of your response?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy</b>, <b>somewhat easy</b>, or <b>not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>• How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	
<p>How sure are you of your response? Are you <b>really sure</b>, <b>somewhat sure</b>, or <b>not so sure</b>?</p>	<ul style="list-style-type: none"> <li>• If more than one child:</li> <li>• What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</li> </ul>	
	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> <li>• What was difficult about the response options that were read to you?</li> <li>• Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	
<p>6 During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat green salad?</p> <p>1 Child did not eat green salad during the past 7 days.  2 1 to 3 times during the past 7 days.  3 4 to 6 times during the past 7 days.</p>	<p>In question 6 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <ul style="list-style-type: none"> <li>• What you were thinking about as you answered the question?</li> </ul>	

Part I	Part II	Answer/Additional Probes
<p>6 1 time per day.  7 1 to 2 times per day  6 2 times per day.  7 3 times per day.  8 4 or more times per day.  DK DON'T KNOW  RF REFUSED</p>	<ul style="list-style-type: none"> <li>• What helped you to recall how much (food item green salad) your child consumed?</li> <li>• How did you determine the number of servings your child consumed per day?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>• What specific foods were you thinking of in your answer?</li> <li>• What's a <b>green salad</b>?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>• How did you answer for time periods when your child is away from home?</li> <li>• How was the green salad that your child ate away from home included as a part of your response?</li> </ul>	
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure</b>?</p>	<ul style="list-style-type: none"> <li>• How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	
	<ul style="list-style-type: none"> <li>• If more than one child:</li> <li>• What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</li> </ul>	
	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> <li>• What was difficult about the response options that were read to you?</li> <li>• Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	

Part I	Part II	Answer/Additional Probes
<p>7. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat potatoes? (DO NOT count French Fries, fried potatoes, potato chips or sweet potatoes).</p> <p>1 Child did not eat potatoes during the past 7 days.  2 1 to 3 times during the past 7 days.  3 4 to 6 times during the past 7 days.  6 1 time per day.  7 5 1 to 2 times per day  6 2 times per day.  7 3 times per day.  8 4 or more times per day.  DK DON'T KNOW  RF REFUSED</p>	<p>In question 7 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <ul style="list-style-type: none"> <li>• What you were thinking about as you answered the question?</li> <li>• What helped you to recall how much (food item) your child consumed?</li> <li>• How did you determine the number of servings your child consumed per day?</li> <li>• How did you answer for time periods when your child is away from home?</li> <li>• How were the potatoes that your child ate away from home included as a part of your response?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy</b>, <b>somewhat easy</b>, or <b>not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>• How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	
<p>How sure are you of your response? Are you <b>really sure</b>, <b>somewhat sure</b>, or <b>not so sure</b>?</p>	<ul style="list-style-type: none"> <li>• If more than one child:</li> <li>• What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</li> </ul>	
	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> </ul>	

Part I	Part II	Answer/Additional Probes
	<ul style="list-style-type: none"> <li>• What was difficult about the response options that were read to you?</li> <li>• Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	
<p>8. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat carrots?</p> <p>1 Child did not eat carrots during the past 7 days.  2 1 to 3 times during the past 7 days.  3 4 to 6 times during the past 7 days.  6 1 time per day  7 1 to 2 times per day.  6 2 times per day.  7 3 times per day.  8 4 or more times per day.  DK DON'T KNOW  RF REFUSED</p>	<p>In question 8 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <ul style="list-style-type: none"> <li>• What you were thinking about as you answered the question?</li> <li>• What helped you to recall how much (food item) your child consumed?</li> <li>• How did you determine the number of servings your child consumed per day?</li> <li>• How did you answer for time periods when your child is away from home?</li> <li>• How were the carrots that your child ate away from home included as a part of your response?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy</b>, <b>somewhat easy</b>, or <b>not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>• How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	
<p>How sure are you of your response? Are you <b>really sure</b>, <b>somewhat sure</b>, or <b>not so sure</b>?</p>	<ul style="list-style-type: none"> <li>• If more than one child:</li> <li>• What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</li> </ul>	

Part I	Part II	Answer/Additional Probes
	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> <li>• What was difficult about the response options that were read to you?</li> <li>• Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	
<p>9. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat other vegetables, such as sweet potatoes or broccoli? (DO NOT count green salad, potatoes, French fries, or carrots.)</p> <p>1 Child did not eat other vegetables during the past 7 days.  2 1 to 3 times during the past 7 days.  3 4 to 6 times during the past 7 days.  15 1 time per day.  16 1 to 2 times per day.  6 2 times per day.  7 3 times per day.  8 4 or more times per day.  DK DON'T KNOW  RF REFUSED</p>	<p>In question 9 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <ul style="list-style-type: none"> <li>• What you were thinking about as you answered the question?</li> <li>• What helped you to recall how much (food item) your child consumed?</li> <li>• How did you determine the number of servings your child consumed per day?</li> <li>• What specific foods were you thinking of in your response?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy</b>, <b>somewhat easy</b>, or <b>not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>• How did you answer for time periods when your child is away from home?</li> <li>• How were the other vegetables that your child ate away from home included as a part of your response?</li> </ul>	



Part I	Part II	Answer/Additional Probes
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure?</b></p>	<ul style="list-style-type: none"> <li>How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	
	<ul style="list-style-type: none"> <li>If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</li> </ul>	
	<ul style="list-style-type: none"> <li>What was most difficult about answering this question? What would you change about it?</li> <li>What was difficult about the response options that were read to you?</li> <li>Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	
<p>10. During the past 7 days, including afterschool activities, sports, and the weekend, about how many times did your child eat a meal or snack from a fast food restaurant with no wait service such as McDonald's Pizza Hut, Burger King, KFC (Kentucky Fried Chicken), Taco Bell, Wendy's and so on? Would you say:</p> <p>1 Child did not eat food from a fast food</p>	<p>2 In question 10 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <ul style="list-style-type: none"> <li>What you were thinking about as you answered the question?</li> </ul>	

Part I	Part II	Answer/Additional Probes
<p><i>restaurant during the past 7 days.</i></p> <p>2    <i>1 to 3 times during the past 7 days.</i></p> <p>3    <i>4 to 6 times during the past 7 days.</i></p> <p>4    <i>1 time per day.</i></p> <p>5.    <i>1 to 2 times per day.</i></p> <p>6    <i>2 times per day.</i></p> <p>7    <i>3 times per day.</i></p> <p>8    <i>4 or more times per day.</i></p> <p>DK    <i>DON'T KNOW</i></p> <p>RF    <i>REFUSED</i></p>	<ul style="list-style-type: none"> <li>• What helped you to recall how much (food item) your child consumed?</li> <li>• How did you determine the number of servings your child consumed per day?</li> <li>• What specific foods were you thinking of in your response?</li> <li>• How did you answer for time periods when your child is away from home?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy</b>, <b>somewhat easy</b>, or <b>not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>• How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	
<p>How sure are you of your response? Are you <b>really sure</b>, <b>somewhat sure</b>, or <b>not so sure</b>?</p>	<ul style="list-style-type: none"> <li>• If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</li> </ul>	
	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> <li>• What was difficult about the response options that were read to you?</li> <li>• Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	

Part I	Part II	Answer/Additional Probes
<p>11. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat candy (including fruit roll ups and similar items), ice cream, cookies, cakes, brownies, or other sweets? Would you say:</p> <p>1 Child did not eat sweets during the past 7 days.  2 1 to 3 times during the past 7 days.  3 4 to 6 times during the past 7 days.  4 1 time per day.  5 1 to 2 times per day.  6 2 times per day.  7 3 times per day.  8 4 or more times per day.  DK DON'T KNOW  RF REFUSED</p>	<p>In question 11 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <ul style="list-style-type: none"> <li>• What you were thinking about as you answered the question?</li> <li>• What helped you to recall how much (food item) your child consumed?</li> <li>• How did you determine the number of servings your child consumed per day?</li> <li>• What specific foods were you thinking of in your response?</li> <li>• How did you answer for time periods when your child is away from home?</li> <li>• How was the candy, ice cream, cookies, cakes, brownies, or other sweets that your child ate away from home included as a part of your response?</li> </ul>	
<p>How easy is it to answer this question? Is it <b>really easy, somewhat easy, or not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>• How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	
<p>How sure are you of your response? Are you <b>really sure, somewhat sure, or not so sure</b>?</p>	<ul style="list-style-type: none"> <li>• If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</li> </ul>	
	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> <li>• What was difficult about the response options</li> </ul>	

Part I	Part II	Answer/Additional Probes
	<p>that were read to you?</p> <ul style="list-style-type: none"> <li>Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	
<p>14. During the past 7 days, including afterschool activities, sports, and the weekend, how many times did your child eat potato chips, corn chips (Fritos, Doritos), Cheetos, pretzels, popcorn, crackers or other salty snack foods?</p> <p>1 Child did not eat salty snack foods during the past 7 days.  2 1 to 3 times during the past 7 days.  3 4 to 6 times during the past 7 days.  6 1 time per day.  7 1 to 2 times per day  6 2 times per day.  7 3 times per day.  8 4 or more times per day.  DK DON'T KNOW  RF REFUSED</p>	<p>In question 12 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <ul style="list-style-type: none"> <li>What you were thinking about as you answered the question?</li> <li>What helped you to recall how much (food item) your child consumed?</li> <li>How did you determine the number of servings your child consumed per day?</li> <li>What specific foods were you thinking of in your response?</li> <li>How did you answer for time periods when your child is away from home?</li> <li>How were the salty snack foods your child ate away from home included as a part of your response?</li> <li>How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	

Part I	Part II	Answer/Additional Probes
<p>How easy is it to answer this question? Is it <b>really easy</b>, <b>somewhat easy</b>, or <b>not at all easy</b>?</p>	<ul style="list-style-type: none"> <li>If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</li> </ul>	
<p>How sure are you of your response? Are you <b>really sure</b>, <b>somewhat sure</b>, or <b>not so sure</b>?</p>	<ul style="list-style-type: none"> <li>What was most difficult about answering this question? What would you change about it?</li> <li>What was difficult about the response options that were read to you?</li> <li>Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	
<p>15. <b>During the past 7 days, including afterschool activities, sports, and the weekend</b>, how many times did your child eat French fries or fried potatoes?</p> <p>1 <i>Child did not eat French fries or fried potatoes during the past 7 days.</i>  2 <i>1 to 3 times during the past 7 days.</i>  3 <i>4 to 6 times during the past 7 days.</i>  6 <i>1 time per day.</i>  7 <i>1 to 2 times per day.</i>  6 <i>2 times per day.</i>  7 <i>3 times per day.</i>  8 <i>4 or more times per day.</i>  DK <i>DON'T KNOW</i>  RF <i>REFUSED</i></p>	<p>In question 13 (interviewer reads question again) your answer was (interviewer reads respondent's answer). Please tell me how you decided on your answer.</p> <ul style="list-style-type: none"> <li>What you were thinking about as you answered the question?</li> <li>What helped you to recall how much (food item) your child consumed?</li> <li>How did you determine the number of servings your child consumed per day?</li> <li>How did you answer for time periods when your child is away from home?</li> <li>How were the French fries or fried potatoes your child ate away from home included as a part of your response?</li> </ul>	

Part I	Part II	Answer/Additional Probes
How easy is it to answer this question? Is it <b>really easy</b> , <b>somewhat easy</b> , or <b>not at all easy</b> ?	<ul style="list-style-type: none"> <li>• How did you include times such as after school activities, sports, playdates/daycare, or weekends in your response?</li> </ul>	
How sure are you of your response? Are you <b>really sure</b> , <b>somewhat sure</b> , or <b>not so sure</b> ?	<ul style="list-style-type: none"> <li>• If more than one child: What helps you to recall what this K/Grade 1 child ate in comparison to what your other child may have consumed?</li> </ul>	
	<ul style="list-style-type: none"> <li>• What was most difficult about answering this question? What would you change about it?</li> <li>• What was difficult about the response options that were read to you?</li> <li>• Is it easier to answer for consumption per day, or times per week? Why?</li> </ul>	

B. Wave 2 Focus Group Moderator's Guide

## **WAVE 2 FOCUS GROUP GUIDE: (Mothers of K/Grade 1 ECLS-B Child Habits Study)**

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### **I. Study Objectives:**

1. *Do the respondents interpret the questions, as asked, in the manner intended by ERS? If not, are there changes in wording that will improve understanding?*
2. *Are the response options suggested by ERS appropriate? Are respondents able to use these response options to describe their children's behavior? If not, are there changes in response options that would be more appropriate?*
3. *What time period do respondents feel more comfortable with, in responding to the questions—past 24 hours, the past week, or the past month?*

### **II. Introduction:**

Thank you for joining us for today's focus group on questions mothers can answer about their kindergarten/first grade child's eating habits. Today we are going to be talking about the eating habits of your children – those in kindergarten and 1<sup>st</sup> grade. We have a set of questions for mothers to answer about certain types of food that your children may eat, and we are interested in whether or not these questions are ones mothers can answer easily and accurately.

### **III. Purpose:**

These are preliminary questions that you can help us improve. Today, you'll be helping us by answering some questions on how you recall what your child ate, what kinds of foods you think of when asked to respond to certain questions, sharing with us how you came up with your answers and what things would make it easier for you to answer the questions. With your help, the questions that are used in a national survey will be improved.

My name is \_\_\_\_\_, and I am from ORC Macro, the research firm that has been hired to help test these questions. As the moderator for today, my role is to encourage the discussion by asking questions. I'd like to outline some guidelines that will help this discussion.

- You have been asked here to offer your views and opinions; everyone's participation and viewpoints are important: there are no right or wrong answers.
- Detailed explanations are desired.
- Please speak one at a time, so that we can all hear and understand the conversation
- You are being audio-taped and videotaped today
- All of your answers will remain confidential, so feel free to speak your mind. Our review of your answers will report findings as aggregate data.

### **IV. Icebreaker:**

Before we begin, I'd like to ask everyone to first introduce themselves. Please introduce yourself and tell us what grade your child is in, and what their favorite food is.



## V. Research Questions (Mothers respond to set of test questions in writing):

### Review of the Test Set Questions:

*[Instructions (paraphrase)]:* “Now I have some questions about how often your children drink or eat certain things. I will read a question and give you each a moment to think about the question. Please indicate your answer on the sheet I have provided. Please answer the question to the best of your ability. When you’re done answering all of the questions, we’ll talk about your questions and your answers. Do you have any questions about this process?”  
*[Moderator distributes test questions sheets and pencils to group. Reads set of test questions. If participants ask what the question means, reply with:*

“I can’t help you interpret the question or tell you what it means; because that’s one of the things we want to learn today. So, use your best judgment and after everyone has a chance to answer the question, we’ll talk about what it means.”]

## VI. Discussion of Mothers’ Comprehension of the Questions:

*[Instructions (paraphrase)]:* “Now let’s talk about what you thought these questions were asking – or what it meant to you. We can talk about words that may have been confusing, or difficulty you had in figuring out whether a certain food is or is not included, and so on. Let’s start with question 1.”

*Probes: Interviewer should cover the following topics (do not need to cover each topic in detail for each question, if the topic was discussed earlier):*

- How did you answer Question 1? (*Ask mothers to provide their answers for all the questions, and have following discussion for each question, as appropriate*)
- How did you know what your K/Grade 1 child eats and how much this child eats? (*Probe: Ask mothers to describe how they arrived at their answer, including how mother arrived at the exact amount of food/drink stated in the answer*)
- What was difficult about this question? (*Probe for explanations of the difficulties*)
- What kind of milk were you thinking of in answering the question? (*Probe for Yohoo as milk*)
- What do you think is meant by **regular cow’s milk**?
- What drinks do you think of when someone says **100% fruit juice**? How do you know they are 100% fruit juice?

- What is a **green salad**? What's included? Did you include these vegetables in other responses?
- What is **fast food**?
- What **fast food** places did you include in your response- how did you know which ones to count? (*Probe for understanding of "no wait service" versus eating out as de facto fast food*)
- How did you classify **sweet** versus **salty snack foods**? (*Probe for what foods fall into each category*)
- When you answered the question about other vegetables, what kinds of food were you thinking about? (*Probe for combinations, usefulness of the cue*)
- What type of food do you consider fried potatoes or French fries to be? (*Vegetable, potatoes: probe for where parents count these foods*).
- How would moving this question to somewhere else in the questionnaire increase the ease of answering it? (*probe for question ordering, where mothers would put the question and why it becomes easier to answer*)

## VII. Mothers' Ability to Use Response Options

- What was difficult about the response options that were read to you? (*Probe for issues with length of the list, viability of 1-2 times per day option, other ranges mothers could provide answers for, like 2-4 times per day, 4 to 6 times per day*)
- How did you determine the number of times your child ate or drank a food item for these questions? (*Probe for whether mothers provided exact answer or the average behavior for their child, count respondents*)
- What words in the questions helped you to recall the total consumption for your child over the past seven days?
- What kinds of things or events were you thinking of as you determined the number of times your child ate or drank a food item? (*Probe for cues, like meal prep, grocery shopping*)
  - What memories helped you the most in recalling what your child ate?

- How did you distinguish between what your child actually ate versus what they were served in answering these questions? (*Probe for distinction between/and answering for what was actually eaten, not what mothers served*)
- Tell me how you know what foods your child has eaten while they are away from home, like at school, aftercare, play dates, athletics and other events? (*Probes: Do you regularly ask your child what they ate at school? Do they come home and report? Lunch box checking/lunch money? Menu review?*)
- How did you include aftercare, play dates, athletics and other events in your answers to the questions? (*Probe for whether mothers included these because they had knowledge of what was consumed or just guessed*)
- For you, what is the difference between providing an answer for a week versus each day in a seven-day time period? What makes one easier versus the other? (*Probe for usability, ability to recall detail*)
- For what period of time can you best recall what your K/grade 1 child ate? (*Interviewer Prompt*) One day, three days, four days, five days? (*Probe for time period*)
- When you selected an option that was the 7-day period, what 7 days did you include in your answer?
- How would including language instructing mothers to only answer for times they are certain about and not use an average affect your ability to answer the questions?
- Some parents may provide their kids with permission to go the refrigerator and have unlimited access to easy-to-eat snacks, like grapes, baby carrots, and raisins. Kids may have just a few of these, or munch between meals. How did you include this type of eating in your response to Question 5?

### **VIII. General Questions**

- Some of these questions are about foods that some parents may feel sensitive about revealing that their child actually consumed them. What would help to encourage mothers

not to underestimate their child's consumption of soda pop, snacks, French fries and the times their ate a meal at a fast food place?

- How does having more than one child impact your ability to recall what your K/G1 child ate?
  - How did you separate what the K/Grade 1 child ate from the others in answering the questions?
  - What would you change about the response options in these questions?
- Can you think of a better way to ask/answer any of these questions?
- What would improve your understanding of the questions?

#### **IX. False Close**

Moderator briefly leaves room to ask project director if there are any other questions that remain unanswered or require further probing.

#### **X. Conclusion and Thank you**