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Does Time Spent Preparing Food Translate Into Better Nutrition For Family Members? A Time Use and Food Intake Analysis of Single and Dual-Earner Families

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Abstract

The use of time in the household production of food (among other things) changes with the labor-force status of the adults in the family. I identify three different family types, all headed by married couples. A single-earner family is a family in which one spouse has a full-time job (almost always the husband) and the other spouse is not in the labor-force. A dual-earner family is a family in which both spouses have a full time job, and an FT/PT family is a family in which one spouse has a full-time job and the other spouse has a part-time job. I pool together the first three releases of the American Time Use Survey (ATUS) to analyze differences in time spent preparing food for these three family types. I then use data on the quality and quantity of food intake from the Continuing Survey of Food Intake of Individuals (CSFII) to see if these differences in time use translate into differences in the nutrition of family members. I find that relatively less time is spent on preparing and shopping for food in dual-earner families and that food intake is less healthier for members of dual-earner families, compared to members of single-earner families, when controlling for family income and other demographic variables.

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1 Introduction

Becker (1965) first modeled the combining of time and money in the household production of "commodities". One of the most important commodities produced and consumed by the family is food which is vital to the well-being of family members and their health.

However, for some families it is easier to substitute time for money in the production of commodities, including food. Lazear and Michael (1980) compare between single-earner and dual-earner families (all married couples), and find that a single-earner family needs to spend only 77 percent of what a dual-earner family spends on market goods and services, in order to experience the same level of well-being. Retirees, on the other hand, accompany a dramatic fall in food expenditure at retirement with an equally dramatic increase in time spent preparing and shopping for food (Aguiar and Hurst 2005). Consequentially, the quantity and quality of their food intake do not fall (and even improve).

In light of the findings above, and of the increasing interest in the nutrition of individuals in the U.S., this paper is an attempt to investigate if single-earner families indeed substitute time for money in the production of food, and if this substitution has any effects on the nutrition of family members of single-earner families, compared to those of dual-earner families.

I find that relatively less time is spent on preparing and shopping for food in dual-earner families and that food intake is less healthier for members of dual-earner families, compared to members of single-earner families, when controlling for family income and other demographic variables. These findings hold for both the parents and the children in these families.

In Section 2 I provide a more thorough review of the literature mentioned above. In section 3 I carefully define the family types discussed in this paper, and then briefly go over the historical trends in the proportion of dual-earner families in the population and in the earnings of dual-earner families compared to those of single-earner families in section 4. In Section 5 I present my analysis of the differences in time spent preparing food between three main family types: single- earners, dual-earners, and married couples were one spouse works full-time, and the other part-time. Section 6 presents the food intake analysis.

2 Related Literature

Two main papers lend themselves to the research approach taken in this analysis of time use and food intake of single-earner and dual-earner families. The first is Lazear and Michael (1980) which is probably the most straightforward comparison ever made by economists between single-earner and dual-earner families, and the second is Aguiar and Hurst (2005) which suggests a novel way of looking at the well-being of family members, combining time use and food intake analysis. I discuss these two papers below.

2.1 Comparing Single and Dual-Earner Families

Lazear and Michael (1980) make an attempt at comparing the standard of living of single-earner and dual-earner families, realizing that two families of the same size and income will differ in their well-being if the number of earners in each family is different. Apart from differences in the transformation of nominal income into service flows that arise from differences in income tax paid and employment costs, there are "differences in household techniques", since dual-earner families substitute market services for work at home typically done by the non-earner spouse.

Using the 1972-1973 Consumer Expenditure Survey (CES), Lazear and Michael (1980) define "two-earner families" as families in which both husband and wife had worked full time (more than 35 hours per week and 26 weeks) during the survey year, and "one-earner families" as families in which the husband had worked full time and the wife was not employed in the survey year. They limit the analysis to couples without children in which the male is younger then 65. On average, they find a 35 percent difference in before-tax income between dual and single-earner families. This difference is reduced to 25 percent after-tax, and further reduced to about 20 percent after adjusting for differences in the characteristics of the two groups.

When looking at spending data, the average difference between the family types is 17 percent, with the largest differences being in clothing (54 percent) durables (45 percent), and transportation (32 percent). All these spending categories are very much expenses related to the employment of the wife in dual-earner families. There is also a shift towards spending on food away from home for dual-earner families, although

total food expenditures do not differ much. Thus, if the adjusted difference in income is 20 percent, and the spending difference is 17 percent, most of which seems related to the employment of the wife, the difference between the average dual-earner family and the average single-earner family appear to be relatively small.

Lazear and Michael make a simple assumption that the flow of services of type i, denoted S_i, is equal to the amount of market good X_i consumed by the dual-earner family, but equal to $X_i(1 + J_i)$ for a single-earner family (since less market goods are needed for the same flow of services). They then use a Stone-Geary framework to estimate the J_i's for the different service flows. They get 0.48 for food, 1.21 for clothing, and 0.86 for transportation, and conclude that on average, service flows are only 77 percent as expensive for single-earner families as they are for dual-earner families, implying that if a single-earner family spends 77 percent of what a dual-earner spends on market goods and services, the two families will experience the same level of well-being.

2.2 Substituting Food Intake for Food Expenditure

Aguiar and Hurst (2005) stress the point that expenditure is not a good measure of consumption, since consumption of commodities combines market expenditure and time, and criticize the common practice of using food expenditure as a proxy for consumption. Retired couples, they find, substitute time for expenditure in the production of food, resulting in a dramatic decline in food expenditures (17 percent). However, time use data[1] reveals that retired couples spend more time preparing and shopping for food (18 minutes more per day), while food diary data[2] shows that the quality and quantity of food intake does not deteriorate at retirement (and actually improves), but does deteriorate in the case of unemployment, along with a fall in food expenditure. Aguiar and Hurst therefore conclude that the quantity and quality of food intake is a better proxy for real consumption than food expenditure, since food intake seems to be smoothed over expected changes (retirement), but not over unexpected changes (unemployment).

[1] From the National Human Activity Pattern Survey (NHAPS)

[2] From the Continuing Survey of Food Intake of Individuals (CSFII)

3 Defining Family Types

I define three different family types as follows. A family is "Single-Earner" (SE) if a married couple (with or without children), with one spouse working full time (35+ hours a week), and the other not working at all[3]. A "Dual-Earner" (DE) family is a married couple in which both spouses work full time, and a "Full Time - Part Time" (FT/PT) family is a married couple in which one spouse works full time and the other works part time (less that 35 hours a week). If one spouse is retired or disabled (R/D), that family is not identified as single-earner, dual-earner or FT/PT family.

4 Historical Trends

4.1 Relative Shares in Population

Figure 1 shows the historical trends in the share of each family type in the population, while Figure 2 depicts the changes in the composition when looking at the three main family types alone. While the share of FT/PT families remained relatively constant from the late 1970's to 2000, there is a clear shift in the composition of families from single-earners to dual-earners over the last three decades. However, it does not have to be the case that single-earner families are simply turning into dual-earner ones. It could be that single-earner families are becoming FT/PT families, and FT/PT families are becoming dual-earners. In any case, these trends are consistent with the continuous rise in the labor force participation rate of married women.

4.2 Earnings

According to the U.S. Census Bureau (2007, Table 680), in 1980 the median family income of married couples with the wife in the paid labor force was $58,300 in constant(2004) dollars, compared to $41,200 for married couples with the wife out of the paid labor force. By 2004 the median for dual-earner families had risen to $76,800, compared to only $42,200 for single-earners, so that single-earner families did not experience any real change in median income in more than 20 years. This increasing

[3]the work status was identified by the variable "usual hours worked weekly" in each survey used

difference between the incomes of single-earner and dual-earner families can be seen in Figure 3. While in the late 1970's dual-earner families' income was, on average, higher by about 25 percent than that of single-earners, this percentage difference climbed to above 60 percent in 2000. At the same time, the income difference between FT/PT families and single-earners climbed from 12 percent to 46 percent. Conditional on demographic variables, however, the differences are less substantial. The reason for this increasing disparity is the increasing amount of money brought home by the working wives. As seen in Figure 4, differences in the earnings of the men in these families have not changed much during this period, while the differences between the women have been rising.

5 Analysis of Time Use Data

5.1 The American Time Use Survey (ATUS)

The ATUS consists of a sub-sample of households from the Current Population Survey (CPS) in each year, beginning in 2003. While CPS data is available for all household members in ATUS, time diary data is collected only for one respondent per household, chosen randomly from household members ages 15+. The ATUS data sets from 2003, 2004 and 2005 have been pooled together here to create a data set with more than 47,000 households. Table 1 presents weighted summary statistics for ATUS variables relevent to this study.

Since the ATUS respondent is randomly chosen for a household, the summary statistics for men and women presented are similar. In the whole sample, including all household types, 11 percent of women live in single-earner families, 18 percent live in dual-earner families, and 8 percent in FT/PT families. These figures are similar for men, as are the mean age and the distribution by education groups. Averaging over all households, women spend 30 minutes more than men on food preparation per day, and 6 minutes more than men on grocery shopping per day.

In table 2, the sample is restricted to the three family types of interest in this study: single-earners, dual-earners, and FT/PT families, leaving us with more than 18,000 households. Again, for each family type, the mean age and the distribution

by education groups are similar for men and women, but time spent in preparing and shopping for food is now different across gender and family types. Whereas the differences between men are small, the differences between women are more substantive. Women in single-earner families spend on average about 30 minutes more per day on food preparation than women in dual-earner families and about 18 minutes more than women in FT/PT families. For time spent in shopping for groceries, these differences are less pronounced.

5.2 The Distribution of Family Types and the Number of Children

Clearly, the difference in the number of children plays a role in generating the statistics above and are controlled for, along with other variables, in the regressions below. Figure 5 depicts the distribution of ATUS households by family type for different sample cuts. When looking only at our three family types of interest, the dual-earner families comprise half of the households, with single-earners being close to 30 percent, and FT/PT families a bit more than 20 percent of the households. However, different family types have different sizes on average.

Figure 6 shows the distribution of the number of children under 18 by family type. Almost half of all dual-earner families do not have any children below the age of 18, and less than 30 percent have two or more children of that age, while more than 50 percent of single-earners have more than two children of that age. Of FT/PT families 40 percent have two ore more children under 18. Figure 7 shows an even more telling picture. While the percent of FT/PT families is more or less stable at 20 percent whatever the number of children in the family, the fraction of single-earner families rises with the number of children from below 20 percent of families with no children to above 50 percent of families with more than four children, and the fraction of dual-earner families falls with the number of children from above 60 percent of childless families to around 20 percent of families with more than four children.

5.3 Time Spent on Food Preparation

As mentioned above, women in single-earner families spend on average 30 minutes more than women in dual-earner families and 18 minutes more than women in FT/PT families preparing food. Figure 8 breaks this information further, by looking also at the number of children in the family. Whatever the number of children in the family, women in single-earner families spend more time in food preparation than women in dual-earner families. While men spend much less time in general preparing food, those in dual-earner and FT/PT families spend more time on average than those in single-earner families, as seen in figure 9.

In order to control better for factors such as age and education, I first estimate the coefficients of the following regression model:

$$\begin{aligned} food\_prep = \alpha_0 &+ \alpha_1 DE + \alpha_2 FT/PT + \alpha_3 Female \\ &+ \alpha_4 Female \cdot DE + \alpha_5 Female \cdot FT/PT \\ &+ \beta Z + \epsilon \end{aligned}$$

where $food\_prep$ is the time spent preparing and shopping for food (minutes per interview day), DE, FT/PT, and $Female$ are dummy variables, and Z is a vector of age, education, and number of children (by age groups) variables, as well as race, region, and urban/rural dummies. The results of this regression are presented in Table 3. All other things equal, women in dual-earner families spend on average 31 minutes less per day than women in single-earner families on food preparation, while FT/PT women spend 19 minutes less a day. Also, time spent on preparing food decreases with education and increases in the number of children.

As in Aguiar and Hurst (2005), I also perform the same regression with a food preparation dummy, equal to one when time spent in food preparation is positive, as the LHS variable and then with the log of food preparation minutes as the LHS variable, conditional on time spent in food preparation being positive. The results of these regression are in Tables 4 and 5. Women in dual-earner families are 9 percent less likely than single-earner women to have spent time in food preparation on the sample day, and women in FT/PT families are 6 percent Less likely to do so. Conditional on having spent time preparing food, dual-earner women spend 33 percent, and FT/PT 17 percent less time than single-earner women.

6 Analysis of Food Intake Data

6.1 The Continuing Survey of Food Intake of Individuals

The Continuing Survey of Food Intake of Individuals is a cross-sectional survey in which household level data is collected, and sample persons (adults and/or children) are chosen randomly from households (potentially more than sample person per household). Sample persons fill in detailed food diaries recording their food intake during a 24 hour period, and two diary days where collected for each sample person. I pool together data from years 1994-1996 and 1998[4]. Table 6 presents summary statistics for variables relevant to this study in the CSFII.

6.2 Regression Analysis

For each nutrient intake N_k I run the following OLS regression on all CSFII sample persons in single-earner, dual-earner, or FT/PT families.

$$\begin{aligned} log(N_k) = \alpha_{0k} &+ \alpha_{1k} log(ENERGY) + \alpha_{2k} log(INCOME) \\ &+ \alpha_{3k} DE + \alpha_{4k} FT/PT + \alpha_{5k} Female \\ &+ \alpha_{6k} Female \cdot DE + \alpha_{7k} Female \cdot FT/PT + \beta_k Z + \epsilon_k \end{aligned} \tag{1}$$

Where $ENERGY$ is the calory intake of the sample person. Aguiar and Hurst (2005) control for calorie intake on the premiss that a certain amount of calories is cheaper to achieve with an unhealthy diet, than it is with a healthy one[5]. As in the time use analysis, I include family type dummies and their interaction with a sex dummy to capture the differences between the nutrient intakes of males and females in the different family types. Z is a vector of control variables that include age and age squared, the education of the sample person and spouse and their interaction, and race, region, and urban/rural dummies. Under this specification, α_{2k} is the income elasticity of N_k , α_{3k} is the effect on N_k of being a male in a dual-earner family, compared to a male in a single-earner family, and $\alpha_{3k} + \alpha_{6k}$ is the effect on N_k of being a female in a dual-earner family, compared to a female in a single-earner family.

[4]In 1998 only children ages 2-9 were sampled in order to have an overall larger sample of children.
[5]Similar results are obtained without controlling for calory intake

The results of this initial regression are presented in Table 7, and suggest that members of single-earner families have relatively healthier diets than the counterparts in dual-earner families, and that this difference cannot be explained by differences in income or other observable variables. For example, males in dual-earner families consume, on average, 7.4 percent more Cholesterol, 11 percent less Vitamin C, and 7 percent less Fiber per sample day. They are also less likely to eat fruits and vegetables, and are 2.6 percent more likely to be obese. For females, we can see important differences in Calcium (6.2 percent less), folate (8.4 percent less), Vitamin B6 (5.1 percent less), and Vitamin A (9.6 percent when measured in IU)

When we restrict the sample to those sample persons who are either the head of the family or his/her spouse, the estimated coefficients for males are larger in magnitude. The results for the sub-sample of heads and spouses ages 25 to 55 are presented in Table 8. For example, the cholesterol coefficient for single-earner males increases to nearly 10 percent and the Obesity coefficient rises to 5.5 percent. For women, the changes are less pronounced. Table 9 shows the results for children ages 5 to 18. Again, it seems that children in dual-earner households have less healthier diets than children in single-earner households.

6.3 The Healthy Eating Index

All the regressions mentioned above result in a separate set of coefficients for each nutrient. The USDA's Healthy Eating Index (HEI) is one comprehensive measure with which to judge the adequacy of the food intake recorded in the CSFII over the two diary days. The HEI is comprised of ten different components, each worth ten points, that sum up to 100 points (see Figure 10 for the different components). According to Bowman, Lino, Gerrior, and Basiotis (1998, p. 7), "An HEI score over 80 implies a good diet, an HEI score between 51 and 80 implies a diet that needs improvement, and an HEI score less than 51 implies a poor diet"[6].

[6]The HEI referred to here is the original 1995 version. It has since been revised in 2005

6.4 Regression Analysis for HEI and its Components

Table 10 shows the regression results for all sample persons when the 1995 HEI and its components are used as the dependent variable. Table 11 shows the results for household heads and their spouses, and Table 12 shows the results for children ages 5-18. Wherever the estimated coefficients are statistically significant, the effect of being in a dual-earner family on the HEI score is negative.

References

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Table 1: ATUS Summary Statistics, By Sex

	Women		Men	
variable	**mean**	**sd**	**mean**	**sd**
SE	0.11		0.11	
DE	0.18		0.20	
FT/PT	0.08		0.08	
R/D	0.14		0.14	
Other	0.50		0.45	
Age	44.56	(18.40)	42.79	(17.68)
Ed < 12	0.19		0.21	
Ed 12	0.31		0.30	
Ed 13-15	0.26		0.23	
Ed 16+	0.24		0.26	
Children 0-2	0.10	(0.33)	0.12	(0.37)
Children 3-5	0.11	(0.35)	0.12	(0.37
Children 6-12	0.27	(0.62)	0.30	(0.65
Children 13-17	0.29	(0.61)	0.28	(0.60)
Adults 18+	2.27	(0.89)	2.14	(0.88)
White	0.89		0.88	
Black	0.11		0.12	
Northeast	0.19		0.18	
Midwest	0.25		0.25	
South	0.33		0.35	
West	0.23		0.21	
Food Prep	45.94	(60.53)	15.5	(33.65)
Groc Shop	12.38	(31.57)	6.78	(23.76)
Time Child	40.40	(93.69)	16.94	(56.65)
n	26,958		20,773	

Universe: all ATUS respondents, pooled for 2003-2005

Table 2: ATUS Summary Statistics, By Sex and Family Type

	Single Earner				Dual Earner				FT/PT			
	Women		Men		Women		Men		Women		Men	
variable	**mean**	**sd**	**mean**	**sd**	**mean**	**sd**	**mean**	**sd**	**mean**	**sd**	**mean**	**sd**
Age	39.20	(10.49)	41.28	(10.81)	42.04	(10.22)	43.90	(10.64)	43.17	(11.07)	44.56	(10.70)
Ed < 12	0.16		0.15		0.05		0.07		0.05		0.08	
Ed 12	0.31		0.29		0.30		0.33		0.29		0.22	
Ed 13-15	0.24		0.21		0.27		0.26		0.29		0.28	
Ed 16+	0.29		0.35		0.38		0.33		0.37		0.42	
Children 0-2	0.34	(0.57)	0.32	(0.55)	0.12	(0.36)	0.13	(0.39)	0.17	(0.41)	0.18	(0.44)
Children 3-5	0.33	(0.56)	0.31	(0.55)	0.14	(0.37)	0.13	(0.37)	0.20	(0.45)	0.20	(0.47)
Children 6-12	0.60	(0.86)	0.60	(0.60)	0.34	(0.64)	0.35	(0.67)	0.50	(0.79)	0.51	(0.80)
Children 13-17	0.26	(0.61)	0.29	(0.29)	0.26	(0.54)	0.27	(0.56)	0.33	(0.63)	0.31	(0.60)
Adults 18+	2.34	(0.71)	2.33	(0.69)	2.37	(0.70)	2.37	(0.68)	2.33	(0.69)	2.34	(0.67)
White	0.93		0.94		0.91		0.93		0.95		0.96	
Black	0.07		0.06		0.09		0.07		0.05		0.04	
Northeast	0.16		0.15		0.17		0.16		0.21		0.22	
Midwest	0.21		0.21		0.28		0.27		0.27		0.28	
South	0.36		0.37		0.36		0.36		0.25		0.27	
West	0.27		0.27		0.19		0.20		0.26		0.23	
Food Prep	73.96	(70.91)	14.22	(32.41)	44.10	(51.20)	16.82	(33.08)	56.33	(61.38)	17.30	(34.25)
Groc Shop	19.12	(38.99)	7.58	(26.36)	12.53	(30.67)	6.31	(23.54)	15.12	(33.33)	5.46	(20.36)
n	2,872		2,653		4,609		4,221		2,210		1,960	

Universe: all ATUS respondents from SE, DE, and FT/PT families, pooled for 2003-2005

Table 3: Effects on Time Spent Preparing Food

Variable	**Coefficient**	**(Std. Err.)**
DE	6.753***	(1.344)
FT/PT	3.177**	(1.570)
Female	72.289***	(2.133)
Female*DE	-38.148***	(2.487)
Female*FT/PT	-22.669***	(3.124)
Age	0.941**	(0.384)
Age Squared	-0.007	(0.004)
Children 0-2	6.863***	(1.307)
Children 3-5	7.580***	(1.159)
Children 6-12	4.582***	(0.707)
Children 13-17	4.948***	(1.022)
Adults 18+	2.634***	(0.954)
Midwest	-5.006***	(1.551)
South	-5.886***	(1.531)
West	-2.333	(1.717)
Intercept	38.709***	(13.958)
Significance levels :	$*$: 10%	$**$: 5% $***$: 1%

Table 4: Effects on Food Preparation Dummy

Variable	**Coefficient**	**(Std. Err.)**
DE	0.069***	(0.016)
FT/PT	0.046**	(0.019)
Female	0.479***	(0.015)
Female*DE	-0.154***	(0.019)
Female*FT/PT	-0.105***	(0.023)
Age	0.012***	(0.003)
Age Squared	0.000***	(0.000)
Children 0-2	0.036***	(0.010)
Children 3-5	0.050***	(0.009)
Children 6-12	0.021***	(0.005)
Children 13-17	0.009	(0.007)
Adults 18+	0.003	(0.007)
Midwest	-0.027**	(0.013)
South	-0.047***	(0.012)
West	-0.024*	(0.013)
Intercept	0.268**	(0.112)
Significance levels :	$*$: 10%	$**$: 5% $***$: 1%

Table 5: Effects on Log FOOD_PREP

Variable	**Coefficient**	**(Std. Err.)**
DE	0.056	(0.054)
FT/PT	-0.016	(0.063)
Female	0.797***	(0.050)
Female*DE	-0.386***	(0.061)
Female*FT/PT	-0.152**	(0.073)
Age	0.003	(0.009)
Age Squared	0.000	(0.000)
Children 0-2	0.108***	(0.025)
Children 3-5	0.084***	(0.023)
Children 6-12	0.071***	(0.014)
Children 13-17	0.097***	(0.019)
Adults 18+	0.052**	(0.020)
Midwest	-0.068**	(0.032)
South	-0.083***	(0.032)
West	-0.023	(0.034)
Intercept	4.036***	(0.254)

Significance levels : $*$: 10% $**$: 5% $***$: 1%

Table 6: CSFII Summary Statistics, By Sex

	Women		Men	
variable	**mean**	**sd**	**mean**	**sd**
SE	0.25		0.27	
DE	0.35		0.32	
FT/PT	0.16		0.15	
R/D	0.01		0.01	
Other	0.22		0.25	
Age	33.50	(21.56)	35.72	(22.5)
Ed < 12	0.20		0.21	
Ed 12	0.33		0.34	
Ed 13-15	0.22		0.23	
Ed 16+	0.26		0.22	
Children 0-2	0.19	(0.46)	0.21	(0.47)
Children 3-5	0.22	(0.50)	0.34	(0.50
Children 6-12	0.48	(0.80)	0.23	(0.80
Children 13-17	0.33	(0.66)	0.22	(0.63)
Adults 18+	2.25	(0.86)	2.12	(0.85)
White	0.88		0.86	
Black	0.12		0.14	
Northeast	0.19		0.20	
Midwest	0.24		0.23	
South	0.35		0.35	
West	0.22		0.22	
HEI Score	62.29	(10.90)	64.13	(11.27)
n	10,987		10,675	

Universe: all CSFII sample persons, 1994-1996, 1998

Table 7: Effects On Nutrient Intake: All CSFII sample Persons

Dep. Var.	**Income**	**(Std. Err.)**	α_{3k}	**(Std. Err.)**	$\alpha_{3k}+\alpha_{6k}$	**(Std. Err.)**
lcholes	-0.049***	(0.019)	0.074***	(0.024)	0.013	(0.030)
lvite	0.030**	(0.013)	-0.022	(0.019)	0.018	(0.023)
lvitc	0.058**	(0.030)	-0.108***	(0.041)	0.052	(0.041)
lsfat	0.006	(0.010)	0.045***	(0.014)	0.009	(0.016)
lcalcium	0.024**	(0.012)	-0.015	(0.018)	-0.062***	(0.019)
lfiber	0.025*	(0.013)	-0.070***	(0.019)	-0.041**	(0.020)
lfolate	0.024	(0.015)	-0.093***	(0.021)	-0.084***	(0.024)
liron	0.016	(0.010)	-0.022	(0.014)	-0.048***	(0.018)
lthiamin	0.019**	(0.009)	-0.045***	(0.014)	-0.04***	(0.016)
lvitb6	0.024*	(0.013)	-0.056***	(0.017)	-0.051***	(0.020)
lvitb12	-0.010	(0.020)	0.054**	(0.027)	-0.021	(0.036)
lvita iu	0.073***	(0.028)	-0.096***	(0.039)	-0.105***	(0.043)
lvita re	0.061***	(0.024)	-0.085***	(0.034)	-0.105***	(0.036)
eat fruit	0.004	(0.013)	-0.037*	(0.022)	-0.009	(0.023)
eat veg	0.013*	(0.007)	-0.018***	(0.009)	0.013	(0.012)
obese	0.020**	(0.010)	-0.026**	(0.016)	-0.003	(0.018)

Significance levels : $*$: 10% $**$: 5% $***$: 1%
α_{3k} is effect of being DE male
$\alpha_{3k}+\alpha_{6k}$ is effect of being DE female

Table 8: Effects On Nutrient Intake: Heads or Spouses Ages 25-55

Dep. Var.	**Income**	**(Std. Err.)**	α_{3k}	**(Std. Err.)**	$\alpha_{3k}+\alpha_{6k}$	**(Std. Err.)**
lcholes	-0.062***	(0.026)	0.098***	(0.037)	-0.006	(0.042)
lvite	0.043**	(0.018)	-0.017	(0.029)	-0.026	(0.033)
lvitc	0.057	(0.044)	-0.138**	(0.062)	0.048	(0.063)
lsfat	-0.025	(0.016)	0.069***	(0.022)	0.014	(0.026)
lcalcium	0.036*	(0.019)	-0.027	(0.029)	-0.088***	(0.029)
lfiber	0.053***	(0.020)	-0.088***	(0.029)	-0.027	(0.029)
lfolate	0.044**	(0.022)	-0.127***	(0.034)	-0.086***	(0.036)
liron	0.037**	(0.016)	-0.058***	(0.023)	-0.034	(0.028)
lthiamin	0.021	(0.015)	-0.065***	(0.022)	-0.041*	(0.024)
lvitb6	0.035**	(0.018)	-0.065***	(0.026)	-0.052*	(0.031)
lvitb12	-0.023	(0.029)	0.037	(0.044)	-0.012	(-0.047)
lvita iu	0.089*	(0.048)	-0.146**	(0.060)	-0.118*	(0.064)
lvita re	0.072*	(0.041)	-0.117**	(0.053)	-0.128***	(0.053)
eat fruit	-0.021	(0.021)	-0.057*	(0.036)	-0.008	(0.035)
eat veg	0.008	(0.009)	-0.021**	(0.010)	-0.005	(0.014)
obese	0.067***	(0.018)	-0.055**	(0.028)	0.037	(0.031)

Significance levels : $*$: 10% $**$: 5% $***$: 1%
α_{3k} is effect of being DE male
$\alpha_{3k}+\alpha_{6k}$ is effect of being DE female

Table 9: Effects On Nutrient Intake: Ages 5-18

Dep. Var.	**Income**	**(Std. Err.)**	α_{3k}	**(Std. Err.)**	$\alpha_{3k} + \alpha_{6k}$	**(Std. Err.)**
lcholes	-0.097**	(0.041)	0.084**	(0.034)	0.025	(0.050)
lvite	0.010	(0.025)	-0.008	(0.032)	0.016	(0.030)
lvitc	-0.027	(0.050)	-0.083	(0.070)	-0.024	(0.074)
lsfat	0.023	(0.016)	0.063**	(0.027)	0.017	(0.025)
lcalcium	0.032	(0.024)	-0.007	(0.031)	-0.034	(0.043)
lfiber	-0.027	(0.022)	-0.018	(0.040)	-0.080**	(0.032)
lfolate	0.008	(0.031)	-0.051	(0.047)	-0.080**	(0.032)
liron	0.012	(0.021)	-0.016	(0.028)	-0.092	(0.031)
lthiamin	0.012	(0.017)	-0.007	(0.026)	-0.070**	(0.028)
lvitb6	0.011	(0.026)	-0.051	(0.034)	-0.079**	(0.034)
lvitb12	-0.028	(0.040)	0.068	(0.037)	-0.041	(-0.060)
lvita iu	0.024	(0.050)	-0.083	(0.068)	-0.157***	(0.062)
lvita re	0.026	(0.043)	-0.062	(0.062)	-0.126**	(0.062)
eat fruit	-0.005	(0.020)	-0.001	(0.038)	-0.016	(0.038)
eat veg	0.011	(0.015)	-0.010	(0.021)	-0.066**	(0.033)

Significance levels : $*$: 10% $**$: 5% $***$: 1%
α_{3k} is effect of being DE male
$\alpha_{3k} + \alpha_{6k}$ is effect of being DE female

Table 10: Effects On HEI: All Sample Persons

Dep. Var.	**Income**	**(Std. Err.)**	α_{3k}	**(Std. Err.)**
Comp1	0.191***	(0.073)	-0.069	(0.084)
Comp2	0.017	(0.093)	0.004	(0.122)
Comp3	0.213*	(0.117)	-0.416***	(0.123)
Comp4	0.224**	(0.090)	-0.074	(0.149)
Comp5	-0.047	(0.087)	0.034	(0.101)
Comp6	-0.022	(0.096)	-0.234**	(0.097)
Comp7	-0.015	(0.108)	-0.323***	(0.113)
Comp8	0.238**	(0.117)	-0.225**	(0.091)
Comp9	-0.047	(0.106)	-0.154	(0.160)
Comp10	0.205***	(0.082)	-0.367***	(0.121)
HEI	0.955**	(0.443)	-1.824***	(0.462)

Significance levels : $*$: 10% $**$: 5% $***$: 1%
α_{3k} is effect of being DE male or female

Table 11: Effects On HEI: Heads or Spouses Ages 25-55

Dep. Var.	**Income**	**(Std. Err.)**	α_{3k}	**(Std. Err.)**
Comp1	0.227**	(0.115)	-0.057	(0.084)
Comp2	0.019	(0.148)	-0.046	(0.122)
Comp3	0.042	(0.166)	-0.405**	(0.123)
Comp4	0.240	(0.150)	-0.229	(0.149)
Comp5	-0.040	(0.119)	0.166	(0.101)
Comp6	-0.161	(0.129)	-0.462***	(0.097)
Comp7	-0.163	(0.142)	-0.532***	(0.113)
Comp8	0.332**	(0.135)	-0.319**	(0.091)
Comp9	-0.052	(0.145)	-0.268	(0.160)
Comp10	0.131	(0.127)	-0.300*	(0.121)
HEI	1.324**	(0.607)	-2.452***	(0.462)

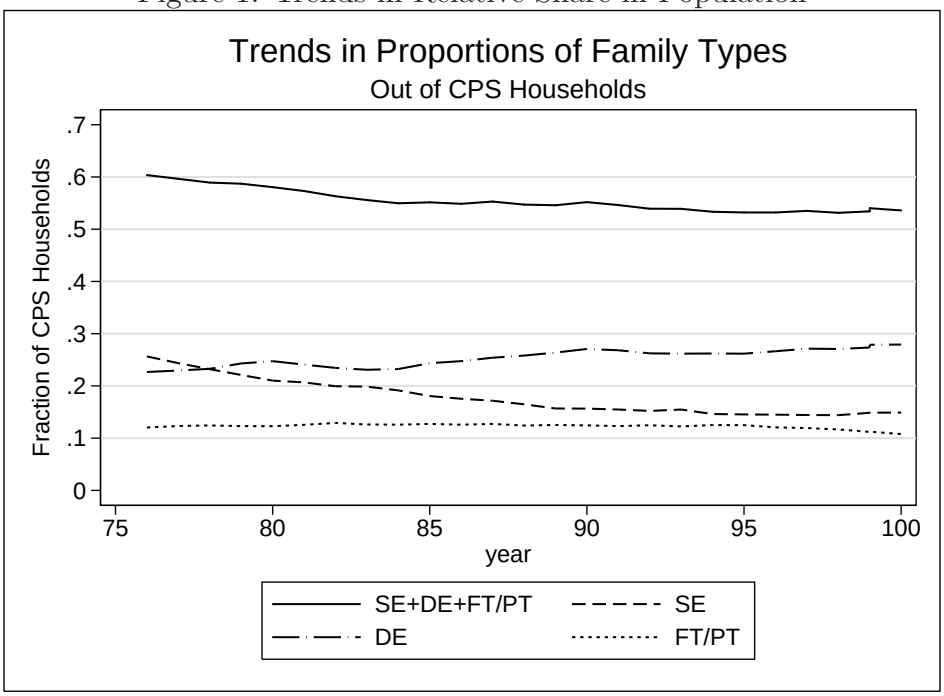
Significance levels : $*$: 10% $**$: 5% $***$: 1%
α_{3k} is effect of being DE male or female

Table 12: Effects On HEI: Ages 5-18

Dep. Var.	**Income**	**(Std. Err.)**	α_{3k}	**(Std. Err.)**
Comp1	0.170	(0.121)	-0.205	(0.084)
Comp2	-0.228	(0.169)	0.087	(0.122)
Comp3	0.311	(0.200)	-0.427*	(0.123)
Comp4	0.381**	(0.178)	-0.120	(0.149)
Comp5	-0.228	(0.155)	-0.080	(0.101)
Comp6	-0.008	(0.131)	-0.319*	(0.097)
Comp7	-0.028	(0.197)	-0.425*	(0.113)
Comp8	0.184	(0.178)	-0.163	(0.091)
Comp9	-0.004	(0.207)	-0.050	(0.160)
Comp10	0.204	(0.126)	-0.496**	(0.121)
HEI	0.503	(0.666)	-2.199**	(0.462)

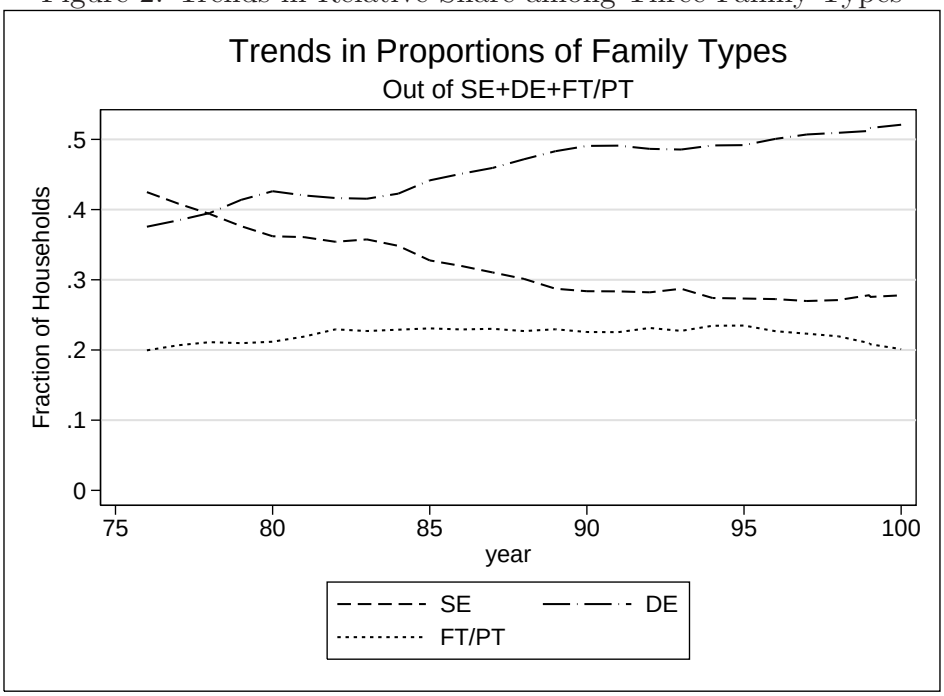
Significance levels : $*$: 10% $**$: 5% $***$: 1%
α_{3k} is effect of being DE male or female

Figure 1: Trends in Relative Share in Population



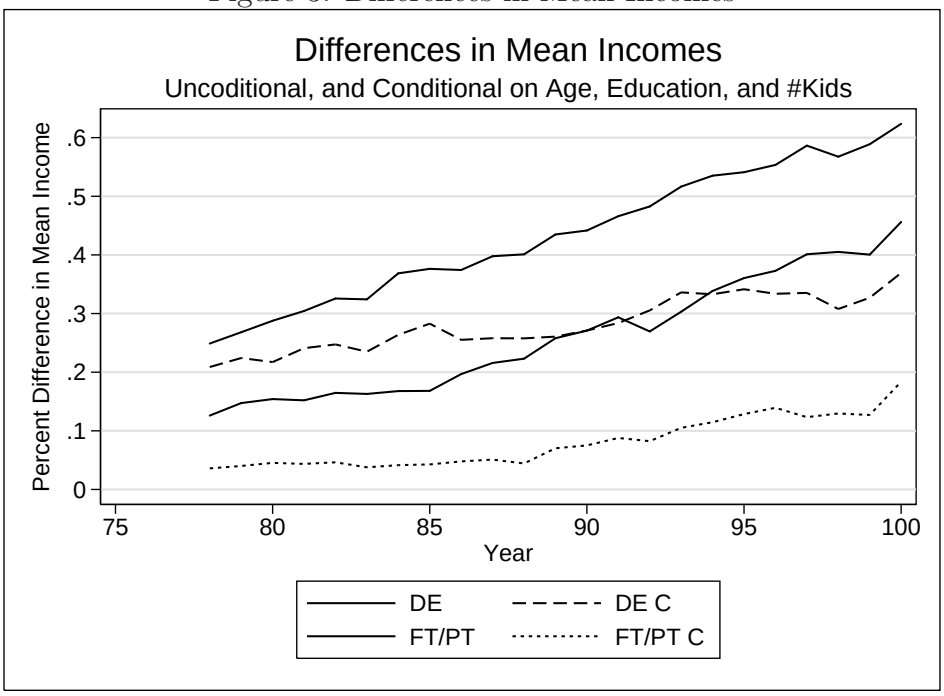
Universe: all March CPS households

Figure 2: Trends in Relative Share among Three Family Types



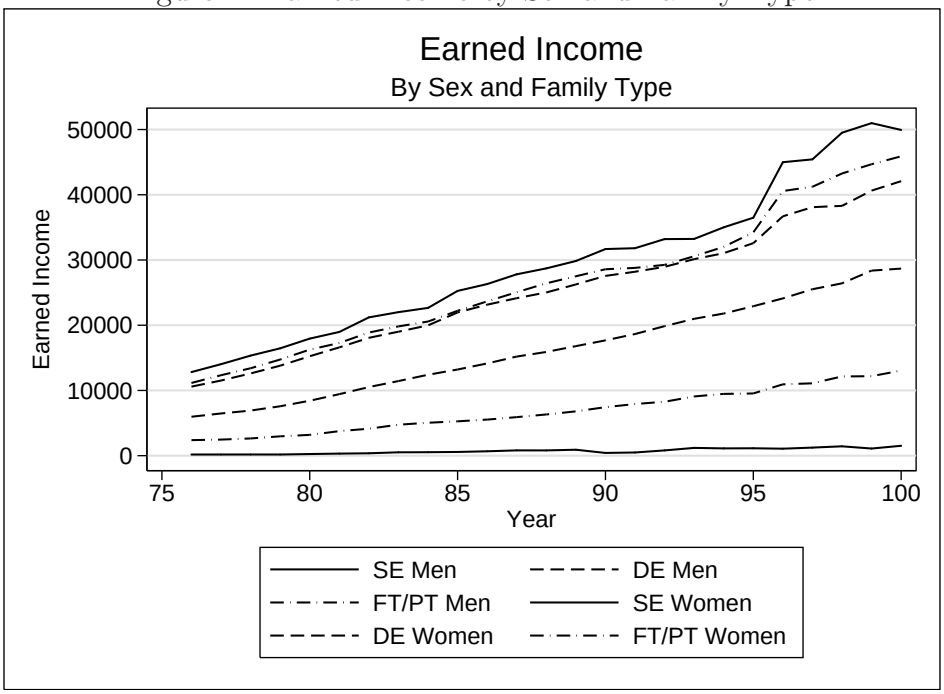
Universe: SE, D, and FT/PT CPS families

Figure 3: Differences in Mean Incomes



Source: Annual March CPS Surveys

Figure 4: Earned Income by Sex and Family Type



Source: Annnal March CPS Surveys

Figure 5: Distribution of Family Types in ATUS

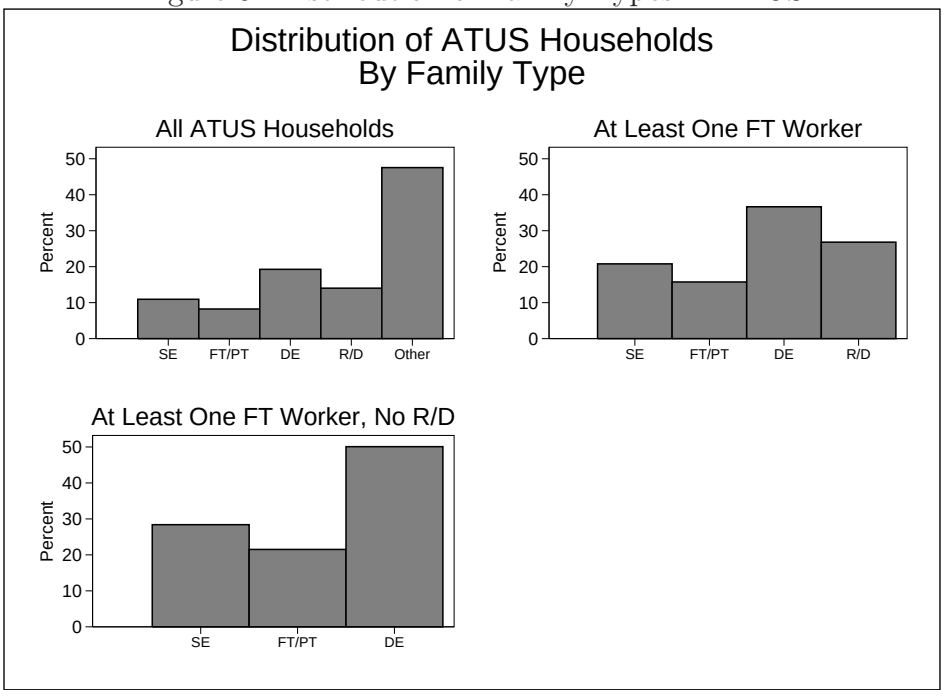


Figure 6: Distribution of Number of Children < 18, By Family Type

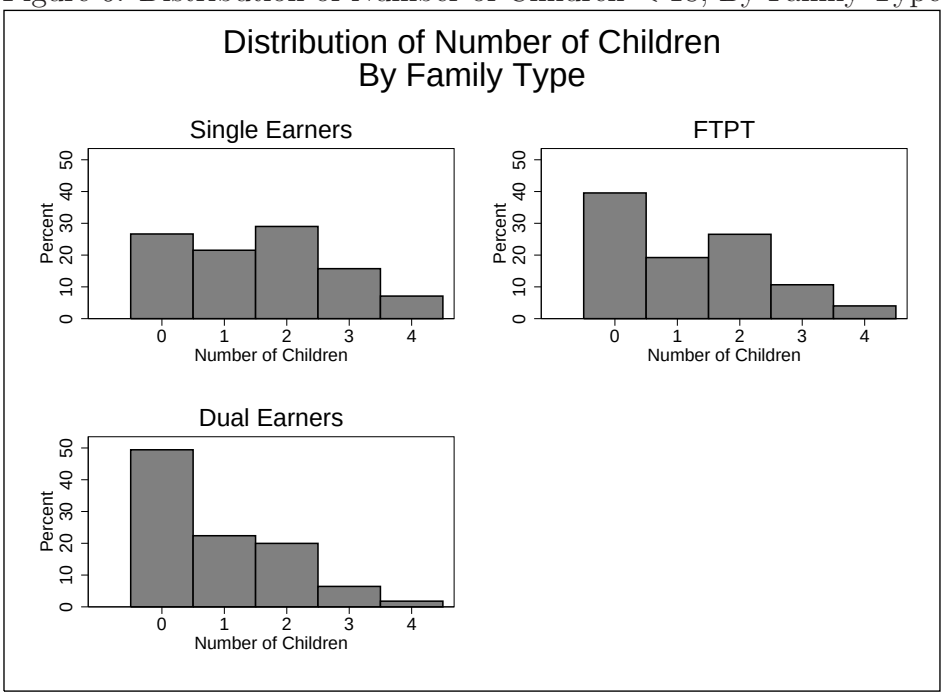


Figure 7: Distribution of Family Type, By Number of Children < 18

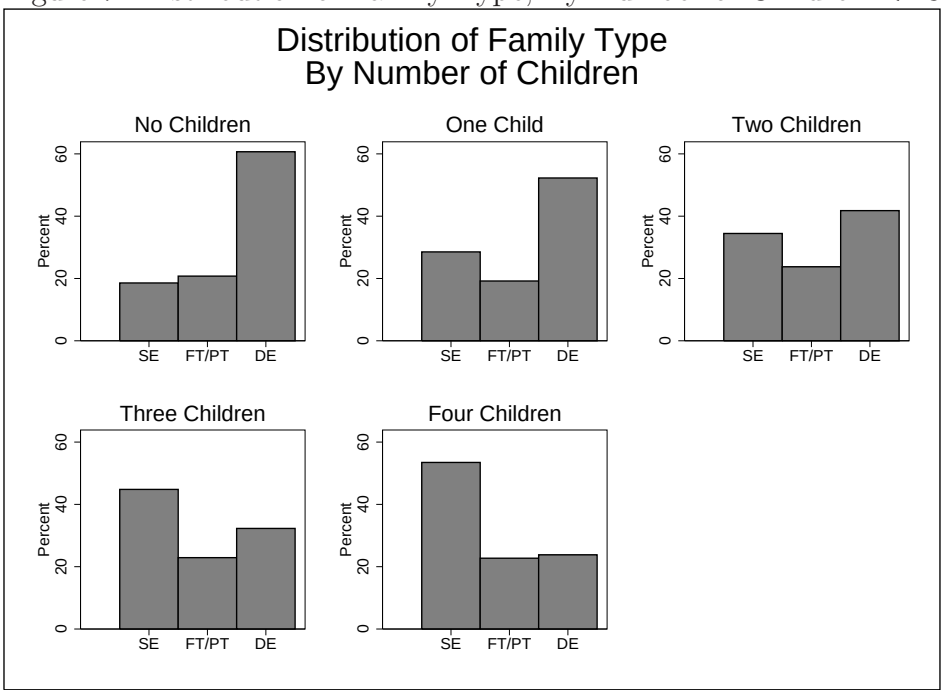


Figure 8: Average Time Spent Preparing Food, Women

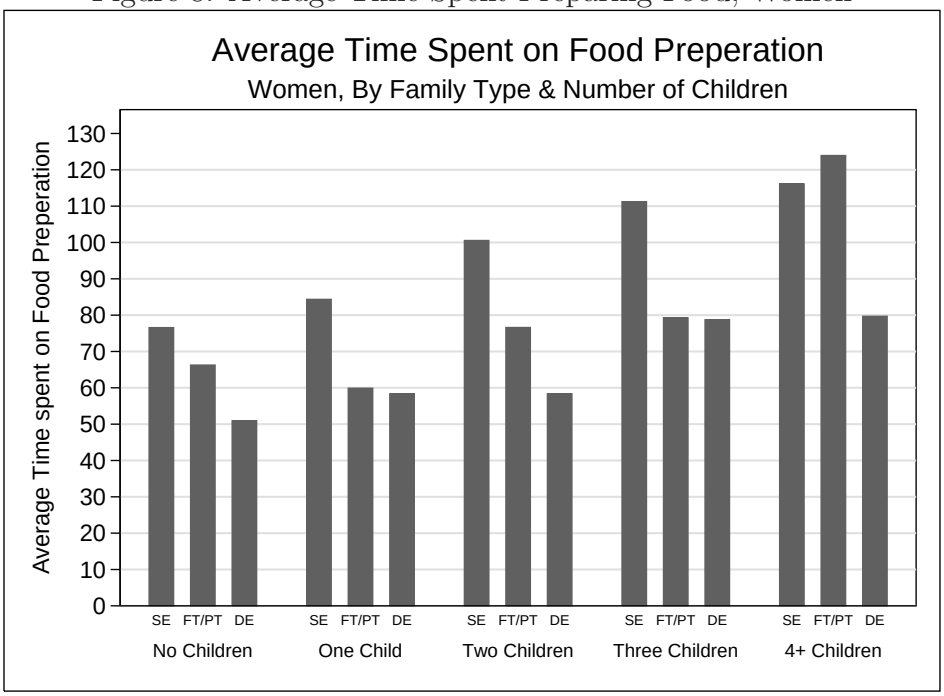


Figure 9: Average Time Spent Preparing Food, Men

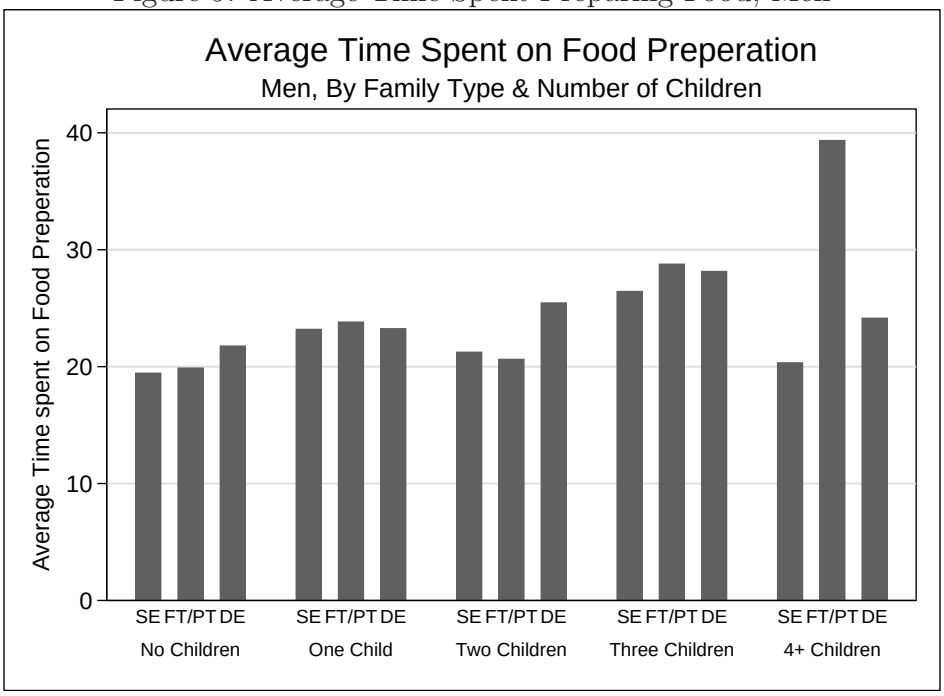
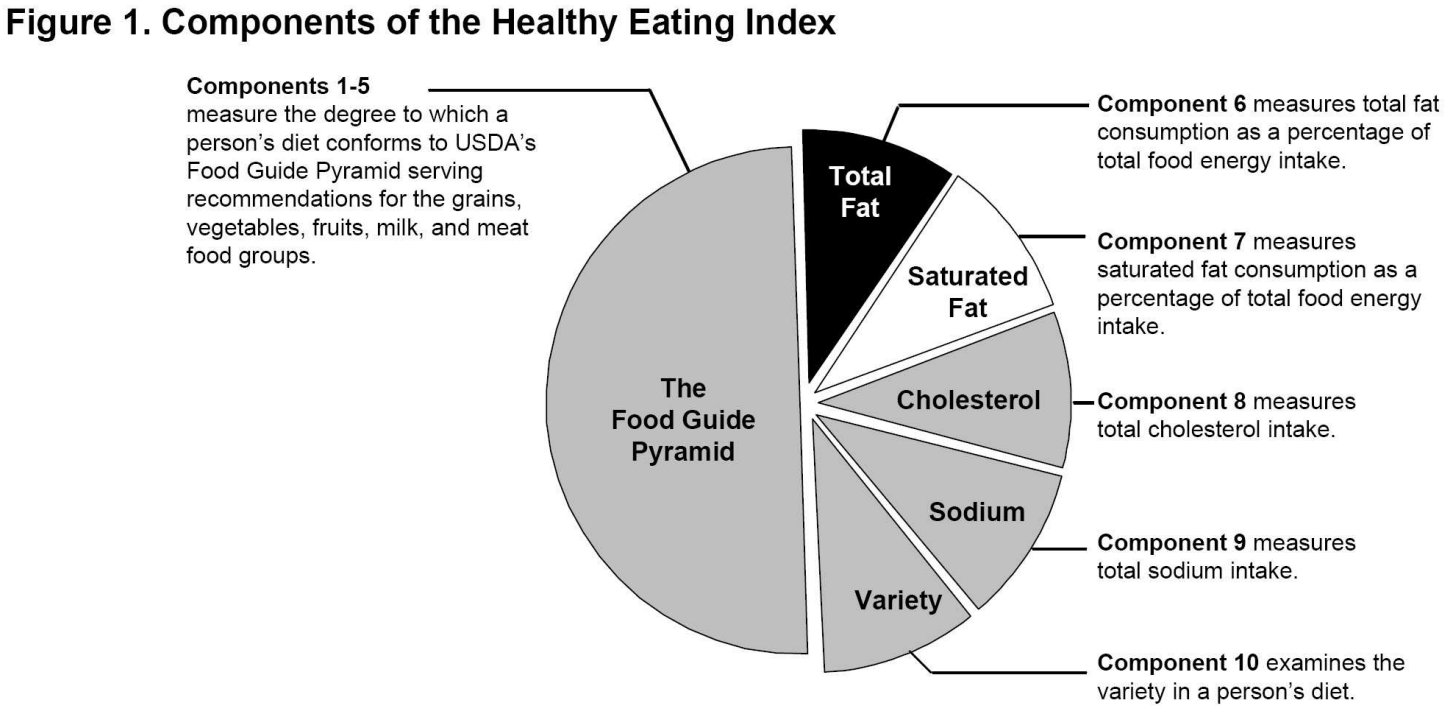


Figure 10: The Healthy Eating Index (HEI)



Source: USDA, Center for Nutrition Policy and Promotion (CNPP)