

Chapter 1

Children's Eating Patterns

The potential implications for the nutritional quality of children's diets makes the relationship between maternal employment and children's eating patterns worth exploring. Reduced supervision of meals by mothers employed outside the home may lead to meal skipping or more frequent snacking among their children. On the other hand, these diet patterns could be improved by increased financial resources. The trade-off between income and time constraints on home food preparation for working mothers may also result in children consuming more food prepared outside the home, including carry-out and prepared (e.g., heat-and-serve) meals.

This chapter explores various aspects of children's eating patterns and their association with maternal employment status. All dietary patterns are examined for children age 1 to 17, by age group (and, for 13- to 17-year-olds, by gender), income category, and number of adults in the household. Two days of dietary intake data were available from the CSFII for almost all children (96 percent). Values for most outcome measures were averaged over the two days before computing means and proportions. For the small share of children with only one day of data, the Day 2 value was, in effect, assumed to be the same as Day 1.

For many of the eating patterns examined, findings for children with full-time working mothers are less positive than those for children whose mothers work part-time or are homemakers. Children of full-time working mothers, especially teenage girls, are considerably more likely to skip the morning meal than children of nonworking mothers; the prevalence of morning meal skipping by children of part-time working mothers falls in between these two groups. In addition, children of both full-time and part-time working mothers consume a greater proportion of their meals and snacks from food prepared outside the home. This may have an adverse effect on diet quality, and thus has policy implications for targeting nutrition education to working women regarding food choices when eating out and shopping for easy-to-prepare meals. Results do not suggest a strong or consistent relationship between maternal employment and the other dietary patterns examined.

Number of Eating Occasions

The relationship between maternal employment and the number of times children eat a meal or snack in a day is of interest given the widespread problem of overweight and obesity in children. The total number of eating occasions may be considered an indicator of indiscriminate snacking, or "grazing," which could lead to excess food energy intake.¹ Reduced child supervision, depending on the age of the child (i.e., as it relates to his ability to access food and feed himself), could render frequent snacking more likely. On the other hand, if children of working mothers are in child care, where an adult generally controls access to food, children may be no more likely to snack frequently over the course of the day than their counterparts with homemaker mothers.

¹ Conversely, the number of times a child eats during the day could be an indicator of undernutrition, especially in households where access to food is constrained by lack of financial resources.

The mean number of eating occasions per day for all children (1 to 17 years of age) is just under 5 (4.7; Exhibit 1.1).² This is somewhat higher than mean values reported for the U.S. population age 2 and over in 1995: 2.6 meals and 1.6 snacks per day (Lin *et al.*, 1999). The data show that as children get older they tend to eat, on average, fewer times per day (Exhibit 1.2). The mean number of eating occasions per day ranges from 5.6 for toddlers 1 to 2 years old to 4.1 for 13- to 17-year-old females. Allowing for the typical pattern of three meals per day, these values do not suggest particularly excessive snacking overall or for any of the age groups.

Exhibit 1.1

Number of Eating Occasions per Day

	Maternal Employment Status			All Children
	Full-Time	Part-Time	Homemaker	
All children				
Mean number of eating occasions	4.6**	4.8	4.8	4.7
Maximum sample size	3,900	1,859	3,023	8,782
By age group				
1 to 2 years				
Mean number of eating occasions	5.6	5.7	5.7	5.7
Maximum sample size	723	367	828	1,918
3 to 4 years				
Mean number of eating occasions	5.2	5.3	5.3	5.2
Maximum sample size	1,442	712	1,145	3,299
5 to 8 years				
Mean number of eating occasions	4.7*	4.8	4.8	4.8
Maximum sample size	836	393	631	1,860
9 to 12 years				
Mean number of eating occasions	4.4**	4.7	4.7	4.5
Maximum sample size	428	206	238	872
13 to 17 years, male				
Mean number of eating occasions	4.3	4.4	4.2	4.3
Maximum sample size	232	86	99	417
13 to 17 years, female				
Mean number of eating occasions	4.1	4.2	4.1	4.1
Maximum sample size	239	95	82	416
By income category				
Under 130% of poverty				
Mean number of eating occasions	4.3**	4.5	4.5	4.4
Maximum sample size	874	477	1,231	2,582
130 to 185% of poverty				
Mean number of eating occasions	4.5**	4.8	4.8	4.7
Maximum sample size	529	270	476	1,275

² Eating occasions were defined on the basis of self- or proxy-reported meal and snack times. Food and beverages consumed at the same time or within 10 minutes of each other were considered one eating occasion.

Exhibit 1.1

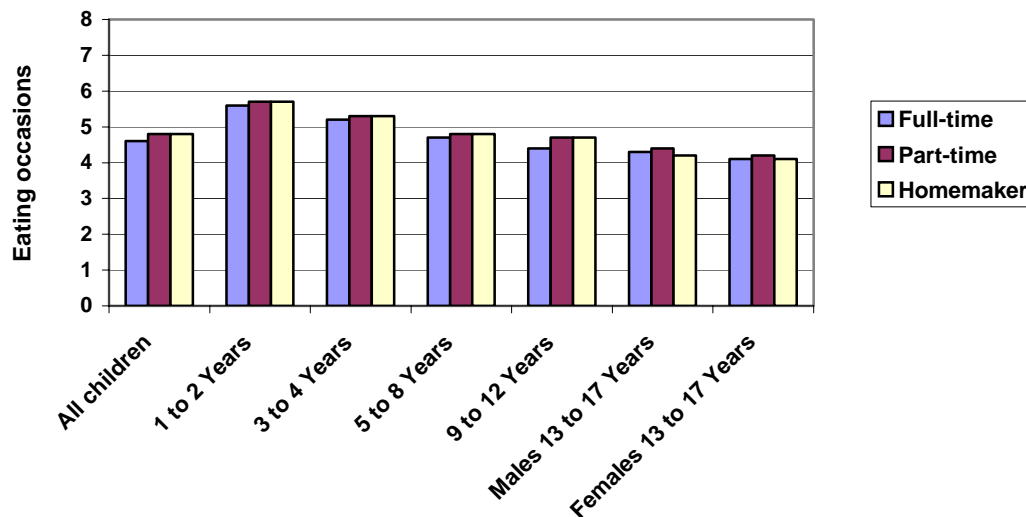
Number of Eating Occasions per Day

	Maternal Employment Status			All Children
	Full-Time	Part-Time	Homemaker	
Over 185% of poverty				
Mean number of eating occasions	4.8***	4.9	5.0	4.9
Maximum sample size	2,497	1,112	1,316	4,925
By number of adults				
One				
Mean number of eating occasions	4.4	4.3	4.3	4.4
Maximum sample size	601	193	285	1,079
Multiple				
Mean number of eating occasions	4.7**	4.9	4.8	4.8
Maximum sample size	3,299	1,666	2,738	7,703

*** Statistically significant difference from children whose mothers are homemakers at the 1 percent level
 ** Statistically significant difference from children whose mothers are homemakers at the 5 percent level
 * Statistically significant difference from children whose mothers are homemakers at the 10 percent level

Exhibit 1.2

Number of Eating Occasions, by Maternal Employment Status



When employment status is considered, no differences are seen in the frequency of meal and snack consumption between children of mothers working part-time and homemaker mothers. Children of mothers who work full-time, however, eat significantly **fewer** times per day than children with homemaker mothers (4.6 *versus* 4.8 times per day). This difference is small and is concentrated among school-age children 5 to 12 years old and children in households with multiple adults.

As household income increases, so does the average daily number of eating occasions. The difference between children with lower household income (under 130 percent of poverty) and higher

income (over 185 percent of poverty) is 0.5 eating occasions. Still, regardless of income, the negative relationship between full-time maternal employment and the number of times children eat in a day persists. Differences between children with mothers working full-time and their counterparts with homemaker mothers remain small, amounting to only 0.1 to 0.3 eating occasions per day.

Frequency of Meal Skipping

Meal skipping is a dietary pattern that may put children at risk of inadequate food and nutrient intake. It may also affect their attention, behavior and school performance (Petersen *et al.*, 2001; Pollitt and Matthews, 1998). In some households, meal skipping may result from lack of the necessary financial resources to buy food. In others, particularly households with working mothers, mothers may not be there at some meal times to supervise what or if their children eat. Given that children of working mothers tend to have higher household incomes, it was difficult to predict the relationship, if any, between maternal employment and children's meal skipping.

In order to examine meal skipping, a consistent definition of each meal was required. It was decided to classify meals on the basis of self-reported time and food energy content.³ Morning meals were defined as the consumption of at least 10 percent of the child's REA between 5:00 a.m. and 10:00 a.m. As such, beverages, snacks, and meals reported as "breakfast" (or any other meal) during that period could contribute to consumption of a morning meal. Midday and evening meals were defined as consuming at least 10 percent of the REA for food energy between 10:30 a.m. and 2:00 p.m. and 4:30 p.m. and 8:30 p.m., respectively. Meal time frames were selected to maximize the proportion of children whose main meal (breakfast, lunch, supper/dinner) was reported consumed during that time period, considering both weekdays and weekend days. For example, nearly 90 percent of children who reported eating something for breakfast or brunch ate it before 10:00 a.m. The 10-percent-of-REA criteria, which has been used in other studies of children's breakfast and lunch consumption (McLaughlin *et al.*, 2002; Gleason and Suito, 2001; Devaney and Stuart, 1998), was included to screen out meals of minimal nutritional value.⁴ Thus "meal skipping" in this study refers to failure to consume a nutritionally substantive meal rather than not eating anything at all.

Skipping the Morning Meal

Of all three types of meals, children are most likely to skip the morning meal (Exhibit 1.3). Just over one-fourth of all children fail to consume a substantive morning meal, but this dietary pattern varies considerably with child age. The highest rates of morning meal skipping are seen among school-age children (17 to 51 percent),⁵ with high schoolers (13- to 17-year-olds) more likely to skip the meal

³ Self-reported name of eating occasion was not used for two reasons: (1) the terms brunch, lunch, dinner, and supper tend to be used interchangeably depending on regional and cultural variation, and (2) a cross tabulation of self-reported meal name and time of meal revealed a fairly large proportion of meals with the same name being consumed at vastly different times of day.

⁴ The RDA for food energy among children 1 to 17 years old ranges from 1,300 (children 1 to 3 years) to 3,000 calories per day (males, 15 to 18 years). Thus, the definition of minimal nutritional value (and meal skipping) depends on the child's energy requirements.

⁵ Results are similar to an analysis of meal skipping among school-age children using 1994 to 1996 CSFII data, based on the same minimum energy intake criterion but slightly different meal time frames. The two-day average meal skipping rates ranged from 13 to 47 percent for children 6 to 18 years of age (Gleason and Suito, 2001).

than middle schoolers (9- to 12-year-olds), and middle schoolers more likely to skip than elementary school children. Teenage girls are especially likely to skip the morning meal.

Exhibit 1.3

Share of Children Skipping Morning, Midday and Evening Meals

	Maternal Employment Status			All Children
	Full-Time	Part-Time	Homemaker	
All children				
Skipped morning meal	27.7%***	25.4%	23.9%	26.4%
Skipped midday meal	12.7	10.4*	12.6	12.2
Skipped evening meal	11.8	10.6	12.3	11.8
Maximum sample size	3,900	1,859	3,023	8,782
By age group				
1 to 2 years				
Skipped morning meal	8.7%*	9.1%	11.3%	9.9%
Skipped midday meal	10.6	10.4	12.1	11.2
Skipped evening meal	8.6	9.8	10.1	9.5
Maximum sample size	723	367	828	1,918
3 to 4 years				
Skipped morning meal	12.3%	11.3%	13.2%	12.4%
Skipped midday meal	7.8	6.3*	8.3	7.6
Skipped evening meal	7.0	7.4	8.2	7.5
Maximum sample size	1,442	712	1,145	3,299
5 to 8 years				
Skipped morning meal	18.4%	16.6%	16.0%	17.3%
Skipped midday meal	9.6**	6.0	7.2	8.0
Skipped evening meal	8.2	7.2	8.9	8.2
Maximum sample size	836	393	631	1,860
9 to 12 years				
Skipped morning meal	31.0%	28.1%	28.8%	29.7%
Skipped midday meal	11.2	12.0	11.2	11.4
Skipped evening meal	9.5	10.5	9.7	9.8
Maximum sample size	428	206	238	872
13 to 17 years, male				
Skipped morning meal	40.5%	39.5%	38.0%	39.7%
Skipped midday meal	20.9	13.1	17.3	18.5
Skipped evening meal	19.2	13.7	21.5	18.6
Maximum sample size	232	86	99	417
13 to 17 years, female				
Skipped morning meal	56.4%***	49.3%**	36.1%	50.8%
Skipped midday meal	18.7	16.7	24.2	19.4
Skipped evening meal	21.8	17.5	18.9	20.3
Maximum sample size	239	95	82	416

Exhibit 1.3**Share of Children Skipping Morning, Midday and Evening Meals**

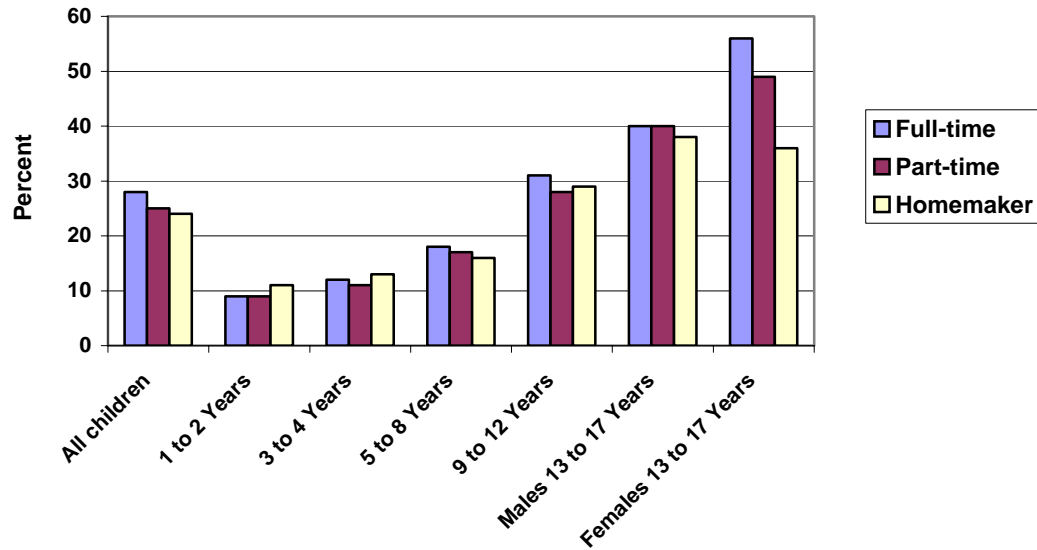
	Maternal Employment Status			All Children
	Full-Time	Part-Time	Homemaker	
By income category				
Under 130% of poverty				
Skipped morning meal	25.1%	25.4%	24.0%	24.9%
Skipped midday meal	13.0	13.0	15.4	14.1
Skipped evening meal	11.9	16.3	13.2	13.4
Maximum sample size	874	477	1,231	2,582
130 to 185% of poverty				
Skipped morning meal	26.1%	26.4%	22.9%	25.4%
Skipped midday meal	13.2	11.2**	16.4	13.4
Skipped evening meal	13.4	10.4**	16.4	13.4
Maximum sample size	529	270	476	1,275
Over 185% of poverty				
Skipped morning meal	29.0%**	25.2%	24.0%	27.2%
Skipped midday meal	12.6**	9.4	9.4	11.2
Skipped evening meal	11.6	8.8	10.8	10.8
Maximum sample size	2,497	1,112	1,316	4,925
By number of adults				
One				
Skipped morning meal	28.7%	26.3%	23.3%	27.9%
Skipped midday meal	11.1***	12.6**	19.8	12.4
Skipped evening meal	11.0	20.4**	12.9	13.0
Maximum sample size	601	193	285	1,079
Multiple				
Skipped morning meal	27.6%**	25.0%	23.9%	26.2%
Skipped midday meal	13.1	10.2	12.0	12.1
Skipped evening meal	12.0	9.4**	12.3	11.6
Maximum sample size	3,299	1,666	2,738	7,703

*** Statistically significant difference from children whose mothers are homemakers at the 1 percent level

** Statistically significant difference from children whose mothers are homemakers at the 5 percent level

* Statistically significant difference from children whose mothers are homemakers at the 10 percent level

Children whose mothers work full-time are significantly more likely to skip the morning meal than children of nonworking mothers. This is mainly attributable to teenage girls, for whom maternal employment (both part- and full-time) is strongly associated with morning meal skipping (Exhibit 1.4). Half of the females age 13 to 17 with mothers who work part-time (49 percent) and 56 percent with mothers working full-time skip the morning meal, compared with only 36 percent with homemaker mothers. The high prevalence of morning meal skipping among teenage girls with working mothers is troublesome. It raises the question of whether this behavior may relate to a desire to control weight, and implies that maternal supervision of the morning meal may be more important for teenage girls than for children in other age/gender groups. The high rates of morning meal skipping among children age 9 to 12 and teenage boys are also of concern, but they do not vary with maternal employment status.

Exhibit 1.4**Morning Meal Skipping, by Maternal Employment Status**

The relationship between maternal employment and morning meal skipping overall is replicated among children with income over 185 percent of poverty and households with multiple adults.

Skipping the Midday and Evening Meals

Skipping midday or evening meals is relatively uncommon. About 12 percent of children overall skip one of these meals, on average (Exhibit 1.3). As for morning meals, the frequency of meal skipping is lower for younger children and higher for older children. Again, the highest rates of meal skipping are found among teenage boys and girls. About one-fifth of 13- to 17-year-olds each skip the midday and evening meals.

Neither midday nor evening meal skipping appears to be related to maternal employment. There are a few statistically significant differences by age, income and number of adults in the household, but these are scattered and no clear pattern emerges. Among single-adult households, children of homemaker mothers are almost twice as likely to skip the midday meal as children of full-time and part-time working mothers (20 percent *versus* 11 and 13 percent, respectively).

Food Away from Home

The growing number of working women is one factor that has contributed to an increase in eating out (Nayaga and Capps, 1994). Food obtained away from home tends to be less healthful than foods prepared from home food supplies (Lin *et al.*, 1996 and 1999). Based on data from the 1995 CSFII, away-from-home foods contained more fat and saturated fat, and less calcium, fiber, and iron than home-prepared foods. Inappropriate levels of consumption of these dietary components have potential health consequences. Thus, it was important to document the relationship between maternal employment and sources of food for children.

The distinction between home and away-from-home food sources in the CSFII data was intended to reflect the degree of control consumers have over the nutritional content of the food they report eating. Home foods were those purchased at a store or by mail order, or foods home-grown or caught by the respondent. Away-from-home foods were defined as items from restaurants and fast food places, but also included food obtained at school, in child care, or other places.⁶ Food from home supplies may have been eaten away from home, and away-from-home food could have been eaten at home. For example, brown bag lunches brought to and eaten at school were still considered home foods, and carry-out food from a restaurant that was eaten at home was counted as food away from home.⁷ Eating occasions (defined previously) comprised of foods from multiple sources were classified based on the source contributing the most food energy (calories).

Approximately one-quarter (24 percent) of children's eating occasions consist primarily of food from away-from-home sources (Exhibit 1.5). The most important sources include food eaten at restaurants, from fast food places (10 percent), and from school cafeterias (6 percent). These figures are roughly comparable to the reported proportion of meals and snacks eaten away from home by all Americans over age 2 in 1995 (Lin *et al.*, 1999). The share of eating opportunities from child care centers and homes is quite small (1 percent), even among toddlers and preschool-age children (3 and 5 percent, respectively). Away-from-home foods tend to become a more important component of children's diets as they get older. The range for all away-from-home food sources combined is 14 percent of eating occasions for 1- to 2-year-olds to 30 percent for 13- to 17-year-old males. Overall, eating away from home does not differ by household income, although lower income children are more likely to eat at school cafeterias compared to restaurants.

As expected, children of working mothers consume a significantly higher proportion of their meals and snacks from away-from-home sources. The share of away-from-home food for children with mothers working part-time (24 percent) falls between that for children of full-time (27 percent) and homemaker mothers (20 percent). This relationship is consistent across most age, income, and household composition categories. The exceptions are teenage girls and single-adult households, where children of mothers working part-time consume a somewhat higher proportion of meals and snacks from away-from-home sources than children of full-time working or nonworking mothers.

The highest percentages of eating occasions from away-from-home sources are seen among children in one-adult households where the mother is working (31 to 32 percent). This is not surprising, given that this group of mothers is probably under the most severe time constraints, although their household income is likely to be lower than their counterparts in multiple-adult households. In multiple-adult households, children with working mothers are consuming fewer of their meals and snacks away from home. This suggests that when time constraints are partially offset by help from other adults, children obtain more of their food from home, even when they are more likely to afford eating out.

⁶ Other sources of food obtained away from home included someone else's home/gift, soup kitchen, Meals-on-Wheels, or other community food program.

⁷ Although it was recognized that ready-to-eat foods available at retail stores (e.g., deli sandwiches, roasted meats, salad bar, prepared casseroles, etc.) may be similar to carry-out items, the majority of store-bought items are likely to be used as ingredients in home food preparation.

Exhibit 1.5
Share of All Eating Occasions from Home and Away-from-Home Sources

	Maternal Employment Status			All Children
	Full-Time	Part-Time	Homemaker	
All children				
Home food supplies	73.2%***	75.4%***	79.6%	75.7%
Away-from-home sources	26.8***	24.6***	20.4	24.3
Restaurant	11.6***	10.4**	8.7	10.5
School	6.5	6.0	5.8	6.2
Child care	2.5***	1.2***	0.3	1.4
Other	6.2	7.0**	5.5	6.1
Maximum sample size	3,900	1,859	3,023	8,782
By age group				
1 to 2 years				
Home food supplies	81.3%***	85.0%***	91.4%	86.3%
Away-from-home sources	18.7***	15.0***	8.6	13.7
Restaurant	6.7***	6.6***	4.6	5.8
School	0.3**	0.3**	0.0	0.2
Child care	6.3***	2.9***	0.3	3.1
Other	5.3**	5.2*	3.7	4.6
Maximum sample size	723	367	828	1,918
3 to 4 years				
Home food supplies	75.9%***	81.7%***	86.6%	80.7%
Away-from-home sources	24.1***	18.3***	13.4	19.3
Restaurant	8.4***	7.5**	6.4	7.5
School	1.6**	1.6	1.0	1.4
Child care	7.7***	4.1***	0.9	4.6
Other	6.5***	5.1	5.0	5.7
Maximum sample size	1,442	712	1,145	3,299
5 to 8 years				
Home food supplies	72.4%***	76.3%**	79.7%	75.6%
Away-from-home sources	27.6***	23.7**	20.3	24.4
Restaurant	10.1***	7.5	6.5	8.4
School	8.2	8.4	7.9	8.2
Child care	2.6***	1.1***	0.4	1.6
Other	6.6	6.6	5.6	6.3
Maximum sample size	836	393	631	1,860
9 to 12 years				
Home food supplies	72.0%***	73.6%	76.8%	73.7%
Away-from-home sources	28.0***	26.4	23.2	26.3
Restaurant	11.3***	11.8***	7.6	10.4
School	9.5	8.2	8.6	9.0
Child care	0.5***	0.2*	0.0	0.3
Other	6.7	6.1	7.0	6.7
Maximum sample size	428	206	238	872

Exhibit 1.5
Share of All Eating Occasions from Home and Away-from-Home Sources

	Maternal Employment Status			All Children
	Full-Time	Part-Time	Homemaker	
13 to 17 years, male				
Home food supplies	68.7%*	70.4%	74.1%	70.3%
Away-from-home sources	31.3*	29.6	25.9	29.7
Restaurant	17.6	14.3	15.3	16.4
School	8.3	6.4	7.0	7.6
Child care	0.0	0.0	0.0	0.0
Other	5.3	8.9***	3.6	5.7
Maximum sample size	232	86	99	417
13 to 17 years, female				
Home food supplies	71.3%	67.8%*	72.9%	70.8%
Away-from-home sources	28.7	32.2*	27.1	29.2
Restaurant	16.1	14.7	13.7	15.3
School	6.5	6.8	6.0	6.5
Child care	0.0	0.1	0.1	0.0
Other	6.0	10.4	7.3	7.2
Maximum sample size	239	95	82	416
By income category				
Under 130% of poverty				
Home food supplies	71.4%***	73.9%***	79.2%	75.5%
Away-from-home sources	28.6***	26.1***	20.8	24.5
Restaurant	10.9***	9.0***	6.1	8.5
School	10.5	10.3	9.2	9.9
Child care	2.4***	1.1***	0.2	1.1
Other	4.8	5.6	5.2	5.1
Maximum sample size	874	477	1,231	2,582
130 to 185% of poverty				
Home food supplies	74.1%***	73.5%***	79.0%	75.9%
Away-from-home sources	25.9***	26.5***	21.0	24.1
Restaurant	9.8	8.8	10.4	9.7
School	6.2**	7.2*	4.6	6.1
Child care	2.5***	1.1***	0.1	1.2
Other	7.4	9.3***	5.9	7.1
Maximum sample size	529	270	476	1,275
Over 185% of poverty				
Home food supplies	73.4%***	76.1%***	80.1%	75.8%
Away-from-home sources	26.6***	23.9***	19.9	24.2
Restaurant	12.2***	11.3	10.0	11.5
School	5.5***	4.2	3.8	4.8
Child care	2.5***	1.2***	0.4	1.6
Other	6.3	7.1*	5.8	6.3
Maximum sample size	2,497	1,112	1,316	4,925

Exhibit 1.5
Share of All Eating Occasions from Home and Away-from-Home Sources

	Maternal Employment Status			All Children
	Full-Time	Part-Time	Homemaker	
By number of adults				
One				
Home food supplies	69.0%***	67.7%***	76.4%	70.3%
Away-from-home sources	31.0***	32.3***	23.6	29.7
Restaurant	12.2***	13.6***	7.4	11.5
School	8.0**	9.4	10.8	8.7
Child care	2.9***	1.9***	0.3	1.9
Other	8.0***	7.5	5.2	7.6
Maximum sample size	601	193	285	1,079
Multiple				
Home food supplies	74.1%***	76.6%***	80.0%	76.6%
Away-from-home sources	25.9***	23.4***	20.0	23.4
Restaurant	11.5***	9.9	8.9	10.4
School	6.2*	5.5	5.4	5.8
Child care	2.4***	1.1***	0.3	1.3
Other	5.8	6.8**	5.6	5.9
Maximum sample size	3,299	1,666	2,738	7,703

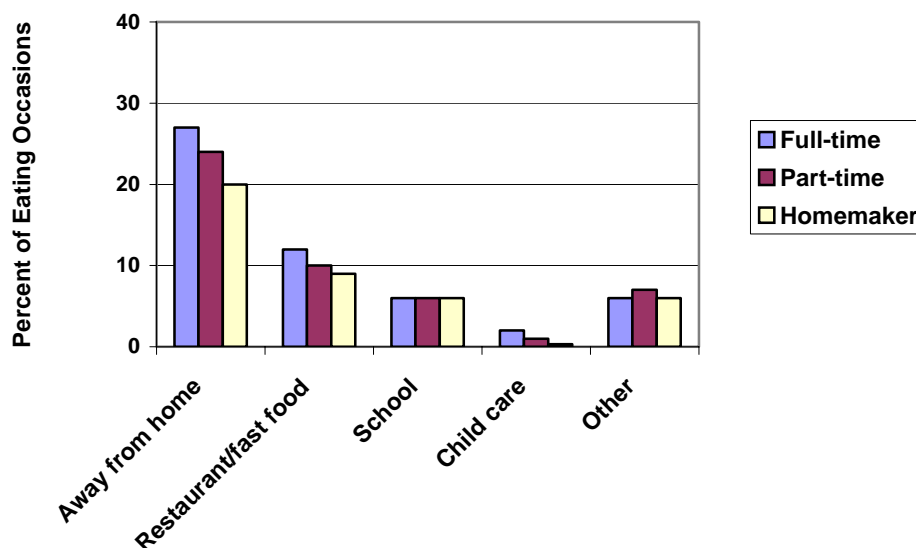
*** Statistically significant difference from children whose mothers are homemakers at the 1 percent level

** Statistically significant difference from children whose mothers are homemakers at the 5 percent level

* Statistically significant difference from children whose mothers are homemakers at the 10 percent level

Exhibit 1.6 shows the relationship between various sources of away-from-home food and maternal employment. Children of both full-time and part-time working mothers consume a significantly larger share of their eating occasions from restaurants (including fast food places) and child care than children of nonworking mothers. Children whose mothers work full-time are also significantly more likely to consume food from other sources—primarily “someone else or gift”—than children whose mothers are homemakers. Although there is no relationship overall between the share of eating occasions from school food supplies and maternal employment, this varies somewhat by income.

Significant differences among the various sources of away-from-home food between children of working and nonworking mothers are generally more sporadic for older children (13- to 17-year-olds). It may be that teenagers are less reliant on their mother for home-prepared food (i.e., they prepare more of their own meals and/or snacks) or they have their own money with which to eat out. Either of these factors would tend to make them more similar to children of homemaker mothers in terms of where they obtain their food.

Exhibit 1.6**Share of Eating Occasions from Away-from-Home Food Sources, by Maternal Employment Status**

Consumption of Carry-out and Prepared Foods

A dimension of away-from-home food consumption of particular interest is the potential for working mothers to increase their reliance on carry-out foods (i.e., “take-out”). The income/time trade-off made by working mothers is also expected to lead to greater use of prepared foods (e.g., frozen entrees), manufactured specifically with convenience in mind (Capps *et al.*, 1985; Redman, 1980). Both of these classes of foods are generally associated with higher fat and/or sodium content, and possibly lower fiber content than foods prepared at home. To the extent that children of working mothers consume a large share of total food energy intake from carry-out foods or consume prepared foods on a frequent basis, their diet quality may be adversely affected.

The CSFII does not identify carry-out foods *per se*. Therefore, it was assumed that foods from sources, including fast food establishments, restaurants with waitpersons, cafeterias (other than school), and vending machines, provided they were eaten at home, were a reasonable representation of carry-out. Defining and identifying prepared foods was more difficult, both because they are not coded as such in the CSFII dietary intake data, and because there is some debate as to what types of foods to consider “convenience” items. For example, foods such as cake, cookie and brownie mixes are more analogous to homemade than purchased items from a bakery or supermarket. Seasoned rice and noodles mixes take about the same amount of preparation time as their plain counterparts. In addition, items like granola bars and toaster pastries, although convenient if substituting for a meal, are often used by children as snacks. Therefore, a decision was made to limit the comparison of children’s intake of prepared foods to main entrees. These included frozen meals; frozen entrees such as

pizza,⁸ lasagna, macaroni and cheese, enchiladas, burritos, breakfast sandwiches, and chicken nuggets; canned entrees such as meats, chili, stew, spaghetti and meatballs, and ravioli; and instant breakfast beverages.

Carry-Out Foods

Consumption of carry-out food was examined in terms of its contribution to children's daily food energy requirement, the 1989 REA. Overall, the proportion of children's energy requirements from carry-out foods is quite minimal—less than 4 percent of REA, on average (Exhibit 1.7). This varies little with age, income, or the number of adults in the household.

Children of full-time working mothers consume significantly more of their REA from carry-out food compared with children of homemakers, but the difference is small (4 percent *versus* 3 percent). The value for children of mothers who work part-time falls in between. This relationship is similar across most age and income groups. Of note is the finding that teenage boys consume almost twice as much carry-out food if their mothers work full-time *versus* not at all.

Prepared Entrees

The average proportion of children consuming a prepared entrée on the days dietary intake data were obtained was approximately 14 percent overall (Exhibit 1.7). Prepared entrees tend to be consumed less frequently by school-age children (5 to 17 years old) than younger children (range of 10 to 19 percent). There is no evidence that consumption of prepared entrees varies with maternal employment status for all children combined. The few statistically significant differences by age and income group do not indicate a clear or consistent pattern either.

⁸ Although the USDA food codes do not distinguish between homemade pizza and frozen or other forms of prepared pizza, it was assumed that the great majority of pizza consumed by children from home food supplies would not be homemade.

Exhibit 1.7

Children's Consumption of Carry-out Food and Prepared Entrees

	Maternal Employment Status			All Children
	Full-Time	Part-Time	Homemaker	
All children				
Carry-out food (% REA)	4.3%***	3.3%	2.8%	3.6%
Prepared entrees (% children)	14.1	13.8	13.4	13.8
Maximum sample size	3,900	1,859	3,023	8,782
By age group				
1 to 2 years				
Carry-out food (% REA)	3.7%***	2.7%**	1.9%	2.7%
Prepared entrees (% children)	20.5**	18.0	17.6	18.8
Maximum sample size	723	367	828	1,918
3 to 4 years				
Carry-out food (% REA)	4.1%***	2.8%	2.8%	3.4%
Prepared entrees (% children)	18.4	19.2*	16.3	17.9
Maximum sample size	1,442	712	1,145	3,299
5 to 8 years				
Carry-out food (% REA)	4.3%***	2.7%	2.5%	3.4%
Prepared entrees (% children)	15.1	16.2	12.9	14.6
Maximum sample size	836	393	631	1,860
9 to 12 years				
Carry-out food (% REA)	4.4%**	4.7%*	2.7%	4.0%
Prepared entrees (% children)	10.7	14.1	13.3	12.2
Maximum sample size	428	206	238	872
13 to 17 years, male				
Carry-out food (% REA)	6.1%*	2.7%	3.4%	4.8%
Prepared entrees (% children)	9.8	6.8*	12.7	9.8
Maximum sample size	232	86	99	417
13 to 17 years, female				
Carry-out food (% REA)	3.3%	3.2%	3.8%	3.4%
Prepared entrees (% children)	13.1	7.3	8.5	10.9
Maximum sample size	239	95	82	416
By income category				
Under 130% of poverty				
Carry-out food (% REA)	4.0%***	3.4%	2.1%	3.0%
Prepared entrees (% children)	12.4	14.0	11.5	12.4
Maximum sample size	874	477	1,231	2,582
130 to 185% of poverty				
Carry-out food (% REA)	4.7%	1.7%**	3.4%	3.6%
Prepared entrees (% children)	15.4*	17.1**	12.2	14.9
Maximum sample size	529	270	476	1,275
Over 185% of poverty				
Carry-out food (% REA)	4.4%***	3.6%	3.1%	3.9%
Prepared entrees (% children)	14.2	12.6	15.0	14.0
Maximum sample size	2,497	1,112	1,316	4,925

Exhibit 1.7**Children's Consumption of Carry-out Food and Prepared Entrees**

	Maternal Employment Status			All Children
	Full-Time	Part-Time	Homemaker	
By number of adults				
One				
Carry-out food (% REA)	4.1%	5.5%	3.4%	4.1%
Prepared entrees (% children)	11.5	16.6	14.6	12.9
Maximum sample size	601	193	285	1,079
Multiple				
Carry-out food (% REA)	4.4%***	2.9%	2.8%	3.6%
Prepared entrees (% children)	14.7	13.4	13.2	13.9
Maximum sample size	3,299	1,666	2,738	7,703

*** Statistically significant difference from children whose mothers are homemakers at the 1 percent level

** Statistically significant difference from children whose mothers are homemakers at the 5 percent level

* Statistically significant difference from children whose mothers are homemakers at the 10 percent level
