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## Food and Families' Socioeconomic Status<sup>1</sup>

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**ABSTRACT** This paper explores the relationship between food expenditures and consumption patterns and families' socioeconomic status in the United States. Three themes follow through the paper. One is that as income rises over time and across socioeconomic groups, a smaller percent of that income is spent on food. Simultaneously, a larger percent of the food dollar buys services and food preparation moves farther away from the home. Second, characteristics of people like age and ethnicity contribute to diversity in food consumption but labor force participation by women has led the trend in away-from-home-food preparation. New scientific information and technology have changed attitudes about nutrition and food safety and their linkages to health. Finally, the continuous introduction of affordable new foods into the diet and culture of families in all socioeconomic groups has been a quiet evolution. Trying to differentiate socioeconomic groups in the United States by their food and nutritional status is almost a nonstory except for fascinating intragroup diversities that change rapidly in the postmodern society. *J. Nutr.* 124: 1878S-1885S, 1994.

### INDEXING KEY WORDS:

- food expenditures • socioeconomic • income
- family • consumption

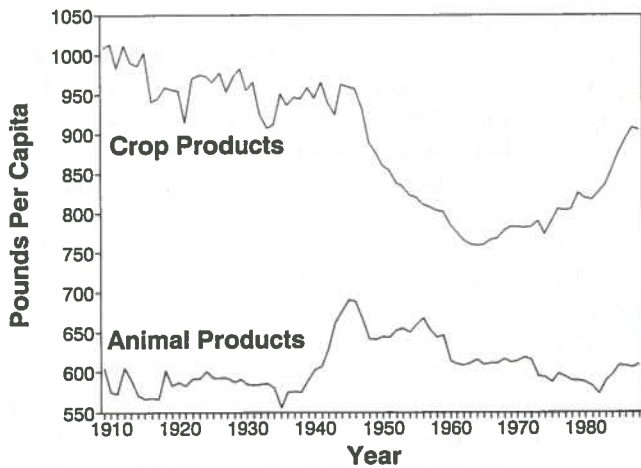
The relationship between food and nutrition and families' economic resources is a story with deep historical roots. It is a story of great diversity in detail but of remarkably universal and predictable patterns in the whole. In primitive cultures, men hunted for meat, women gathered or grew crops and prepared the food for the family to eat. In less primitive, but still poor countries today, women are the primary producers of food and the source of knowledge about food, nutrition and medicine. These women trade food in the marketplace while men are more likely to work in the labor force and earn some type of monetary income. As that income increases, the variety of foods eaten increases and includes more meat. The nutritional status generally improves, infant mortality declines and life expectancies increase. As monetary in-

come continues to grow in modernizing and modern societies such as Mexico and Korea and in postmodern societies such as the United States and Europe, three phenomena universally occur. One, as incomes increase, the quantity of food and nutrition available and consumed increases but a smaller and smaller portion of family income is needed for that food. Two, the initial increase in meat consumption levels off as the per capita calorie consumption reaches a saturation point and then meat falls as a portion of total food consumed. Nutritional concerns shift from adequacy to avoidance as obesity becomes a problem. **Figure 1** illustrates this point for the United States over the last century. Animal based food increased mid-century, then leveled off and is now falling relative to crop based foods. The third phenomenon is that the processing and preparation of food moves away from the household as families purchase more services. Ultimately, more affluent families purchase more meals ready to eat, and less food to cook.

### FOOD AND INCOME

These long run phenomena can be observed in a series of snap shots of families in the United States where a wide distribution of income and lifestyle prevails. For example, the percent of aggregate personal disposable income spent on food declined over the last 30 years from 20 to less than 12 percent (**Figure 2**). Over this time span, the portion of each food dollar spent on food eaten away from home rose from 20 to 37 percent (Figure 2). This is evidence of a substitution

<sup>1</sup> Presented at the "W.O. Atwater Centennial Celebration Symposium" held June 2-4, 1993 in Washington, D.C. The symposium was sponsored by the U.S. Department of Agriculture, the International Life Sciences Institute and the American Institute of Nutrition. Additional funding for this publication was provided by: Kellogg Company and the National Live Stock and Meat Board. Guest Editors for this supplement were: Gerald F. Combs, University of Southern Mississippi, Hattiesburg, Mississippi and Walter Mertz, Agricultural Research Service, Beltsville, Maryland.

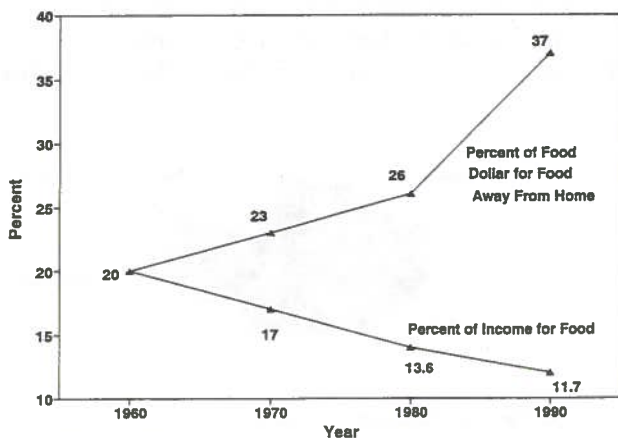


**FIGURE 1** Total crop and animal products per capita consumption, U.S. 1910-1990.

of capital for labor in the procurement of food. It has been made possible by a combination of productivity increases on the supply side and rising incomes on the demand side. This shift is also an integral part of changing lifestyles where more time is spent earning income and less time is spent doing household chores.

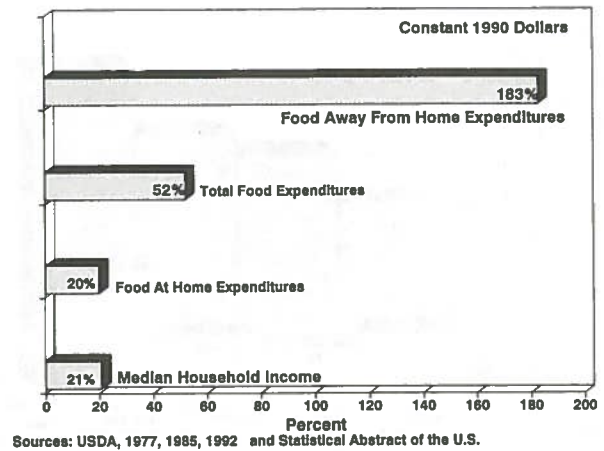
The relative magnitude in the real shift from food at home to food prepared away from home is illustrated on **Figure 3**. After adjusting median household income and aggregate food expenditures for inflation so that all numbers are in constant 1990 dollars, median household incomes rose 21 percent between 1960 and 1990. Aggregate expenditures for food at home rose almost the same amount (20 percent) while total food expenditures increased 52 percent being pushed up by the 183 percent increase in expenditures on food-away-from-home. These percentage points are large and they reflect real changes in consumption.

The decline in the percent of income spent on food as incomes rise is known as Engles Law in economics.



Source: USDA, 1977, 1985, 1992.

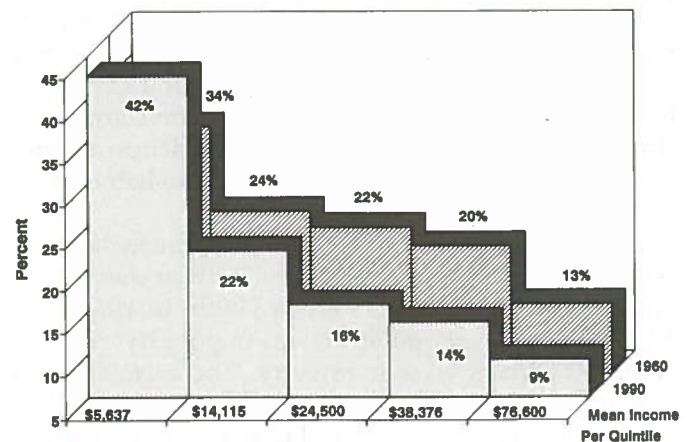
**FIGURE 2** Change in food expenditures 1960-1990 in U.S. households.



Sources: USDA, 1977, 1985, 1992 and Statistical Abstract of the U.S.

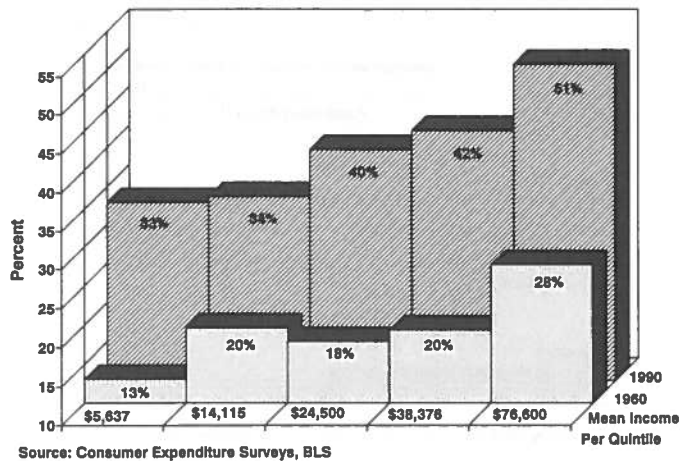
**FIGURE 3** Percent change in real aggregate income and food spending, U.S. 1960-1990.

It is based on the empirical observations of income and food expenditures over many families, in many societies, but it is rooted in the fact that even though food is a necessity, its consumption is limited by the size of the human stomach. Human beings simply cannot continue to increase their food consumption in proportion to the increases in their income. **Figure 4** illustrates this over a 30 year time span and across socioeconomic groups in the United States arranged in ascending income quintiles. The mean income listed for each quintile is for 1990. Except for the poorest quintile, the percent of income spent on food fell over time and within each year it fell dramatically as the income quintile went from the lowest to the highest. The estimated percentage in each quintile will vary slightly depending on the source of data, but the average portion of income spent on food across the whole population is typically the same as that in the fourth (upper middle group) quintile, fourteen percent in this case. This is important because the overall average is often quoted in the media and used in political deci-



Source: Consumer Expenditure Surveys, BLS

**FIGURE 4** Percent of income spent for food by income quintiles, U.S. 1960-1990.



**FIGURE 5** Percent of total food expenditure for FAFH by income quintiles, U.S. 1960–1990. FAFH = food eaten away from home.

sions about food and agricultural programs often without fully recognizing that more than half of households spend more than the national average portion of income for food.

Another little recognized fact is that food as a percent of total household expenditure (verses income) is remarkable similar in each of these quintiles. For example in 1960 the households in the lowest quintile spent 29 percent of total household expenditures on food and those in the highest quintile spent 21 percent. In 1990 this range was between 17 percent and 13 percent. This is because households in the lowest two or three quintiles typically spend more than their income due to transfer payments and subsidies like food stamps that boost spending power. On the other hand, total household expenditures are lower than income in the higher quintiles.

In terms of actual dollars spent on food in any given year, those in the richest quintile spend three to four times as much as the poor (\$7,127 verses \$2,401 per year in 1990). Much of this difference is in the amount of value added processing and services that accompany the food purchased by higher income people. **Figure 5** shows how expenditure on food eaten away-from-home (FAFH) increases directly with income both over time and across quintiles. By 1990 the richest twenty percent of the households spent more than half of their food dollar on food-away-from-home.

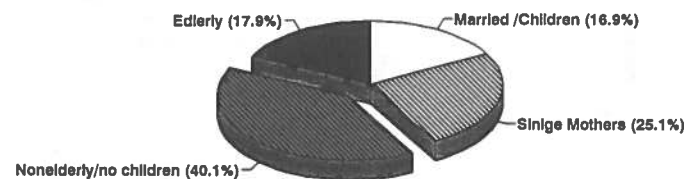
Most of the families in the lowest quintile have incomes below the poverty level (\$6,280 for one person and \$12,700 for four persons in 1990). In 1960 over 22 percent of the population was in poverty; in 1990 about 13 percent were in poverty. The correlation of poverty and hunger and malnutrition is well known, but thanks to several food and nutrition programs including food stamps, most of the poor families are less hungry today than 30 years ago. Studies have shown

that the poor actually purchase food more efficiently, obtaining more nutrients per dollar than their richer neighbors (Senauer, Asp & Kinsey, 1991). Still, in 1986 a larger percent of women and children in poverty received less than 70 percent of the recommended daily allowances of many nutrients than those whose incomes were above the poverty line. At the same time women in poverty were much more likely to be obese than their richer sisters (Senauer, Asp and Kinsey, 1991).

In the midst of abundance and affluence there are still malnourished and hungry people in the United States. The types of people most likely to be found in poverty are children (over 18 percent of all children and over 45 percent of black and Hispanic children), about half of the single mothers and their families, the homeless, and about one-fifth of the unemployed. One of the success stories is the decline of poverty among the elderly (Senauer, Asp and Kinsey, 1991). **Figure 6** shows that among the households in poverty in 1987, one quarter were single mothers, 17 percent were married couples with children. Two-fifths were, however, nonelderly, nonfamily households without children; 18 percent were elderly.

## FOOD AND FAMILY COMPOSITION

There are many dimensions that define the socioeconomic status of a family or a household. Before trying to discuss them, it should be clear that families are a subset of households whose members are related by blood, marriage or adoption. About 72 percent of households in the United States are classified as families by the Census Bureau. **Figure 7** shows that one fifth of families were single parents in 1987. Among the married couples about half of them had children present. Less than 7 percent of all households now look like the old stereotypical family of four with a working husband, wife not in the labor force and two children ages 9 to 15. Households, on the other hand, include nonfamily units. Over half of all households in this country have two or fewer persons in them (Senauer, Asp and Kinsey,



Source: Statistical Abstract of the United States

**FIGURE 6** Distribution of poverty in the United States, 1987.

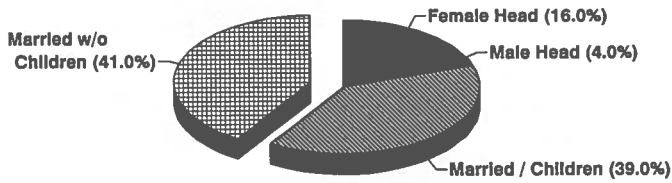


FIGURE 7 Family composition, U.S. 1987.

1991). In the discussion that follows, "families" are defined as a married couple with or without children and single parents with children (Smallwood, Blisard and Blaylock, 1991).

Because the composition of the family determines so much of the lifestyle and the socioeconomic position of its members, this way of dividing families and examining their food consumption patterns can be instructive. Table 1 provides some details about the characteristics of these various family types. The youngest were the married couples with children under 6 years old; the oldest were married couples without children. Families with adult children at home had the highest earned income (\$46,328), mostly because they were in their middle years with higher earnings and because they may have had more adult earners in the family. Married couples with no children had the

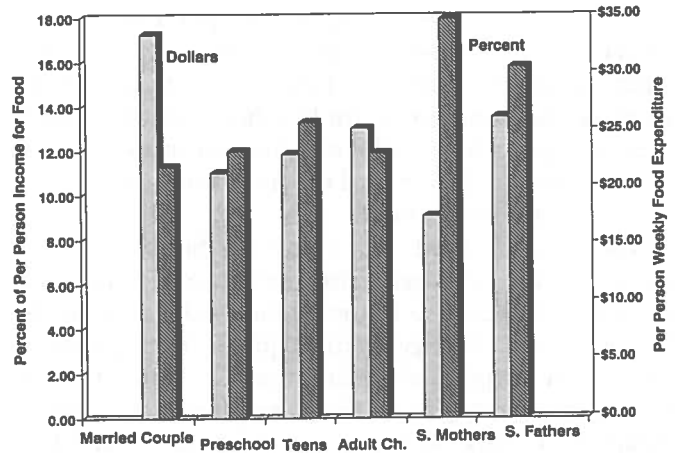


FIGURE 8 Per person income and food expenditure by family type, U.S. 1988.

highest net income per family member (\$15,417). They also had the highest weekly per person food expenditure (\$33.49) and spent the lowest percent of their income on food (10.4 percent). Figure 8 illustrates the differences between the amount of money spent on food per person per week and the percent of income spent. Single mothers spent the lowest amount on food (\$17.65 per person, per week) and the highest percent of their income on food (about 18 percent).

TABLE 1

Family Composition and Food Expenditures—1988

	Married couple, no children	Married with oldest child < 6 years old	Married with oldest child 6-17 years old	Married with oldest child > 17 years old	Single Mother with one or more children	Single Father with one or more children
Avg. age	54.4	30.8	38.2	52	33.9	39.8
Avg. Income—gross	\$33,516	\$34,502	\$41,134	\$46,328	\$16,532	\$27,265
Avg. Net income	\$30,835	\$32,432	\$37,843	\$43,085	\$15,375	\$24,266
Avg. No. people	2	3.5	4.2	3.9	3	2.8
Net Income per person	\$15,417	\$9,266	\$9,010	\$11,047	\$5,125	\$8,666
Avg. Weekly Food Expend./person	\$33.49	\$21.44	\$23.07	\$25.32	\$17.65	\$26.27
Percent of gross income on food	10.4%	11.3%	12.2%	11.1%	16.7%	13.9%
Percent of per capita net income on FOOD	11.3%	12.0%	13.3%	11.9%	17.9%	15.8%
Percent of per capita net income on FAFH*	4.5%	4.2%	4.7%	4.5%	5.5%	6.9%
Percent of per capita net income on alcohol	0.9%	0.8%	0.7%	0.7%	1.0%	1.5%
Percent of Total Food \$ on FAFH	39.6%	35.3%	35.2%	37.6%	30.5%	43.6%

\* FAFH is food eaten away from home

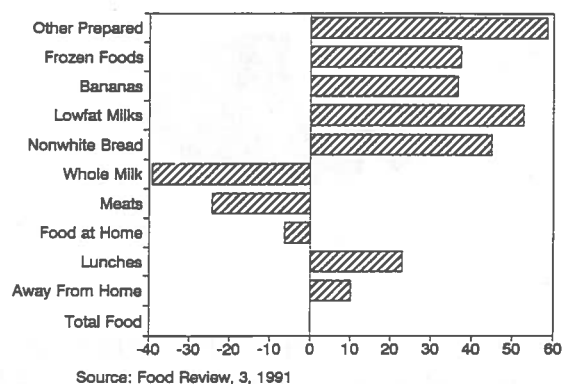
Source: Data is from the U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey" (Smallwood, Blisard, and Blaylock, 1991).

Single fathers spent the largest percent of their food dollar on food-away-from-home (43.6 percent). Single mothers spent a larger share of their food-away-from-home dollar on lunches than other families (41 percent) while married couples without children spent almost half of their food-away-from-home dollars on dinners.

The mix of foods eaten by all households has changed over the past thirty years, contributing to some noticeable shifts in food demand. After adjusting for inflation, real aggregate expenditures decreased more than 20 percent during the 1980's for the following food categories: flour and its mixes, white bread, beef, pork, fresh whole chicken, canned fish, whole milk, lettuce, butter, instant coffee, and beer and whiskey. At the same time, real expenditures increased more than 20 percent on cereal, nonwhite bread, fresh milk and cream products, ice cream, bananas, coffee, chips, nuts and snacks, seasonings, and a variety of prepared foods (Smallwood, Blisard and Blaylock, 1991). The magnitude of some of these changes plus food at and away-from-home are illustrated on **Figure 9**.

Examining the percent of food at home expenditures devoted to each of these foods by each of the various family types in Table 1 shows that there is little variation across families for nonwhite bread, ice cream, bananas, seasonings, flour, or butter. Among those foods for which real expenditures increased, cereals commanded a larger percent of the food at home dollar from single parents of both genders (6 percent). Fresh milk and cream products was most popular with single fathers and married couples with small children. Coffee took a larger share from married couples without children. Chips and snacks were over 2 percent of the food at home budget from all family types with the most from married couples with teenagers and single fathers. Prepared foods took a larger share from single mothers and single fathers and the smallest share from married couples without children.

Among those foods on which real expenditures declined, single mothers and couples with adult children at home spent a larger percent of their food at home dollars on white bread; married couples without children or with only adult children spent a larger share on beef and pork. Couples with adult children spent a larger share of their food dollar on all meats than other family types (20.5 percent). Married couples without children spent a larger share of their food dollar on fruits and vegetables than other family types (19.4 percent). Single fathers spent a larger share on fresh whole chicken and canned fish, instant coffee, and beer. Single mothers spent a larger share than others on whole milk and lettuce and the smallest share of all families on beer (Smallwood, Blisard and Blaylock, 1991).



**FIGURE 9** Percent change in real expenditures on food in the U.S., 1980-1988.

### HOUSEHOLD SIZE

Several studies have shown that there are economies of scale in household food expenditures. (Senauer, Asp and Kinsey, 1991). Data from the same set of households as analyzed above showed that the per person weekly food expenditure fell from \$18.98 for a two person household to \$11.53 for households with 6 or more persons. Data on Table 1 implies that this relationship can be altered by the composition and income of the household. For example, married couples without children spent the most per person and they were the smallest household size. The smallest amount per person was not, however, spent by the largest household—married couples with teenagers—but by single mothers. The interaction between age and household size and income all determine per person food expenditure. In general, one and two person households spend a larger share of income on food-away-from-home, expect for single mothers (Senauer, Asp and Kinsey, 1991).

### AGE

Age is expected to have an effect on the types of food people eat because income and lifestyle change and because total calorie needs decline and a variety of health conditions dictate changes in diet as people age. Children eat more milk products, eggs, soups, snack foods, sweet beverages, and desserts but fewer fruits and vegetables, table spreads and meat (Cronin, Krebs-Smith, Wyse and Light, 1982). Elderly people have been found to eat about 25 percent fewer calories than at age 35 (Munro, 1980). In general, elderly eat more than the average amount of fresh fruits and vegetables, cereals, bakery products, poultry, pork, and oils. They eat less than the average amount of red meat, milk, soft drinks, prepared foods, alcohol and food-away-from-home (Senauer, Asp and Kinsey, 1991).

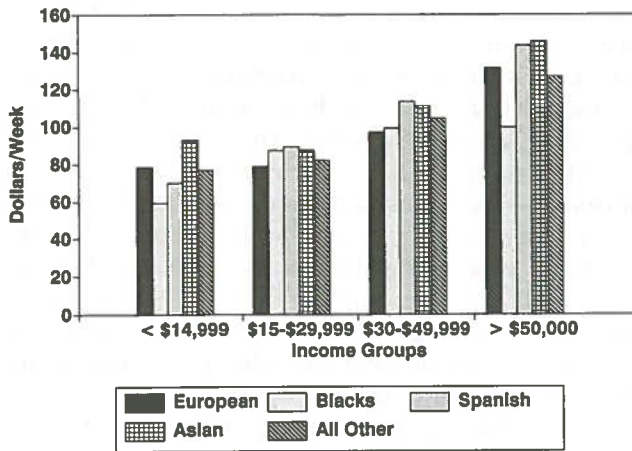


FIGURE 10 1990 U.S. household food expenditure of all food by ethnic and income group.

The 1988 Consumer Expenditure Survey showed that per person weekly food expenditures were about the same across age ranging from about \$29 for those age 55-64 to \$22 for those under age 25 (Smallwood, Blisard, and Blaylock, 1991). The portion of that expenditure for food-away-from-home, however, fell from 50 percent for those under age 25 to 29 percent for those over age 64. In spite of much personal observation that many more elderly people are eating out, no set of data supports an increase in their food-away-from-home consumption.

ETHNICITY

Another household characteristic of families that affects food consumption is ethnic background. Much of the dietary diversity experienced by families is due to numerous immigrants introducing their native foods into the mainstream meals of America. In spite of significant blending of foods from various cultures, it is known that relative to whites, nonwhites still eat more rice, legumes, pork, fish, poultry and eggs. They also eat fewer dairy products and less beef (Senauer, Asp and Kinsey, 1991).

Examining food expenditures of "pure ethnic households" in the 1990 Consumer Expenditure Survey revealed that Hispanics and Asians spent more on food than most other households and Blacks spent less. "Pure ethnic households" were defined as those where both the household head and the spouse were identified as being from the same ethnic group. Figure 10 shows the relative food expenditures in different income groups. Table 2 shows that average weekly food expenditures for beef, milk products and fruits and vegetables was highest among the Spanish origin households.<sup>2</sup> Black households spent more on poultry and less on cheese and milk products than all other households. As incomes rise among these households,

TABLE 2  
Ethnic Household Mean Weekly Food Expenditures

FOOD	Pure Ethnic Households				All Others	Total
	European	Blacks	Spanish	All		
	(dollars/week)					
Beef	5.25	5.98	7.30	6.05		
Poultry	2.58	3.21	3.17	2.79		
Milk Products	3.63	2.38	4.74	3.65		
Fruits & Vegetables	6.12	6.19	8.02	6.22		
Sweets	2.55	1.95	2.07	2.55		
Oils	1.74	1.69	1.66	1.81		
Cheese	2.38	1.34	1.95	2.24		
Sample Size	1244	240	103	6617	8204	
Percent of total	15.2	2.9	1.3	80.7	100	

Source: Continuing Consumer Expenditure Survey—1990, U.S. Department of Labor, Bureau of Labor Statistics.

both black and Spanish households decreased their expenditures on milk products; blacks also decreased their expenditures on oils (Table 3).

LABOR FORCE PARTICIPATION

Perhaps nothing influences how and where families eat more than the labor force participation of the wife/mother. In 1990 almost 70 percent of all women were

<sup>2</sup> The vast majority (77 percent) of households are in the "other" group in Figure 10 and the percent of pure ethnic households is smaller than in the actual population. Figure 10 and Table 2 are based on work done by Dr. Michael Besch of the Institut fur Wirtschafts und Sozialwissenschaftler, Munchen, Germany, while he was a visiting professor at the University of Minnesota in 1992.

TABLE 3  
Percent Change in Expenditure From Low (\$14,999) to High (\$50,000) Income Group in Ethnic Households

FOOD	Pure Ethnic Households			All Others
	European	Blacks	Spanish	
Beef	34	5	37	2
Poultry	-4	5	116	46
Milk Products	1	-18	-22	-1
Fruits & Vegetables	51	30	36	66
Sweets	27	12	133	54
Oils	40	-40	37	27
Cheese	52	265	33	78

Source: Continuing Consumer Expenditure Survey—1990, U.S. Department of Labor, Bureau of Labor Statistics.

in the labor force. The percentage was higher for those with more than a high school education. Among families where the husband worked full time in 1987, 72 percent of their wives worked and 70 percent of the working wives worked full time. Those families with two adults in the labor force full time earned an average of only 32 percent more than families where the wife did not work at all but only 10 percent more than the average of all families where the husband worked full time (Statistical Abstract of the United States, 1990). This does not paint a picture of numerous dual earner career families crowding into upper income groups. It does paint a picture of many dual earner families working multiple jobs just to maintain an average income and expenditure pattern. Dual earner families are a fact of life and they have changed food consumption patterns, perhaps permanently. The primary impact is revealed in the quest for convenience manifest in the amount of food eaten away from home, in the growing amount of take out food, and in the growing amount of prepared and convenience foods sold in grocery stores (Kinsey, 1992). This quest is spread across all income groups. The poor can eat food-away-from home within their budgets and they may be even more pressed for time to feed their families since they cannot afford to purchase other services. One study found that most working women spent less than a half hour preparing an evening meal and one-fifth spend less than 15 minutes (Burros, 1988). Preliminary results of a new survey by the author of over 500 urban and suburban households found that the average time spent making the main meal of the day was about an hour, but that the amount of time increased as income fell, with the poorest households spending an average of an hour and fifteen minutes. These meal preparation times are higher than the earlier study, but they are based only on household income, regardless of labor force participation.

One important result of dual earner families is that the wife/mother often loses her role as the "gate-keeper" of food and nutrition for her family. More food is selected and even prepared by individuals, including children. This places a special burden and responsibility on the food industry to ensure nutritious and safe food and on educators to provide information about food handling, nutrition, and safety.

### ATTITUDE AND LIFESTYLE

Attitudes about the healthfulness and safety of food have changed over the past thirty years due primarily to much new scientific information about the linkages between diet and health. Most of the studies about these changes in attitudes do not differentiate between socioeconomic groups. In a survey currently being analyzed by the author, it was found that the stated im-

portance of avoiding too much fat in the diet differs significantly across income groups. Those earning less than \$25,000 or more than \$100,000 per year were most likely to say that avoiding too much fat was very important. Among the rest of the households, about two-thirds thought it was very important. Believing that maintaining a desirable weight is very important was also correlated with very high incomes; the least importance was attached to this behavior by the middle income group earning \$35,000-\$49,999 a year. A large majority of respondents were willing to pay more for extra lean ground beef with that percentage rising directly with income from 66 percent to 93 percent. Fewer consumers stated they were willing to pay more for meat that was free of antibiotics or growth hormones (60 percent), and the pattern across income groups was less consistent than the willingness to pay for extra lean hamburger.

Examining the same attitudes for differences between men and women showed that women were significantly more likely to think it is important to avoid too much fat and to maintain a desirable weight. Men and women were similar in their willingness to pay for lean hamburger or meat without antibiotics or growth hormones. There are no big surprises in these findings, but they indicate that attitudes about food and diet tend to include its alleged effect of short and long term health and that attitudes often vary across income and gender. These attitudes influence the foods eaten.

In addition, there is what sociologists call a growing "postmodern consumer culture" (Featherstone, 1991). It is reminiscent of the patterns of an era of conspicuous consumption which was led by the rich and the new rich and emulated by everyone else. This is different, however, in that postmodern consumer behavior pervades all socioeconomic groups. It is an endless pursuit of new experiences and consumption of distinctive products and services that allow people to display their sense of style and distinguish their tastes

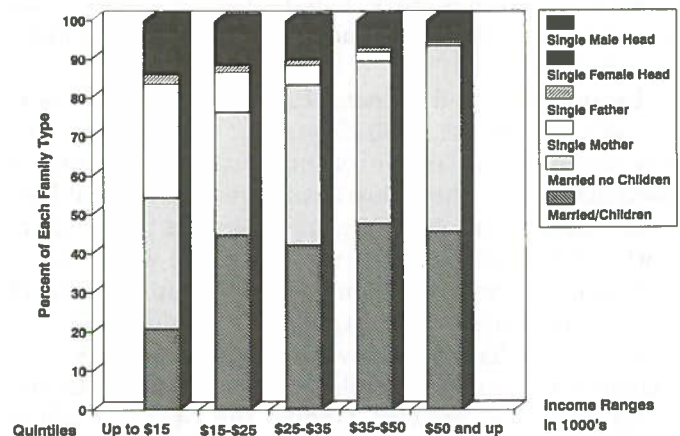


FIGURE 11 Income quintiles and family types, U.S. 1987.



from the masses. A continuous supply of new foods provides ample ammunition for these trend setters to use to display their savvy and their creativity. People at all income levels can participate, since trendy niches can readily be identified at all price levels. They have been found to include everything from jello to sushi.

### FAMILY TYPES AND SOCIOECONOMIC GROUPS

So what types of families and households comprise each socioeconomic group and what do they eat? With the vast diversity of people in the United States, this question has no straightforward answer. It depends upon how you slice the data. Since income is one common way to cut across the information about families and households, this paper will conclude by looking at the types of households in each income quintile. **Figure 11** shows that in 1987 married couples made up more than half of the households in each income quintile. In the lowest and highest income quintiles, a majority of the married couples did not have children at home. There were almost no single parents in the highest income quintile but almost a third of the lowest income quintile was made up of single parents, almost all single mothers. Married couples with children made up 42–48 percent of all income quintiles except for the poorest, where they comprised only 20 percent. This helps to explain and confirm earlier findings that single mothers spend a larger share of their incomes on food. Quite simply, they are more likely to be poor.

In spite of large differences in the amount of money and the percent of income spent on food by various socioeconomic groups in the United States, large differences in their food and nutrition consumption is hard to find. Eating patterns are both so diverse and so homogeneous across groups that it is almost a nonstory. Certainly, ambiance, and convenience and the status of exotic foods can be and is purchased by

upper income people. Just as certainly, there are hungry, malnourished children and adults in every town. But for the most part, people in all socioeconomic groups eat much of the same types and varieties of food. In its own way, the relatively even distribution of food and nutrition across socioeconomic groups is an incredible success story, yet it is not very remarkable because it has been a quiet evolution that has become part of our landscape.

### REFERENCES

- Burros, M. (1988) "It's Still Women's Work," *New York Times*, February 27.
- Cronin, F. J., Krebs-Smith, S. M., Wyse, B. W. and Light, L. (1982) "Characterizing Food Usage by Demographic Variables," *Journal of the American Dietetic Association*, 81: 661–673.
- Featherstone, M. (1991) *Consumer Culture and Postmodernism*, London: SAGE Publications.
- Kinsey, J. (1992) "The Quest for Convenience: A Matter of Time," *Cereal Foods World*, 37: 305–310.
- Munro, H. N. (1980) "Major Gaps in Nutrient Allowances," *Journal of American Dietetic Association*, 76: 137–141.
- Senauer, B., Asp, E., and Kinsey, J. (1991) *Food Trend and the Changing Consumer*, St. Paul, N., Eagan Press.
- Smallwood, D. M., Blisard, N. and Blaylock, J. R. (1991) *Food Spending in American Households, 1980–1988*, Washington D.C.: USDA, ERS, Statistical Bulletin Number 824.
- United States Department of Agriculture, (1992) *Food Consumption, Prices and Expenditures, 1970–1990*, ed. Judith Jones Putman and Jane E. Allshouse, Economic Research Service, Statistical Bulletin No. 840.
- United States Department of Agriculture, (1985) *Food Consumption, Prices and Expenditures, 1964–84*, Economic Research Service, Statistical Bulletin No. 736.
- United States Department of Agriculture, (1977) *Food Consumption, Prices and Expenditures*, Economic Research Service, Supplement for 1975 to Agricultural Economic Report No. 138.
- United States Department of Agriculture, (1991) *Food Review*, Washington D.C., Economic Research Services, 14:3, July–September.
- United States Department of Labor, (1964) *Consumer Expenditures and Income, 1960–61*, Bureau of Labor Statistics Report 237–38, Washington D.C., July.
- United States Department of Labor, (1991) "Consumer Expenditures in 1990", *NEWS*, Bureau of Labor Statistics, November 22.