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Who's Cooking?
Time spent preparing food by gender, income, and household composition

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1 Introduction:

The last 20 years has seen a tremendous increase in the incidence of overweight and obesity among Americans. In 2003-2004, over 66 percent of adults were overweight and more than 32 percent were obese (United States Department of Health and Human Services, Centers for Disease Control and Prevention, 2006). One explanation for this trend is that we continue to eat more convenient foods and foods prepared away from home (Cutler, Glaeser and Shapiro, 2003; Chou, Grossman and Saffer, 2004), which tend to be higher in calories, fats, saturated fats, sodium and added sugar (Lin and Frazao, 1997; McCrory et al., 1999). Technological advances in food production have helped this trend by making convenient and prepared foods less expensive than in the past (Lakdwalla and Philipson, 2002). Added to this is a greater number of dual income families, who have relatively more money to spend on prepared foods and less time to actually prepare them. Indeed, as incomes rise, research has found that a greater share of food expenditures goes toward convenient foods: increasing income by 10% is estimated to bring about a 4% rise in expenditures on food away from home, while only increasing home expenditures by 1% (Blissard, Variyam, and Cromartie, 2003).

This explanation conforms with standard economic theory, which predicts that we would consume more of an item whose cost of production has declined (Cutler, Glaeser and Shapiro, 2003; Variyam, 2005). It does not, however, adequately explain the ironic finding that obesity tends to be more prevalent among individuals of lower socio-economic status—especially women (Ver Ploeg, Mancino and Lin, 2006; Lin, 2005; Fox and Cole, 2004). One would expect low income individuals to be less likely to be overweight or obese because, theoretically, with less income they should choose to consume fewer convenient, prepared foods.

Studies on consumer's expenditures find that people with lower incomes tend to spend less money on food prepared away from home: individuals in the lowest income group allocate about one-fourth of their food dollars to meals prepared outside the home while individuals in the highest group spend about one-third of their food dollars on such meals (Paulin, 2000). This may be misleading, however, if these expenditure differences arise from lower income people simply choosing prepared foods that are less expensive and possibly less healthful as well.

Unfortunately, there is currently no single data set that can adequately test whether, given a specific level of convenience, healthful foods cost more money. There is, however, a great deal of anecdotal evidence to suggest that this is the case. For example, a double-cheeseburger at a fast food restaurant costs about \$1.00. While this is roughly one-fourth the price of a salad with grilled chicken at the same restaurant, it provides nearly twice as many calories, twice as much fat, and 11 times as much saturated fat (McDonald's). The apparent tradeoff between price and healthful qualities of certain convenience foods may help explain why low-income women face greater risk of obesity.

We also ask whether income itself provides enough of the story. Could there be characteristics that predominate in low-income families that also determine eating patterns and risks of obesity? One important difference across income groups that may affect food preparation and purchasing patterns is household structure. Low income households are more likely to be headed by a single adult than are higher income households; of all poor families in 2004, 50.6 percent were female headed, with no husband present (De-Navas-Walt, Proctor and Lee, 2004). And single adult households have less total time to devote to household tasks, such as food preparation. In fact,

Mancino, Lin, and Ballenger (2004) found that, compared to married women with children, single women with children were significantly less likely to have a healthy bodyweight and choose a lower quality diet.

On the other hand, low-income households may have less access to steady employment, in which case, they would be more likely to have time to devote to food preparation. However, to the extent that low-income adults are both single and employed, they are likely to have very little time to prepare food. If the adult is a parent, time may be further constrained for food preparation because of child care duties, but then food preparation at home would also be more economical with more children.

We use data from the American Time Use Survey of 2003-2004 to estimate how time spent in food preparation varies with income and other factors. We include many possible determinants, which we describe in the next section, but here are the main hypotheses we test:

- **Income effect:** we expect to find that the amount of time spent in food preparation decreases with income consistent with standard economic theory. An opposite finding would strengthen the argument that low-income adults are able to access low-price, unhealthy, prepared foods, and thus face higher risks of obesity.
- **Household structure effect:** we expect to find that adults in single-adult households are likely to spend less time in food preparation, both because they have less total time available for domestic chores and because there are fewer economies of scale for food preparation for a household with fewer adults. Given the high rates of female single-

headed households in the low-income population, this would provide another explanation for the high rates of obesity risk among low income women.

- **Employment, gender, and children effects:** We expect employment to reduce one's time in food preparation; we expect women to spend more time than men in food preparation; and we expect adults in households with more children to spend more time in food preparation.
- **Joint effects:** We expect the effect of employment on one's time in food preparation and the effect of being a single adult—particularly, a single parent—on food preparation to be larger for lower-income households because they are less able to “buy” time-saving convenient foods. So, for example, we expect a low-income, working, single parent to spend less time in food preparation than working single parents of higher income levels.

As over half of all poor families are headed by single females, creating policies and nutrition recommendations that help specific demographic subgroups better manage their limited time and money while maintaining good health is extremely important. For example, nutrition education focused on low-income, single-parent households may be more effective if they include recommendations on how to improve diet and food choices while minimizing both time and monetary costs. In the following sections, we describe our hypotheses in more detail, the ATUS data, our method of analysis, and the results.

2 Conceptual Framework and Econometric Analysis

The framework developed in Becker's household production model (1965) is often used to analyze individual and household food choices.¹ This model assumes individuals maximize utility from consumption goods and leisure time, subject to constraints on their time, budget and ability to make consumption goods themselves. As such, the model explicitly recognizes time as a valued commodity that is optimally allocated to produce income, consumption goods, and leisure. It predicts that individuals will choose a mix of time and purchased inputs that will maximize well being while minimizing the full cost (time and money) of doing so. The resulting supply of time spent in food preparation can be depicted as follows:

$$(1) \quad TF_i = T(y_i, w_i; Z_i, H_i),$$

where TF_i is the amount of time an individual will spend in food preparation, y_i is the household's income, w_i is an individual's contribution to the total households income, Z_i is a vector of individual characteristics, such as gender, age, race/ethnicity, education level, and H_i is a vector of household characteristics, such as household composition and the number of children in the household .

Paid market work supply

In our framework, the optimal allocation of all time is determined simultaneously—to all activities and by all household members as a joint decision. Due to data limitations, we cannot model all of these decisions and their impacts on the decision to spend time in food preparation,

¹ Although it would be more precise to model the joint supply of all household members' time, the ATUS only collects time use data from a single individual within a household. Thus, modeling these decisions as a household would complicate the conceptual framework and ultimately, not be directly applicable to the empirical analysis.

as would be ideal. However, the decision to supply time to paid market work is so crucial to the decision to allocate time to food preparation that we separately model food preparation for those who worked full time (more than 35 hours) and those who did not.² We think the impact of working outside the home is important because it tends to imply that a large block of one's time will be devoted to work—typically 8 hours per day. Unlike other time choices, this is one that significantly reduces the remaining hours of the day for dedicating to activities like food preparation.

Household income and gender

We expect an inverse relationship between household income and the amount of time spent in food preparation. As household income increases, demand for other attributes, such as convenience, increase. Consequently a larger share of food expenditures goes to foods prepared outside the home and less time is spent in activities related to food preparation. We also hypothesize that the effects of all independent factors on food preparation will differ across income categories. That is, we expect the effects of household composition, age, education, etc, to differ depending on a household's ability to substitute time for money.

Much of the growth in the availability of convenient foods has been attributed to increased labor force participation among women. It has been shown that as women's hours in paid work increases, their time in food preparation decreases (Zick 1996). As women move into the labor force in greater proportions, the traditional pattern of women being responsible for all domestic work is changing. Nonetheless, the tradition persists and women still tend to do more domestic

² See Jenkins and O'Leary (1995) for analysis of how paid market work should be treated in models of domestic work. They review early literature, some of which included paid work as a regressor and some of which did not.

work than men do. Thus, we expect to find that women spend more time in food preparation than men do. We anticipate that the effects of both individual and household characteristics will differ by gender as well.

Other individual characteristics

We expect to find a negative relationship between the share of income that an individual's earnings contributes to household income and the amount of time he or she spends in home production tasks such as food preparation. The person with the relatively lower wage rate has the comparative advantage in home production relative to the household member(s) with higher wage rate.

Ex-ante, the effect of education is ambiguous. It may be correlated with the value of one's time, household managerial skills, knowledge about diet and nutrition and even the value one places on one's health. Individuals who are more adept at managing the household or who have higher opportunity costs would be likely to spend less time in food preparation. On the other hand, individuals who place greater value on health outcomes may choose to spend more time preparing food if they believe that processed or convenient foods are less healthful.

We also expect that how much time an individual devotes to food preparation will be affected by culture and tradition. As proxies we include an individual's age, his or her race/ethnicity, and whether he or she is foreign-born.

Other household characteristics

A larger number of adults or children will lead to economies of scale in food preparation both in terms of time and inputs. This is similar to the argument above that a single adult has less total time to devote to household production. However, it also takes into account the effect of the number of children. A single person may be less likely to cook a full meal for themselves compared to a two- or three-person family when it takes them about the same amount of time to do so. Also it will be more economical for a larger family to buy spices and other pantry items that make cooking at home more worthwhile. We expect that the greater the number of children in the household, the more time will be devoted to food preparation, all else equal.

3 Data and Empirical Approach

Data

The data in this study come from the American Time Use Survey (ATUS), which is administered by the Bureau of Labor Statistics (BLS) and the Census Bureau. The ATUS is a stratified, random and nationally representative sample of households completing their final month of interviews for the Current Population Survey (CPS). This study includes 2003-2004 ATUS data. On average, ATUS interviewed about 1,725 individuals per month in 2003 and 1,100 individuals per month in 2004. Respondents were asked about their activities on the day before their interview, covering a 24 hour period beginning at 4 am. Using a conversational interview, the respondent provides a description of the type and duration of each activity in which he or she participated during the previous 24 hours. For example, a respondent may report that she spent 15 minutes preparing food. Based on this information, the interviewer will also probe to determine where and with whom this activity occurred. In addition to detailed activity

descriptions, ATUS data also contain demographic information, such as age, gender, ethnicity, and household income as well as information on labor force participation.

Dependent variable—time spent in food preparation

Definitions and summary statistics for the variables used in the econometric analysis are found in Table 1. The ATUS data contain six variables related to food preparation and acquisition. We combine the following four food preparation activities into one because they are all part of the main activity of preparing a meal: (1) preparing food and drinks, which includes cooking and in any way getting food and drink ready for consumption; (2) serving food and drinks, which includes activities like setting the table; (3) food and kitchen cleanup; and (4) storing or putting away food and drinks. We refer to this general combination variable as “food preparation”.

Explanatory variables

We present the analysis of income differences in terms of a households’ income to poverty ratio. We find that this yields qualitative results that are similar to those when income is treated as a nominal, continuous variable. The advantage of our approach is that income relative to poverty ratio (IRP) accounts for household size. It is a common standard for comparing income across households of different sizes. It is also used to determine whether an individual or household can qualify for certain food assistance and welfare programs. For example, an IRP of 1.3 or below is one of the first qualifications a household must meet to qualify for Food Stamp benefits. We define households as low, moderate, or high income depending on if the household’s IRP is 1.3 or below, between 1.31 and 3.0, or above 3.0.

Many of the variables we include as individual characteristics, such as age, gender, and education, are self explanatory. We also include age as a quadratic term, because individuals' caloric requirements decrease with age and we should therefore see them spending less time preparing meals. To proxy for cultural influences on diet and cooking we include whether an individual is either non-Hispanic white, non-Hispanic black, Hispanic, Asian or another ethnicity, and whether that individual was born outside the US.

Past studies on time use have found very different patterns between weekdays and weekends. Thus, we control for whether an individual's time diary was recorded on a weekend. While the ATUS data records information on an individual's primary activity, it also includes (as a special case) information on the amount of time spent when caring for a child occurred concomitantly with a primary activity. We believe this may increase the opportunity cost of eating outside the home—individuals with children in their care may find that eating food outside the home entails foregoing time that could have been spent reading to children or helping with their homework. Thus we expect this variable to be positively associated with food preparation.

For household composition types, we divide households into three groups: whether the household is headed by two married (or partnered) adults, a single adult, or more than one adult, unrelated by marriage. These categories place emphasis on the number of adults as well as the particular kind of partnership created by marriage (or partnership), which tends to be different from other kinds of adult relationships.

Empirical Model

We use a Tobit model due to the fact that the dependent variable of food preparation time is zero for many individuals. Other models we considered were the Censored Least Absolute Deviation (CLAD) model and a Heckman model correcting for self-selection bias. With the Heckman model, one must specify at least one or two variables as determinants of either a person's participation in an activity or the amount of time they spent in the activity. There are no theoretical guidelines for making this choice however, and the results can differ significantly. The CLAD model has the advantage of not requiring any assumptions about the distribution of the errors, but it is best with large samples. In a test by Deaton (1997), the standard errors were found to be one and one half times larger with CLAD estimation than with Tobit. In larger samples, the bias-variance tradeoff becomes more favorable when using CLAD. Because of our relatively small samples, we chose to use Tobit.

The main goal of the analysis is to understand if and how the amount of time allocated to food preparation varies significantly by household structure—the presence of children, other adults, etc.—and whether these occur differently across income-to-poverty cross-sections. Using the econometric model described in full below, we tested for differences by income-to-poverty subgroups and by gender using the Wald test (or Chow, as it is also called). We found that the effects for each subgroup were all significantly different from their pooled counterparts.

We present the results of estimates for men and women, by employment status and income category. This leaves a total of 12 distinct gender, income and employment subgroups.

The econometric model estimated for the Tobit can be written as:

$$\begin{aligned}
TF_{ig}^* &= \beta_1 Z_{ig} + \beta_2 H_{ig} + \varepsilon_{ig}, \\
TF_{ig} &= 0 \quad \text{if } TF_{ig}^* \leq 0, \\
TF_{ig} &= TF_{ig}^* \quad \text{if } TF_{ig}^* > 0.
\end{aligned}$$

In this equation, the subscript i refers to each individual and the subscript g refers to the individual's specific gender, income and employment subgroup. TF_{ig} is measured as the total minutes spent in food preparation, Z_{ig} represents a vector of individual characteristics and H_{ig} represents a vector of household characteristics.

5 Results

Estimation results for women and men are reported in Tables 2-5. All of the results that we report below were statistically significant in the regressions. The predicted values for time spent in food preparation for each gender, employment and income grouping are shown in Figure 1 (women) and Figure 2 (men). As we expected, the results differed greatly for men and women and whether they were employed or not. Many results also differed importantly across income-to-poverty groups for both men and women.

The results support most of our hypotheses: higher income households spend less time in food preparation, and household composition is a very important determinant of food preparation time, particularly for women. Figures 1 and 2 show how the estimated time allocated to food preparation, evaluated at the subgroup's sample means, varies by gender, employment status and income. Figure 1 shows that, among women, the amount of time allocated to food preparation does conform to standard economic theory—time spent preparing food in the home decreases

with income. Figure 2, however, shows that among men, time spent in food preparation does not vary predictably with income.

Not surprisingly, we also find that women are estimated to spend more time in food preparation than men. The most pronounced gender difference is between men and women who are non-working and who fall into either the low or middle income categories; these women are estimated to spend about 44 more minutes a day in food prep than men. The gender difference is least between men and women in higher income households; high income working women are estimated to spend about 22 more minutes in food preparation than high income working men. As expected, we also found that being employed reduces the estimated amount of time one spends in food preparation.

One of the most important findings is that, in all regressions, single adult women (defined as having no other unrelated adults in the home) spent less time in food preparation than their married counterparts (the omitted category). This helps explain the puzzle presented in the introduction about why low income women are more likely to have weight problems. In magnitude, the effect of being single was among the highest of all parameter estimates. For non-working women, this effect did not differ greatly across income groups. Among working women, however, this effect was more pronounced for low- and middle income women than for high income women, as we expected. The effect of being single would be more likely to constrain working women than non-working women since the former have a smaller availability of fungible time.

Figure 3 shows how the estimated time allocated to food prep by married and single women varies with employment status and income category. To better account for household size, we calculate predicted minutes in food preparation for a household with two children. A key finding from this analysis is that, among non-working women, there are large differences between low and high income women. However, these differences by income category are much less pronounced among working women—even when controlling for the number of children. Surprisingly, single, middle income women who work are estimated to spend the least amount of food prep time compared to all other categories of single women.

Another interesting finding is that the number of children in a household is an important determinant of food preparation time for both working and non-working women and for non-working men (low and income), but it did not affect working men's time. Among women, the magnitude of this relationship was similar for low and high income women and lowest for middle income women. That the marginal impact of children was higher among low-income women is not surprising in light of the fact that low-income women have less money with which to substitute home produced items. It is less clear, however, why the impact is higher among high income women compared to among middle income women. Perhaps higher income women spend more time in food preparation for health or preference reasons, rather than purely economic ones.

The results for a woman's wage contribution to the household suggest that working women can “substitute” away from their traditional responsibility for food preparation when their own earnings are high enough relative to other family members and the households' total income is

high enough to afford to purchase foods away from home. The magnitude of this relationship was almost double for high income than for middle income women.

The amount of time spent caring for children as a secondary activity was estimated to be significantly and positively correlated with the amount of time spent preparing food for men and women in all subgroups. This suggests that the activities of caring for children and preparing food are complementary and that having children to care for may increase the opportunity cost of eating foods prepared away from home.

Having an unrelated adult in the household, i.e. not a spouse or partner, reduced the time spent by low income working women in food preparation, but it did not have a significant effect on women from the other two income groups or on any non-working women. We thought this effect could go either way since the individual in question may or may not be the one deemed responsible for overall food preparation. Having more adult time in total available to the household gives each member more flexibility to do either a lot more of a certain activity or none of it if they “specialize” in some other household production or work activity.

For working men of all income groups, having other unrelated adults in the household increased their time spent in food preparation, again, the opposite of the result for women. This could mean that when they are single, they are more likely to live with other adults with whom they are more likely to share or take on responsibility for this chore than when they are married.

Though we were initially uncertain about the net effect of education on time spent preparing food, our results support the idea that it may increase efficiency or labor sharing practices with other household members. Among low-income women, both working and non-working, we found that the amount of time spent preparing food was significantly lower for college and graduate school educated individuals, suggesting that for women, education may increase efficiency or labor sharing practices among other household members. The same was true for graduate educated, high income women. Education was mostly insignificant to men's time in food preparation.

The effect of age conforms to what has been found in studies on food consumption. In general, our caloric needs rise and then decline with age. Also, as people age, they are more likely to be heads of household and responsible for meal provision. This role could decline as they age further and as other members become old enough to take over. Consequently, it is not surprising to see that, across gender and income categories, age has a significant and positive effect on the amount of time spent preparing food and that the positive effect of age is strongest for women who do not work for pay. The variable age-squared, on the other hand has a negative impact for all except low-income working men and middle income non-working men.

Finally, we find that some of the variables that we include to proxy for culture have a significant impact on food preparation. For high-income households, Asian and Hispanic women spent significantly more time preparing food compared to Non-Hispanic White women. Generally, Asian and Hispanic men spent less time preparing food compared to Non-Hispanic White men (significant in a few categories). For both men and women, those who were born outside the US

spent more time in food preparation. For women, the effect of being foreign-born was estimated to be significant in all income and employment groupings. Among men, this effect was estimated to be significant about half of the time. These results may reflect different cultural norms and different availability of convenient foods that conform to one's traditional diet.

6 Conclusion

The overall goal of this project was to estimate how various subgroups allocate their time to food preparation and in the process, identify specific factors that help explain why low income women face a higher risk of overweight and obesity. We used the American Time Use Survey data and multivariate analysis to explore how time allocated to food preparation differs across income, employment, and gender subgroups. Among the hypotheses tested, we expected to find that women, lower income individuals, and individuals living in households with children spend more time in food preparation, while working adults and those in single-adult households spend less time in food preparation. We also expected the joint effect of being both employed and a single adult—particularly, a single parent—on food preparation to be larger for lower-income households because they are less able to “buy” time-saving convenient foods.

The results support most of our hypotheses: among women only, having a lower household income is associated with more time spent in food preparation. In terms of magnitude, being a single adult was estimated to greatly reduce time spent in food preparation. For non-working women, the effects did not differ greatly across income groups, contrary to our expectations. But among working women, the effect of being a single adult was larger for low- and middle income women than for high income women.

As we initially hypothesized, once controlling for household composition, we see that the estimated amount of time spent in food preparation no longer varies greatly by income among working women. If, as data on consumer expenditures indicate, low-income individuals also spend less money on foods prepared away from home, but single women (with or without children) do not spend more time preparing food, then it is likely that low-income, single, working women are simply choosing prepared foods that are also less expensive (and possibly less healthful).

These findings help explain the puzzle presented in the introduction about why low income women are more likely to have weight problems. Related to this is the surprising result that moderate income women who work full time and have children spend even less time in food preparation than either their lower or higher income counterparts. One explanation for this may be that, unlike low income women, middle income women do not qualify for food stamp benefits and may therefore have less incentive to purchase foods to be prepared foods at home. This in turn may help explain the fact that the prevalence of obesity among women who receive food-stamp benefits has not increased as much as it has among either low income women who do not receive food stamp benefits or middle income (Ver Ploeg, Mancino and Lin, 2006).

The results of this study suggest that nutrition campaigns aimed at low (and possibly middle) income households will be more effective if they include recommendations on how to improve diet and food choices while also minimizing both time and monetary costs. It is fairly easy to imagine that individuals who are short on both time and money will choose to take on future and

uncertain health risks associated with a poor, but often tasty, diet. A more pragmatic approach would be to help individuals choose foods that are convenient, moderately priced, and healthful. As fast food restaurants continue to expand their menu offerings of such items it should become easier to incorporate such advice into nutrition education.

The findings of this study suggest that the relationship between income and time spent preparing food dwindles once controlling for total availability of household time—driven largely by the presence of other adults and job requirements. We find that after factoring in the effect of these variables, the time allocated to cooking is quite similar among working women, regardless of income. Though other studies suggest that income correlates with expenditures on prepared foods and foods consumed away from home, we are unable to ascertain food expenditure patterns for the individuals included in this analysis due to data limitations.

In future rounds of collecting ATUS data, respondents will be asked to approximate their expenditures on foods prepared at home (grocery purchases) and foods prepared away from home. These two variables could then be used to evaluate if and how the correlates of monetary expenditures mirror the correlates of time expenditures. Until then, another way to measure how demand for convenient foods varies with income would be to use this same data set and estimate how time spent eating and acquiring foods prepared away from home varies by income, household composition and employment status.

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Table 1: Summary Statistics of Explanatory Variables

Variable	Definition and Units	Mean	Standard Deviation
Food time	Daily sum of minutes spent in food preparation	32.91	53.89
Female	1 if female, zero otherwise	0.52	0.50
Income eligible for food stamps	1 if income-to-poverty ratio (IRP) is 1.3 or below; zero otherwise	0.21	0.41
Moderate income	1 if IRP is between 1.3 and 3; zero otherwise	0.31	0.46
High Income	1 if IRP exceeds 3.0; zero otherwise	0.47	0.50
Weekend	1 if time diary was recorded for a weekend day; zero otherwise	0.30	0.46
Less than high school	1 if less than high school education; zero otherwise	0.20	0.40
Highschool only	1 if highschool or GED only; zero otherwise	0.31	0.46
Some college	1 if attended but did not complete a college degree; zero otherwise	0.17	0.38
Bachelors or Associate degree	1 if received a bachelors or associate degree; zero otherwise	0.24	0.42
Graduate or professional degree	1 if received a graduate or professional degree; zero otherwise	0.09	0.28
Age	Age of respondent in years	43.63	18.01
Black	1 if respondent is non-Hispanic, black	0.12	0.32
Asian	1 if respondent is Asian; zero otherwise	0.03	0.17
Other	1 if other ethnicity; zero otherwise	0.02	0.13
Foreign	1 if respondent was born outside the US; zero otherwise	0.12	0.33
Individual's wage contribution	Percent of household earnings contributed by respondent	0.41	0.81
Time spent in secondary child care	Time (minutes) spent where caring for children was the secondary activity	94.02	204.98
Kids	1 if respondent's children live in the household; zero otherwise	0.57	1.00
Nonworking adult	1 if there are one or more non-working adults in the household; zero otherwise	0.61	0.49
Female headed household	1 if household is headed by a female; zero otherwise	0.11	0.32
Couple or married	1 if adults in household are a couple or married; zero otherwise	0.65	0.48

Table 2: Estimation Results: Unemployed Women's Time Spent in Food Preparation

	Low Income-to-Poverty Ratio		Moderate Income-to-Poverty Ratio		High Income-to-Poverty Ratio	
Indep. Variables:	Coeff.	T-stat	Coeff.	T-stat	Coeff.	T-stat
Weekend	-18.87	-5.39 **	-27.72	-7.34 **	-15.37	-4.01 **
<i>Demographics:</i>						
High school degree	2.23	0.57	0.43	0.09	-10.44	-1.41
Some college	-10.22	-1.87	-5.55	-0.94	-7.93	-1.00
College degree	-9.19	-1.90 *	-8.94	-1.43	-10.34	-1.35
Graduate work or degree	-29.19	-2.93 **	13.21	1.10	-20.82	-2.39 **
Age	3.06	10.40 **	4.29	6.63 **	5.42	8.01 **
Age-squared	-0.02	-7.50 **	-0.03	-5.15 **	-0.04	-6.21 **
Teen	-22.86	-2.49 **	-19.91	-1.94 *	-25.57	-2.18 **
Black (non-Hispanic)	-5.85	-1.34	-6.57	-1.16	11.59	1.57
Hispanic	0.59	0.10	2.21	0.35	10.70	1.36
Asian (non-Hispanic)	2.18	0.14	-1.63	-0.14	13.68	1.25
Other race (non-Hispanic)	-0.45	-0.04	-11.06	-0.85	-15.49	-0.86
Person is foreign born	29.02	5.17 **	36.55	5.81 **	22.84	3.28 **
<i>Other Activities:</i>						
Individual's wage contribution						
Minutes in secondary childcare	0.04	4.93 **	0.63	5.89 **	0.04	3.32 **
<i>Household Composition:</i>						
No. of kids of ref person	12.6	6.32 **	6.34	2.30 **	12.36	3.75 **
Single adult household	-36.12	-6.60 **	-29.18	-4.06 **	-37.92	-4.28 **
Other adults household	1.23	-0.25	-1.35	-0.24	-0.17	-0.03
Constant	-39.93	-2.67 **	-68.06	-4.00 **	-106.09	-5.84 **
Predicted minutes in food preparation†	61.95		61.57		51.26	
<i>No. of Observations</i>	6364		2724		2533	
<i>Pseudo R Squared</i>	0.02		0.02		0.03	

Source: The American Time Use Survey 2003 and 2004

** Parameter estimated to be significant at the 5% level.

* Parameter estimated to be significant at the 10% level.

† Predicted minutes are calculated from parameter estimates evaluated at the mean value for each income group.

Note: The excluded dummies are: (1) Less than HS; (2) White non-Hispanic; and (3) Couple-headed Household.

Table 3: Estimation Results: Employed Women's Time Spent in Food Preparation

	Low Income-to-Poverty Ratio		Moderate Income-to-Poverty Ratio		High Income-to-Poverty Ratio	
Indep. Variables:	Coeff.	T-stat	Coeff.	T-stat	Coeff.	T-stat
Weekend	-25.40	-6.15 **	-5.94	-2.15 **	3.59	1.82 *
<i>Demographics:</i>						
High school degree	-16.29	-3.20 **	-3.73	0.82	-5.84	-0.90
Some college	-9.59	-1.64	-4.97	-1.00	-9.51	-1.44
College degree	-15.44	-2.38 **	-7.68	-1.55	-8.39	-1.29
Graduate work or degree	-26.21	-2.29 **	1.56	0.21	-15.19	-2.25 **
Age	3.03	4.20 **	3.09	5.47 **	2.72	5.44 **
Age-squared	-0.02	-2.61 **	-0.02	-3.40 **	-0.02	-3.28 **
Teen	-36.37	-2.98 **	-44.78	-4.39 **	-43.55	-4.54 **
Black (non-Hispanic)	-11.28	-2.25 **	0.55	0.15	-5.23	-1.52
Hispanic	0.08	0.01	-1.83	-0.42	7.79	1.92 **
Asian (non-Hispanic)	-11.14	-0.92	26.50	3.18 **	13.73	2.37 **
Other race (non-Hispanic)	-19.62	-1.16	-0.94	-0.09	-1.99	-0.24
Person is foreign born	15.66	2.51 **	17.81	3.95 **	14.08	3.54 **
<i>Other Activities:</i>						
Individual's wage contribution	-2.43	-0.49	-8.23	-2.08 **	-14.61	-4.34 **
Minutes in secondary childcare	0.07	7.65 **	0.04	6.86 **	0.05	8.24 **
<i>Household Composition:</i>						
No. of kids of ref person	6.68	3.69 **	5.02	3.00 **	6.46	3.90 **
Single adult household	-26.98	-4.76 **	-27.72	-6.42 **	-16.47	-4.16 **
Other adults in household	-4.72	-2.05 **	-4.72	-1.36	4.09	1.36
Constant	-50.41	-2.03 **	-50.41	-4.04 **	-49.39	-4.15 **
Predicted minutes in food preparation†	45.55		42.62		38.07	
<i>No. of Observations</i>	1554		3455		6097	
<i>Pseudo R Squared</i>	0.02		0.02		0.01	

Source: The American Time Use Survey 2003 and 2004

** Parameter estimated to be significant at the 5% level.

* Parameter estimated to be significant at the 10% level.

† Predicted minutes are calculated from parameter estimates evaluated at the mean value for each income group.

Note: The excluded dummies are: (1) Less than HS; (2) White non-Hispanic; and (3) Couple-headed Household.

Table 4: Estimation Results: Unemployed Men's Time Spent in Food Preparation

	Low Income-to-Poverty Ratio		Moderate Income-to-Poverty Ratio		High Income-to-Poverty Ratio	
Indep. Variables:	Coeff.	T-stat	Coeff.	T-stat	Coeff.	T-stat
Weekend	-24.84	-4.96 **	-28.71	-6.06 **	-26.44	-4.62 **
<i>Demographics:</i>						
High school degree	12.22	2.15 **	-5.04	-0.89	1.58	0.14
Some college	2.63	0.35	-7.34	-1.06	4.86	0.41
College degree	14.77	1.81 *	-2.58	-0.35	1.96	0.17
Graduate work or degree	12.52	1.16	-13.43	-1.02	-11.61	-0.96
Age	1.73	2.17 **	0.62	0.85	2.6	2.63 **
Age-squared	-0.01	-1.76 *	-0.01	-0.74	-0.02	-1.84 *
Teen	1.27	0.11	-46.27	-4.38 **	-17.61	-1.09
Black (non-Hispanic)	-6.11	-1.00	-6.67	1.04	1.74	0.19
Hispanic	-14.31	-1.83 *	-2.14	-0.27	18.06	1.65
Asian (non-Hispanic)	-25.63	-1.53	-13.40	-0.82	-17.28	-1.10
Other race (non-Hispanic)	-27.69	-1.86 *	15.79	0.91	60.33	2.74 **
Person is foreign born	14.54	1.74 *	0.46	0.05	28.48	2.71 **
<i>Other Activities:</i>						
Individual's wage contribution						
Minutes in secondary childcare	0.03	1.94 *	0.02	0.85	0.01	0.23
<i>Household Composition:</i>						
No. of kids of ref person	12.01	2.74 **	13.99	3.06 **	14.52	1.63
Single adult household	28.54	3.09 **	12.01	1.36	1.67	0.14
Other adults household	8.70	1.04	-2.06	-0.30	-7.90	-0.78
Constant	-79.03	-3.77 **	-16.22	-0.93	-87.21	-3.48 **
Predicted minutes in food preparation†	43.50		43.56		30.75	
<i>No. of Observations</i>	1552		1544		1507	
<i>Pseudo R Squared</i>	0.02		0.02		0.02	

Source: The American Time Use Survey 2003 and 2004

** Parameter estimated to be significant at the 5% level.

* Parameter estimated to be significant at the 10% level.

† Predicted minutes are calculated from parameter estimates evaluated at the mean value for each income group.

Note: The excluded dummies are: (1) Less than HS; (2) White non-Hispanic; and (3) Couple-headed Household.

Table 5: Estimation Results: Employed Men's Time Spent in Food Preparation

	Low Income-to-Poverty Ratio		Moderate Income-to-Poverty Ratio		High Income-to-Poverty Ratio	
Indep. Variables:	Coeff.	T-stat	Coeff.	T-stat	Coeff.	T-stat
Weekend	-16.32	-3.17 **	-17.30	-5.25 **	-7.97	-4.10 **
<i>Demographics:</i>						
High school degree	-3.52	-0.56	0.21	0.05	1.29	0.28
Some college	-8.10	-1.05	2.03	0.39	-0.05	-0.01
College degree	-3.94	-0.47	5.83	1.13	0.36	0.08
Graduate work or degree	-8.78	-0.71	7.60	0.86	0.13	0.03
Age	-1.01	-1.05	2.33	3.25 **	1.74	3.64 **
Age-squared	0.01	1.22	-0.02	-3.04 **	-0.02	-3.26 **
Teen	-36.84	-1.97 **	-20.48	-1.76 *	-15.77	-1.91 *
Black (non-Hispanic)	6.01	0.81	6.01	1.32	-4.57	-1.31
Hispanic	-6.62	-0.84	-4.10	-0.79	-2.74	-0.74
Asian (non-Hispanic)	-7.78	-0.45	-7.08	-0.68	-20.46	-3.57 **
Other race (non-Hispanic)	-4.78	-0.27	17.17	1.61	7.41	1.05
Person is foreign born	3.22	0.42	12.27	2.31 **	4.34	1.18
<i>Other Activities:</i>						
Individual's wage contribution	-1.54	-0.26	-2.97	-0.66	0.91	0.33
Minutes in secondary childcare	0.05	4.76 **	0.04	4.87 **	0.04	6.17 **
<i>Household Composition:</i>						
No. of kids of ref person	0.30	0.12	1.46	0.79	-0.38	-0.25
Single adult household	12.83	1.44	10.16	1.79 *	4.32	1.19
Other adults in household	13.67	2.04 **	9.11	2.13 **	5.47	1.82 *
Constant	-15.42	-0.69	-75.52	-5.09 **	-57.51	-5.39 **
Predicted minutes in food preparation†	32.71		24.97		21.99	
<i>No. of Observations</i>	1174		3034		6364	
<i>Pseudo R Squared</i>	0.01		0.01		0.00	

Source: The American Time Use Survey 2003 and 2004

** Parameter estimated to be significant at the 5% level.

* Parameter estimated to be significant at the 10% level.

† Predicted minutes are calculated from parameter estimates evaluated at the mean value for each income group.

Note: The excluded dummies are: (1) Less than HS; (2) White non-Hispanic; and (3) Couple-headed Household.

Figure 1: Women spend less time preparing food as income increases.

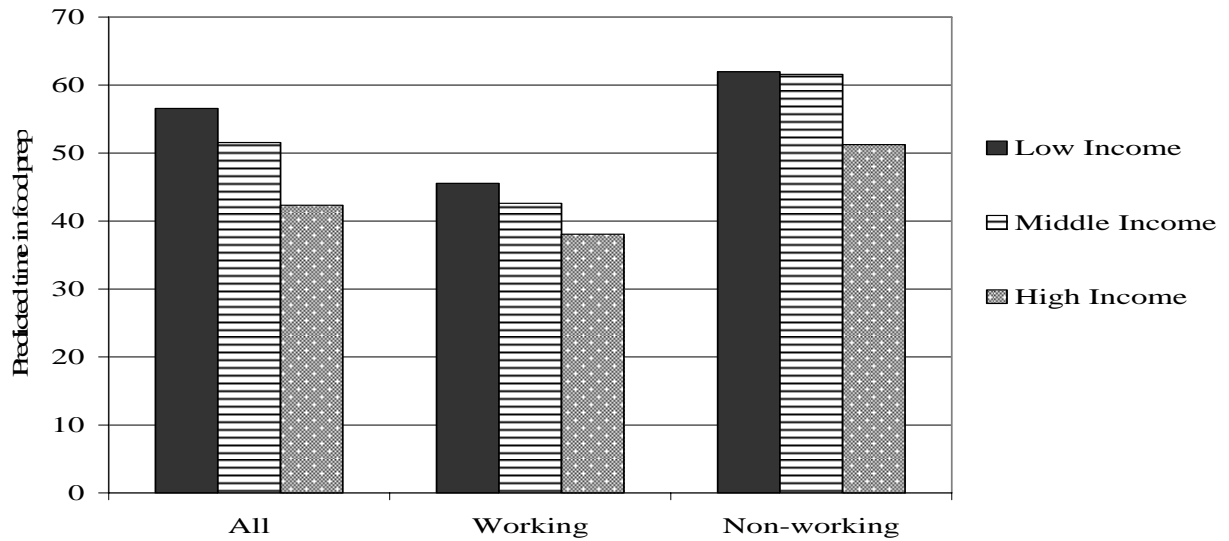


Figure 2: Time spent preparing food does not vary predictably with income among men

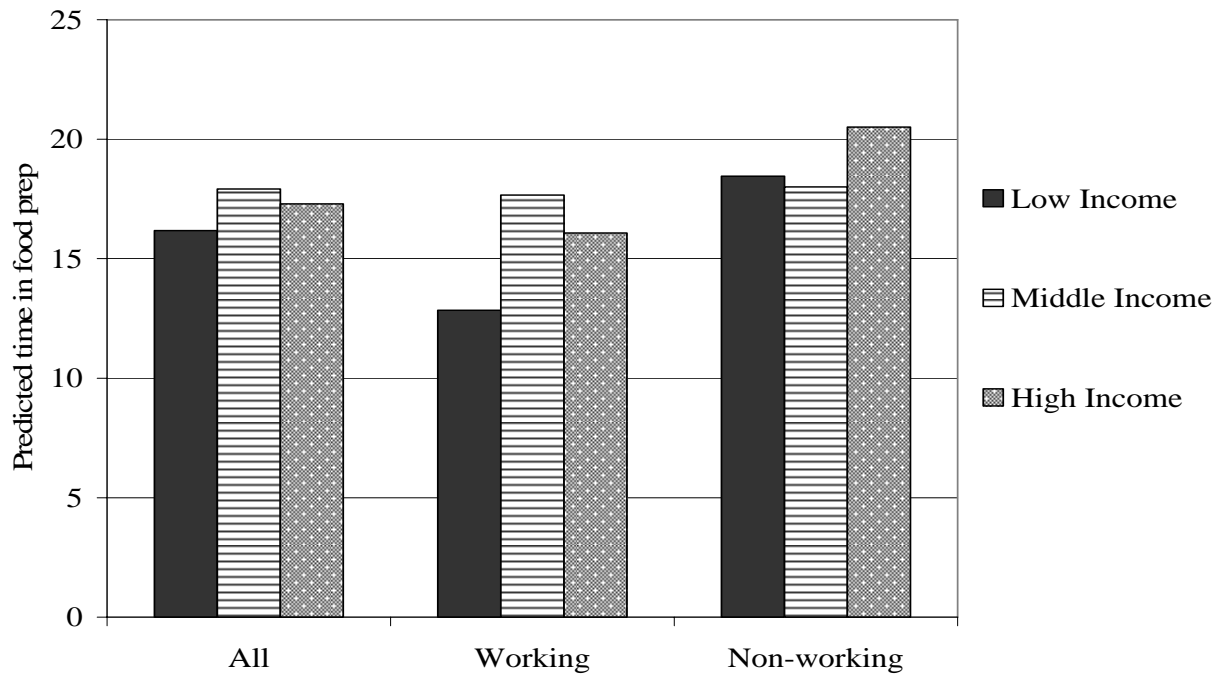
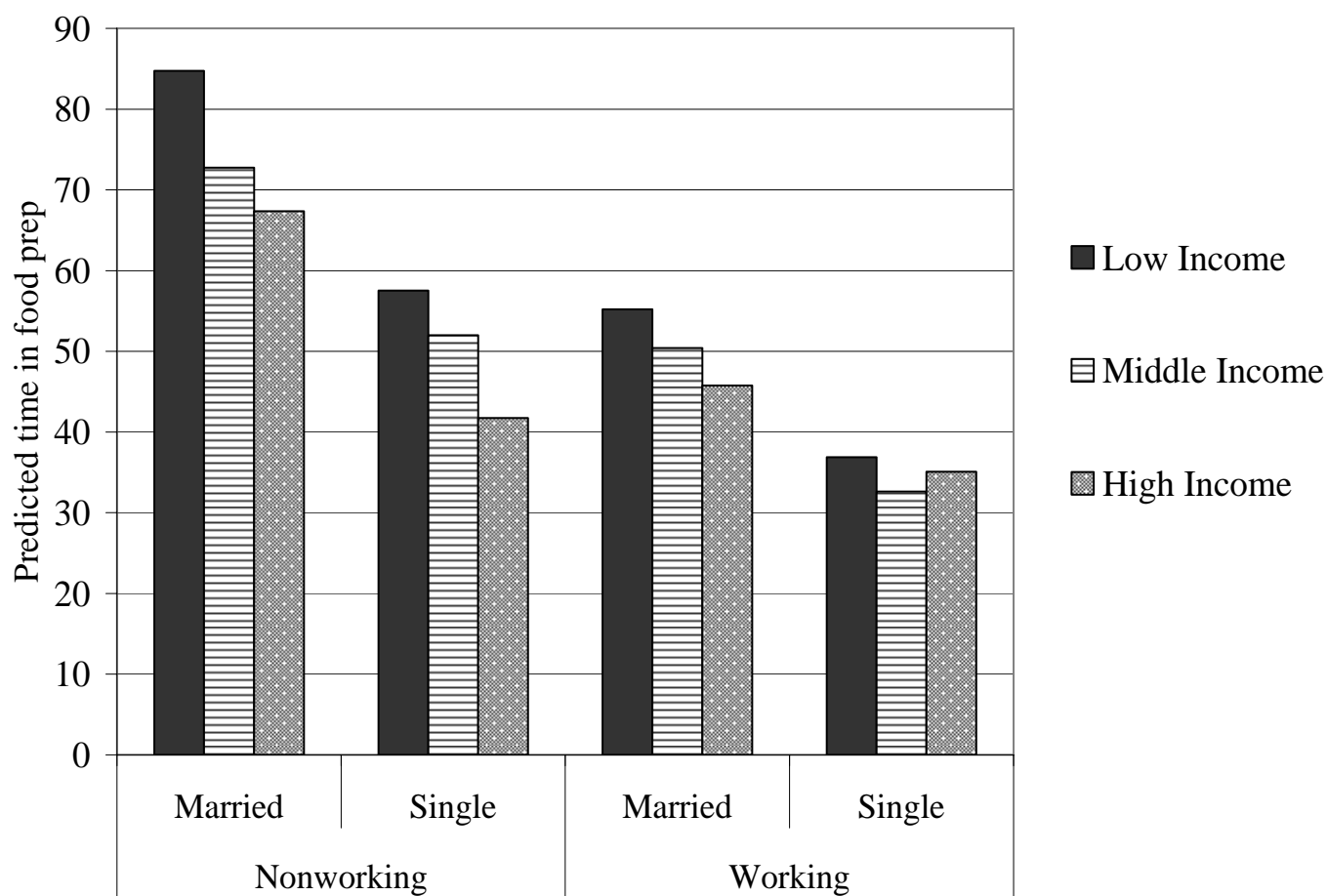


Figure 3: For women, the effect of income on food prep time wanes after controlling for household composition[†] and employment status.



[†] These estimates assume that each household has two children. For all other parameters, predicted minutes are calculated using the mean value for each income, employment group.