

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 and hunger. 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 16.6 percent of households in 2004 (table A-1). *Adults cutting the size of meals or skipping meals because there wasn't enough money for food* was reported by 6.6 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 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 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 food-secure households (71.5 percent of all households with children and 84.2 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 (10.9 percent of households with children and 6.9 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 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; and Winicki and Jemison, 2003).

Table A-1

Responses to items in the food security scale, 2001-04¹

Scale item ²	Households affirming item ³			
	2001	2002	2003	2004
	<i>Percent</i>			
Household items:				
Worried food would run out before (I/we) got money to buy more	15.3	15.6	15.7	16.6
Food bought didn't last and (I/we) didn't have money to get more	12.3	12.4	12.3	13.1
Couldn't afford to eat balanced meals	10.0	10.5	10.8	11.6
Adult items:				
Adult(s) cut size of meals or skipped meals	5.7	6.0	6.2	6.6
Respondent ate less than felt he/she should	5.7	5.9	5.9	6.3
Adult(s) cut size or skipped meals in 3 or more months	4.0	4.2	4.4	4.8
Respondent hungry but didn't eat because couldn't afford	2.4	2.7	2.7	3.1
Respondent lost weight	1.5	1.8	1.7	2.0
Adult(s) did not eat for whole day	1.1	1.2	1.2	1.3
Adult(s) did not eat for whole day in 3 or more months	.8	.8	.9	1.0
Child items:				
Relied on few kinds of low-cost food to feed child(ren)	15.7	16.5	16.1	17.1
Couldn't feed child(ren) balanced meals	8.6	8.9	8.9	9.8
Child(ren) were not eating enough	4.1	4.3	4.7	4.6
Cut size of child(ren)'s meals	1.0	1.2	1.0	1.2
Child(ren) were hungry	.7	.9	.7	1.0
Child(ren) skipped meals	.4	.7	.4	.6
Child(ren) skipped meals in 3 or more months	.3	.5	.3	.4
Child(ren) did not eat for whole day	.1	.1	.1	.1

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 excluded from the denominator. Households without children are excluded from the denominator of child-referenced items.

Source: Calculated by ERS using data from the December 2001, December 2002, December 2003, and December 2004 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 the responses can provide insight into the frequency and duration of food insecurity and hunger.

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,” 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 20+04 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 16 to 24 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 12.9 percent reported that this had occurred sometimes (but not often). Thus, a total of 16.6 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, 19 to 32 percent of households that responded “yes” to the base question reported that the behavior, experience, or condition occurred “in almost every month;” 37 to 50 percent reported that it occurred in “some months, but not every month;” and 27 to 35 percent reported that it occurred “in only 1 or 2 months.” For example, 6.6 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 follow-up question asking how often this happened, 2.1 percent said that it happened in almost every month (i.e., 32 percent of those who responded “yes” to the base question), 2.6 percent said it happened in some months but not every month (40 percent of those who responded “yes” to the base question), and 1.9 percent said it happened in only 1 or 2 months (28 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 food insecure with hunger. 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, 30 to 46 percent of households that affirmed adult-referenced questions and 21 to 28 percent of households that affirmed child-referenced questions reported that the conditions had occurred in “almost every month.”

Table A-2

Percentage of households by food security raw score, 2004

<i>Panel A: Households with children</i>			
Raw score (number of food security questions affirmed)	Percent of households ¹	Cumulative percent of households ¹	Food security status
0	71.53	71.53	Food secure (82.44 percent)
1	6.06	77.59	
2	4.84	82.44	Food insecure without hunger (13.28 percent)
3	4.05	86.49	
4	2.98	89.47	
5	2.61	92.08	
6	2.22	94.30	
7	1.42	95.72	Food insecure with hunger (4.28 percent)
8	1.07	96.79	
9	.95	97.74	
10	.83	98.58	
11	.43	99.01	
12	.32	99.33	
13	.24	99.57	
14	.16	99.73	
15	.16	99.89	
16	.03	99.92	
17	.07	99.99	
18	.01	100.00	
<i>Panel B: Households with no children</i>			
Raw score (number of food security questions affirmed)	Percent of households ¹	Cumulative percent of households ¹	Food security status
0	84.21	84.21	Food secure (91.13 percent)
1	3.95	88.16	
2	2.97	91.13	Food insecure without hunger (5.12 percent)
3	2.79	93.92	
4	1.22	95.14	
5	1.11	96.25	Food insecure with hunger (3.75 percent)
6	1.36	97.61	
7	.93	98.54	
8	.64	99.18	
9	.34	99.51	
10	.49	100.00	

¹Survey responses weighted to population totals.

Source: Calculated by ERS using data from the December 2004 Current Population Survey Food Security Supplement.

Monthly and Daily Occurrence of Food-Insecure Conditions

Monthly and daily frequency of occurrence were estimated for a subset of the behaviors, experiences, and conditions that indicate the food security status of households. For 9 of the questions, an affirmative response is followed up with a question as to whether the behavior, experience, or condition 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, which are reported in appendix E.) For 7 of the questions, if the condition is reported to have occurred during the prior 30 days, respondents are then asked in how many days the behavior, experience, or condition 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 hunger 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 4.17 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, 62 percent reported that this had occurred in 1 to 7 days, 16 percent reported that it had occurred in 8-14 days, and 22 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 8.9 days. The daily occurrence patterns were generally similar for all of the indicators of reduced food intake and hunger. Average days of occurrence (for those reporting occurrence at any time during the month) ranged from 6.3 days for *adult did not eat for whole day* to 9.8 days for *respondent ate less than he/she felt he/she should*.

Average daily prevalence of the various behaviors, experiences, and conditions of reduced food intake and hunger 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.³⁰ These daily prevalence rates ranged from 1.23 percent for *adult cut size of meals or skipped meals* to 0.09 percent for *children skipped meals*.

No direct measure of the daily prevalence of food insecurity with hunger based on the data available in the food security survey 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 hunger during the reference 30-day period. For the adult-referenced items, daily prevalences (table A-5) ranged from 13.8 to 19.2 percent of their prevalence at any time during the year (table A-3). The corresponding range for the child-referenced items was 15.0 percent to 18.3 percent. 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 hunger described in the first section of this report.

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

Table A-3

Frequency of occurrence of behaviors, experiences, and conditions indicating food insecurity and hunger, all U.S. households, 2004¹

Condition ²	Frequency of occurrence				
	Often or sometimes	Often	Sometimes	Often	Sometimes
	---Percent of all households---			Percent of "often or sometimes"	
Worried food would run out before (I/we) got money to buy more	16.6	3.8	12.9	23	77
Food bought didn't last and (I/we) didn't have money to get more	13.1	2.5	10.6	19	81
Couldn't afford to eat balanced meals	11.6	2.8	8.9	24	76
Relied on few kinds of low-cost food to feed child(ren)	17.1	4.0	13.1	24	76
Couldn't feed child(ren) balanced meals	9.8	1.8	8.0	18	82
Child(ren) were not eating enough	4.6	.7	3.9	16	84

Condition ²	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	6.6	2.1	2.6	1.9	32	40	28
Respondent ate less than felt he/she should	6.3	1.8	2.7	1.8	29	43	28
Respondent hungry but didn't eat because couldn't afford	3.1	1.0	1.2	.9	32	40	28
Respondent lost weight	2.0	NA	NA	NA	NA	NA	NA
Adult(s) did not eat for whole day	1.3	.4	.6	.4	29	44	27
Cut size of child(ren)'s meals	1.2	.3	.5	.4	26	45	29
Child(ren) were hungry	1.0	.3	.4	.4	28	37	35
Child(ren) skipped meals	.6	.1	.3	.2	19	50	30
Child(ren) did not eat for whole day	.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 excluded from the calculation of percentages for that item. Households without children are excluded 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 2004 Current Population Survey Food Security Supplement.

Table A-4

Frequency of occurrence of behaviors, experiences, and conditions indicating food insecurity and hunger in households classified as food insecure with hunger, 2004¹

Condition ²	Frequency of occurrence				
	Often or sometimes	Often	Sometimes	Often	Sometimes
	<i>Percent of food-insecure- with-hunger households</i>			<i>Percent of "often or sometimes"</i>	
Worried food would run out before (I/we) got money to buy more	97.8	47.2	50.6	48	52
Food bought didn't last and (I/we) didn't have money to get more	96.8	37.4	59.3	39	61
Couldn't afford to eat balanced meals	94.5	40.9	53.5	43	57
Relied on few kinds of low-cost food to feed child(ren)	97.2	47.9	49.3	49	51
Couldn't feed child(ren) balanced meals	88.1	29.3	58.8	33	67
Child(ren) were not eating enough	60.4	14.4	46.0	24	76

Condition ²	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
			<i>Percent of food-insecure-with-hunger households</i>			<i>Percent of "ever during the year"</i>	
Adult(s) cut size of meals or skipped meals	96.1	44.1	42.1	9.9	46	44	10
Respondent ate less than felt he/she should	93.6	38.2	43.0	12.3	41	46	13
Respondent hungry but didn't eat because couldn't afford	61.1	23.3	25.5	12.3	38	42	20
Respondent lost weight	44.4	NA	NA	NA	NA	NA	NA
Adult(s) did not eat for whole day	31.6	9.6	14.6	7.4	30	46	23
Cut size of child(ren)'s meals	24.9	6.9	11.6	6.3	28	47	25
Child(ren) were hungry	22.9	6.4	9.0	7.5	28	39	33
Child(ren) skipped meals	13.4	2.8	6.6	4.0	21	49	30
Child(ren) did not eat for whole day	2.8	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 excluded from the calculation of percentages for that item. Households without children are excluded 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 2004 Current Population Survey Food Security Supplement.

Table A-5

**Monthly and daily frequency of occurrence of behaviors, experiences,
and conditions indicating food insecurity with hunger, 2004¹**

Condition ²	Ever during previous 30 days	For households reporting condition at any time during previous 30 days			Monthly average occurrence <i>Days³</i>	Average daily prevalence <i>Percent³</i>
		Number of days out of previous 30 days				
		1-7 days	8-14 days	15-30 days		
		<i>Percent</i>				
Adult(s) cut size of meals or skipped meals	4.17	62	16	22	8.9	1.23
Respondent ate less than felt he/she should	3.69	59	16	26	9.8	1.21
Respondent hungry but didn't eat because couldn't afford	1.82	60	15	25	9.5	.58
Respondent lost weight	1.19	NA	NA	NA	NA	NA
Adult(s) did not eat for whole day	.85	74	13	13	6.3	.18
Cut size of child(ren)'s meals	.70	60	14	26	9.4	.22
Child(ren) were hungry	.57	62	16	21	8.6	.16
Child(ren) skipped meals	.36	72	12	17	7.5	.09
Child(ren) did not eat for whole day	.05	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 12-18, 2004.

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 2004 Current Population Survey Food Security Supplement.