Gender, ethnicity and household labour in married and cohabiting couples in the UK

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Abstract

There is an extensive literature on the domestic division of labour within married and

cohabiting couples and its relationship to gender equality within and outside the household.

UK quantitative research on the domestic division of labour across ethnic groups has been

limited by a lack of data that enables disaggregation by ethnic group. This paper uses data

from Understanding Society, the UK Household Longitudinal Study containing sufficient

sample sizes of ethnic minority groups for meaningful comparisons. We find significant

variations in patterns of domestic labour by ethnic group, gender, education and employment

status after accounting for individual and household characteristics.

Key words: Domestic division of labour, ethnicity, gender

JEL codes: D13

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Non-technical Summary

There has always been a lot of interest in who does the housework, how this is organised by couples and how it is associated with other aspects of people's lives such as the time they spend in employment and the gender inequalities that result from an unequal division of paid and unpaid work. Most research finds that women continue to do most of the day-to-day tasks within the household such as cooking, cleaning and washing and ironing. As more women have taken on paid employment and are working for longer hours outside the home we have seen a gradual shift in how much time men and women spend on domestic tasks. There has been a decline in the average number of hours women spend on housework tasks and a gradual increase in the hours men spend on domestic tasks even though that increase is mainly on things such as DIY and gardening rather than the day-to-day jobs such as cooking and cleaning. So women still do the bulk of routine housework and many women work part-time in order to be able to combine paid work with looking after the home and family.

Research in the UK has focused on the white majority population, or at least has assumed that everyone is the same in how they organise their housework time regardless of their cultural heritage or ethnic background. So the approach has been ethnicity 'blind' and we know very little about how patterns of domestic labour vary across different ethnic minority groups and how these might be associated with levels of education and whether in paid employment and with gender-role attitudes. This is because we have not had large scale survey data with sufficient numbers of people from ethnic minority groups to carry out reliable research. This paper is a first step to filling this gap using data from *Understanding Society*. Using people's reports of how much time they spend on housework each week we look at how equal couples are in sharing housework and how this varies by ethnic group. We take into account people's characteristics, their education, employment status and when they arrived in the UK and find significant differences across ethnic groups. One interesting finding is white British couples are not necessarily the most equal in how they organise domestic tasks or in their gender-role attitudes. The aim of the paper is to provide the first nationally representative evidence on ethnicity and the domestic division of labour, increasing our understanding of the complex links between gender, ethnicity and household labour in married and cohabiting couples in the UK.

1. Background

There is an extensive UK and international literature on the domestic division of labour within married and cohabiting couples and its relationship to gender equality within the household and within the labour market (Kan, 2008; Lyonette and Crompton, 2015; Sullivan, 2011; Bianchi et al, 2000; Baxter, 2002). Most UK research on the domestic division of labour focuses on the white majority population or is ethnicity 'blind', effectively ignoring potentially significant associations between gender, ethnicity, socio-economic position and domestic labour. As a result we have limited information about variations across ethnic groups that may be associated with the specific socio-economic characteristics of different groups. While there is an extensive literature on the disadvantaged labour market position and risks of relative poverty of immigrants and ethnic minority groups in the UK (e.g. Platt, 2005; Fisher and Nandi, 2015), quantitative empirical research on the domestic division of labour across ethnic groups has not been possible, largely due to a lack of data that enables disaggregation by ethnic group and an examination of the heterogeneity across ethnic groups.

This paper addresses this gap using data from a nationally representative panel survey, *Understanding Society*, the UK Household Longitudinal Study. The survey contains sufficient sample sizes of ethnic minority groups in the UK to enable meaningful comparisons across ethnic minority groups and with the white British majority population. We focus on the extent to which domestic arrangements are egalitarian as measured by the number of hours and share of time spent on domestic tasks by men and women in married or cohabiting couples. We examine how the hours spent on domestic labour vary by ethnic group accounting for education, employment and other individual and household characteristics. The aim of the paper is to provide the first nationally representative evidence on ethnicity and the domestic division of labour, increasing our understanding of the intersections between gender, ethnicity and household labour in married and cohabiting couples in the UK.

Ethnicity, immigration and diversity

In recent decades the UK has experienced a significant increase in immigration leading to greater diversity and a multicultural society. The largest immigrant groups are from post-colonial countries in the Indian sub-continent and from the Caribbean with immigration from European Union countries increasing more recently. As Luthra et al (2014) note there is substantial heterogeneity among EU migrants with 'new' migrant types evolving alongside

more traditional labour migrants. Immigrants have arrived in the UK under differing policy regimes and the motives driving migration also differ, from refugees to economic migrants, or migration for education, employment or family reasons. The immigrant population within the UK is therefore very diverse in terms of country of origin, cultural background, education and skills, and duration since arrival in the UK. According to the UK 2011 Census, 13.4% of the UK population were born outside the UK with 45.8% of these defined as 'white', 3.2% of Mixed background, 32.6% Asian (including Chinese), 13.2% black African/Caribbean, and 5.3% Arab or other ethnic background. Immigrants are also a selected population. On average they tend to be younger than the host population, they may have unobserved characteristics such as being ambitious to improve their lives, and they may be highly qualified relative to the UK population if arriving under the points-based immigration system. There may also be differences between first and second generation immigrants due to language and other barriers to integration for first generation migrants. While immigrants will bring their cultural norms, values and expectations about family life from their country of origin it might be expected that those born and/or educated in the UK may adopt a mix of norms and values from their culture of origin and from the UK.

Acculturation theory and social identity

Acculturation theory (Berry, 1997; 2005) has been used within migration studies to explain the process of migrants adopting the cultural values and social identity of the host nation while preserving fundamental aspects of their own cultural heritage (Schwartz et al, 2006). Migrants may come to hold dual identities encompassing aspects of their culture of origin and of the host nation. In the UK, identification with being British increases generation on generation among ethnic minority groups while many continue to identify with their heritage culture (Nandi and Platt, 2013). Maintaining dual identities can be beneficial as those who are engaged with both their heritage culture and that of the host country may be better adapted than those who orient to one culture only (Sam and Berry, 2010). There may be complex inter-relationships between holding dual identities and gender-role attitudes and behaviours with those born and educated in the UK adopting some aspects found in the white British population while maintaining aspects of gender-role orientations from the heritage culture. Acculturation theory provides a useful framework for understanding the process of evolving social and cultural identities but when considering gender-role attitudes has been criticised for relying primarily on cultural determinants and failing to take into account structural factors within the host country such as social class and employment position (VasquezNuttall et al, 1987; Kane, 2000). Recognising the heterogeneity that exists within and across ethnic groups is therefore important as there may be differential predictors of gender attitudes and behaviours that depend on both cultural values and structural factors.

Disadvantage, employment, gender and ethnicity

Ethnic minority groups in the UK suffer from multiple disadvantages relative to the white British population across a range of socio-economic outcomes (Fisher and Nandi, 2015; Platt, 2005; Karlsen and Nazroo, 2002). Ethnic minority groups suffer persistent disadvantage in the UK labour market (Catney and Sabater, 2015) while gender pay gaps for women from some ethnic minority groups are greater than for white British workers (Brynin and Guveli, 2012). These 'ethnic penalties' in the labour market are persistent and are not due to differences in education or other individual characteristics (Longhi et al, 2013) even though there is considerable heterogeneity across and within ethnic groups in their labour market participation (Kapadia et al, 2015).

There are known associations between women's employment patterns and the domestic division of labour and we might expect the domestic division of labour for ethnic minority women in the UK to be associated with a number of structural factors. Women from ethnic minority groups have higher unemployment rates than white British women and are more likely to be in low paid, low status jobs, particularly those from a Bangladeshi or Pakistani background (Dale et al, 2002; Heath and Martin, 2013). For first generation immigrants cultural and language barriers and a lack of knowledge about the UK labour market can lead to migrants being found primarily in low paid, low skill jobs (Green, 2013). Even migrants highly qualified in their country of origin may find it problematic to establish themselves in the UK labour market as skills and experience may not be directly transferable or recognised by UK employers (Green, 2013). It might be expected that second generation immigrants educated in the UK will integrate more successfully into the UK labour market despite the ethnic penalties which persist. These differing experiences within the labour market could be expected to have an impact on household labour and gender roles within the household.

Domestic labour, gender and ethnicity

With increasing numbers of women entering the labour market in recent decades, the proportion of women's housework time relative to men's has been decreasing gradually. However, women still undertake the bulk of housework (Kan, Sullivan and Gershuny, 2011).

The decline in women's domestic work time focuses primarily on routine housework. Men have increased their participation mainly on non-routine domestic work such as grocery shopping and home-repairs. There is limited evidence of gradual change or 'lagged adaptation' by men in response to women's paid employment (Gershuny, 1994). Despite significant liberalisation in gender attitudes this does not necessarily translate into changes in behaviour which remain gendered (Crompton et al, 2005). This is attributed in part to women working fewer hours to allow them to combine domestic tasks with paid employment alongside the increasing intensification of work for many men, something which may restrict men's ability to contribute to domestic labour even if they wished to. We know little about how these patterns vary by ethnic group.

The majority of research into the domestic division of labour across ethnic groups is US based focusing primarily on gender-role attitudes rather than time spent on domestic labour. Kane (2002) suggests no clear patterns emerge from the US research. Some studies find African-American men are more traditional in terms of women's primary role as homemakers. Others find no significant differences between African-Americans and whites in their gender-role attitudes while some find African-Americans have more egalitarian and less traditional attitudes than white Americans. One thesis is the legacy of more egalitarian family forms combined with the experience of racial inequality may lead African-Americans to be more critical of gender inequality than white Americans (Kane, 2002). Using data from the American Time Use Survey (ATUS), Sayer and Fine (2011) found that women from an Asian or Hispanic background spent more time on domestic work than black or white women but there were no differences in men's time spent on domestic work across ethnic groups. They suggest that differences in domestic labour across ethnic groups may be due to cultural differences in how domestic tasks are defined producing variations in egalitarian attitudes and behaviours.

Using Australian panel data Ting et al (2015) compared the time spent on domestic labour between immigrants coming from non-English speaking countries and those from English speaking countries with non-indigenous Australians and Indigenous couples (Torres Strait Islanders and Aboriginals). While women in all ethnic groups spent more time on housework than men, they found significant gender gaps in housework contributions by ethnic group. Using random effects panel models they found statistically significant differences in the number of hours spent on housework by men and women across and within different ethnic

groups, differences that are not explained by observable socio-economic characteristics. In particular Indigenous couples and immigrants from a non-English-speaking background displayed more egalitarian domestic arrangements than Australian born couples and immigrants from an English-speaking background. Ting et al (2015) conclude that theoretical approaches used to understand the gendered division of household labour in majority populations may not be appropriate across all ethnic groups where distinct meanings or cultural definitions of what constitutes domestic work may differ.

In the UK most research has focused on South Asian communities as the largest grouping of ethnic minorities in the UK and has concentrated on understanding the construction of gender-role attitudes rather than looking directly at the domestic division of labour within couples. Dale et al (2002) used qualitative interviews to explore routes into education and employment for young Bangladeshi and Pakistani women and how their educational and employment aspirations differed from those of their first generation immigrant mothers. As young people experience the UK education system and are exposed to western cultural values as well as those of their cultural heritage, these might be expected to influence gender attitudes and expectations of employment and family life. Dale et al (2002) found that gaining a good education was highly valued by second generation young men and women and by their parents even though for young men the pressure to succeed was greater than for young women. Despite differing expectations and aspirations amongst younger men and women relative to their parents there was a clear recognition of the need to negotiate change with their parents and parents-in-law. While a process of adoption of western cultural values and attitudes was apparent it could lead to conflict, particularly for young women, so needed careful negotiation between younger and older generations.

Archer (2002) argues institutional racisms and sexism may also play an important part in influencing Asian girls' educational attainment and employment aspirations which cannot be constructed as entirely due to cultural background. In a qualitative study of young Pakistani women Brah (1993) found most were in favour women's right to paid employment but their position in the labour market was due to a complex interplay of factors. These included opportunities in the local labour market, cultural ideologies about women and paid work, the role of education in mediating job aspirations, religion and racism. Looking at another aspect of household resource allocation, a study of the management and control of finances within South Asian households in London found significant differences between white and South

Asian households in the organisation of domestic finance (Bhopal, 1999). Women's level of education and economic activity were significant factors affecting their access to domestic finance (Bhopal, 1999). While there is little research on gender roles for groups other than South Asians in the UK, Song (1997) explored second generation Chinese siblings' cultural identities and found that labour participation in Chinese families running take-away businesses and the performance of family labour was important for the formation of cultural identities. Working within a family business was often highly gendered, enabling women to combine family responsibilities with employment but outside the formal labour market.

Given the paucity of quantitative evidence for the UK we have three main research questions and associated hypotheses:

- How does the domestic division of labour and share of time spent on domestic tasks vary by ethnic group in the UK? We expect the domestic division of labour varies among ethnic groups and by gender, and is associated with individuals' gender attitudes.
- 2. How are these relationships mediated by socio-economic factors, individual and household characteristics? We expect that high educational attainment and employment status are associated with a more equal domestic division of labour but the association differs among ethnic groups.
- 3. Are there differences between first and second generation immigrants in patterns of domestic labour? We expect that those who were born in the UK or arrived in the UK before age 12 would have more egalitarian domestic labour arrangements than first generation immigrants.

2. Data, key measures and analysis approach

The data are from *Understanding Society*, the UK Household Longitudinal Study. *Understanding Society* is an annual household panel survey of individuals in 40,000 households in the UK at wave 1 (2009/10). Individuals aged 16 and over in sample households are interviewed annually with questionnaire content covering a wide range of topics including family and children, housing, education, health, employment, income, attitudes and opinions. The main *Understanding Society* sample is a general population probability sample representing the UK population, including those from ethnic minority backgrounds in proportion to ethnic minority groups in the UK. In response to the growing diversity of the UK population and the need to provide sufficient sample sizes for analysis

across and within ethnic groups, *Understanding Society* includes a substantial ethnic minority boost sample (EMB). The EMB is designed to provide additional samples of 1,000 individuals in each of five main ethnic minority groups in the UK - Indian, Pakistani, Bangladeshi, black African and black Caribbean. Other ethnic minority and immigrant groups such as Chinese, Middle Eastern and EU migrants are not oversampled but were included in the boost sample when identified during screening. The EMB includes first, second and third generation immigrants with sample coverage estimated at around 90% of ethnic minority households in the UK (Berthoud et al. 2009).

Analytic sample and key measures

The analytic sample includes heterosexual couples of working age (16 to 64 years old) as our main interest is in the domestic division of labour and ethnicity in relation to gender, education and employment. Where one member of a couple is aged under 65 the couple member is included. Our analysis sample includes married and cohabiting couples interviewed at wave 2 (2010/11) or wave 4 (2012/13) when questions on domestic labour and gender-role attitudes were asked. Cases are pooled across these two waves. Table 1 sets out the analytic sample size for couples by ethnicity and gender. Overall, 21 percent of respondents were in an ethnic group other than white British with the largest groups being white Other, Indian, Pakistani and Bangladeshi reflecting the main sending countries and post-war immigration patterns for the UK. Cases with missing data on key variables are excluded.

Table 1: Analytic sample: distribution of ethnic groups by gender (married and cohabiting respondents aged 16 – 64 years: waves 2 and 4, *Understanding Society*, unweighted data).

Ethnic group	Men	Women	Total
White British	10,953	11,456	22,409
White Irish	169	194	363
White Other	400	579	979
Indian	557	585	1,142
Pakistani	378	389	767
Bangladeshi	320	319	639
Chinese	61	91	152
Other Asian	164	254	418
Black Caribbean	152	166	318
Black African	268	246	514
Mixed background	171	208	379
Other ethnic group	149	166	315
Total	13,742	14,653	28,395

Ethnic group was self-reported by individuals using the question wording and categories carried on the 2011 UK Census. Respondents could self-identify as being of Mixed Asian/black African/black Caribbean ethnic background and we maintain this as a separate group for analysis. The expectation is those who identify as 'Mixed' may be less homogeneous, identifying with both their ethnic background of origin and with being British. So they may have different behaviours compared to those who identify primarily with one ethnic group. We also separate the 'white' group by whether white British, white Irish or white Other to enable examination of potential differences between these groups. The white Other group includes migrants from countries such as Australia, Canada or the US as well as EU migrants self-identifying as 'white'. Information on own and parent's country of birth and dates of arrival in the UK provide information on whether first or second generation immigrants.

Questions on the domestic division of labour were asked of married and cohabiting individuals who reported how many hours they spend in an average week on housework such as cooking, cleaning, washing and ironing. While stylized survey estimates on hours of domestic labour are not ideal when compared to more accurate time-diary estimates, the reporting errors are largely random (Kan and Pudney, 2008). Therefore they do allow the construction of a variable to indicate the total share of housework time for each couple member. *Understanding Society* interviews both couple members allowing comparisons of spouse's responses. Information on educational qualifications and details of employment, income, and family status are collected allowing variables on the couple's joint educational and employment status to be derived.

Respondents were asked a series of gender-role attitudes questions in a self-completion section of the survey where they ranked statements on a five point scale from 'Strongly Disagree' to 'Strongly Agree'. The statements used for this analysis include:

- (i) A pre-school child is likely to suffer if his or her mother works
- (ii) All in all, family life suffers when the woman has a full-time job
- (iii) Both the husband and wife should contribute to the household income
- (iv) A husband's job is to earn money; a wife's job is to look after the home and family

The responses were recoded to derive an overall gender attitudes score ranging from a possible -8 to +8 with '0' being neutral. A negative score indicates less traditional gender role attitudes and a positive score more traditional gender attitudes.

Analysis approach

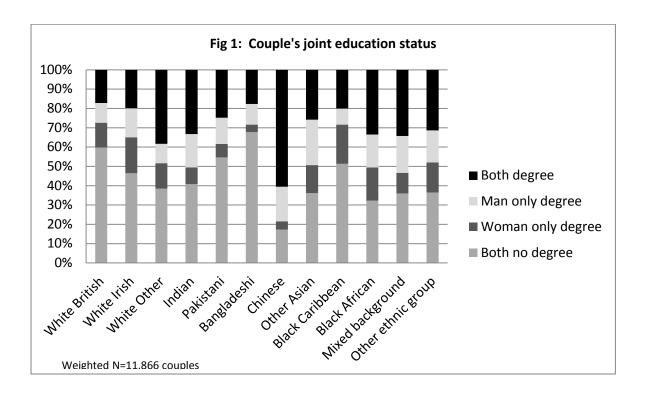
We carry out a cross-sectional analysis on the pooled sample from waves 2 and 4 of *Understanding Society* (2010/11 and 2012/13). First, we report descriptive results on the associations between ethnic group and the number of hours spent on housework per week by gender and the share of domestic labour within couples. Second, multivariate OLS regressions examine the relationship between ethnic group and domestic labour after holding individual and socio-economic characteristics constant. We then include interaction effects between ethnic group and education, employment and gender-role attitudes to examine within group effects. As the analysis is predominantly descriptive and cross-sectional, we use survey weights to account for survey design, unequal probabilities of selection and non-response. Robust standard errors are used to adjust for individual clustering in the sample. Including gender-role attitudes in the regression models is somewhat problematic as these are likely to be endogenous predictors of patterns of domestic labour. For this reason we run the models separately with and without gender-role attitudes. The interpretation of the main results remains unchanged even though the magnitudes of some estimates vary once gender-role attitudes are included.

Our main dependent variables are (i) usual weekly housework hours and (ii) the share of housework between couple members. The main predictors are own and spouse's education level (whether has a degree or not), own and spouse's employment status (whether in paid employment or not), and whether born in the UK or arrived before the age of 12 years. We include those who arrived in the UK before 12 years old in the UK born category. These individuals will have spent most or some of their formative years in the UK education system and been more widely exposed to British cultural norms and are sometimes referred to as 'one and a half' generation immigrants. Of the non-white British, 34% of respondents were in this group. The control variables include age, whether spouse is from the same ethnic background, marital status (cohabiting vs married), monthly household income, number of dependent children, and the survey year. A variable indicating the ethnicity of the spouse is included as couples who marry or cohabit with a partner from the same ethnic group may be more homogeneous in their cultural background, attitudes, expectations and behaviours than

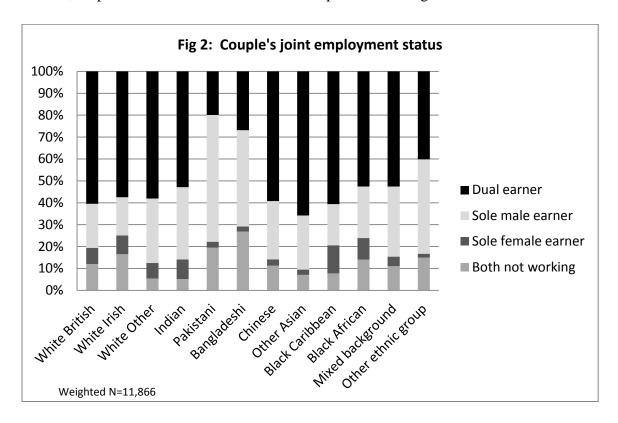
those who have a partner from a different ethnic background. Overall, 11 percent of individuals had a partner from a different ethnic background and 26 percent of non-white British had a spouse from a different ethnic group. Health status and a variable indicating whether the respondent considers they belong to a religion are excluded as they were not significant in the models. Religious affiliation is not included as this is confounded with ethnic group and the sample sizes become too small to construct meaningful ethno-religious groupings for all ethnic groups.

3. Descriptive results

Our hypotheses expect that education will be significantly associated with domestic labour hours and the share of domestic labour within the couple. Fig 1 shows the joint education status of couples by ethnic group in terms of whether both have a degree, the man only has a degree, the woman only has a degree, or neither has a degree. We see significant variation by ethnic group. Perhaps surprisingly white British couples have one of the highest percentages of neither having a degree (60%), second only to Bangladeshi couples (68%). Chinese couples are most likely to both have a degree (60%) followed by the white Other group (39%). To some extent these patterns will reflect the selection process for immigrants, particularly in recent years where non-EU migration has been controlled through a skilled worker points system.



The majority of couples are dual-earner even though there is considerable variation across ethnic groups (Fig 2). Other Asian couples are most likely to be dual-earner (64%) followed by white British (60%), black Caribbean (60%) and Chinese couples (59%) but with considerable variation in the number of paid work hours within dual-earner couples by ethnic group and gender. Chinese, black African and black Caribbean women in dual-earner couples are most likely to work 30 hours or more at 70 percent, 68 percent and 66 percent respectively. This compares to 65 percent of white British women, 63 percent of Indian women, 52 percent of Pakistani women and 28 percent of Bangladeshi women.



Weekly hours of housework and share of housework

The mean hours spent on housework and the share of housework within couples in Table 2 show that men spend on average fewer than half the hours that women spend on housework each week, with men having a mean of six hours a week compared to over fourteen hours a week for women. Men's share is on average 30 percent of the total time spent on domestic tasks. Across ethnic groups men have fairly similar mean times spent on housework and the share of housework. Exceptions to this are Other Asian, black Caribbean and black African men who have higher mean hours spent on housework with black Caribbean men having the highest housework share compared to other groups. In contrast Pakistani men report the

fewest housework hours and the lowest share of housework of all groups. Women have a greater variation across ethnic groups in the hours spent on housework ranging from a low of 13 hours per week for Chinese and Mixed background women to a high of almost 24 hours per week for Pakistani and Bangladeshi women. This variation is also seen in women's share of housework ranging from 65 percent for Mixed background women compared to 83 percent for Pakistani women.

Table 2: Mean hours of housework per week and housework share by gender and ethnicity. (Married and cohabiting respondents, 16 - 64 years, waves 2 and 4, *Understanding Society*)

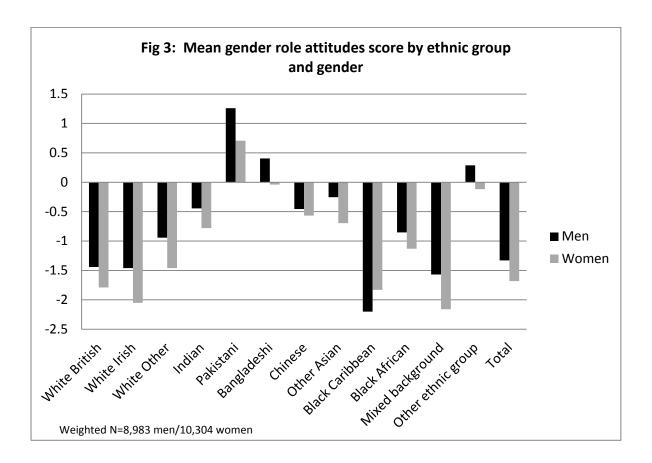
	Men		Women	
Ethnic group	Hours per	Housework	Hours per	Housework
	week	share	week	share
	Mean	Mean	Mean	Mean
	(sd)	(sd)	(sd)	(sd)
White British	6.05	.310	14.10	.688
	(6.04)	(.224)	(9.61)	(.227)
White Irish	6.45	.298	15.44	.679
	(6.31)	(.211)	(9.58)	(.206)
White Other	5.97	.308	14.18	.687
	(5.34)	(.207)	(9.65)	(.224)
Indian	6.67	.252	20.22	.756
	(6.23)	(.192)	(10.97)	(.194)
Pakistani	4.85	.176	23.80	.834
	(6.1)	(.189)	(14.37)	(.185)
Bangladeshi	6.42	.224	23.99	.765
	(7.5)	(.214)	(14.15)	(.210)
Chinese	6.66	.331	13.01	.681
	(5.13)	(.211)	(7.52)	(.188)
Other Asian	7.87	.353	15.42	.691
	(6.17)	(.220)	(12.1)	(.211)
Black Caribbean	7.12	.379	13.43	.671
	(6.27)	(.226)	(10.01)	(.216)
Black African	7.11	.333	15.34	.685
	(6.62)	(.201)	(10.24)	(.214)
Mixed	6.58	.315	13.14	.657
background	(6.39)	(.222)	(8.64)	(.229)
Other ethnic	6.35	.295	17.41	.736
group	(5.32)	(.214)	(10.12)	(.204)
Total	6.10	.308	14.44	.691
	(6.04)	(.223)	(9.88)	(.225)

N men = 11,866/ women = 13,025

Data are weighted

Gender-role attitudes

Across all ethnic groups with the exception of black Caribbean, women hold less traditional gender role attitudes than men in their ethnic group with women having an overall mean score of -1.68 and men a mean score of -1.33 (Fig 3). Interestingly, it is not white British men and women who have the most egalitarian gender attitudes. Women from a Mixed background are less traditional than other women with a mean of -2.16. Only Pakistani women have a positive mean score (.708) indicating more traditional attitudes. Pakistani men have the most traditional attitudes with a mean score of 1.26. In contrast black Caribbean men hold the least traditional gender role attitudes of all groups with a mean score of -2.20. This may reflect a strong history and culture of black Caribbean women being in paid employment making combining family life and paid work the norm for this group.



The descriptive results show significant variations in hours of housework, housework share and gender-role attitudes by ethnic group and gender. The multivariate analysis in the following section examines the key determinants of the domestic division of labour controlling for individual and household characteristics to assess the extent to which these associations are mediated by other factors.

Multivariate results

Our second hypothesis was that the gendered domestic division of labour in terms of hours of housework and housework share would be associated with education and employment status after controlling for individual and household characteristics. In Table 3, Model 1 predicts the number of hours spent on housework per week by ethnic group where white British is the reference group. Each model is run separately for men and women and Model 2 includes the gender-role attitudes score. Compared to white British men and controlling for other characteristics, Model 1 shows the only ethnic groups with significantly different housework hours were Indian, Pakistani and Other Asian men. Controlling for all other characteristics stated in the models, Indian and Other Asian men had significantly higher housework hours on average than white British men. These can be interpreted as differences of around 48 minutes a week for Indian men and two hours a week for Other Asian men compared to white British men. Holding other factors constant, Pakistani men had 1.3 hours less housework per week. There were no significant differences between white British men and men in other ethnic groups. Taking account of all other characteristics, men whose spouse had a degree level education increased their housework hours by around 43 minutes a week on average but whether men had a degree themselves was not associated with their housework hours. Having an employed spouse significantly increased men's housework hours by 1.2 hours a week but set against this, being in paid employment decreased men's housework hours by over three hours a week. Having a higher household income decreased men's housework hours, possibly due to being able to pay for outside domestic help while having more children increased men's housework hours. For men, there was no significant association between being born in the UK/arriving before 12 years old and hours of housework.

For women there is more variation probably due to women's housework hours covering a wider range. Looking first at ethnic group Indian, Pakistani and Bangladeshi women had significantly higher housework hours than white British women of 4.2 and 5.8 hours a week respectively on average (Table 3). This may be due in part to the relatively shorter paid working hours where Pakistani and Bangladeshi women are in paid employment. There were no significant differences between white British women and women in other ethnic groups once other characteristics were accounted for. For women, having a degree is associated with reduced housework hours of -1.8 hours a week and having a spouse with a degree also reduces hours of housework by almost one hour (0.9). Being in paid employment has a strong association with reduced hours of housework for women of -3.3 hours a week but having an

employed spouse increases housework hours for women (1.1). In contrast to men, women born in the UK or arriving before the age of 12 had significantly lower housework hours (-1.8) than women born outside the UK indicating there are differences between first and second generation women. For women, having a spouse of the same ethnic group increased housework hours and as for men, a higher household income was associated with lower housework hours. Having dependent children was strongly positive with each dependent child increasing women's housework hours by 2.7 hours a week.

The strongest associations with housework hours are with structural factors such as education, employment and household composition. Indian, Pakistani and Bangladeshi women continue to have higher housework hours on average compared to white British women even after controlling for these factors and it is likely that gender-role attitudes and norms of behaviour play a part in determining housework hours. To control for gender attitudes we include the gender-role attitudes scores in Model 2 even though this presents some problems of potential endogeneity. Gender-role attitudes are significant in the model for both men and women and in the direction expected. There is a negative relationship for men i.e. the more traditional men's gender role attitudes the lower their hours of housework and a positive relationship for women i.e. women with more traditional attitudes spend more hours on housework. For some other variables in the model there are changes in the magnitudes of the estimates but these do not change the interpretation of the results.

Table 3: Determinants of weekly hours of housework, OLS regression (Married and cohabiting respondents, 16 – 64 years, waves 2 and 4, *Understanding Society*)

Mod	del 1	Mo	del 2	
			(with gender attitudes)	
Men	Women	Men	Women	
-	-	-	-	
0.160	1.453	-0.114	1.783*	
(0.590)	(0.845)	(0.533)	(0.874)	
0.140	-0.221	-0.139	-0.440	
(0.477)	(0.728)	(0.466)	(0.751)	
0.792*	4.175***	0.942*	3.917***	
(0.395)	(0.632)	(0.422)	(0.668)	
-1.258**	4.899***	-0.750	4.731***	
(0.479)	(1.051)	(0.531)	(1.096)	
0.194	5.805**	-0.242	2.825*	
(0.682)	(1.979)	(0.794)	(1.270)	
0.940	-0.387	1.225	-1.444	
(0.820)	(1.019)	(0.886)	(1.107)	
2.073**	-0.866	1.826*	-0.655	
(0.736)	(1.090)	(0.737)	(1.226)	
	Men - 0.160 (0.590) 0.140 (0.477) 0.792* (0.395) -1.258** (0.479) 0.194 (0.682) 0.940 (0.820) 2.073**	0.160	Men Women (with gend Men 0.160 1.453 -0.114 (0.590) (0.845) (0.533) 0.140 -0.221 -0.139 (0.477) (0.728) (0.466) 0.792* 4.175*** 0.942* (0.395) (0.632) (0.422) -1.258** 4.899*** -0.750 (0.479) (1.051) (0.531) 0.194 5.805** -0.242 (0.682) (1.979) (0.794) 0.940 -0.387 1.225 (0.820) (1.019) (0.886) 2.073** -0.866 1.826*	

Black Caribbean 0.735 -0.565 0.491 -0.6 (0.605) (0.879) (0.665) (0.9 Black African 0.539 -1.665 0.289 -2.4	84)
Rlack African 0.530 -1.665 0.280 2.4	40.4
Diack / Milican 0.33/ -1.003 0.207 -2.4	48*
$(0.576) \qquad (0.952) \qquad (0.631) \qquad (0.952)$	65)
Mixed background 0.583 0.414 0.763 0.5	23
$(0.720) \qquad (0.805) \qquad (0.776) \qquad (0.886)$	59)
Other ethnic group 0.372 1.173 0.676 0.9	
(0.670) (1.031) (0.713) (1.1	
Has a degree -0.206 -1.806*** -0.228 -1.61	
$(0.144) \qquad (0.208) \qquad (0.148) \qquad (0.2)$	09)
Spouse has a degree 0.713*** -0.883*** 0.534*** -0.87	
$(0.150) \qquad (0.213) \qquad (0.154) \qquad (0.254)$	
In paid employment -3.383*** -3.865*** -3.319*** -3.62	
(0.240) (0.243) (0.250) (0.250)	
Spouse in paid employment 1.173*** 2.149*** 0.969*** 2.078	,
$(0.158) \qquad (0.264) \qquad (0.162) \qquad (0.262)$	
Born in UK/pre 12 years 0.070 -1.858*** -0.187 -1.89	
$(0.330) \qquad (0.551) \qquad (0.329) \qquad (0.5$	
Gender attitudes score0.178*** 0.278	
(0.022) $(0.0$	
Controls	
Wave 4 (ref wave 2) -0.031 -0.752*** -0.040 -0.71	1***
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
Age 0.003 0.165*** 0.012 0.160	
$\begin{array}{cccc} 0.003 & 0.103 & 0.012 & 0.100 \\ (0.007) & (0.009) & (0.007) & (0.009) \end{array}$	
Cohabiting (ref married) $0.539**$ -0.060 $0.506**$ -0.06	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
Spouse in same ethnic group 0.082 1.129** 0.127 1.00	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
Log annual household income -0.157** -0.457*** -0.154** -0.43	
$\begin{array}{cccc} \text{Log allitudi Household Income} & -0.157 & -0.457 & -0.154 & -0.45 \\ & & & & & & & & & & & & & & & & & \\ & & & & & & & & & & & & & & & & \\ & & & & & & & & & & & & & & & \\ & & & & & & & & & & & & & & & \\ & & & & & & & & & & & & & & \\ & & & & & & & & & & & & & & \\ & & & & & & & & & & & & & & \\ & & & & & & & & & & & & & \\ & & & & & & & & & & & & \\ & & & & & & & & & & & & \\ & & & & & & & & & & & & \\ & & & & & & & & & & & \\ & & & & & & & & & & \\ & & & & & & & & & & \\ & & & & & & & & & & \\ & & & & & & & & & & \\ & & & & & & & & & & \\ & & & & & & & & & & \\ & & & & & & & & & \\ & & & & & & & & & \\ & & & & & & & & & \\ & & & & & & & & & \\ & & & & & & & & & \\ & & & & & & & & & \\ & & & & & & & & & \\ & & & & & & & & \\ & & & & & & & & \\ & & & & & & & & \\ & & & & & & & & \\ & & & & & & & & \\ & & & & & & & & \\ & & & & & & & \\ & & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & \\ & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & & \\ & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & $	
(0.048) (0.030) (0.030) (0.030)	31)
Number of children aged < 16 0.538*** 2.703*** 0.560*** 2.622)***
$(0.078) \qquad (0.111) \qquad (0.081) \qquad (0.11)$	
(0.076) (0.111) (0.061) $(0.1$	14)
Constant 8.146*** 10.503*** 7.800*** 11.09	0***
$ (0.645) \qquad (0.895) \qquad (0.666) \qquad (0.95) $	
Observations 11,866 13,025 10,769 11,9	
R-squared 0.061 0.186 0.068 0.1	94

Data are weighted. Robust standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05 Differences in sample sizes due to non-response to self-completion questionnaire where the gender attitudes questions were asked. The data are weighted to account for this.

When we include interaction effects between ethnic group and education, employment and gender-role attitudes (results not shown in the tables but can be made available upon request) we find some differences within groups. Indian men with a degree have significantly higher hours of housework as do Bangladeshi men with a degree, Chinese men whose spouse has a degree, Indian women with a degree and Mixed women whose spouse has a degree. Looking at interactions between with ethnic group and employment, white British, other Asian and Other men with an employed spouse have significantly higher housework hours while

Pakistani and black Caribbean women with an employed spouse have lower housework hours than those whose spouse is not employed. There are no interaction effects between ethnic group and gender-role attitudes.

Share of housework

Table 4 predicts the share of housework for women. Overall a similar picture is found with a positive association for Indian and Pakistani women compared to white British women. The sign for Bangladeshi women is no longer significant. Women who have a degree and those in paid employment have a significantly lower share of housework on average. While the sign is negative for those born in the UK/arriving before 12 years it is not significant in reducing women's share of housework. Adding gender-role attitudes (Model 2) we see that gender attitudes have a positive association with share of housework i.e. as women's attitudes become more traditional their share of housework increases even though the size of the effect is small.

Table 4: Women's share of housework, OLS regression (Married and cohabiting respondents, 16 – 64 years, waves 2 and 4, *Understanding Society*)

	Model 1	Model 2
		(with gender attitudes)
White British (ref)		
White Irish	0.008	0.017
	(0.020)	(0.020)
White Other	0.011	0.007
	(0.018)	(0.019)
Indian	0.046***	0.047**
	(0.014)	(0.015)
Pakistani	0.093***	0.091***
	(0.014)	(0.016)
Bangladeshi	0.038	0.017
	(0.020)	(0.024)
Chinese	0.015	-0.002
	(0.023)	(0.026)
Other Asian	-0.023	-0.017
	(0.022)	(0.023)
Black Caribbean	-0.005	0.001
	(0.023)	(0.025)
Black African	-0.013	-0.009
	(0.021)	(0.025)
Mixed background	0.003	0.004
-	(0.023)	(0.024)
Other ethnic group	0.037	0.038
	(0.024)	(0.026)
Has a degree	-0.058***	-0.052***
-	(0.006)	(0.006)

Spouse has a degree	-0.008	-0.008
-	(0.006)	(0.006)
In paid employment	-0.075***	-0.071***
	(0.006)	(0.006)
Spouse in paid employment	0.124***	0.123***
	(0.007)	(0.007)
Born in UK/pre 12 years	-0.010	-0.009
	(0.012)	(0.013)
Gender attitudes score		0.006***
		(0.001)
Controls		
Wave 4 (ref wave 2)	-0.014***	-0.012***
	(0.003)	(0.003)
Age	0.003***	0.003***
	(0.000)	(0.000)
Cohabiting (ref married)	-0.021***	-0.021**
	(0.006)	(0.006)
Spouse in same ethnic group	0.018	0.014
	(0.010)	(0.010)
Log annual household income	-0.011***	-0.011***
	(0.001)	(0.001)
Number of children aged < 16	0.026***	0.024***
· ·	(0.003)	(0.003)
Constant	0.572***	0.583***
	(0.022)	(0.023)
Observations	13,025	11,923
R-squared	0.129	0.138

Data are weighted. Robust standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05

Differences in sample sizes due to non-response to self-completion questionnaire where the gender attitudes questions were asked. The data are weighted to account for this.

4. Discussion and conclusions

Our first hypothesis was an expectation that the domestic division of labour varies among ethnic groups and by gender, and would be associated with individuals' gender attitudes. We find significant differences between ethnic groups in how couples organise their domestic labour in both the descriptive results and when controlling for other characteristics in a multivariate context. In all groups, women spend significantly more hours on housework than men but there is heterogeneity across groups. The share of housework shows less variation with most women having an average share of around 70% even though there are significant differences across ethnic groups. Mixed background women have the lowest share of housework (65%) while Pakistani women have the greatest share (83%).

An interesting finding is that it is not necessarily white British couples who are always most egalitarian in their division of domestic labour or in their gender-role attitudes. In particular black Caribbean men have the least traditional gender-role attitudes of all groups. As suggested by Kane (2000) the less traditional gender attitudes of black Caribbean men may be a legacy of more egalitarian family forms combined with the experience of racial inequality leads them to be more critical of gender inequality than other ethnic groups. Indian men and Other Asian men spend more hours on housework than their white British counterparts even though Indian, Pakistani and Bangladeshi women spend significantly more time on housework than white British women. From this analysis it is not clear why these differences persist after controlling for a range of individual and household factors. It could be as others have suggested (e.g. Sayer and Fine, 2011; Ting et al, 2015), that the definition of what constitutes domestic labour may vary across groups making direct comparisons across ethnic groups difficult. In addition there may be real differences in cultural habits that directly affect hours of domestic work, for example cooking meals from fresh produce vs using convenience foods.

Our second hypothesis expected that the relationship between domestic labour and ethnic group would be mediated by socio-economic factors and individual and household characteristics. We expected that having a degree level education and being in paid employment would be associated with a more equal domestic division of labour but the associations would vary across ethnic groups. The analysis supports this hypothesis. More egalitarian domestic labour arrangements are significantly associated with having a degree for women as is having a spouse with a degree for both men and women. Being in paid employment reduces housework hours on average for men and women but the share of women's housework is only reduced on average if the woman is employed. Indian, Pakistani and Bangladeshi women have significantly higher housework hours after controlling other characteristics, something which holds after controlling gender-role attitudes.

Our third hypothesis expected that those who were born in the UK or arrived in the UK before the age of 12 would have more egalitarian domestic labour arrangements than those born outside the UK or who arrived at older ages. We find housework hours reduce for second and one and a half generation women but there are no significant differences for men. While there are some indications of differences between first and second generation women which support an acculturation theoretical approach it may take considerable time for norms of behaviour to change. We also found that women with a partner from the same ethnic group have a more gender unequal domestic division of labour than partners from different

ethnic groups, something which applies across all groups including white groups. It may be that structural factors reinforce norms of behaviour. There may be barriers to accessing education and training or discrimination or difficulties integrating into the UK labour market for some groups such as Pakistani and Bangladeshi women.

This paper provides the first quantitative evidence on the intersections between gender, ethnicity and the domestic division of labour by analysing data from a large scale nationally representative sample. We have identified both differences and similarities among the ethnic groups. Our analysis is limited by small numbers of cases of some ethnic groups. This limitation can be overcome in the future when more waves of the *Understanding Society* data become available. With the increase in sample size, future studies should endeavour to investigate further the mechanisms that explain the variations in the gender division of labour among different ethnic groups.

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