Do ethnic minorities "stretch" their time? UK household evidence on multitasking

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Abstract

This paper investigates the effect of ethnicity on time spent on secondary household production, work and leisure activities employing the 2000 UK Time Use Survey. We find that, unconditionally, white females manage to "stretch" their time the most by almost four additional hours per day and non-white men "stretch" their time the least. The three secondary activities most often combined with other (primary) activities in terms of time spent on them are social activities including resting, passive leisure and childcare. Regression results indicate that non-white ethnic minorities engage less in multitasking than whites, with Pakistani and Bangladeshi males spending the least time on total secondary activities. There also exists a significant ethnicity gap for secondary housework activities and for both males and females, although females in general engage more in multitasking. The effect is heterogeneous across different sub-groups. We review several potential interpretations and discuss whether these differences in behavior may relate, among other, to opportunity costs of time, different preferences and tastes of ethnic minorities, integration experience, family composition and household productivity.

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1. Introduction

Time scarcity is a familiar phenomenon in the modern world, and doing several activities at a time is one of the strategies to cope with it. Such multitasking emerges when cooking a meal and minding children, washing dishes and listening to the radio, or eating and reading a newspaper during a lunch break. Popular press and anecdotal evidence suggest it is a widespread experience. However, this phenomenon may differ, for instance, according to gender, age, education, job types, or between the native population and immigrants or ethnic minorities. In this paper we are particularly interested in ethnic differences in multitasking behavior in households.

Multitasking in home production can be viewed as an optimal choice of rational individuals to allocate effectively scarce time resources (Kalenkoski and Foster 2010). As such, this choice may differ across different ethnic groups, reflecting, among other things, different opportunity costs of time or different cultural norms. Multitasking is also a potential response to time stress[1], as it relaxes the time constraint (Ruuskanen 2004). Since ethnic minorities are likely to have different labor market work hours and earnings (a different shadow price of time), they are likely to experience different time pressure and thus multitasking behavior. Together with other assimilation time use activities (Hamermesh and Trejo 2010), multitasking can also constitute an additional assimilation channel for ethnic minorities. Hence, it is important to understand whether this is the case, what drives such behavior as well as its implications. This paper addresses these issues by analyzing multitasking activities of natives and ethnic minorities in the UK.

Simultaneous, secondary or overlapping activities, i.e. those performed in combination with the primary or main activity, in households are important. For example, in Australia about one third of waking hours is spent on simultaneous activities and at least one third of every activity episode recorded involves at least one other simultaneous activity (Ironmonger 2003; Floro and Miles 2003). In some countries more than 90% of the households in the sample were found to engage in secondary activities (Ruuskanen 2004; Ironmonger 2003; Gronau and Hamermesh 2001). Incorporating such overlapping activities into the analysis provides a more accurate measure of individual economic contribution than one based solely on primary activities, both to household production in general and to childcare alone (see, among others, Floro and Miles 2003 and references therein; Apps and Rees 2005, Folbre and Yoon 2007; Kalenkoski, Ribar and Stratton 2005, 2007, 2009; Kalenkoski and Foster 2008, 2010; Ironmonger 1996). It has important

[1] See Hamermesh and Lee (2007) for a theoretical model of time stress and empirical evidence on the determinants of time stress for several countries. The authors note that "anything that makes the household more efficient in its home activities can be viewed as equivalent to an increase in effective time and should reduce the extent to which the time constraint binds." (p. 375).

implications for a better understanding of the intra-household bargaining models and the division of domestic chores, productivity, gender roles and cultural norms as well as the overall satisfaction and quality of life when one is able to or is constrained to "stretch" his or her time budget. On the other hand, it is also important to note that performing overlapping activities may result in increased stress, inefficiency, divided attention, diminished quality of work and decreased productivity as well as lower overall satisfaction. For example, Coviello et al. (2010) develop a theoretical model of task juggling at the workplace and find evidence that parallel work increases the time required to complete assignments, thus reducing productivity.[2] Kalenkoski and Foster (2008) label secondary and multitasked childcare activities as a low-quality care, and Bittman and Wajcman (2000) suggest that leisure is of a lower quality if it is "contaminated" by other simultaneous activities.

Multitasking behavior has been widely analyzed in other disciplines. Psychologists and neurobiologists suggest that the brain works differently when multitasking (Rosen 2008; Just et al. 2001) and even more differently for males and females (Gorski 1987). Moreover, the ability to multitask is limited, since task performance may deteriorate if an individual undertakes several tasks simultaneously, however, this can be improved by training, i.e. by increasing the speed of information processing in the brain (Dux et al. 2009). Importantly, the ability to juggle depends on the type of task, and it is easier to combine those tasks which can become routine or are not contradictory, such as walking and talking to a friend (Manhart, 2004). The more difficult are the activities, the more time individuals can lose in switching from one to another, and the brain decreases its neural activity when neurons juggle two thought problems at once compared to focusing on one task at a time (Just et al. 2001; Manhart, 2004). It can also lead to decreased concentration and memory problems. Overall, it may take longer juggling jobs than performing them sequentially, and, according to these studies, multitasking can save time only if the activities combined refer to relaxed, routine tasks (Manhart, 2004).

Sociologists emphasize the significance of gender divide when incorporating simultaneous activities into leisure time or home production time, with women generally performing more activities simultaneously than men (see, for example, Bittman and Wajcman 2000; Sullivan 1997). Anthropologists, social psychologists and sociologists argue that time perception is different in different cultures. They postulate that time is a social construction which can be viewed as monochronic (doing one thing at a time) or polychronic (using time for many activities simultaneously), and its perception vary across cultures (see, for instance, Cotte and Ratneshwar 1999 and references therein).

[2] See, for example, Holmstrom and Milgrom (1991) for the principal-agent analysis of multitasked jobs and Foss and Laursen (2005) for an empirical investigation with firms.

There are reasons to believe that immigrants and ethnic minorities will have different time allocation decisions to natives. It is well documented in the literature that immigrants and ethnic minorities are often disadvantaged in the host country's labor market and society in general, in particular in Europe, although some groups may perform well. While white immigrants in the UK 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, with Pakistani and Bangladeshi (as well as Blacks) being the most disadvantaged groups (see, among others, Blackaby et al. 2002; Simpson et al. 2006). Moreover, the employment rate of married ethnic minority women in the UK, in general, is much lower than for white natives. In addition, Muslims in the UK (Pakistani and Bangladeshi are predominantly Muslims) were found to be "different" in terms of gender gap in education, age at marriage, fertility and female employment, although convergence over time in behavior was also found and those born in the UK often had different behavior to those born in their country of origin (Georgiadis and Manning 2009). Finally, a considerable heterogeneity across non-white ethnic groups in terms of cultural preferences was also reported (Battu and Zenou 2010), and Pakistani and Bangladeshi were found to be extremely religious compared to other ethnic minorities, suggesting a persistent religiosity impact for these communities (Georgiadis and Manning 2009).

Economic integration goes hand-in-hand with social or cultural integration (Constant and Zimmermann 2009; Constant, Nottmeyer and Zimmermann 2009). Ethnic and cultural identity was found to influence labor market behavior in a number of recent studies (see, for example, Battu and Zenou 2010; Constant and Zimmermann 2008). The extent of self-identification with the country of ancestry, its culture and religion as well as preferences for ethnic "goods" depend on a number of factors, including family background and structure, social environment, language, immigration and naturalization experience, experiences of racial harassment, neighborhood effects and socio-economic factors (Battu and Zenou 2010; Bisin et al. 2008; Akerlof and Kranton 2000). Whatever the factors, however, ethnic and cultural identities were found to be extremely strong. For example, Battu and Zenou (2010) report that over 80% of each of the ethnic minority groups in the UK think of themselves in terms of their own ethnic group. Bisin et al. (2008) find that Muslims integrate less and more slowly than non-Muslims and report that a Muslim born in the UK and who has spent more than 30 years there is comparable to a non-Muslim who has just arrived in the country in terms of religious identity. In this context an individual's use of time can be viewed as constituting another dimension of individual manifestation of his or her ethnic identity; and as such, it is expected that there will also be differences between whites and non-whites (and between different non-white minorities) in their choices of how non-market time is allocated. Thus, it is important to

understand how immigrants and ethnic minorities decide on their time budgets, including their multitasking decisions. Since ethnic minorities are likely to have different socio-cultural norms and preferences, as well as different costs, including the opportunity costs of time, it is also likely that they will have different time allocation and multitasking behavior.

This paper focuses on ethnicity in the analysis of multitasking in households by investigating whether and to what extent native and ethnic minority men and women in the UK spend their time on secondary activities. We document the incidence of such activities by ethnic status and gender employing the 2000-2001 UK Time Use data. We then analyze the effect of ethnicity on time spent on secondary activities and discuss several potential channels.

Our main findings are as follows. We find that non-white ethnic minorities in the UK engage less in multitasking than whites. The gap is present for both ethnic minority males and females, although females in general tend to engage more and to spend more time on simultaneous activities. There are, however, important differences among ethnic minority groups, with Pakistani and Bangladeshi males spending least time on secondary activities, ceteris paribus. The effect is heterogeneous across different sub-groups, and suggests several potential interpretations in terms of the opportunity costs of non-market time, different preferences and tastes of ethnic minorities, integration, family composition, household productivity and other.

The rest of the paper is structured as follows. Section 2 briefly presents theoretical literature on the allocation of time and reviews relevant empirical studies. Data and descriptive evidence are provided in Section 3, and Section 4 follows with the presentation and discussion of estimation results. Section 5 concludes.

2. A framework for analyzing time allocation, home production and multitasking

The literature on the allocation of non-market time and household production goes back to the seminal contributions of Reid (1934), Mincer (1962) and Becker (1965). In Becker's model households are viewed as both producers and consumers and use market goods and time as inputs in their production function to produce commodities that enter their utility function; they then maximize this utility subject to budget and time constraints. His analysis provides important insights in terms of the shadow price of time and productivity of consumption time. Although multitasking is not directly analyzed in his original model, it may enter via relaxation of the time constraint or increasing the productivity of non-market time (see studies below). Consequently, if a shadow price of time is high, there will be more multitasking as an attempt to optimize time spent

out of the market. Thus, if ethnic minorities have lower opportunity costs of non-market time and their time constraint is less binding, they would engage less in multitasking behavior.

Multitasking behavior may be explicitly generated by the notion of joint production of commodities in the household. Pollak and Wachter (1975) criticize Becker's model and allow for non-constant returns and joint production. They argue that households derive utility not only from commodities produced using time input but also directly from using this time, which gives rise to joint production in their framework. Since household time spent on different activities is a direct source of utility (or disutility), household decisions about the allocation of time "reflect not only production considerations but also direct household preferences as to the use of time" (p. 271). Although this requires abandoning commodity shadow prices, "if people prefer to spend their time in some activities rather than others, then the household technology exhibits joint production" (Pollak 2003, p. 122). Thus, in this framework, tastes and preferences for time use matter. For the purpose of our paper, it implies that cultural roles, identities, preferences and tastes of different ethnic minorities are important. Gronau (1977), in line with Mincer (1962), emphasizes the importance of distinguishing between leisure and home production and presents a model that generates different implications for these activities. Williams and Donath (1994) incorporate simultaneous uses of time and derive a household production function of the Cobb-Douglas form. In their model the input hours variables are a weighted average of primary and secondary time use activities.

Pollak (1999) notes that each combination of the activities can be treated as a single "compound" activity, thus greatly expanding the number of activities. In this sense, simultaneous activities could then be treated in the "variety" framework of Gronau and Hamermesh (2008). Their theoretical Beckerian model is based on differences in time costs of different activities and differences in reservations prices. The former differ with a households' efficiency in home production and market time needed to purchase market inputs; the latter vary with income. The model leads to several empirical implications which are then supported by the data: there is a positive income (and wage) effect on the demand for variety, and schooling increases the number of non-work activities.

In recent work Kalenkoski and Foster (2010) develop a formal model that incorporates multitasking activities into household production by treating time spent on childcare as sole-tasked or multitasked with other household production activities. In their model the child production function and household production function consists of sole-tasked time devoted only to this activity and multitasked time spent in both childcare and household activities. Households then maximize their utility subject to the time constraint, which is the sum of sole-tasked time spent on

childcare, sole-tasked time spent on household production and multitasked time spent on both. The model renders several predictions about the relation between the household productivity factors and multitasked time, which are then tested empirically. In particular, an increase in multitasked activity productivity would increase time spent on multitasking.

A multitude of empirical studies have investigated time allocation and home production in households. Regarding ethnicity, for example, Zaiceva and Zimmermann (2007) focus particularly on ethnic divide in uses of time in the UK. Looking at the primary activities, they find the existence of an ethnic gap in such "traditional" activities as childcare, food management and religious practices. The authors show that, ceteris paribus, non-white females spend more time on religious activities and, to some extent, on food management than white females. A recent paper by Hamermesh and Trejo (2010) develops a two-period model of time use of immigrants and tests it empirically. Their theory is based on the fact that certain assimilation activities entail fixed costs, such as learning a language or becoming accustomed with the host country culture. It predicts that immigrants will be less likely than natives to engage in these activities, but once engaged they will spend more time on them. The authors find support for their theory when analyzing time spent on education, purchasing and market work, using American and Australian Time Use Surveys. Neither of these two studies, however, examines the ethnic differences in simultaneous uses of time, i.e. overlapping activities. In this paper we turn to the analysis of such multitasking behavior.

Several economic studies have investigated the multitasking behavior of households, and many of them focus on childcare (see, for instance, Kalenkoski, Ribar and Stratton 2005, 2007, 2009; Kalenkoski and Foster 2008, 2010). Floro and Miles (2003) employ Australian Time Use data to study the incidence and determinants of overlapping work activities, differentiating between (household and market) work and non-work activities. They show, among other results, that individuals who speak a language other than English at home are less likely to perform overlapped work activities. They also find that education, employment status, income, household life cycle and composition matter. In addition, women were generally shown to "stretch" their time budget more than men. Ruuskanen (2004) builds on Hamermesh and Lee's (2007) model of time stress and finds some evidence of the positive impact of general rush and time pressure on multitasking behavior of Finnish households, although in many cases the feeling of being rushed during the day had a negative impact. This paper is closest in spirit to Floro and Miles (2003) in analyzing the determinants of secondary time use activities, however, it focuses on ethnicity, uses dataset for the UK and suggests several potential channels for observed differences in behavior between natives and ethnic minorities.

3. Data and descriptive evidence

Our empirical analysis employs data from the 2000 UK Time Use Survey (UKTUS), a survey that was designed to achieve a representative sample of households and individuals in the UK. 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. Time diaries were collected for individuals older than eight and living in households, and contain information about the nature of the activities, the location of each activity, and who else was present during each activity for every 10-minute interval over two days, one weekday and one weekend day. This dataset is particularly suited for the purpose of our analysis, since it includes respondents' secondary activities that are performed simultaneously with a main activity.[3] Moreover, together with a rich set of demographic and socio-economic variables, the survey contains information on respondents' ethnicity (white, black Caribbean, black African, Indian, Pakistani, Bangladeshi and Chinese).

Overall, the UKTUS has over 20,000 time diaries from 11,664 people from 6,414 households. For our analysis we construct a general sample of adults with time diary information, excluding individuals who are younger than 18 and older than 65 years old, as well as pensioners, full-time students, the long-term sick and disabled and those for whom the data on the key variables are missing.

In order to understand the patterns of time "stretching", we first present the incidence of secondary activities broken down by different characteristics (see Table 1). Around 93% of all diaries in the sample are reported to include at least some multitasking, i.e. a positive amount of time spent on secondary activities, and the difference between a weekday and a weekend day is small. Consistent with existing literature, there are gender differences in the propensity to multitask, with females engaging more in overlapped activities than males. In line with other studies, higher educated, married, those with children, and individuals under time stress (those who "always feel rushed") report a higher incidence of multitasking. The largest differences, however, are by ethnicity, with roughly 94% of whites and only 77% of non-whites reporting multitasked behavior on weekdays, and 92% and 79%, respectively, on weekends. This divide is also present when disaggregating between secondary housework and leisure activities, with white men and women having a higher incidence of multitasking than non-whites in both (not reported, but available upon request).

[3] Secondary activities were recorded for all primary activities, with the exception of sleep, market work or study as a primary activity. In the case of labor market work, however, if the primary activity was lunch or coffee breaks during work, secondary activities were recorded.

We thus turn to the analysis of the total time respondents spend on all secondary activities, broken down by gender and ethnicity. Figure 1 plots the amount of minutes spent per day[4] on 13 secondary activities of interest recorded in the time use diary (see also Table 2).[5] The figure shows that the greatest amount of multitasked time is spent on social activities and resting and passive leisure, followed by childcare. These three activities are mostly combined with other (primary) activities and include such social actions as socializing with household members or visitors, talking on the phone, visiting other people or places (museums, cinema, theatres etc.) or simply resting and having a time out. ; as well as such passive leisure activities as reading, watching TV or listening to the radio. The figure also suggests that while there are differences by ethnicity for men and women for social activities and passive leisure (with whites spending more time multitasking than non-whites of the corresponding gender), it is rather gender that matters for the childcare.

Figure 2 explores further the differences between non-white ethnicities in the three largest secondary activities. Following the literature and due to the small sample sizes, we pool Pakistani and Bangladeshi into one group, and all Blacks into another. As can be seen from Figure 2, the ethnic minorities who least "stretch" their time are Pakistani and Bangladeshi men. It also shows that the largest amount of time spent on secondary childcare activities is by Chinese women, on passive leisure by Chinese men and on social activities by Black men. The different situation of Pakistani and Bangladeshi with respect to multitasking mirrors their differences in other outcomes found in the literature (see Section 1) and suggests that it is important to differentiate between ethnic minorities.

Table 2 shows the number of minutes per day spent on primary and secondary activities, pooling again weekend and weekday diaries. The main facts to note are as follows. First, white females manage to "stretch" their time the most by an additional 233 minutes per day (almost 4 hours), which means that they try to squeeze 28 hours of activities into a 24-hour day (see also

[4] Note that here we pool together diaries for a weekday and a weekend day because of the small differences between the activities of interest. In the econometric analysis below, however, we distinguish between a weekday and a weekend day.

[5] We broadly follow Floro and Miles (2003) and Zaiceva and Zimmermann (2007) when defining these activities. "Labour market work and related" category includes time spent in main job, second job and other activities related to employment, such as lunch breaks. "Food management" (food preparation, dish washing etc.), "childcare" (feeding, teaching, playing, talking, supervising the child etc.) and "shopping" are household work activities, which include in addition "other domestic work" (household upkeep, gardening and pet care, care for textiles, construction and repair, household management etc.). "Religious activities" and "other volunteer/participatory activities" (organizational work, informal help to other households etc.) form the group "volunteer work and meetings". "Active leisure" includes sports and outdoor activities, hobbies and games, such as performing arts, collecting, playing games etc. "Passive leisure" includes watching TV, reading, listening to the radio or recordings and other mass media activities. "Social activities and resting" covers socializing with others (including by phone), visiting other people, museums, cinemas, theatres, libraries etc. as well as having a time out. "Education" activities include studies at school or university, courses or free time study. "Sleeping, eating, personal care" include also washing, dressing and other personal care activities. Travel time is included in the "other" category. Note that equal weight is given to primary and secondary activities throughout the analysis.

Ironmonger 2003). On the other hand, non-white men "stretch" their time the least (by 116 minutes).

Second, as we have already seen above, social and resting activities and passive leisure are mostly combined with other primary activities in terms of minutes spent for all groups. Women, however, spend more minutes in these secondary social and leisure activities than men of the corresponding ethnicity. Looking at primary activities with which these secondary activities are most often combined (available upon request), reveals that it is mainly passive leisure, personal care and domestic work for women (other/travel activities are also sometimes mentioned). For men on the other hand, other domestic work is the overlapped activity only for passive leisure and only for white men. Indeed, some leisure or social activities are easier to combine with others. To give some examples, an individual may eat (main activity) while watching TV (secondary activity), commute to work (main activity) and read a newspaper or listen to the radio (secondary activity), or clean the house (main activity) while listening to music (secondary activity). He or she can also socialize with a friend (secondary activity) while eating (main activity). Overall, this partly supports the findings of sociologists that female leisure is of a poorer quality than that of men due to its combination with other primary activities, as men enjoy more "pure" and "uncontaminated" leisure than women (see, for example, Bittman and Wajcman 2000). It also suggests that it is important to analyze which activities secondary leisure and socializing is combined with, as it can be combined with leisure itself, such as watching a TV show and talking to a friend.

Third and consistent with the literature, we find that the large amount of time spent on childcare is via secondary childcare activities, in particular for women. For example, while white females spend around 39 minutes on childcare as a primary activity, they spend an additional 32 minutes combining childcare with other activities (the corresponding numbers are 55 and 30 minutes for non-white females). White men, on the other hand, spend only 16 and 13 minutes on primary and secondary childcare activities (non-white men 29 and 14 minutes). When examining which primary activities childcare is combined with (available upon request), we see that for both white and non-white females it is mainly other domestic work and food management (together with passive leisure for non-white and eating/personal care for white women). The picture for other home production activities is similar to that of childcare: women spend more time on primary activities and also "stretch" their time more than men, with white women "stretching" their time the most. Finally, the largest number of minutes spent on overlapped labor market work and related activities (lunch and coffee breaks) is for white men (7.5 minutes), followed by white women (5 minutes), while non-white men and women spend 4 and 3 minutes, respectively.

Overall, the descriptive evidence presented in this section suggests that non-white ethnic minorities, especially Pakistani and Bangladeshi men, engage less in secondary activities. This may be due to different observable characteristics of these groups, such as human capital endowments, employment status or family composition.[6] It may also reflect different cultural norms, preferences or costs, including opportunity costs, of engaging in multitasked activities. The following section explores these issues and attempts to suggest several potential channels.

4. Estimation strategy and results

In this section we further analyze determinants of multitasking behavior and examine whether the negative relation between non-white ethnicity and time spent on secondary activities still holds after having controlled for a number of observable characteristics. We then explore several potential avenues of this effect.

We employ a standard Tobit model of the following specification:

$$y_i^* = e_i\beta + x_i\gamma + \varepsilon_i$$

$$y_i = \begin{cases} y_i^* \; if \quad y_i^* > 0 \\ 0 \quad otherwise \end{cases}$$

where y_i^* is a latent variable for multitasking capacity of individual *i*, y_i is the observed time spent on overlapped activities, e_i is the ethnicity variable equal to 1 for non-white individuals, x_i is the vector of explanatory variables (individual and household), and $\varepsilon_i \sim N(0,\sigma^2)$. Our main coefficient of interest is β. We also estimate a specification substituting our single ethnicity variable with a vector of dummies for different non-white ethnicities. Due to space limitations, in the tables below we report mainly marginal effects for the probability of *y* being positive and for the expected value of the dependent variable conditional on *y* being uncensored, and discuss the marginal effects for the "unconditional" expected value of *y* in the text.

We begin with the broader notion of multitasking by examining all secondary activities an individual performs during the day. We then refine our dependent variable to include secondary home production activities only. Finally, we further restrict our definition by analyzing secondary housework activities that are performed simultaneously with primary household work activities.[7]

[6] For example, the tabulations of household income indicate that, as expected, the proportion of non-whites in the lowest income group is larger than the corresponding proportion of whites and is even larger for non-white non-citizens; whilst the proportion of non-whites in the highest income group is smaller than that of whites.

[7] We have also analyzed the so-called "work" activities (labor market work, household work and family care, and volunteer work and meetings) as in Floro and Miles (2003). The results were qualitatively the same, with the only difference for age effect: it became insignificant in the equation for weekdays.

Table 3 shows the determinants of multitasked behavior. The most extended model is presented, which includes household income and employment status variables. Clearly, the findings using these variables may be subject to potential endogeneity and simultaneity problems and therefore have to be interpreted as a descriptive exercise. Eliminating them from the model, however, does not change the qualitative interpretation of our results (available upon request).

The main conclusion from this table is that ethnicity matters, ceteris paribus, and non-white minorities are less likely to engage in and spend fewer minutes on overlapping activities than whites. The marginal effects of the *non-white* variable for the "unconditional" expected value of *y* are negative and highly significant (not reported but available upon request). On weekdays, non-white individuals are 17 percentage points less likely to multitask and those who do spend on average 67 minutes less on such activities than whites. This negative effect is smaller in absolute terms for weekends.[8] The ethnicity gap is also significant for secondary housework activities as well as for housework activities combined with primary housework activities. Moreover, the magnitude of the effect suggests that it is also economically significant.

Regarding other determinants, females are more likely to engage in and, conditional on engaging, spend more minutes on secondary activities than males, which is consistent with other studies. On the other hand, there is no evidence of a significant age effect for all secondary activities, and age is positive and significant in the equations for housework activities, suggesting that engaging in overlapped housework activities increases with age, which is also in line with Floro and Miles (2003). Household composition matters, particularly for household work activities: the effects of being married and the number of children are positive, and the effect of other adults in the household is negative; while marital status and the number of children 10-15 years old and 5-9 years old (in the equation for weekends) are not significant in the regressions for all secondary activities. As expected, the number of pre-school children has large effect. The income effect is captured by the total household income variable. It is negative and highly significant for the lowest income category in the equation for all secondary activities. One of the potential reasons could be that poorest households engage less in market work and thus their time constraint is less binding and they do not feel a need to multitask.

The employment effect is negative, which may reflect the time constraint. The more time a person spends working for pay, the less time there is for other activities, including those that can be combined. Individuals may also have a larger propensity to outsource services in the market instead of performing them and combining household work activities on their own. It may also reflect lower utility when engaging in secondary activities that are combined with other primary activities when

[8] We have also experimented with estimating OLS and censored least absolute deviations (CLAD) models and the results were qualitatively the same: non-white ethnic minorities spend significantly less time on secondary activities.

not working in the market. In any case, this employment effect is also in line with Floro and Miles (2003). Finally, regarding human capital and consistent with Floro and Miles (2003), having a higher education degree has a positive impact on performing overlapped activities and it matters both for the extensive and the intensive margin. Potential explanations for this effect include higher time constraints and larger opportunity costs of non-market time for these individuals as individuals with a high shadow price of time should experience more time stress and in an attempt to extend the available time would engage more in multitasking (Hamermesh and Lee 2007; Ruuskanen 2004). It is also consistent with the higher demand for "variety" by more skilled individuals reported by Gronau and Hamermesh (2008).

A further analysis of secondary housework activities by gender (not shown here) reveals several additional interesting facts. First, the negative employment effect is attributable exclusively to females, as it is insignificant in all equations for males. This reinforces our interpretation above and also seems to point towards the bargaining power model, i.e. employed females have a higher influence in household decision making and are better able to bargain on the division of household chores.[9] Thus, there is less pressure for such females to multitask home production activities. Second, the effect of higher education is stronger for females, which is also in line with our interpretations of higher time constraints and larger opportunity costs of non-market time for higher educated females.

Existing research suggests there are substantial differences among ethnic minorities in the UK (see Section 1). We explore this issue in Table 4, where the same regressions as above are estimated disaggregating by ethnic minority and gender. These results, however, have to be interpreted with caution, since the number of non-whites decreases further when disaggregating by ethnic groups, gender, and weekday and weekend diaries. The regression results confirm a descriptive picture above: Pakistani and Bangladeshi men are least likely to engage in and spend the least time on total secondary activities. Compared to whites, they are 37 and 29 percentage points less likely to perform secondary activities, and once engaged in them, they spend 93 and 75 minutes less on weekdays and weekends, respectively. There is also a strong negative effect for Indian men. Regarding females, three ethnic groups (Blacks, Pakistani/Bangladeshi and Indian) have a strong negative effect relative to whites (the effect for Indian females is insignificant for weekends). The largest negative effects for females are for Indians for weekdays and for Pakistanis and Bangladeshis for weekends. Note also that the overall non-significance of the results for Chinese is

[9] Ideally, we would need to have each spouse's contribution to the total household income, i.e. earnings. However, linking spouses and keeping only those with valid earnings information reduces the sample even more, which becomes prohibitively small for the analysis of non-white minorities. Nevertheless, we do experiment with individual earnings below.

most likely attributable to the very small sample size for this group.[10] Finally, the marginal effects for the "unconditional" expected value of the dependent variable were qualitatively identical to the "conditional" ones presented in Table 4 and are available upon request.

When disaggregating further by different overlapped activities, the largest negative effect for Pakistani and Bangladeshi men is found for secondary leisure activities, but it is significant although smaller in absolute terms also for secondary housework and all work activities. The negative effect for Indian men becomes insignificant at the 5% level in the equations for household work activities and it is the largest in the equation for leisure. It also suggests that for Indian men, apart from leisure activities, it is not housework that contributes to the overall negative effect, but rather voluntary work and meetings (including religious activities) as well as personal care activities (not shown). For females the largest negative effect for Indians on weekdays is for secondary leisure activities (but it is also large and significant in the equations for other activities). On the other hand, the negative effect for Pakistani and Bangladeshi women on weekends is large and highly significant in the equation for leisure.

Overall, we have documented the existence of a gap in multitasking behavior, i.e. time spent on secondary activities, between the white majority and non-white minority in the UK. The gap is present for both ethnic minority males and females, although females generally tend to engage more and spend more time on simultaneous activities. There is also heterogeneity among ethnic minorities, with Pakistani and Bangladeshi males having the largest gap in total time spent for all secondary activities, ceteris paribus. The questions that arise next are whether this effect is distributed equally across different groups and what are the potential sources of these ethnic differences?

Table 5 shows the effect of non-white ethnicity on time spent on all secondary activities for different subsamples. These are the marginal effects from the Tobit regressions for the expected value of *y* conditional on positive values, and the rest of the controls are as above (here we once more combine weekday and weekend diaries together to increase the sample size, and include an additional dummy for a weekday diary). We first look at citizenship as one potential channel. The intuition is that as citizenship is a proxy for integration and acculturation, naturalized ethnic minorities would not be different from the majority. This, however, is not necessarily the case for

[10] In the dataset there is also another small category of ethnic minorities called "none of these". Since it was not possible to determine which ethnic group to assign these minorities to, we have excluded this category from our main analysis. Including it into the non-white group did not change the results: the effect was negative and significant for the non-whites. The effect on all secondary activities for different ethnicities (vis-à-vis Table 4) remained robust and almost unchanged and the effect for "other" ethnic minorities was negative and significant (with the exception for males' weekend diaries). The magnitude of this effect for men was smaller in absolute terms than the one for Pakistani/Bangladeshi and Indians; while for women weekend diaries it was larger than the effect for Blacks and Pakistani/Bangladeshi and it was almost the same as the effect for Pakistani/Bangladeshi for women weekday diaries.

multitasking behavior. As can be seen from the first two rows of Table 5, among citizens, non-white ethnicity has a significant negative impact on the time spent on secondary activities, while the effect is insignificant for male non-citizens. This may suggest that white and non-white foreign males are similar in terms of their multitasking behavior. However, naturalized non-white immigrants still behave differently from white natives with respect to multitasking. The effect for females is larger in absolute terms for non-citizens than for citizens, suggesting some role of integration, learning and convergence towards the majority's behavior.

Given the literature on "time stress" and multitasking as a response to it, we then split our sample into a group that reports always feeling rushed and into a group that does not. Although the effect of non-white ethnicity is significant in all groups, the gap is larger in absolute terms for the former group for both genders. This implies that even in the group that is subject to time stress, ethnic minorities "stretch" their time budgets less than whites, i.e. relatively less than in the other group.

We then look at the opportunity costs of non-market time. The literature suggests that individuals with high shadow price of time should experience more time stress and in an attempt to extend the available time would engage more in multitasking (Hamermesh and Lee 2007; Ruuskanen 2004). For this purpose, following the literature, we first estimate the regression of individual hourly earnings and predict the earnings for the whole sample.[11] We then split the sample into a group that has higher opportunity costs of non-market time (predicted earnings are larger than the sample's mean) and a group with lower opportunity costs. The results show that the gap is larger in the subsample with high opportunity costs, implying that whites in this group engage much more in multitasking than non-whites. This also suggests that ethnic minorities with lower opportunity costs are closer to whites with low opportunity costs, although the gap still exists.

The next potential channel is the differences in tastes and cultural attitudes towards housework and chores. In the survey individuals are asked whether they like doing certain housework activities. Based on this information, we split our sample into two groups: one in which respondents reply that they like doing at least two of the following chores – cooking, shopping for food, cleaning, washing clothes and ironing, and another group in which respondents do not report enjoyment in carrying out at least two of these activities. The intuition is that if an individual derives utility from performing this activity (Pollak and Wachter 1975) he or she would probably spend more time on this activity alone, and vice versa: those who do not enjoy housework would try to combine these activities with each other or with something else which would result in more multitasking. For the latter group the role of ethnicity is lower for males and insignificant for

[11] The regressors include gender, ethnicity, age and its square as a proxy for labor market experience, marital status, number of children and adults, education levels and region fixed effects.

females. The negative and significant ethnicity effect for the former group may also indicate higher cultural preferences of non-white ethnicities for monochronic behavior.

Another important channel may be the availability of equipment which enhances household's productivity of multitasked activities (Kalenkoski and Foster 2010). To proxy for this, we use information on the availability of washing machine, tumble drier, dishwasher and microwave in a household. The results suggest that for males the negative effect of non-white ethnicity is smaller for those who have all of these household appliances. For females, however, the negative effect is even larger in this subsample, pointing towards different preferences for the uses of time between white and non-white females, even conditioning on the availability of household productivity enhancing appliances. In other words, in households with appliances relative to the households without, white females engage even more in multitasking than non-white.

In the next rows we add to our household productivity measures an indicator of whether a household has a computer and Internet. For females the difference between the groups increases; whereas for males the effect switches, becoming larger for the group that possesses all of the equipment. We then add an indicator of whether an individual has or regularly uses a motor vehicle. Ethnic minorities, especially women, may rely more extensively on public transportation, which in turn would make their time constraint tighter and would suggest performing more multitasked activities. Using a car instead may lower the time costs and thus makes the time constraints less binding. However, after conditioning on using a motor vehicle, the effect of non-white ethnicity is still significant and negative for both males and females. In the group that does not use a motor vehicle, the effect for females is negative, significant and larger in absolute terms. The effect for males in the latter group is not significant at the 5% level, which most probably reflects the small sample size for males who do not use motor vehicles.

Differentiating between employed and not-employed individuals renders the expected results. The gap is smaller in the subsample of employed individuals, indicating a diminishing role of ethnicity when the amount of disposable non-market time is smaller and the opportunity costs of it are larger. When splitting the sample by the presence of small children in the household, gender differences become apparent. For males the effect of ethnicity is larger in the households with children, while for females it is smaller and insignificant at the 5% level. This suggests that both white and non-white females multitask more (see above) and spend a similar amount of time when they have small children. Regarding human capital, although having a higher education degree is associated with more multitasking (see above), the ethnicity gap is also larger for this group. This may reflect the fact that higher educated ethnic minorities have either more time than whites and

thus can afford to multitask less (for example, due to lower labor market participation) or they choose to multitask less because of different preferences for non-market time use.

Finally, we also perform the following exercise. We estimate our baseline model for all secondary activities (pooling together weekday and weekend and including a dummy for the diary day) sequentially including into it additional variables mentioned above and study the effect of the *non-white* dummy. When we include a citizenship dummy, the Tobit coefficient on the *non-white* dummy remains significant and diminishes in size slightly (from -95.16 to -92.11), suggesting that at least part of the effect of ethnicity is attributable to differences in naturalization (and the effect of citizenship is marginally significant). Adding further the dummy for feeling rushed actually increases the gap slightly (to -92.60), while the rush dummy is negative and significant. Including then dummies for enjoying particular household chores further reduces the gap between whites and non-whites to -89.59. The attitudes dummies were insignificant in the pooled equation, however, when disaggregating by gender, enjoying cooking was positive and marginally significant in the equation for males and liking cleaning was negative and significant for females. This suggests that preferences and tastes for household activities and time spent on them matter (at least partly) for the explanation of the ethnicity gap.

We then add our proxies for household productivity, i.e. dummies for having a washing machine, a tumble drier, a dishwasher and a microwave oven. The coefficient on dishwasher was positive and marginally significant, and the coefficient on tumble drier was negative and highly significant reflecting the negative impact for males. For females the impact of having washing machine and tumble drier was negative and marginally significant and having a dishwasher was positive and significant. Adding these variables, however, increases the gap to -90.98, implying that differences in household productivity enhancing equipment exacerbate but do not diminish the ethnicity gap. On the other hand, including in addition dummies for having a computer in the household and an Internet connection reduces the ethnicity gap to -89.30; while including a dummy for using a motor vehicle further reduces it slightly to -89.21, suggesting the potential role of additional skills, such as language and computer skills (Chiswick and Miller 2007) as well as reduced time costs.

We have also experimented with including into the initial baseline model such additional variables as having health problems and receiving help from others for at least one household task; however, the impact of the former variable was insignificant and the ethnicity gap remained almost unchanged, while the latter variable was significant at the 10% level and the gap has declined only marginally. Finally, when estimating on the subsample of working individuals with non-missing individual earnings without and with earnings as an additional variable in the regression, the

coefficient on non-white ethnicity drops slightly, while the impact of earnings on multitasking, in line with theoretical models of household production and time stress, is positive and highly significant.

5. Conclusions

Multitasking behavior is an integral part of everyday life and it can be different for majority and minority groups. This paper investigates whether, and to what extent, native and ethnic minority men and women in the UK differ in terms of their time spent on secondary activities, employing the 2000 UK Time Use data.

We find that non-white ethnic minorities engage less in multitasking activities than whites. Descriptive statistics show that, unconditionally, white females manage to "stretch" their time the most by an additional 233 minutes per day (almost 4 hours), meaning that they try to squeeze 28 hours of activities into a 24-hour day. On the other hand, non-white men "stretch" their time the least (by 116 minutes). The three secondary activities that are most often combined with other (primary) activities in terms of time spent on them are social activities including resting, passive leisure and childcare; and ethnic differences are important for the social and leisure activities, while gender matters for childcare.

Our regression results then show that the gap between whites and non-whites is present for the total time spent on all secondary activities as well as for time spent on secondary housework activities only and for both males and females, although females generally tend to engage more and spend more time on simultaneous activities than males. There are, however, important differences among ethnic minorities groups, with Pakistani and Bangladeshi males having the largest gap in total time devoted to all secondary activities, ceteris paribus.

The lower propensity of non-white minorities to engage in multitasking activities may reflect several reasons. First and consistent with the theoretical models of household production and time stress, if ethnic minorities have lower opportunity costs of time, they will engage less in multitasking behavior. Due to the lower engagement in the labor market, ethnic minorities are also likely to experience lower time pressure and their time constraint is less binding, resulting in less multitasking. Second, multitasking behavior can constitute an additional assimilation channel for ethnic minorities, implying that learning and convergence towards the native's multitasking behavior takes time and that such behavior may entail larger costs for ethnic minorities. Third, different uses of time may be a manifestation of ethnic identity and of different preferences of ethnic minorities, including socio-cultural and gender norms. If ethnic minorities have a greater

preference towards monochronic uses of time or uncontaminated activities and if they derive utility from performing certain activities per se, they will spend fewer minutes on overlapping activities. In addition, the availability of housework productivity enhancing technology seems to constitute a valid channel only marginally.

Having said that, it has to be kept in mind that performing overlapping activities may lead to increased stress, diminished quality of work and leisure, and lower productivity and overall satisfaction. "Stretching" time budgets less than whites may also partially reflect "shrinking" less time by wasting less time on some unnecessary activities.

Having documented the existence of the ethnicity gap in multitasking, we have only touched upon several potential channels of this gap. The list of potential channels studied here is, of course, not at all exhaustive and the analysis is not conclusive; thus, more research on the causes of different multitasking behavior of ethnic minorities is needed in the future.

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Fig. 1 "Time stretching" by gender and ethnicity

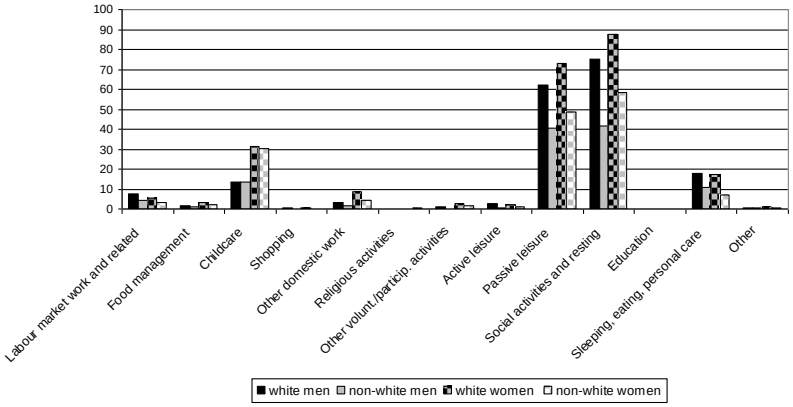
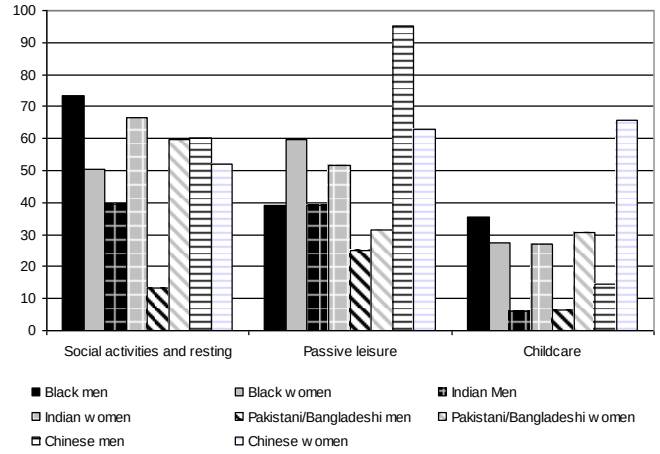


Fig. 2 Time spent on the three largest secondary activities by ethnicity



Notes: "Time stretching" is average time spent on secondary activities. Time includes zero minutes. Final sample used in the regressions.

Table 1. The incidence of multitasking. All secondary activities

	All	Males	Females	White	Non-white	Employed	Not employed	Feel always rushed	Do not feel rushed
All diaries	92.56	90.27	94.47	93.12	77.80	92.56	92.52	93.65	92.62
Weekday	93.63	91.53	95.39	94.27	76.74	93.68	93.33	95.24	93.39
Weekend	91.48	89.00	93.55	91.96	78.87	91.44	91.70	92.05	91.86
	Higher education and above	A, O levels, GCSE, vocational	Below GCSE, professional, other qualific.	No qualifi-cations	Married	Not married	Have children	No children	
All diaries	95.59	92.89	92.09	89.53	92.83	91.71	93.37	91.88	
Weekday	96.37	93.91	94.30	90.68	93.96	92.61	94.73	92.72	
Weekend	94.80	91.86	89.87	88.38	91.70	90.80	92.00	91.05	

Notes: Percentage of individuals who report engaging in at least one secondary activity and spending a positive amount of minutes during a diary day (weekday and weekend). Final sample used in the regressions.

Table 2. Time used on primary and secondary activities by gender and ethnicity

	Males				Females			
	White		Non-white		White		Non-white	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
LM work and related	255.65	7.52	276.08	4.44	150.26	5.18	105.40	3.22
Household work								
Food management	29.55	1.47	23.28	1.06	68.75	3.47	96.57	1.92
Childcare	16.02	13.35	29.26	13.70	39.43	31.54	54.56	30.46
Shopping	23.75	0.28	25.82	0.21	39.23	0.32	35.48	0
Other domestic work	68.06	3.28	39.26	1.80	102.77	8.73	85.98	4.44
Voluntary work								
Religious activities	2.90	0.08	8.41	0.11	3.01	0.08	28.12	0.67
Other volunt./partic. activities	8.98	1.18	2.28	0.26	13.30	2.70	9.16	1.84
Leisure activities								
Active	44.13	2.85	32.33	0.74	23.94	1.95	19.25	0.88
Passive	170.99	62.25	142.01	40.42	143.22	72.89	133.93	48.49
Other activities								
Social and resting	80.96	75.22	80.48	41.53	93.64	87.73	79.33	58.28
Education	5.14	0.11	4.13	0	5.83	0.10	11.13	0.04
Sleeping, eating, personal care	624.31	17.61	637.41	10.69	650.00	17.15	653.35	6.90
Other	109.56	0.50	139.26	0.69	106.64	0.85	127.74	0.33
Total	**1440**	**185.70**	**1440**	**115.65**	**1440**	**232.69**	**1440**	**157.47**
Observations	5102		189		6076		239	

Notes: Means are reported. Time is in minutes per day and includes zero minutes. LM work and related activities include main job, second job and activities related to employment (lunch and coffee breaks etc.). Secondary activities are not recorded if primary activity is labor market work, sleep or study. Final sample used in the regressions

Table 3. Determinants of time spent on secondary activities. Marginal effects from Tobit model

	All activities				Housework activities				Housework if primary activity is housework			
	Weekday		Weekend		Weekday		Weekend		Weekday		Weekend	
	E(Y|Y>0)	Pr(Y>0)	E(Y|Y>0)	Pr(Y>0)	E(Y|Y>0)	Pr(Y>0)	E(Y|Y>0)	Pr(Y>0)	E(Y|Y>0)	Pr(Y>0)	E(Y|Y>0)	Pr(Y>0)
Non-white	-66.601***	-0.174***	-48.911***	-0.129***	-18.173***	-0.190***	-12.906***	-0.137***	-9.466***	-0.136***	-8.495***	-0.118***
	(8.787)	(0.032)	(9.182)	(0.031)	(2.798)	(0.028)	(3.288)	(0.034)	(1.781)	(0.023)	(1.873)	(0.022)
Female	30.480***	0.054***	28.306***	0 .057***	19.827***	0.200***	16.427***	0.172***	14.541***	0.216***	12.534***	0.184***
	(2.981)	(0.005)	(2.909)	(0.006)	(1.100)	(0.010)	(1.078)	(0.011)	(0.800)	(0.010)	(0.761)	(0.010)
Age	-0.237	-0.0004	-0.154	-0.0003	0.158**	0.002**	0.104*	0.001*	0.124***	0.002***	0.117***	0.002***
	(0.183)	(0.0003)	(0.171)	(0.0003)	(0.061)	(0.001)	(0.054)	(0.0006)	(0.039)	(0.001)	(0.036)	(0.001)
Married	-4.902	-0.008	-5.390	-0.011	6.580***	0.068***	7.409***	0.079***	4.547***	0.068***	4.558***	0.067***
	(4.885)	(0.008)	(4.749)	(0.009)	(1.617)	(0.017)	(1.505)	(0.016)	(0.980)	(0.015)	(0.932)	(0.013)
No. of children 0-2 years old	20.262***	0.035***	12.635**	0.025**	25.040***	0.255***	20.044***	0.211***	13.821***	0.209***	11.790***	0.177***
	(5.824)	(0.010)	(5.869)	(0.012)	(2.142)	(0.022)	(1.858)	(0.019)	(1.163)	(0.017)	(1.106)	(0.016)
No. of children 3-4 years old	15.239**	0.026**	23.636***	0.047***	19.128***	0.195***	20.673***	0.218***	9.923***	0.150***	12.355***	0.185***
	(6.792)	(0.012)	(7.018)	(0.014)	(2.319)	(0.024)	(2.253)	(0.023)	(1.185)	(0.018)	(1.281)	(0.018)
No. of children 5-9 years old	7.500**	0.013**	-2.793	-0.006	13.773***	0.140***	12.108***	0.128***	8.009***	0.121***	6.943***	0.104***
	(3.678)	(0.006)	(3.680)	(0.007)	(1.192)	(0.012)	(1.148)	(0.012)	(0.664)	(0.009)	(0.629)	(0.009)
No. of children 10-15 years old	1.242	0.002	-3.707	-0.007	9.356***	0.095***	7.086***	0.075***	4.676***	0.071***	3.885***	0.058***
	(3.033)	(0.005)	(3.038)	(0.006)	(1.023)	(0.010)	(1.143)	(0.011)	(0.601)	(0.009)	(0.586)	(0.009)
No. of adults	-7.966***	-0.014***	-8.580***	-0.017***	-5.420***	-0.055***	-4.485***	-0.047***	-3.066***	-0.046***	-2.508***	-0.038***
	(2.283)	(0.004)	(2.323)	(0.005)	(0.751)	(0.007)	(0.710)	(0 .007)	(0.504)	(0.008)	(0.455)	(0.007)
Gross annual hh income <= 10,430	-22.531***	-0.043**	-31.552***	-0.072***	-2.258	-0.023	-1.107	-0.012	-2.933*	-0.044*	-0.627	-0.009
	(8.733)	(0.019)	(8.520)	(0.022)	(2.963)	(0.031)	(2.801)	(0.030)	(1.755)	(0.026)	(1.713)	(0.026)
Gross annual hh income >10,430 and <=55,000	-4.379	-0.008	-9.089	-0.018	1.807	0.018	1.995	0.021	-0.250	-0.004	3.012**	0.045**
	(7.074)	(0.012)	(7.356)	(0.014)	(2.345)	(0.024)	(2.166)	(0.023)	(1.403)	(0.021)	(1.303)	(0.019)
Employed	-30.138***	-0.046***	-26.576***	-0.047***	-8.774***	-0.087***	-7.335***	-0.076***	-4.939***	-0.075***	-3.983***	-0.060***
	(5.979)	(0.008)	(5.672)	(0.009)	(2.168)	(0.020)	(1.976)	(0.020)	(1.291)	(0.019)	(1.151)	(0.017)
Higher education and above	41.329***	0.064***	40.936***	0.073***	9.442***	0.094***	6.843***	0.071***	3.635***	0.055***	3.621***	0.055***
	(5.076)	(0.007)	(4.836)	(0.008)	(1.849)	(0.018)	(1.650)	(0.017)	(1.194)	(0.018)	(1.031)	(0.016)
A, O levels, GCSE and vocational education	16.281***	0.027***	17.084***	0.033***	4.426***	0.045***	3.475**	0.036**	1.648	0.025	2.020**	0.030**
	(4.643)	(0.008)	(4.264)	(0.008)	(1.627)	(0.017)	(1.461)	(0.015)	(1.032)	(0.016)	(0.917)	(0.014)
Below GCSE, prof. and other qualifications	14.131*	0.023**	6.108	0.012	-0.901	-0.009	-1.888	-0.020	-0.295	-0.004	0.205	0.003
	(7.289)	(0.011)	(7.072)	(0.013)	(2.428)	(0.025)	(2.319)	(0.025)	(1.493)	(0.022)	(1.548)	(0.023)
Observations	5821		5785		5821		5785		5821		5785	

Notes: Standard errors corrected for intra-household correlation are reported in parentheses. *** significant at 1%, **significant at 5%, *significant at 10% level. Additional regressors include region, year and season dummies and a dummy for missing household income. Housework activities include household and family care (food management, household upkeep, making and care for textiles, gardening and pet care, construction and repairs, shopping and services, household management, childcare, helping an adult household member).

Table 4. The effect of non-white ethnicity on "time stretching" for different minority groups. Marginal effects from Tobit model

	Males: Weekday		Males: Weekend		Females: Weekday		Females: Weekend	
	E(Y|Y>0)	Pr(Y>0)	E(Y|Y>0)	Pr(Y>0)	E(Y|Y>0)	Pr(Y>0)	E(Y|Y>0)	Pr(Y>0)
				All activities				
Black	-30.685	-0.081	0.917	0.002	-63.255***	-0.135**	-56.657***	-0.134***
	(36.622)	(0.116)	(39.137)	(0.093)	(20.545)	(0.062)	(15.084)	(0.048)
Pakistani/	-92.789***	-0.365***	-74.982***	-0.285***	-65.780**	-0.143*	-67.881***	-0.172**
Bangladeshi	(9.850)	(0.059)	(12.409)	(0.067)	(24.309)	(0.077)	(19.356)	(0.070)
Indian	-60.349***	-0.193***	-52.660***	-0.175***	-86.525***	-0.216***	-32.103	-0.065
	(11.528)	(0.050)	(14.617)	(0.064)	(13.867)	(0.055)	(22.653)	(0.055)
Chinese	-21.880	-0.055	5.120	0.012	-54.971	-0.112	-28.631	-0.057
	(39.200)	(0.112)	(34.674)	(0.077)	(52.491)	(0.145)	(56.747)	(0.133)
				Housework				
Black	-17.176*	-0.183**	3.000	0.032	-22.241***	-0.218***	-18.070***	-0.191***
	(8.914)	(0.077)	(13.774)	(0.145)	(6.286)	(0.064)	(6.781)	(0.073)
Pakistani/	-23.420***	-0.229***	-20.392***	-0.184***	-25.150***	-0.248***	-15.087	-0.159
Bangladeshi	(4.207)	(0.025)	(6.695)	(0.042)	(8.159)	(0.083)	(9.604)	(0.105)
Indian	-5.598	-0.065	-8.442*	-0.086*	-24.375***	-0.240***	-17.911***	-0.189***
	(4.256)	(0.048)	(5.060)	(0.049)	(6.018)	(0.062)	(5.643)	(0.061)
Chinese	-8.559	-0.097	-8.845	-0.090	-2.837	0.026	-1.210	-0.012
	(10.625)	(0.115)	(9.976)	(0.095)	(18.162)	(0.167)	(17.428)	(0.175)
				Housework if primary activity is housework				
Black	-5.775	-0.075	1.319	0.018	-10.445***	-0.155***	-11.147**	-0.166**
	(6.037)	(0.066)	(4.914)	(0.069)	(3.893)	(0.057)	(4.728)	(0.065)
Pakistani/	-14.932***	-0.137***	-	-	-13.200**	-0.195**	-11.221**	-0.167**
Bangladeshi	(3.036)	(0.010)			(5.965)	(0.085)	(5.589)	(0.077)
Indian	-2.668	-0.037	-4.697	-0.054*	-14.235***	-0.210***	-10.793***	-0.161***
	(3.429)	(0.045)	(3.304)	(0.032)	(3.469)	(0.051)	(3.546)	(0.049)
Chinese	-	-	-	-	-	-	-3.421	-0.052
							(7.520)	(0.114)
				All work				
Black	-15.850*	-0.212*	0.650	0.008	-25.537***	-0.249***	-21.029***	-0.214***
	(8.266)	(0.111)	(14.867)	(0.179)	(6.323)	(0.068)	(6.533)	(0.071)
Pakistani/	-20.682***	-0.275***	-16.693***	-0.208***	-20.068**	-0.190**	-8.507	-0.081
Bangladeshi	(3.947)	(0.049)	(5.611)	(0.067)	(8.879)	(0.093)	(11.483)	(0.116)
Indian	-12.079***	-0.161***	-11.187***	-0.140***	-25.981***	-0.254***	-17.682***	-0.178**
	(3.904)	(0.053)	(4.204)	(0.052)	(6.055)	(0.066)	(6.451)	(0.070)
Chinese	-16.398	-0.219	-8.205	-0.102	-7.652	-0.067	1.552	0.014
	(10.375)	(0.138)	(10.197)	(0.129)	(19.205)	(0.178)	(17.659)	(0.156)
				Leisure				
Black	-22.584	-0.085	-20.093	-0.079	-36.421**	-0.120*	-38.624***	-0.139**
	(28.620)	(0.123)	(22.715)	(0.101)	(16.883)	(0.071)	(13.307)	(0.060)
Pakistani/	-63.834***	-0.309***	-56.040***	-0.274***	-36.362*	-0.120	-58.030***	-0.237***
Bangladeshi	(10.504)	(0.068)	(11.227)	(0.072)	(18.899)	(0.079)	(14.290)	(0.080)
Indian	-41.322**	-0.174***	-35.148**	-0.152**	-50.668***	-0.186***	-9.466	-0.028
	(12.406)	(0.066)	(14.155)	(0.074)	(13.533)	(0.069)	(22.882)	(0.072)
Chinese	-0.285	-0.001	13.744	0.044	-37.755	-0.127	-27.895	-0.094
	(33.476)	(0.109)	(24.661)	(0.072)	(31.965)	(0.138)	(39.974)	(0.159)

Notes: Standard errors corrected for intra-household correlation are reported in parentheses. *** significant at 1%, **significant at 5%, *significant at 10% level. Additional regressors are as in Table 3. "Time stretching" is the time spent on secondary activities. "All work" activities are defined as in Floro and Miles (2003) and include housework and family care, voluntary work and meetings and labor market work. Leisure activities include social life and entertainment, sports and outdoor activities, hobbies and games, and mass media activities. The effects have to be interpreted with caution due to the small number of observations for ethnic minority groups, especially for Chinese.

Table 5. The effect of non-white ethnicity on time spent on all secondary activities for different groups. Marginal effects from Tobit model

	Males E(Y|Y>0)	Females E(Y|Y>0)
Citizens	-55.547***	-62.339***
	(11.016)	(10.822)
Non-citizens	1.079	-81.066***
	(37.679)	(30.291)
Feel rushed always	-56.915***	-63.224***
	(15.588)	(14.153)
Do not feel rushed	-49.775***	-60.096***
	(13.934)	(13.700)
Predicted earnings>=mean	-55.873***	-64.462***
	(16.993)	(18.158)
Predicted earnings<mean	-47.874***	-55.060***
	(11.338)	(13.241)
Like hh. Chores	-57.130***	-63.318***
	(13.547)	(10.316)
Do not like hh. chores	-44.274**	-1.361
	(18.598)	(36.762)
Have hh. productivity increasing equipment	-44.379**	-64.656***
	(21.634)	(22.843)
Do not have hh. productivity increasing equipment	-53.585***	-58.233***
	(11.206)	(11.494)
Have equipment + computer + Internet	-52.817**	-74.100**
	(26.102)	(33.916)
Do not have equipment + computer + Internet	-50.811***	-57.831***
	(10.868)	(10.956)
Use/have motor vehicle	-54.468***	-56.396***
	(10.759)	(13.251)
Do not use/have motor vehicle	-45.656*	-77.801***
	(25.634)	(15.262)
Employed	-52.185***	-55.850***
	(9.808)	(13.135)
Not employed	-63.212**	-77.634***
	(30.378)	(16.069)
Have children<4 y.o.	-59.320***	-47.504*
	(16.218)	(24.510)
Do not have children<4 y.o.	-50.237***	-66.857***
	(12.98)	(11.713)
Have higher educ. degree and above	-58.965***	-69.694***
	(20.309)	(17.71)
Do not have higher educ. degree and above	-51.213***	-61.167***
	(9.878)	(12.474)

Notes: Standard errors corrected for intra-household correlation are reported in parentheses. *** significant at 1%, **significant at 5%, *significant at 10% level. Marginal effects from the regressions for *non-white* dummy only are reported. Additional controls include all the variables as in Table 3. "Like hh. chores" variable means a respondent replies "like a lot" for at least two from the following household chores: cooking, shopping for food, cleaning, washing clothes, and ironing. "Household productivity increasing equipment" variable equal to one if a respondent possesses a washing machine, a tumble drier, a dishwasher and a microwave.