

## Appendix A. Household Responses to Questions in the Food Security Scale

The 18 questions from which the food security measure is calculated ask about conditions, experiences, and behaviors that characterize a wide range of severity of food insecurity. One way the range of severity represented by the questions is observed is in the percentages of households that respond affirmatively to the various questions. For example, the condition described by the least severe question, *We worried whether our food would run out before we got money to buy more*, was reported by 15.6 percent of households in 2005 (table A-1). *Adults cutting the size of meals or skipping meals because there wasn't enough money for food* was reported by 6.2 percent of households. The most severe item, *children not eating for a whole day because there wasn't enough money for food*, was reported by 0.1 percent of households with children. (See box on page 3 for the complete wording of these questions.)

The two least severe questions refer to uncertainty about having enough food and the experience of running out of food. The remaining 16 items indicate reductions in quality, variety, or desirability of diets, increasingly severe disruptions of normal eating patterns, and reductions in food intake. Three or more affirmative responses are required for a household to be classified as food insecure. Thus, all households with that classification affirmed at least one item indicating reduced diet quality, disruption of normal eating patterns, or reduction in food intake. Most food-insecure households reported multiple indicators of these conditions (table A-2).

A large majority of food-secure households (74.3 percent of all households with children and 84.9 percent of those without children) reported no problems or concerns in meeting their food needs. However, households that reported only one or two indications of food insecurity (10.0 percent of households with children and 6.6 percent of households without children) are also classified as food secure. Most of these households affirmed one or both of the first two items, indicating uncertainty about having enough food or about exhausting their food supply, but did not indicate actual disruptions of normal eating patterns or reductions in food intake.

Although these households are classified as food secure, the food security of some of them may have been tenuous at times, especially in the sense that they lacked “assured ability to acquire acceptable foods in socially acceptable ways,” a condition that the Life Sciences Research Office includes in its definition of food insecurity (Anderson, 1990, p. 1598). Research examining health and children’s development in households that affirm just one or two food insecurity indicators is ongoing. Findings to date indicate that outcomes in these marginally food-secure households are either intermediate between those in fully food-secure and food-insecure households or more closely resemble those in food-insecure households (Radimer and Nord, 2005; Winicki and Jemison, 2003; Wilde and Peterman, 2006).

Table A-1

**Responses to items in the food security scale, 2002-05<sup>1</sup>**

Scale item <sup>3</sup>	Households affirming item <sup>2</sup>			
	2002	2003	2004	2005
	<i>Percent</i>			
<b>Household items:</b>				
Worried food would run out before (I/we) got money to buy more	15.6	15.7	16.6	15.6
Food bought didn't last and (I/we) didn't have money to get more	12.4	12.3	13.1	12.2
Couldn't afford to eat balanced meals	10.5	10.8	11.6	10.7
<b>Adult items:</b>				
Adult(s) cut size of meals or skipped meals	6.0	6.2	6.6	6.2
Respondent ate less than felt he/she should	5.9	5.9	6.3	6.5
Adult(s) cut size or skipped meals in 3 or more months	4.2	4.4	4.8	4.6
Respondent hungry but didn't eat because couldn't afford	2.7	2.7	3.1	2.9
Respondent lost weight	1.8	1.7	2.0	2.0
Adult(s) did not eat for whole day	1.2	1.2	1.3	1.3
Adult(s) did not eat for whole day in 3 or more months	.8	.9	1.0	.9
<b>Child items:</b>				
Relied on few kinds of low-cost food to feed child(ren)	16.5	16.1	17.1	14.7
Couldn't feed child(ren) balanced meals	8.9	8.9	9.8	8.5
Child(ren) were not eating enough	4.3	4.7	4.6	3.7
Cut size of child(ren)'s meals	1.2	1.0	1.2	1.3
Child(ren) were hungry	.9	.7	1.0	.8
Child(ren) skipped meals	.7	.4	.6	.6
Child(ren) skipped meals in 3 or more months	.5	.3	.4	.4
Child(ren) did not eat for whole day	.1	.1	.1	.1

<sup>1</sup>Survey responses weighted to population totals.

<sup>2</sup>Households not responding to item are excluded from the denominator. Households without children are excluded from the denominator of child-referenced items.

<sup>3</sup>The actual wording of each item includes explicit reference to resource limitation, e.g., "...because (I was/we were) running out of money to buy food," or "...because there wasn't enough money for food."

Source: Calculated by ERS using data from the December 2002, December 2003, December 2004, and December 2005 Current Population Survey Food Security Supplements.

## Frequency of Occurrence of Behaviors, Experiences, and Conditions That Indicate Food Insecurity

Most of the questions used to calculate the food security scale also elicit information about how often the food-insecure behavior, experience, or condition occurred. The food security scale does not take all of this frequency-of-occurrence information into account, but analysis of these responses can provide insight into the frequency and duration of food insecurity. Frequency-of-occurrence information is collected in the CPS Food Security Supplements using two different methods (see box, "Questions Used To Assess the Food Security of Households in the CPS Food Security Survey," on page 3):

- **Method 1:** A condition is described, and the respondent is asked whether this was often, sometimes, or never true for his or her household during the past 12 months.

Table A-2

**Percentage of households by food security raw score, 2005**

<i>Panel A: Households with children</i>			
Raw score (number of food-insecure conditions reported)	Percent of households <sup>1</sup>	Cumulative percent of households <sup>1</sup>	Food security status
0	74.32	74.32	Food secure (84.35 percent)
1	5.68	80.00	
2	4.35	84.35	
3	3.34	87.69	Low food security (11.57 percent)
4	2.69	90.37	
5	2.34	92.72	
6	1.91	94.62	
7	1.29	95.92	
8	1.23	97.14	Very low food security (4.08 percent)
9	.85	98.00	
10	.68	98.68	
11	.39	99.07	
12	.31	99.38	
13	.25	99.63	
14	.11	99.74	
15	.15	99.90	
16	.06	99.96	
17	.03	99.99	
18	.01	100.00	
<i>Panel B: Households with no children</i>			
Raw score (number of food-insecure conditions reported)	Percent of households <sup>1</sup>	Cumulative percent of households <sup>1</sup>	Food security status
0	84.86	84.86	Food secure (91.46 percent)
1	3.65	88.51	
2	2.95	91.46	
3	2.44	93.91	Low food security (4.78 percent)
4	1.28	95.19	
5	1.06	96.24	
6	1.33	97.58	Very low food security (3.76 percent)
7	1.02	98.60	
8	.60	99.20	
9	.31	99.51	
10	.49	100.00	

<sup>1</sup>Survey responses weighted to population totals.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

- **Method 2:** Respondents who answer “yes” to a yes/no question are asked, “How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?”

Table A-3 presents responses to each food security question broken down by reported frequency of occurrence for all households interviewed in the December 2005 survey. Questions using method 1 are presented in the top panel of the table and those using method 2 are presented in the bottom panel. Most households that responded affirmatively to method 1 questions reported that the behavior, experience, or condition occurred “sometimes,” while 17 to 24 percent (depending on the specific question) reported that it occurred “often.” For example, 3.6 percent of households reported that in

the past 12 months they had often worried whether their food would run out before they got money to buy more, and 12.0 percent reported that this had occurred sometimes (but not often). Thus, a total of 15.6 percent of households reported that this had occurred at some time during the past 12 months and, of those, 23 percent reported that it had occurred often. (Note that calculations across some rows in table A-3 differ from tabled values because of rounding in each column.)

In response to method 2 questions, 23 to 31 percent of households that responded “yes” to the base question reported that the behavior, experience, or condition occurred “in almost every month;” 36 to 46 percent reported that it occurred in “some months, but not every month;” and 26 to 35 percent reported that it occurred “in only 1 or 2 months.” For example, 6.2 percent of households reported that an adult cut the size of a meal or skipped a meal because there was not enough money for food. In response to the followup question asking how often this happened, 2.0 percent said that it happened in almost every month (i.e., 31 percent of those who responded “yes” to the base question), 2.6 percent said it happened in some months but not every month (42 percent of those who responded “yes” to the base question), and 1.6 percent said it happened in only 1 or 2 months (26 percent of those who responded “yes” to the base question).

Table A-4 presents the same frequency-of-occurrence response statistics for households classified as having very low food security. Almost all of these households responded affirmatively (either “often” or “sometimes”) to the first four questions—questions that are sensitive to less severe aspects of food insecurity—and 39 to 49 percent of those who responded affirmatively reported that these conditions had occurred often during the past year. In response to method 2 questions, 31 to 44 percent of households that affirmed adult-referenced questions and 24 to 28 percent of households that affirmed child-referenced questions reported that the conditions had occurred in “almost every month.”

## **Monthly and Daily Occurrence of Food-Insecure Conditions**

Respondents also reported whether the behaviors and experiences that indicate food insecurity had occurred during the 30 days prior to the survey. (Responses to these questions are used to assess the food security status of households during the 30-day period prior to the survey. Statistics based on this measure are reported in appendix E.) For seven of these behaviors and experiences, respondents also reported how many days the condition had occurred during that period. Responses to these questions are summarized in table A-5.

Most households that reported the occurrence of reduced food intake or being hungry during the 30 days prior to the survey reported that these conditions were of relatively short duration, although some households reported longer or more frequent spells. For example, of the 4 percent of households in which adults cut the size of meals or skipped meals during the previous 30 days because there wasn’t enough money for food, 66 percent reported that this had occurred in 1 to 7 days, 14 percent reported

Table A-3

**Frequency of occurrence of behaviors, experiences, and conditions indicating food insecurity reported by all U.S. households, 2005<sup>1</sup>**

Condition <sup>2</sup>	Ever during the year	Frequency of occurrence					
		Often	Sometimes	Often	Sometimes	Often	Sometimes
		—Percent of all households—				Percent of “ever during the year”	
Worried food would run out before (I/we) got money to buy more	15.6	3.6	12.0	23	77		
Food bought didn't last and (I/we) didn't have money to get more	12.2	2.4	9.9	19	81		
Couldn't afford to eat balanced meals	10.7	2.6	8.1	24	76		
Relied on few kinds of low-cost food to feed child(ren)	14.7	3.4	11.3	23	77		
Couldn't feed child(ren) balanced meals	8.5	1.5	7.0	17	83		
Child(ren) were not eating enough	3.7	.7	3.0	19	81		

  

Condition <sup>2</sup>	Frequency of occurrence							
	Ever during the year	Almost every month	Some months but not every month	In only 1 or 2 months	Almost every month	Some months but not every month	In only 1 or 2 months	
	—Percent of all households—				Percent of “ever during the year”			
Adult(s) cut size of meals or skipped meals	6.2	2.0	2.6	1.6	31	42	26	
Respondent ate less than felt he/she should	6.4	1.8	2.9	1.7	28	45	27	
Respondent hungry but didn't eat because couldn't afford	2.9	.9	1.2	0.8	31	41	28	
Respondent lost weight	2.0	NA	NA	NA	NA	NA	NA	
Adult(s) did not eat for whole day	1.3	.4	.5	.5	29	36	35	
Cut size of child(ren)'s meals	1.3	.3	.6	.4	26	45	29	
Child(ren) were hungry	.8	.2	.4	.3	24	43	33	
Child(ren) skipped meals	.6	.1	.3	.2	23	46	31	
Child(ren) did not eat for whole day	.1	NA	NA	NA	NA	NA	NA	

<sup>1</sup>Survey responses weighted to population totals. Households not responding to an item or not responding to the followup question about frequency of occurrence are excluded from the calculation of percentages for that item. Households without children are excluded from the calculation of percentages for child-referenced items.

<sup>2</sup>The actual wording of each item includes explicit reference to resource limitation, e.g., “...because (I was/we were) running out of money to buy food,” or “...because there wasn't enough money for food.”

NA = Frequency-of-occurrence information was not collected for these conditions.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

that it had occurred in 8-14 days, and 20 percent reported that it had occurred in 15 days or more of the previous 30 days. On average, households reporting occurrence of this condition at any time in the previous 30 days reported that it occurred in about 8 days. The daily occurrence patterns were generally similar for all of the indicators of reduced food intake and disrupted eating patterns. Average days of occurrence (for those reporting occurrence at any time during the month) ranged from 5.8 days for *adult did not eat for whole day* to 9.3 days for *respondent ate less than he/she felt he/she should*.

Average daily prevalence of the various behaviors, experiences, and conditions characterizing very low food security were calculated based on the proportion of households reporting the condition at any time during the previous 30 days and the average number of days in which the condition

Table A-4

**Frequency of occurrence of behaviors, experiences, and conditions indicating food insecurity reported by households with very low food security, 2005<sup>1</sup>**

Condition <sup>2</sup>	Ever during the year	Frequency of occurrence			
		Often	Sometimes	Often	Sometimes
	—Percent of all households—			Percent of “ever during the year”	
Worried food would run out before (I/we) got money to buy more	98.2	48.2	50.0	49	51
Food bought didn't last and (I/we) didn't have money to get more	96.2	38.0	58.3	39	61
Couldn't afford to eat balanced meals	94.4	41.6	52.8	44	56
Relied on few kinds of low-cost food to feed child(ren)	96.1	42.8	53.3	45	55
Couldn't feed child(ren) balanced meals	89.0	26.6	62.4	30	70
Child(ren) were not eating enough	59.9	15.6	44.3	26	74

  

Condition <sup>2</sup>	Frequency of occurrence						
	Ever during the year	Almost every month	Some months but not every month	In only 1 or 2 months	Almost every month	Some months but not every month	In only 1 or 2 months
	—Percent of all households—				Percent of “ever during the year”		
Adult(s) cut size of meals or skipped meals	95.8	42.5	43.7	9.6	44	46	10
Respondent ate less than felt he/she should	94.0	37.4	44.8	11.8	40	48	13
Respondent hungry but didn't eat because couldn't afford	59.9	22.0	25.5	12.4	37	43	21
Respondent lost weight	43.6	NA	NA	NA	NA	NA	NA
Adult(s) did not eat for whole day	31.0	9.6	12.0	9.4	31	39	30
Cut size of child(ren)'s meals	27.1	7.6	12.9	6.5	28	48	24
Child(ren) were hungry	19.4	5.0	8.5	5.9	26	44	30
Child(ren) skipped meals	14.0	3.3	6.8	3.9	24	49	28
Child(ren) did not eat for whole day	2.7	NA	NA	NA	NA	NA	NA

<sup>1</sup>Survey responses weighted to population totals. Households not responding to an item or not responding to the followup question about frequency of occurrence are excluded from the calculation of percentages for that item. Households without children are excluded from the calculation of percentages for child-referenced items.

<sup>2</sup>The actual wording of each item includes explicit reference to resource limitation, e.g., "...because (I was/we were) running out of money to buy food," or "...because there wasn't enough money for food."

NA = Frequency-of-occurrence information was not collected for these conditions.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

occurred.<sup>31</sup> These daily prevalence rates ranged from 1.16 percent for *respondent ate less than he/she felt he/she should* to 0.07 percent for *children skipped meals*.

No direct measure of the daily prevalence of very low food security has yet been developed. However, the ratio of daily prevalence to annual prevalence of the various indicator conditions provides a basis for estimating the likely range for the average daily prevalence of very low food security during the reference 30-day period. For the adult-referenced items, daily prevalences ranged from 20 to 31 percent of their prevalence at any time during the month (table A-5) and from 12 to 18 percent of their prevalence at any time during the year (table A-3). The corresponding ranges for the child-referenced items

<sup>31</sup>Average daily prevalence is calculated as the product of the 30-day prevalence and the average number of days divided by 30.

Table A-5

**Monthly and daily occurrence of behaviors, experiences, and conditions indicating food insecurity reported by all U.S. households, 2005<sup>1</sup>**

Condition <sup>2</sup>	Ever during previous 30 days	For households reporting condition at any time during previous 30 days			Monthly average occurrence	Average daily prevalence
		Number of days out of previous 30 days				
		1-7 days	8-14 days	15-30 days		
		—Percent <sup>3</sup> —			Days <sup>3</sup>	Percent <sup>3</sup>
Worried food would run out before (I/we) got money to buy more	6.93	NA	NA	NA	NA	NA
Food bought didn't last and (I/we) didn't have money to get more	5.98	NA	NA	NA	NA	NA
Couldn't afford to eat balanced meals	6.12	NA	NA	NA	NA	NA
Relied on few kinds of low-cost food to feed child(ren)	8.28	NA	NA	NA	NA	NA
Couldn't feed child(ren) balanced meals	5.28	NA	NA	NA	NA	NA
Child(ren) were not eating enough	2.48	NA	NA	NA	NA	NA
Adult(s) cut size of meals or skipped meals	4.03	66	14	20	8.3	1.12
Respondent ate less than felt he/she should	3.75	61	15	24	9.3	1.16
Respondent hungry but didn't eat because couldn't afford	1.72	65	14	21	8.6	.49
Respondent lost weight	1.26	NA	NA	NA	NA	NA
Adult(s) did not eat for whole day	.82	79	11	10	5.8	.16
Cut size of child(ren)'s meals	.79	69	17	14	7.3	.19
Child(ren) were hungry	.46	64	20	16	8.1	.13
Child(ren) skipped meals	.35	72	23	5	6.3	.07
Child(ren) did not eat for whole day	.09	NA	NA	NA	NA	NA

<sup>1</sup>Survey responses weighted to population totals. The 30-day and daily statistics refer to the 30-day period from mid-November to mid-December; the survey was conducted during the week of December 11-17, 2005.

<sup>2</sup>The actual wording of each item includes explicit reference to resource limitation, e.g., "...because (I was/we were) running out of money to buy food," or "...because there wasn't enough money for food."

<sup>3</sup>Households without children are excluded from the denominator of child-referenced items.

NA = Number of days of occurrence was not collected for these conditions.

Source: Calculated by ERS using data from the December 2005 Current Population Survey Food Security Supplement.

were 20 to 28 percent of monthly prevalence and 12 to 16 percent of annual prevalence. These findings are generally consistent with those of Nord et al. (2000), and are used to estimate upper and lower bounds of the daily prevalence of very low food security described in the first section of this report.