

Children, Kitchen, Church: Does Ethnicity Matter?

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ABSTRACT

Attitudes towards gender roles are known determinants of female labor supply. This paper examines the strength of those attitudes using time diaries on childcare, food management and religious activities provided by the British Time Use Survey. Given the low labor force participation of females from ethnic minorities, the role of ethnicity in forming those attitudes and influencing time spent for “traditional” activities is of particular interest. The paper finds that white females in the UK have a higher probability to participate in the labor force than non-white females. Non-white females spend more time for food management and religious activities than white females, while there are no ethnic differences for time spent on childcare. Hence, cultural differences across ethnicities are significant, and will affect work behavior.

Key words: Time use, ethnic minorities, gender, UK.

JEL Classification: J22, J15, J16.

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1. Introduction

The labor market integration of immigrants and ethnic minorities is a major concern in the European Union. An effective integration of ethnic minority women into the labor force can be seen as an important prerequisite for reaching the Lisbon targets of full employment and sustainable growth as well as the key objectives of the European Employment Strategy. However, in stark contrast to this goal it has been documented in the literature that gender differences are often more pronounced among immigrants and ethnic minorities than among natives.¹

According to the EU Labour Force Survey data, in the UK in 2005, around 10 per cent was foreign born and more than 7 per cent of the working age population was born in non-EU15 country. While white immigrants perform comparatively well or even better than the native-born whites, it is the ethnic minority immigrants who experience lower labor market outcomes than natives, such as employment probabilities, labor force participation and wages, with Pakistani and Bangladeshi being the most disadvantaged groups (Dustmann and Fabbri, 2005a). In addition, the employment rate of all ethnic minority women in general is much lower than for white natives. This disadvantage is particularly pronounced at the bottom of the husband's income distribution, and only a small part of this differential is explained by observed characteristics (Dustmann and

¹ Empirical studies have analyzed a so-called "double disadvantage" hypothesis of being both a female and a foreign-born mainly for non-European countries (see, among others, De Jong and Madamba, 2001, Raijman and Semyonov, 1997, Haberfeld, 1993, Boyd, 1984). In addition, a large strand of literature focuses on assimilation of immigrants, including females (see, for example, Amuedo-Dorantes and De la Rica, 2006 for Spain, Blau and Kahn, 2005 for the US, Antecol et al., 2003 for the US, Canada and Australia), differences in employment probabilities among natives and ethnic minority females (Constant et al., 2006 for Germany) or differences in hours supplied (Bevelander and Groeneveld, 2007 for the Netherlands). Finally, Adsera and Chiswick (2007, forthcoming) analyze labor market performance of immigrants by gender in the fifteen EU countries. They find a significant negative effect of immigrant status on earnings upon arrival and that gender differences are more important among non-EU born migrants.

Fabbri, 2005b). One of the main reasons of this relative disadvantage suggested, but not further examined by the authors, is culture and religion.

Only few authors have actually investigated the effects of culture on work behavior. Reimers (1985) has first shown that the differences in labor force participation (LFP) between white and black women in the US are attributable to the “cultural effects” or the parameters of the labor supply function. However, until recently, not much attention was paid to such a “cultural” explanation in the economic literature. Antecol (2000) has studied the effect of labor force participation in the country of origin on the labor force participation gap of male and female first and second generation immigrants in the US and found that “culture” of the country of origin matters. Fernández and Fogli (2007) have argued that it is important to separate the effects of culture from the effects of different institutional and economic environments that immigrants face in the host country. To deal with this problem, they have focused on second-generation immigrant women in the US and used past values of female LFP in the country of ancestry as cultural proxies. They find that culture *per se* matters in explaining both labor supply and fertility behavior of these females. In addition, Fernández (2007) has shown that attitudes towards women’s work in their country of ancestry as another cultural proxy also explain their labor supply behavior in the US, with women from countries of ancestry with more “traditional” attitudes working less.

A related literature has found that culture and beliefs influence females’ labor supply in general, and more “traditional” attitudes towards gender roles indeed contribute to the explanation of the females’ lower labor market outcomes (Vella, 1994, Farré, 2006). In addition, several studies have confirmed the intergenerational transmission of cultural

attitudes and beliefs from mothers to their children and children in law and their effect on labor market outcomes of children (Fernández, Fogli and Olivetti, 2004, Farré and Vella, 2007). Finally, Burda, Hamermesh and Weil (2007) have found that female *total* work, defined as the sum of time spent both in market work and household production, is relatively greater than men's in the countries with more "traditional" attitudes.

Such "traditional" attitudes presume women's primary role as taking care of children and housework, and can be formulated as the 3K model, a name that originated in 19th century Germany and includes "*Kinder, Küche, Kirche*", that is "Children, Kitchen, Church". It is also likely that such "traditional" attitudes are more common among ethnic minorities than among natives in many Western societies.

This paper examines the relation between ethnicity and time spent for "traditional" activities using the rich time use dataset for the UK. We hypothesize that if labor force participation of ethnic minority women is indeed lower than that of native women, they would engage more in household production and "traditional" activities, such as childcare, food preparation and religious activities. It is important to understand how these women spend their non-market time, and this paper provides the first attempt to shed some light on this issue. We test this hypothesis using the UK 2000 Time Use Survey, in which it is possible to distinguish the exact amount of minutes spent per day on each of these activities.

The rest of the paper is organized as follows. Section 2 describes the data and presents descriptive statistics. Estimation results are discussed in section 3, and section 4 provides a robustness analysis. Section 5 concludes.

2. Data

The data set used in this paper is based on the 2000 UK Time Use Survey (UKTUS). This detailed household survey was conducted in 2000-2001 and measures the amount of time spent by the UK population on various activities with around 250 activity codes. The survey was designed to achieve a representative sample of the population of households and individuals in the UK.

Time diaries were collected for individuals older than 8, and contained information about the nature of activities, the location of each activity, and who else was present during each activity for every 10-minute interval during two days: one weekday and one weekend day. Thus, multiple diaries per respondent were collected (one for weekday and one for weekend day), as well as diaries for both partners in the household. Overall, the UKTUS has 20,981 time diaries from 11,664 people in 6,414 households.

Together with a rich set of demographic and socio-economic variables, the survey contains information on respondent's ethnicity (white, black-Caribbean, black African, Indian, Pakistani, Bangladeshi, Chinese, other). However, due to the small number of observations, we are unable to analyze individual ethnic groups and consider only two major groups, whites and non-whites.²

For our analysis, we construct a general sample of adults with time diary information. We keep only adults' diaries, and exclude individuals who are younger than 18 and older than 65 years old, as well as pensioners, full-time students, long-term sick and disabled persons and those for whom the data on the key variables are missing. In some

² We do acknowledge, however, that the effect may be different for different ethnic minorities in the UK, since there exist important differences in labor market outcomes between them (see, for example, Dustmann and Fabbri, 2005a). Having said that, we follow, for example, Dustmann and Fabbri (2005b) and pool non-white ethnic minorities into one group.

specifications, we restrict our sample to married or cohabiting individuals with children under the age of 15.

Our main outcomes of interest are the following three uses of time: time spent for religious activities, food management and childcare. The set of control variables includes age, education dummies, employment, marital status, household income dummies, household size, and presence of children less than 15 years old in the household. In the equation for childcare, instead of the last two variables we include detailed controls for the number of children aged 0-2, 3-4, 5-9, 10-15 years old (reference: 16-18 years old) and number of adults.

We expect that being employed has a negative correlation with all three uses of time. The larger the number of small children and the smaller the number of grown up children and adults in the household the more time is expected to be spent for childcare activities, in particular for women.³ We also expect that the correlation between age and the time spent on religious activities and food management is positive. While it is difficult to say *a priori* what the relation between the household size and presence of children and time spent on religious activities should be, we expect the later to be positive for food management activities.

Means and standard deviations for the time use outcomes and the full set of explanatory variables both for the final sample of all individuals and for the subsample of married or cohabiting persons with children are reported by gender in Table 1a. Note that outcome variables include zeros. Non-white ethnic minorities constitute 3 per cent of males and 4 per cent of females in the sample of all individuals, and 5 per cent in the

³ Note that both fertility and labor supply decisions are endogenous and one could model selectivity into the labour force participation or fertility. Estimating such structural model, however, is beyond the scope of this paper.

subsamples of married or cohabiting males and females with children.⁴ Table 1b reports three uses of time by ethnicity and gender for a weekday and for a weekend day. It shows several interesting facts. First, non-white females spend on average more time than white females on all three activities, while non-white males spend less time than white males on food management. Second, the largest differences between ethnicities are in time spent for religious activities with non-whites of both sexes spending more time than whites, and the difference is the largest between white and non-white females. Third, there exist gender differences within each ethnicity: on average, women spend more time on each activity than men (with the exception of religious activities for whites on a weekend). Finally, differences between a weekday and a weekend are not very large.

3. Estimation Results

Before examining the relation between ethnicity and three non-market uses of time, it is useful to understand the role of ethnicity in the labor market. Therefore, we first estimate the effect of ethnicity on the probability to participate in the labor force by gender. We include standard controls, such as age, number of children 0-2, 3-4, 5-9, 10-15 years old, number of adults in the household, education dummies, dummies for gross household income, partner's age and education and region fixed effects. Probit marginal effects (reported in Table 2) indicate that white females are 22 percentage points more likely to participate in the labor force than non-white females (the effect is 23 percentage points for married or cohabiting with children), while the correlation is insignificant for males. This effect is consistent with the existing literature (see, for example, Dustmann and Fabbri, 2005b) and indicates that ethnic minority females tend to spend more of their

⁴ These numbers are roughly consistent both with figures from the LFS and other studies for the UK.

time outside the labor market. Since culture and “traditional” attitudes matter, in what follows we study the intensity of these “traditional” attitudes using time diaries.

In order to consistently estimate the effect of ethnicity on the amount of time spent for different activities, we need to take into account two facts. First, as a result of an optimization problem many individuals decide not to participate in a certain activity, thus producing a corner solution. Having a cluster of observations at zero suggests estimating a standard censored Tobit model. The second complication concerns estimating standard errors, which must be adjusted for clustering of individuals within households. We employ a bootstrapping procedure that accounts for clustering to estimate them. Finally, note that the coefficients in the Tobit model cannot be interpreted easily. In order to obtain a standardized interpretation of the results, we also estimate marginal effects. In what follows we will first discuss the results for each type of activity separately and then compare marginal effects across the three activities.

Table 3 reports coefficients from the Tobit model for the amount of time spent for religious activities by gender and marital status in a weekday and a weekend day. The results are reported both for all individuals in the sample and only for those married or cohabiting with children. Further, we also report the effect of ethnicity for working and non-working females in Table 4.

The main result from Table 3 is that the association between ethnicity and time spent for religious activity is negative and highly significant across all model specifications. It suggests that white men and women in the UK spent significantly fewer minutes for religious activities than non-white both on weekdays and weekends. Another interesting fact from this table is that only few explanatory variables are significant. Household size

is significant only for the subsample of married men with children in a weekend day, and for all (i.e. single) women in a weekday. Having low household income is correlated positively with the time used for religious activities for the subsample of all men in a weekday, and negatively for the subsample of married women with children in a weekday. Having a higher educational degree as compared to having no qualifications is associated positively with time for religion in all specifications for men, however for females it has a positive sign for the subsample of all women in a weekday and a negative sign for married women with children in a weekend. Finally, marital status has a negative effect on the time spent for religious activities for females. Table 4 shows the coefficients for working and non-working females. Again, ethnicity matters independently of the working status with white women spending significantly fewer minutes for religious activities than non-white.

Determinants of the time spent for another “traditional” activity, food management, are reported in Table 5. As can be seen from this table, the effect of ethnicity has the opposite signs for males and females: while for males it affects time spent for food management positively, for females the sign is negative. However, the effect is significant only in half of the models. For males, being white positively affects time spent for food management only for married men with children (both in a weekday and in a weekend). For females, white ethnicity is negatively associated with time spent for food management in the specification for all women (i.e. the effect comes from singles). As for the other determinants, the most robust effect is the one of employment: being employed is always associated with spending less time for food management for both men and women. The effect of age for all males has a concave profile, but is insignificant

for married males. For all females, only age is significant, but not age squared. The larger the household size, the less time all males spend on food management, however the effect is attributable to singles as it is insignificant for married. For women, the opposite holds: the larger the household size the more time they spend on food management, and the effect is highly significant for married with children in the weekday regression. Having a child in a household is another strong and significant predictor of spending more time for food management for both sexes, however it is only marginally significant for men in the regression for a weekend day. The lower the household income, usually the more time spend both men and women for food management; however, the effect is not always significant. Having a higher education degree is insignificant for men, however it affects the time spent on food management for women negatively (with the exception of married women on a weekday). Finally, being married is significant and positively associated with time spent on food management for females, but is not significant for males. The effect for women by working status (see Table 6) reveals another interesting picture. Among all females, being white significantly and negatively affects time spent on food management only for the non-working women, suggesting that it is this subpopulation of non-white females who spend more of their non-market time on food management than white females. For married women with children, again being white negatively and significantly affects time spent on food management on a weekday, but not on a weekend. Overall, non-white ethnicity matters for females only if they are not employed.

Table 7 shows the determinants of time spent for childcare for married or cohabiting individuals with children by gender. An immediate fact apparent from this table is that the ethnicity dummy is statistically insignificant for both sexes in all models. What

matters instead is the number of children: the larger the number of small children the more time both males and females spend on childcare with females spending disproportionately more time than males for the youngest kids (0-2 years old). Instead, the number of adults reduces the time spent on childcare for both sexes. Having a lower household income is negatively associated with time spent for childcare in all models, but is significant only for females in a weekend day. Employment status is another significant and robust predictor of the time spent on childcare for both sexes and affects it equally negatively. Education does not seem to matter for males, while for females those with higher education spend more time on childcare on a weekend (but not on a weekday). The effect of ethnicity for females by working status (Table 8), in general, does not seem to matter either, as it is significant only for working females on a weekday at the 5 per cent level.

Finally, Table 9 presents marginal effects calculated from the respective Tobit models for individuals with positive minutes. Upper panel A reports the effects of ethnicity (white=1) for all individuals (single and married) by gender and by working status for females. The lower panel shows the results for married individuals with children. Regressions for time spent on childcare are only included in the lower panel. As for all individuals (panel A), the largest effect of ethnicity seems to be for females on the time spent on religious activities with white females spending on average 37 minutes less time than non-white females. The largest proportion of this effect comes from the non-working females. As for the food management, the effect is again the largest for the non-working females on a weekday: white women spend 33 minutes less on this activity than non-white. When we restrict our sample to married or cohabiting individuals with

children, the effect for women now is the largest on a weekend (30 minutes) and again it is largely due to the non-working females. Finally, ethnicity does not seem to matter for the time spent on childcare, after having conditioned on demographics, human capital and household characteristics (the only exception is a 25 minutes positive effect for working females on a weekday). This insignificant effect, however, may also be due to the very small sample size.

4. Robustness Checks

In addition to the changes in the specification above, the following sensitivity analysis was undertaken. First, all the models were reestimated by OLS (not reported). Although producing inconsistent estimates, OLS is a useful robustness check for the sign of the coefficients. In general, all the coefficients had the same sign and significance level as in the Tobit regressions. Second, we have reestimated the models changing the set of controls. Only the results for married females with children by working status are reported (Table 10). Columns (1) and (4) show the Tobit regression coefficients of the ethnicity dummy without any controls for working and non-working females respectively, and columns (2) and (5) contain the coefficients from the regressions excluding the days in which interviews were taken. Finally, we have included only married females with small children (less than 9 years old) into our sample and the results are reported in columns (3) and (6). Overall, the qualitative results reported above hold in all sensitivity checks. Correlation between white ethnicity and time spent on religious activities is negative and significant in all specifications, while the correlation with the time spent for food management is negative and significant only for non-working

women. There exists no significant relationship between ethnicity and time spent for childcare.

5. Conclusions

The understanding of gender roles is known to be an important determinant of female labor force participation. It is, therefore, important to measure gender attitudes and their effects on economic behavior. Our approach has been to employ measured time use of factors affiliated with those attitudes. Elaborating around the famous 3K model originating in 19th century Germany ("*Kinder, Küche, Kirche*" or "Children, Kitchen, Church"), we have studied the intensity of "traditional" attitudes across ethnicities using time diaries on childcare, food preparation and religious activities provided by the 2000 UK Time Use Survey. Given the low work participation of females from ethnic minorities, the role of ethnicity in forming those attitudes and influencing time spent for "traditional" activities was of particular interest.

Our findings are as follows. First, we find that white females in the UK indeed have a 22-23 percentage points higher probability of participating in the labor force than non-white females, while the effect of ethnicity is insignificant for males. Our results also confirm that ethnicity matters, independently of the estimation method employed. Regarding religious activities, while both white males and females spend significantly less time for them, the effect is much larger for females, both employed and not employed. Ethnicity also matters for food preparation, however only for non-working females. The results for childcare suggest that ethnicity *per se* is insignificant for both genders after having controlled for demographic and socio-economic characteristics. In

general, the results are robust to the estimation methods used, the changes in specification and inclusion of additional controls. Hence, our findings suggest that cultural differences across ethnicities are significant, and may also affect work behavior.

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Table 1a: Descriptive statistics

	All		Married/cohabiting with children	
	Males	Females	Males	Females
<u>Outcome measures:</u>				
Time for religious activity - Weekday	3.13 (22.547)	4.88 (27.672)	3.54 (21.090)	4.59 (22.798)
Time for religious activity - Weekend	3.14 (22.801)	3.25 (20.228)	4.04 (24.012)	3.96 (23.335)
Time for food management - Weekday	31.66 (40.455)	70.18 (57.121)	33.72 (43.782)	78.79 (56.558)
Time for food management - Weekend	27.88 (36.895)	67.74 (56.567)	27.17 (35.215)	80.31 (58.645)
Time for childcare – Weekday			38.86 (65.154)	86.00 (104.835)
Time for childcare – Weekend			38.78 (67.782)	84.304 (103.421)
<u>Explanatory variables:</u>				
White	0.97	0.96	0.95	0.95
Married or cohabiting	0.78	0.74		
Age	39.90 (11.729)	38.69 (11.465)	38.44 (7.620)	36.30 (7.453)
Household size	3.07 (1.364)	3.13 (1.350)	4.07 (1.031)	4.09 (1.069)
Child<15 years old in the household	0.43	0.49		
Household income less than 10,430 pounds	0.13	0.21	0.10	0.15
Household income from 10,430 to 55,000 pounds	0.76	0.69	0.80	0.76
Employed	0.93	0.78	0.95	0.71
Higher educ. degree and above	0.28	0.29	0.27	0.27
“A” level or vocat. educ., “O” level, GCSE level	0.36	0.36	0.38	0.40
Below GCSE, professional and other qualifications	0.07	0.05	0.07	0.04
Number of observations - Weekday	2154	2581	859	1017
Number of observations - Weekend	2136	2567	851	1006

Note: Standard deviations are in parentheses. For the explanatory variables descriptive statistics for a weekday only is presented.

Table 1b: Descriptive statistics: time uses by ethnicity

	Male		Female	
	White	Non-white	White	Non-white
<u>Weekday</u>				
Time for religious activity	2.96 (21.986)	8.17 (35.104)	3.96 (24.756)	28.95 (64.864)
Time for food management	31.92 (40.409)	24.08 (41.354)	69.18 (55.630)	96.53 (83.752)
Time for childcare	16.28 (46.388)	28.73 (47.837)	42.33 (83.106)	57.26 (89.150)
<u>Weekend</u>				
Time for religious activity	2.93 (22.559)	9.29 (28.555)	2.35 (16.498)	26.91 (58.878)
Time for food management	28.03 (36.935)	23.71 (35.678)	67.19 (56.081)	82.23 (66.867)
Time for childcare	16.61 (48.711)	24.28 (48.292)	41.03 (82.464)	53.83 (79.611)

Note: Standard deviations are in parentheses.

**Table 2: The effect of ethnicity on LFP of females and males
Marginal effects from Probit**

	Females		Males	
	All	Married/cohab. with children	All	Married/cohab. with children
White	0.22*** (0.073)	0.23*** (0.092)	0.02* (0.017)	0.02 (0.020)
Pseudo R ²	0.21	0.21	0.25	0.30
Observations	1479	811	1372	754

Note: ***significant at 1%, **significant at 5%, *significant at 10%. Standard errors account for clustering and are reported in parentheses. Time diaries for a weekday only are taken. Other controls include: age, number of children 0-2, 3-4, 5-9, 10-15 years old, number of adults in the household, education dummies, dummies for gross household income, partner's age and education, region fixed effects.

Table 3: Determinants of the time spent for religious activity: by gender
Coefficients from Tobit models

	Males				Females			
	All		Married/cohab. with children		All		Married/cohab. with children	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
White	-179.10*** (53.559)	-164.13*** (45.743)	-186.30*** (70.92)	-171.41*** (48.027)	-228.33*** (30.381)	-232.84*** (28.539)	-173.48*** (50.034)	-262.18*** (60.108)
Age	11.09 (9.305)	-3.56 (8.042)	-3.31 (11.889)	9.04 (30.129)	-5.84 (5.578)	3.53 (6.066)	9.20 (14.914)	17.74 (19.737)
Age ²	-0.10 (0.109)	0.09 (0.096)	0.07 (0.155)	-0.11 (0.403)	0.12* (0.068)	0.01 (0.073)	-0.06 (0.196)	-0.21 (0.261)
Household size	18.33* (10.374)	14.24 (11.562)	25.78 (16.190)	25.96** (13.267)	20.61*** (7.215)	11.94 (7.808)	15.53 (9.625)	10.09 (11.192)
Children in household	13.71 (37.137)	59.02* (32.732)			38.10 (23.750)	21.55 (20.564)		
Household income less than 10,430 pounds	122.38** (63.228)	74.30 (50.064)	37.53 (337.48)	-25.11 (383.74)	24.47 (33.832)	-57.42 (43.141)	-129.37** (60.195)	-115.03* (66.862)
Household income from 10,430 to 55,000 pounds	74.62* (43.223)	16.02 (33.035)	53.08 (59.727)	-6.52 (44.386)	41.39 (32.812)	-8.41 (30.343)	-6.98 (36.433)	-62.67 (49.769)
Employed	55.57 (70.170)	-24.39 (52.947)	94.73 (73.371)	79.73* (47.268)	5.00 (20.168)	-0.55 (21.116)	-27.56 (28.555)	23.90 (37.070)
Higher educ. degree and above	105.44*** (32.555)	124.66*** (35.17)	108.44** (57.025)	98.12** (49.681)	46.85** (21.990)	-15.92 (26.284)	7.08 (26.813)	-113.52*** (47.898)
“A” level or vocat. educ., “O” level, GCSE level	34.93 (31.175)	40.19 (31.013)	31.53 (58.658)	-36.21 (46.815)	-13.51 (23.932)	-4.40 (26.666)	-6.48 (32.175)	-16.98 (32.779)
Below GCSE, professional and other qualifications	-36.56 (247.54)	63.78 (206.86)	14.93 (336.99)	40.39 (183.60)	33.15 (40.929)	7.20 (40.949)	52.42 (266.19)	-893.84*** (95.599)
Married or cohabiting	-31.13 (42.731)	-24.26 (39.862)			-57.87*** (21.542)	-49.34** (24.755)		
Intercept	-647.33*** (213.78)	-301.09 (191.25)	-333.00 (209.99)	-578.76 (518.63)	-100.81 (115.29)	-164.12 (141.92)	-295.82 (297.65)	-344.81 (381.22)
Pseudo R ²	0.07	0.07	0.10	0.10	0.09	0.08	0.12	0.12
Observations	2154	2136	859	851	2581	2567	1017	1006

Note: ***significant at 1%, **significant at 5%, *significant at 10%. Standard errors are bootstrapped with 100 replications, account for clustering and are reported in parentheses. Additional controls include region, year 2001, season and weekday dummies. Reference categories: non-white, household without children less than 15 years old, household income more than 55,000 pounds, not employed, no qualifications, single.

**Table 4: The effect of ethnicity on the time spent for religious activity:
Females by working status
Coefficients from Tobit models**

	Working		Non-working	
	Weekday	Weekend	Weekday	Weekend
All				
White	-211.35*** (46.426)	-235.15*** (47.517)	-203.25*** (51.446)	-266.79*** (61.118)
Pseudo R ²	0.09	0.07	0.15	0.19
Observations	2012	2001	569	566
Married/cohabiting with children				
White	-162.48** (69.157)	-233.36*** (78.549)	-396.95** (186.32)	-324.85*** (22.169)
Pseudo R ²	0.11	0.11	0.26	0.26
Observations	726	719	291	287

Note: ***significant at 1%, **significant at 5%, *significant at 10%. Standard errors are bootstrapped with 100 replications, account for clustering and are reported in parentheses. Controls include age and its square, household size, presence of children younger than 15 in the household, household income dummies, education dummies, marital status (in the regression for all females), region, year 2001, season and weekday dummies. Reference categories: non-white, household without children less than 15 years old, household income more than 55,000 pounds, not employed, no qualifications, single.

Table 5: Determinants of the time spent for food management: by gender
Coefficients from Tobit models

	Males				Females			
	All		Married/cohab. with children		All		Married/cohab. with children	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
White	15.58*	11.02	26.58***	21.64**	-19.43***	-6.54	-18.53	-9.41
	(8.347)	(8.985)	(10.915)	(10.678)	(8.825)	(7.208)	(12.363)	(8.713)
Age	4.09***	3.54***	0.09	2.03	2.21***	2.26***	-3.46*	-1.78
	(0.736)	(0.781)	(2.672)	(2.446)	(0.769)	(0.841)	(1.922)	(2.074)
Age ²	-0.04***	-0.03***	0.02	-0.02	-0.01	-0.01	0.05**	0.03
	(0.009)	(0.009)	(0.034)	(0.032)	(0.010)	(0.011)	(0.025)	(0.027)
Household size	-4.69***	-3.50***	-1.73	0.91	2.36*	-0.10	6.60***	3.43*
	(1.134)	(1.421)	(2.092)	(2.420)	(1.354)	(1.299)	(1.560)	(2.00)
Children in household	14.15***	6.91*			11.62***	19.22***		
	(3.706)	(3.717)			(3.295)	(3.232)		
Household income less than 10,430 pounds	12.84**	8.07	15.33	-2.94	18.95***	16.87***	15.66**	4.16
	(6.196)	(5.149)	(9.548)	(10.036)	(6.144)	(5.832)	(7.825)	(8.593)
Household income from 10,430 to 55,000 pounds	10.47***	4.41	26.23***	4.55	4.04	9.77**	6.00	0.65
	(3.720)	(3.833)	(6.456)	(6.984)	(4.926)	(4.397)	(6.240)	(6.458)
Employed	-25.27***	-24.90***	-40.55***	-18.91**	-23.87***	-30.99***	-19.79***	-29.39***
	(6.016)	(4.969)	(13.117)	(9.800)	(3.048)	(3.419)	(3.994)	(4.958)
Higher educ. degree and above	5.42	2.65	4.84	0.07	-7.39**	-10.72***	-2.74	-16.33***
	(3.453)	(3.378)	(5.571)	(6.052)	(3.406)	(3.077)	(5.342)	(5.949)
“A” level or vocat. educ., “O” level, GCSE level	4.61	1.09	4.69	-0.87	-0.16	-4.66	2.63	-8.68*
	(3.192)	(3.424)	(5.618)	(5.106)	(3.414)	(2.900)	(5.025)	(5.091)
Below GCSE, professional and other qualifications	-2.73	-10.20**	0.09	-16.69**	-5.90	-3.81	-0.93	7.34
	(5.251)	(4.957)	(10.121)	(8.077)	(4.505)	(4.783)	(9.016)	(9.785)
Married or cohabiting	-3.76	-2.33			15.19***	19.67***		
	(3.194)	(3.822)			(2.666)	(2.804)		
Intercept	-57.12***	-49.36***	-9.14	-49.78	16.92	7.94	132.42***	128.33***
	(19.444)	(20.066)	(54.637)	(53.092)	(16.534)	(17.014)	(37.597)	(40.095)
Pseudo R ²	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.01
Observations	2154	2136	859	851	2581	2567	1017	1006

Note: ***significant at 1%, **significant at 5%, *significant at 10%. Standard errors are bootstrapped with 100 replications, account for clustering and are reported in parentheses. Additional controls include region, year 2001, season and weekday dummies. Reference categories: non-white, household without children less than 15 years old, household income more than 55,000 pounds, not employed, no qualifications, single.

**Table 6: The effect of ethnicity on the time spent for food management:
Females by working status
Coefficients from Tobit models**

	Working		Non-working	
	Weekday	Weekend	Weekday	Weekend
All				
White	-8.59 (12.806)	5.05 (8.549)	-41.27*** (14.142)	-22.62** (11.402)
Pseudo R ²	0.02	0.02	0.01	0.01
Observations	2012	2001	569	566
Married/cohabiting with children				
White	-2.26 (16.482)	1.96 (13.094)	-41.19*** (16.916)	-18.28 (17.356)
Pseudo R ²	0.01	0.01	0.01	0.01
Observations	726	719	291	287

Note: ***significant at 1%, **significant at 5%, *significant at 10%. Standard errors are bootstrapped with 100 replications, account for clustering and are reported in parentheses. Controls include age and its square, household size, presence of children younger than 15 in the household, household income dummies, education dummies, marital status (in the regression for all females), region, year 2001, season and weekday dummies. Reference categories: non-white, household without children less than 15 years old, household income more than 55,000 pounds, not employed, no qualifications, single.

**Table 7: Determinants of the time spent for childcare : by gender
(only married or cohabiting individuals with children)
Coefficients from Tobit models**

	Males		Females	
	Weekday	Weekend	Weekday	Weekend
White	1.87 (21.513)	28.26 (18.76)	21.66 (19.703)	7.58 (17.183)
Age	2.50 (3.952)	4.87 (4.642)	1.20 (3.929)	1.53 (4.006)
Age ²	-.04 (.050)	-.06 (.058)	-.05 (.052)	-.03 (.053)
Number of children	72.88*** (10.741)	79.25*** (9.747)	115.64*** (10.174)	112.88*** (10.695)
0-2 years old	24.63*** (8.104)	30.64*** (9.330)	18.53** (7.862)	39.94*** (8.331)
Number of children	18.60*** (5.236)	14.64*** (5.652)	16.54*** (4.195)	17.88*** (5.373)
3-4 years old	-15.96*** (5.807)	-9.09 (6.112)	-12.25*** (4.807)	-15.58*** (5.33)
Number of children	-12.18 (8.037)	-26.48*** (8.761)	-25.47*** (7.124)	-27.19*** (6.800)
10-15 years old	Household income less than 10,430 pounds	3.94 (21.273)	-29.61* (17.310)	-35.80** (15.679)
Household income from 10,430 to 55,000 pounds	-15.53 (10.342)	-2.02 (16.003)	-18.86 (14.079)	-24.37** (12.850)
Employed	-59.69** (24.806)	-63.34*** (22.623)	-33.48*** (8.707)	-39.09*** (8.225)
Higher educ. degree and above	6.28 (10.389)	9.84 (11.763)	27.12*** (10.660)	29.72*** (11.006)
“A” level or vocat. educ., “O” level, GCSE level	7.192 (10.291)	3.57 (8.649)	5.72 (7.866)	1.00 (9.621)
Below GCSE, professional and other qualifications	-7.41 (15.922)	-15.62 (18.079)	-10.15 (13.14)	1.50 (19.852)
Intercept	54.81 (90.131)	-22.77 (107.029)	136.44* (73.130)	121.81 (81.298)
Pseudo R ²	0.04	0.05	0.06	0.05
Observations	859	851	1017	1006

Note: ***significant at 1%, **significant at 5%, *significant at 10%. Standard errors are bootstrapped with 100 replications, account for clustering and are reported in parentheses. Additional controls include region, year 2001, season and weekday dummies. Reference categories: non-white, number of children 16-18 years old, household income more than 55,000 pounds, not employed, no qualifications.

**Table 8: The effect of ethnicity on the time spent for childcare:
Females by working status (only married or cohabiting females with children)
Coefficients from Tobit models**

	Working		Non-working	
	Weekday	Weekend	Weekday	Weekend
White	44.50** (21.960)	5.61 (26.383)	14.59 (27.665)	-10.32 (20.294)
Pseudo R ²	0.06	0.06	0.06	0.05
Observations	726	719	291	287

Note: ***significant at 1%, **significant at 5%, *significant at 10%. Standard errors are bootstrapped with 100 replications, account for clustering and are reported in parentheses. Controls include age and its square, number of children 0-2, 3-4, 5-9, 10-15 years old, number of adults, household income dummies, education dummies, region, year 2001, season and weekday dummies. Reference categories: non-white, number of children 16-18 years old, household income more than 55,000 pounds, not employed, no qualifications.

**Table 9: The effect of ethnicity (white=1) on “traditional” activities
Marginal effects from Tobit models**

Males		All		Females		Non-working	
Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
A: Singles and married, with and without children							
Time spent for religious activities							
-9.88*** (3.434)	-17.87*** (6.137)	-37.37*** (6.364)	-25.52*** (9.123)	-12.58*** (3.467)	-32.23*** (8.951)	-31.73** (14.31)	-19.31* (10.189)
Time spent for food management							
3.86** (1.934)	5.51 (4.275)	-15.94** (7.503)	-5.48 (6.116)	-6.06 (9.344)	3.48 (5.780)	-32.50*** (11.891)	-18.30** (9.645)
B: Married or cohabiting with children							
Time spent for religious activities							
-8.66** (4.247)	-17.22** (7.358)	-17.35* (10.273)	-30.27*** (11.05)	-9.42 (5.873)	-23.90* (13.222)	-10.44** (5.221)	-21.36*** (1.681)
Time spent for food management							
7.14*** (2.632)	9.74** (4.453)	-15.26 (10.653)	-7.86 (7.439)	-1.69 (12.426)	1.37 (9.091)	-32.75** (14.47)	-15.10 (14.758)
Time spent for childcare							
0.79 (9.041)	14.99 (9.692)	14.80 (13.017)	4.99 (11.141)	24.57** (10.707)	3.30 (15.316)	10.24 (19.08)	-6.91 (13.834)

Note: ***significant at 1%, **significant at 5%, *significant at 10%. Standard errors are reported in parentheses. Marginal effects are from the respective Tobit models. Controls include age and its square, household size, presence of children younger than 15 in the household, household income dummies, education dummies, marital status (in the regression for all), region, year 2001, season and weekday dummies. In the regressions for childcare, number of children 0-2, 3-4, 5-9, 10-15 years old, number of adults is included instead of the household size and presence of children. Reference categories: non-white, household without children less than 15 years old (number of children 16-18 years old in the regression for childcare), household income more than 55,000 pounds, not employed, no qualifications, single.

**Table 10: Robustness checks:
Females by working status, weekday only
(only married or cohabiting females with children).
Coefficients from Tobit models**

	Working			Non-working		
	(1)	(2)	(3)	(4)	(5)	(6)
Time spent for religious activities						
White	-188.22*** (45.132)	-150.40*** (53.131)	-197.33*** (59.930)	-180.86*** (31.542)	-233.29** (97.077)	-680.09*** (254.56)
Controls	No	Yes	Yes	No	Yes	Yes
Weekday dummies	No	No	Yes	No	No	Yes
Time spent for food management						
White	-5.04 (15.503)	-18.61 (15.176)	-14.03 (19.729)	-49.52*** (12.517)	-44.44*** (16.773)	-49.30** (20.481)
Controls	No	Yes	Yes	No	Yes	Yes
Weekday dummies	No	No	Yes	No	No	Yes
Time spent for childcare						
White	30.05 (24.592)	42.27* (24.810)	48.97* (27.364)	25.73 (24.173)	-4.10 (28.051)	25.69 (25.521)
Controls	No	Yes	Yes	No	Yes	Yes
Weekday dummies	No	No	Yes	No	No	Yes

Note: ***significant at 1%, **significant at 5%, *significant at 10%. Standard errors are bootstrapped with 100 replications, account for clustering and are reported in parentheses. In columns (1) and (4) no controls are included. In columns (2) and (5) controls include age and its square, household size, household income dummies, education dummies, region, year 2001, and season dummies. In columns (3) and (6) sample includes married females with small children less than 9 years old. In the regressions for childcare, number of children 0-2, 3-4, 5-9 (not in columns 3 and 6), 10-15 years old (not in columns 3 and 6), number of adults is included instead of the household size and presence of children.