

Appendix A—Household Responses to Questions in the Food Security Scale

The 18 questions used for the food security measure ask about conditions, experiences, and behaviors that range widely in severity. Those indicating less severe food insecurity are observed with greater frequency, and frequency declines as severity increases. 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 16.6 percent of households in 2007 (table A-1). *Adults cut the size of meals or skipped meals because there wasn't enough money for food* was reported by 6.6 percent of households. The most severe item, *children did not eat 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 reduced quality, variety, or desirability of diets and increasingly severe disruptions of normal eating patterns and reductions in food intake. Three

Table A-1

Responses to items in the food security scale, 2004-07¹

Scale item ²	Households affirming item ³			
	2004	2005	2006	2007
	<i>Percent</i>			
Household items:				
Worried food would run out before (I/we) got money to buy more	16.6	15.6	15.1	15.4
Food bought didn't last and (I/we) didn't have money to get more	13.1	12.2	12.1	12.4
Couldn't afford to eat balanced meals	11.6	10.7	10.9	11.3
Adult items:				
Adult(s) cut size of meals or skipped meals	6.6	6.2	6.3	6.5
Respondent ate less than felt he/she should	6.3	6.5	6.3	6.5
Adult(s) cut size or skipped meals in 3 or more months	4.8	4.6	4.5	5.1
Respondent hungry but didn't eat because couldn't afford	3.1	2.9	3.5	3.3
Respondent lost weight	2.0	2.0	2.1	2.1
Adult(s) did not eat for whole day	1.3	1.3	1.4	1.3
Adult(s) did not eat for whole day in 3 or more months	1.0	.9	.9	.9
Child items:				
Relied on few kinds of low-cost food to feed child(ren)	17.1	14.7	15.0	14.3
Couldn't feed child(ren) balanced meals	9.8	8.5	8.7	8.2
Child(ren) were not eating enough	4.6	3.7	3.9	4.4
Cut size of child(ren)'s meals	1.2	1.3	1.2	1.9
Child(ren) were hungry	1.0	.8	.8	1.2
Child(ren) skipped meals	.6	.6	.5	.7
Child(ren) skipped meals in 3 or more months	.4	.4	.4	.6
Child(ren) did not eat for whole day	.1	.1	.1	.2

¹Survey responses weighted to population totals.

²The 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."

³Households not responding to item are omitted from the calculations. Households without children are omitted from the calculation of child-referenced items.

Source: Calculated by ERS using data from the December 2004, December 2005, December 2006, and December 2007 Current Population Survey Food Security Supplements.

or more affirmative responses are required for a household to be classified as food insecure. Thus, all households in that category affirmed at least one item indicating reduced diet quality or disruption of normal eating patterns or reduction in food intake, and most food-insecure households reported multiple indicators of these conditions (table A-2).

A large majority of households (73 percent of households with children and 85 percent of those without children) reported no problems or concerns in meeting their food needs. Households that reported only one or two indications of food insecurity (11 percent of households with children and 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

Table A-2

Percentage of households by food security raw score, 2007

<i>Panel A: Households with children</i>			
Raw score (number of food-insecure conditions reported)	Percent of households ¹	Cumulative percent of households ¹	Food security status
0	72.78	72.78	Food secure (84.19 percent)
1	6.63	79.40	
2	4.78	84.19	
3	3.27	87.46	Low food security (11.10 percent)
4	2.22	89.68	
5	2.30	91.98	
6	1.77	93.75	
7	1.55	95.29	
8	1.16	96.45	Very low food security (4.71 percent)
9	1.13	97.58	
10	.79	98.37	
11	.58	98.94	
12	.29	99.24	
13	.27	99.50	
14	.22	99.73	
15	.11	99.84	
16	.08	99.92	
17	.04	99.96	
18	.04	100.00	
<i>Panel B: Households with no children</i>			
Raw score (number of food-insecure conditions reported)	Percent of households ¹	Cumulative percent of households ¹	Food security status
0	84.96	84.96	Food secure (91.27 percent)
1	3.72	88.69	
2	2.59	91.27	
3	2.75	94.02	Low food security (5.00 percent)
4	1.15	95.17	
5	1.10	96.27	
6	1.28	97.55	Very low food security (3.73 percent)
7	.98	98.53	
8	.64	99.17	
9	.36	99.53	
10	.47	100.00	

¹Survey responses weighted to population totals.

Source: Calculated by ERS using data from the December 2007 Current Population Survey Food Security Supplement.

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 (LSRO) includes in its definition of food insecurity (Anderson, 1990, p. 1,598).¹ Research examining health and children’s development in these marginally food-secure households is ongoing. Findings to date indicate that outcomes are either intermediate between those in highly 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).

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.
- **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 2007 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 18 to 25 percent (depending on the specific question), reported that it occurred “often.” For example, 3.8 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 11.6 percent reported that this had occurred sometimes (but not often). Thus, a total of 15.4 percent of households reported that this had occurred at some time during the past 12 months, and, of those, 25 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 37 percent of households that responded “yes” to the base question reported that the behavior, experience, or condition occurred “in almost every month;” 41 to 59 percent reported

¹The Life Sciences Research Office (LSRO) is a nonprofit organization based in Bethesda, MD. Concepts and definitions of food security and related conditions developed by LSRO for the American Institute of Nutrition (Anderson, 1990) provided key parts of the theoretical underpinnings of the household food security measure.

Table A-3

Frequency of occurrence of behaviors, experiences, and conditions indicating food insecurity reported by all U.S. households, 2007¹

Condition ²	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	15.4	3.8	11.6	25	75
Food bought didn't last and (I/we) didn't have money to get more	12.4	2.5	9.9	20	80
Couldn't afford to eat balanced meals	11.3	2.8	8.5	25	75
Relied on few kinds of low-cost food to feed child(ren)	14.3	3.1	11.2	22	78
Couldn't feed child(ren) balanced meals	8.2	1.4	6.7	18	82
Child(ren) were not eating enough	4.4	0.8	3.6	19	81

Condition ²	Ever during the year	Frequency of occurrence					
		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	6.5	2.2	2.9	1.4	33	44	22
Respondent ate less than felt he/she should	6.5	2.0	2.9	1.6	30	45	25
Respondent hungry but didn't eat because couldn't afford	3.3	1.2	1.4	0.7	37	43	20
Respondent lost weight	2.1	NA	NA	NA	NA	NA	NA
Adult(s) did not eat for whole day	1.3	0.4	0.5	0.3	33	41	27
Cut size of child(ren)'s meals	1.9	0.4	1.0	0.4	23	55	22
Child(ren) were hungry	1.2	0.4	0.5	0.3	31	45	24
Child(ren) skipped meals	0.7	0.2	0.4	0.1	24	59	17
Child(ren) did not eat for whole day	0.2	NA	NA	NA	NA	NA	NA

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

²The 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 2007 Current Population Survey Food Security Supplement.

that it occurred in “some months, but not every month;” and 17 to 27 percent reported that it occurred “in only 1 or 2 months.” For example, 6.5 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, 2.2 percent said that it happened in almost every month (i.e., 33 percent of those who responded “yes” to the base question), 2.9 percent said it happened in some months but not every month (44 percent of those who responded “yes” to the base question), and 1.4 percent said it happened in only 1 or 2 months (22 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 37 to 51 percent of those who responded affirmatively

Table A-4

Frequency of occurrence of behaviors, experiences, and conditions indicating food insecurity reported by households with very low food security, 2007¹

Condition ²	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	97.7	49.8	47.9	51	49
Food bought didn't last and (I/we) didn't have money to get more	96.5	39.4	57.1	41	59
Couldn't afford to eat balanced meals	93.7	41.2	52.5	44	56
Relied on few kinds of low-cost food to feed child(ren)	94.3	34.4	59.8	37	63
Couldn't feed child(ren) balanced meals	83.5	23.0	60.5	28	72
Child(ren) were not eating enough	62.4	16.1	46.4	26	74

Condition ²	Ever during the year	Frequency of occurrence					
		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	95.9	42.7	44.6	8.6	45	46	9
Respondent ate less than felt he/she should	93.3	40.5	42.2	10.5	43	45	11
Respondent hungry but didn't eat because couldn't afford	65.1	27.2	26.9	11.1	42	41	17
Respondent lost weight	44.6	NA	NA	NA	NA	NA	NA
Adult(s) did not eat for whole day	28.8	10.3	12.1	6.5	36	42	22
Cut size of child(ren)'s meals	32.6	8.7	18.1	5.9	27	55	18
Child(ren) were hungry	23.7	7.3	10.9	5.5	31	46	23
Child(ren) skipped meals	13.8	3.5	8.0	2.3	25	58	17
Child(ren) did not eat for whole day	3.1	NA	NA	NA	NA	NA	NA

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

²The 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 2007 Current Population Survey Food Security Supplement.

reported that these conditions had occurred often during the past year. In response to Method 2 questions, 36 to 45 percent of households that affirmed adult-referenced questions and 25 to 31 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 D.) 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.

Table A-5

Monthly and daily occurrence of behaviors, experiences, and conditions indicating food insecurity reported by all U.S. households, 2007¹

Condition ²	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 ³			Days ³	Percent ³
Worried food would run out before (I/we) got money to buy more	7.25	NA	NA	NA	NA	NA
Food bought didn't last and (I/we) didn't have money to get more	6.32	NA	NA	NA	NA	NA
Couldn't afford to eat balanced meals	6.45	NA	NA	NA	NA	NA
Relied on few kinds of low-cost food to feed child(ren)	7.93	NA	NA	NA	NA	NA
Couldn't feed child(ren) balanced meals	4.79	NA	NA	NA	NA	NA
Child(ren) were not eating enough	2.63	NA	NA	NA	NA	NA
Adult(s) cut size of meals or skipped meals	4.45	65	14	21	8.3	1.24
Respondent ate less than felt he/she should	4.08	55	17	27	10.3	1.40
Respondent hungry but didn't eat because couldn't afford	2.24	58	17	25	9.3	.69
Respondent lost weight	1.41	NA	NA	NA	NA	NA
Adult(s) did not eat for whole day	.89	73	13	14	6.7	.20
Cut size of child(ren)'s meals	1.35	59	21	20	8.5	.38
Child(ren) were hungry	.78	65	14	21	8.0	.21
Child(ren) skipped meals	.52	78	12	10	6.0	.10
Child(ren) did not eat for whole day	.11	NA	NA	NA	NA	NA

¹Survey 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 9-15, 2007.

²The 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."

³Households 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 2007 Current Population Survey Food Security Supplement.

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 4.45 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, 65 percent reported that this had occurred in 1 to 7 days, 14 percent reported that it had occurred in 8-14 days, and 21 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 8.3 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 6.0 days for *child(ren) skipped meals* to 10.3 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

occurred.² These daily prevalence rates ranged from 1.40 percent for *respondent ate less than he/she felt he/she should* to 0.10 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 monthly and annual prevalence of the various indicator conditions provides a basis for approximating the average daily prevalence of very low food security during the reference 30-day period. For the adult-referenced items, daily prevalences ranged from 22 to 34 percent of their prevalence at any time during the month (analysis not shown, based on table A-5) and from 15 to 22 percent of their prevalence at any time during the year (analysis not shown, based on tables A-3 and A-5). The corresponding ranges for daily prevalences of the child-referenced items were 19 to 28 percent of monthly prevalence and 14 to 20 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.

²Average daily prevalence is calculated as the product of the 30-day prevalence and the average number of days divided by 30.