Do minority immigrants behave differently with respect to time spent on childcare from others? Evidence from Canada

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Abstract

Childcare is an important issue in Canada and elsewhere. Some have suggested that immigrants behave differently towards childcare relative to others; others have suggested that it is not being an immigrant, per se, that affects their decisions, rather childcare choices are influenced by ethnic background and culture. In this major paper, I examine the choice of time spent on childcare by minority immigrants in Canada. Taking advantage of time diary data in Canada from 2010 and regressing time spent on childcare on various factors, I find that gender, family structure, age, income level and place of residence are all linked to the time allocated by parents in raising their children. Both descriptive statistics and regression results demonstrate that minority immigrants will devote less time to childcare. My findings suggest that identifying as a minority individual has a larger impact on the amount of time devoted to childcare relative to identifying oneself solely on the basis of being an immigrant or not. Given the large percentage of Asian immigrants in Canada, some features of Asian culture may help to explain why this is the case.

Key words: Time Use; Childcare; Minority Immigrant; Asian; Canada

Content

1. Introduction

In 2010, Canadians who are responsible for childcare spent an average of 2 hours 31 minutes a day taking care of children, up 21 minutes compared with the data from 1998.[1] Almost during the same period (1991-2010), Canada has seen an increase in immigration, especially of individuals from Asia.[2] Some studies suggest that immigrants from different regions of origin behave differently when it comes to childcare decisions relative to native born (Miller *et al.* 2013; Kim and Fram 2009). Given the recent increase in Asian immigrants and the fact that immigrants differ in childcare responses relative to native borns, it is worthwhile to explore how minority immigrants – i.e., those who are both immigrant and belong to an ethnic minority – behave with respect to time on childcare relative to others.

To begin, it is important to determine what is meant by childcare. Here, I focus on the amount of time parents spend on a series of things related to caring from their children, such as food preparation, feeding them, putting them to bed and getting them ready for school and the like. In this paper, I use the total time parents report having spent on taking care of children a day to reflect all these activities.

Many scholars have explored various factors influencing the type of childcare scheme chosen – whether it is parental care, family or friend care, or care in a formal

[1] These figures are taken from the General Social Survey – 2010, overview of the time use of Canadians (Social and Aboriginal Statistics Division, Statistics Canada 2011b). Generally speaking, the term childcare is used broadly to include all types of parental, relative or nonrelative cares, and center-based (Kim and Fram 2009; Peyton *et al.* 2001; Beaujot 1997; Cleveland *et al.* 2008). In this sentence, the term "childcare" is meant in the narrow sense of including total time parents spend with children on feeding, reading to or talking with and playing with children.

[2] These figures are taken from (Citizenship and Immigration Canada, Statistics Canada 2012).

setting – and the time parents are willing to spend on childcare. Factors such as gender (Hill and Stafford 1980; Zick, and Bryant 1996; Gauthier *et al.* 2004), age (South and Spitze 1994; Blackaby *et al.* 2002), family structures including marital status and number of children in household (Cooksey and Fondell 1996; Carlin and Flood 1997; Glick and Hohmann 2007), education level (Leibowitz 1974; Gronau 1977; Zick and Bryant 1996; Early and Burchinal 2001; Zaiceva and Zimmermann 2014), work situation including employment status and income level (Huston et al. 2002; Hirshberg et al. 2005) and childcare subsidy policies (Cleveland *et al.* 2008; Dagan 2010; Stalker and Ornstein 2013) all influence these two decisions. Some researchers have looked into whether being an immigrant or belonging to an ethnic minority also matters. In Canada, the focus of these researchers has been on the behaviour of immigrants, with not much said about ethnic minorities (Cleveland *et al.* 2008). Work done on the effect of being a member of an ethnic minority or a minority immigrant on childcare behaviour does exist for countries other than Canada (e.g. Unger 1993; Chan 1997; Brandon 2004; Lie 2006; Santhiveeran 2010; Miller *et al.* 2013).

This paper aims to fill this gap in the literature by looking at minority immigrants in Canada, where the term minority refers to individuals who self-report as belonging to a minority group (as explained below). It examines how time spent on childcare is affected by the combination of these two attributes, i.e. immigration status and ethnic minority. I focus on minority immigrants' behaviours, as opposed to the behaviour of all immigrants, in order to take account of the fact that immigrants tend to start to behave like the native-born over time (Glick and Hohmann 2007; Safdar *et al.* 2012). Furthermore,

minority immigrants in Canada since 1991 are more likely to be Asian – with roughly 70% of them declaring themselves to be of Asian ethnicity according to the most recent Census;[3] I am particularly interested in the behaviour of those with Asian ethnicities as they are culturally quite different from those Canadians originating from other parts of the world.

Most of the literature that exists has made use of data from the United States, Australia, Britain and some other countries (e.g. Brandon 2004; Magnuson *et al.* 2006; Miller *et al.* 2013). There are some papers that use data from Canada such as Time-use data from 16 countries including Canada (1970-1998) (Gauthier *et al.* 2004), and data from the Canadian National Child Care Survey (1988) and from the National Longitudinal Study of Children and Youth (1994-95, 2004-05 and 2006-2007) (Cleveland *et al.* 2008), but these data sets are a bit dated now. Moreover, these authors have focused on some of the factors I mentioned above and have largely ignored immigration status and ethnic minority. So the second contribution of this paper is that it uses the latest data from Canada—the General Social Survey, Cycle 24, 2010: Time-Stress and Well-Being (GSS 2010), to see whether we can learn something new about time spent on childcare and its link to immigrants and ethnic minorities.

I find that minority-immigrants are, indeed, different when it comes to the time spent on childcare once all other relevant factors are taken into account. In general, they spend less time on childcare. Moreover, having an ethnicity that is non-European (minority) has a larger negative effect on the time spent on childcare than being an

[3] See: Citizenship and Immigration Canada, Statistics Canada 2012.

immigrant, per se.

This paper will proceed as follows: section 2 is a literature review, which reviews some papers analyzing how immigration status or being an ethnic minority influences time use on childcare. Section 3 introduces the data set and provides some descriptive statistics. The empirical model is shown in section 4. Section 5 contains the results and a discussion of the results and section 6 reaches a broader discussion about the reason why minority immigrants behave differently. Finally, section 7 concludes the paper and highlights its limitations.

2. Literature review

There is no paper that directly studies the combination of immigration status and ethnic minority on the amount of time spent on childcare in Canada. However, there is evidence about behaviours of minority immigrants in Canada towards childcare from related works.

Focusing on immigrants in Canada, Cleveland *et al.* (2008), using data from the Canadian National Child Care Survey (1988), examine the determinants of the amount spent on childcare a day and the factors influencing the type of childcare parents choose. They find that immigration status does not matter when it comes to the amount of money spent on childcare but it does have some effects on the childcare scheme chosen. If immigrants had landed in Canada for less than 15 years or their mother tongue was not English or French, they were more likely to choose care provided by parents most of time and thus the time spent on childcare is relatively large. If they live near relatives,

they are more likely to use relative care. Furthermore, if the mother of an immigrant family works in the labour market, this family is less likely to utilize parental childcare. In these two situations, their children are cared for by others most of time. As a result, the time immigrants in Canada spent on childcare is not clear probably because Cleveland *et al.* (2008) only controlled for immigrant status but not whether they belonged to a minority group or some other indicators of regions of origin in their regressions.

When paying attention to the choice of childcare plan of immigrants in other countries, Brandon (2004), Magnuson *et al.* (2006), Hernandez *et al.* (2007) find that children of immigrants in the United States are more likely to be in parental care than those of native-born parents mainly due to the financial situation. If the government implements more public policies such as the well-known Head Start program to improve access to good center-based care then disadvantaged immigrant families are willing to enrol their children into this sort of care. As a result of incompleteness of these policies, immigrant parents are inclined to utilize parental care and thus spend more time on childcare.

If one focuses only on minority Asians, regardless of citizenship status, the story may change. Quite a few papers pay attention to those with an Asian background (Unger 1993; Chen *et al.* 2000; Cardia and Ng 2003). Traditionally, Chinese people place the interaction between children and parents as the number-one priority in family relationships. Even when their children marry, Chinese parents usually keep in close touch. This custom leads to the prevalence of intergenerational relationships (Unger 1993). Chen *et al.* (2000) find that, in China if paternal grandparents help with childcare,

parents' involvement will be reduced significantly. Specifically, if time transfers in the form of grand parenting are available, parents will choose this type of care as much as possible because it not only releases them to focus on the paid labour market but also reduces the cost of childcare (Cardia and Ng 2003). Moreover, when the proximity of grandparents makes these transfers—time or money--much easier, transfers will further reduce childcare loads of parents, especially of mothers (Siow 2011).

There are some papers that combine immigration status with being part of an ethnic minority, but their analyses are applied to countries other than Canada. As more and more people from Mainland China immigrate to the United Kingdom, as was the case between 1982 and 1995, the effect of intergenerational transfers from grandparents on childcare and thus the amount of time spent on care by parents can be seen in aggregate data (Chan 1997; Mullan 2010). Besides, Lie (2006) demonstrates that, to the extent that Chinese immigrants suffer discrimination on the job market, they usually end up having to work more time in order to gain a living income. As a consequence, grandparents and other kin or formal arrangements such as schools and other organizations spend more time caring for children than do parents. Even worse, when all this non-parental care is unavailable, children are just left at home alone, especially during holiday times. Comparing childcare schemes among Asian, European and Latino immigrant families using data from the California Health Interview Survey 2005 Child Survey, Santhiveeran (2010) finds that Asian immigrants in America are more likely to choose centre-based care and relative care when compared to other types of immigrant families and thus Asian parents spend less time with their children. However,

Miller *et al.* (2013) used data from the Early Childhood Longitudinal Study-Birth Cohort in the United States and suggest that Asian immigrant parents are less likely to enrol their children into center-based care supported by public funds and twice likely to be in parent-based care comparing to immigrants from other areas. Therefore, according to Miller *et al.* (2013), Asian immigrant parents tend to spend more time on childcare relative to others.

Therefore, as far as minority immigrants and childcare is concerned, there are two distinct possibilities: one is that they will spend more time on childcare relative to non-minorities to the extent that cultural norms prevail, but they may spend less time to the extent that they are forced into working more than normal in order to earn a living income. Indeed, it is an empirical question as to which of these two forces dominates. Thanks to the availability of time use data on childcare, I am able to look at this question for Canada.

3. Data and descriptive statistics

My empirical analysis uses data from the General Social Survey (GSS) undertaken in 2010 by the Social and Aboriginal Statistics Division, Statistics Canada. This data set is useful for looking at the main time use tendencies of Canadian residents, and to look at life in Canada as far as time allocation is concerned. Using Computer Assisted Telephone Interviewing (CATI) methods, information was collected across Canada. The survey reports time allocation diaries on multiple activities of nearly 15,400 Canadians that represent all individuals with land-based telephones. To avoid any biases associated with

a particular interviewing time, researchers do interviews across different days of the week. Inevitably, there are still some limitations about data, such as sampling errors and non-sampling errors due to the small fraction of samples (around one person in 1,800) (Social and Aboriginal Division, Statistics Canada 2011a).

In addition to information on the time use on many activities, including simultaneous activities in a 24-hour period starting at 4:00 in the morning, many relevant demographic and geographic characteristics are also collected such as gender, marital status, family structure, age, number of children in household, the highest education level, work time, income level, whether the individual identifies him or herself as a visible minority, as well as their immigrant status and information on when they arrived in Canada. I focus on data of married people whose age ranges from 15 to 54 and who have at least one child in the household aged between 0 and 14 and therefore the final observation number is 2465.[4] In order to look at how much time an individual spends on average on childcare, I divide the weekly time by seven, which is consistent with other work on in this area (Zick and Bryant 1996; Gauthier *et al.* 2004).

All the variables used in my analyses are chosen based on the available data and on the literature mentioned above. Table 1 defines all of these variables, which include gender dummies, family structure dummies, age dummies, dummies for the number of children, education level dummies, province dummies, income dummies, citizenship dummies (for immigrants), minority dummies and the dummies for minority immigrants. Notice, that the dummy variables—*couplechild*, *stepwithchild* and *stepwithoutchild* –

[4] In my sample, there is no type of family structure: single with children, probably because there are few families of this type relative to the whole population. So when selecting the phone number, the Random Digit Dialing (RDD) method is less likely to pick this type of family out.

reflect family structures and marital status (first or second marriage) simultaneously, and province dummies are used to distinguish cross-provincial fixed effects arising from, for instance, differences in childcare policies.

In the GSS questionnaire, the question reflecting the citizenship of respondents is: "Are you now, or have you ever been, a landed immigrant in Canada?" if the answer of respondent is yes, he or she is categorized into the immigrant group (*immigrant)* which takes the value 1 if the respondent belongs to the immigrant group and 0 if not. The question related to being member of a minority group is derived from the response to the following question: " People in Canada come from many racial or cultural groups. You may belong to more than one group on the following list. Are you:..." According to various answers, Statistics Canada investigators categorized respondents into two groups: the visible minority and the non-visible-minority. Non-visible-minority refers to those who are aboriginal, single origin white and multiple origin white/Latin American and white/Arab-West Asian.[5] Otherwise, they belong to the minority group (*minority)* that is a dummy variable that takes on the value of 1 if the respondent belongs to minority group and 0 if not. The dummy for minority immigrants—*minorityimmig*— indicates those individuals who are both immigrants and who also belong to a visible minority group, and it is the focus of my analysis.

It is worth mentioning that the minority immigrant group on which I focus is being compared to everyone else, which includes three distinct groups: group 1—people who are immigrants but who do not belong to a minority; group 2—people who are

[5] The data set did not provide details on the ethnic origin of individuals, only on whether they belonged to the minority group or not. So I only can use the dichotomy provided by investigators to do my research.

minorities but who were born in Canada; group 3 are native-born who do not belong to a minority group. For group 1, they are immigrants probably from Europe and America. Most of them look like just Canadians, and their mother tongue is more likely to be English or French. Their values and norms are similar to native Canadians. For group 2, they have lived in Canada since birth. In the process of growth, they have already been affected by Canadian society, so their behaviours are not so different from natives who are not minorities (Constant and Zimmermann 2008; Glick and Hohmann 2007). Therefore, I can conclude that groups 1 and 2 behave similarly to natives who are not minorities. I thus focus mainly on two groups: the minority immigrants (those with a non-white background who are immigrants) and Canadian-born natives. Citizenship dummies and minority dummies are not included in the main regression that includes the dummy for minority immigrants, because of problems associated with collinearity.

Why might minority immigrants devote different amounts of time to childcare compared with others? First I want to identify from where most of the minority immigrants come. Due to the paucity of data about the exact country of origin in the GSS data set, this analysis can only use time landed in Canada to deduce that people who became landed immigrants during a specific period most probably came from a specific area. In addition, I combine data on landed immigrants with the minority identification in order to further narrow down the "likely" places of origin of this sample. As shown in table 2, since 1991, an increasing number of Asian immigrants have moved to Canada; their percentage share of total immigrants has gone up from 53.83% (1991-1995) to 66.48% (2006 to 2010). China, India and the Philippines are the top three reported

countries of origin. About three-quarters of new immigrants who are minorities come from Asian countries; and hence their behaviours will reflect those associated with Asian cultures. This is one reason why minority immigrants may behave differently towards childcare when compared to others.

It is generally believed that females and married people whose family structure is the couple (first marriage) with common children and the stepfamily with common children are prone to spend more time with children when compared to others (Hill and Stafford 1973; Zick and Bryant 1996; Gauthier et al. 2004; Glick and Hohmann 2007). Also, as the number of children in the household increases, the time spent on childcare becomes longer (Carlin and Flood 1997). The literature is not clear on the impact of other characteristics on time spent with children. For example, for education level, many papers have found that better-educated parents will devote more time in childcare, engaged in numerous physical and educational activities (Leibowitz 1974; Gronau 1977). However, other papers like Early and Burchinal (2001) show that the higher the level of parents' education, the more likely these parents will choose the center-based childcare for the academic competence and the sociability (not to mention because of the lack of time of working parents), and hence the less time devoted towards childcare. Finally, some authors find that there is not much of a relationship between education and time use on childcare (Zaiceva and Zimmermann 2014).

In order to understand better the GSS data set, I calculated mean values of the number of hours spent a day on childcare for individuals with a variety of characteristics, including: family structures, age-range groups, the number of children, the highest

education level of the respondent, and provinces of residence. I separate the sample into two groups: those belonging to our minority immigrants' group and people who do not belong to this group. Furthermore, these two groups are categorized by gender as well. The data are weighted by the person-weights provided by Statistics Canada.[6]

Table 3 presents the means of my variables. Minority immigrants look different than others across a host of factors. For males, the biggest differences appear in the behaviours of individuals who are in the first-marriage family with common children (*couplechild*) (3.4 hours per day vs. 4.1 hours/day), who live in family which there are three or more children (*three+children*) (2.7 vs. 4.7 hours/day), who reside in Ontario (*ON*) (3.1 vs. 4.4 hours/day) while for females, they are shown in those of individuals who are in the first-marriage family with common children (*couplechild)* (7.7 vs. 8.9 hours/day), whose age range from 45 to 54 (*age4554*) (3.6 vs. 6.8 hours/ day), who got a doctorate/master/bachelor degree (*univ*) (7.0 vs. 8.5 hours/day), who reside in Ontario (*ON*) (7.0 vs. 9.1 hours/day), in Manitoba (*MB*) (4.0 vs. 10.4 hours/day) and in Alberta (*AB*) (7.0 vs. 9.7 hours/day). These differences between minority immigrants and others are significant at least at the 10% level. When I compare the magnitude of mean values between minority immigrants and others by gender, most of them (37/50) suggest that minority immigrants spend less time on childcare than do others. When making general comparisons over income, work time for a pay job, work time for a no-pay job and time for looking a job, I see from table 3 that minority immigrants earn much less money (male: 46,531 vs. 62,600 CAD/year; female: 27,575 vs. 35,855 CAD/year) than do others

[6] A person weight is the basic weighting factor for analysis at the person level: a weight is attached to each person. When the person is the unit of observation the person weight should be used (Social and Aboriginal Statistics Division, Statistics Canada 2011a).

and male minority immigrants need significant more time than other males (0.2150 vs. 0.0317 hours/day) to look for a job.

The question motivating this paper is whether, and to what degree, being a minority immigrant influences the amount of time devoted to childcare, *ceteris paribus*. The answer to this question cannot be determined solely by looking at descriptive statistics. I thus turn to employing econometric techniques to examine more carefully the relationship between childcare time use and minority immigrants, *ceteris paribus*.

4. Empirical model

The simplest regression model to use is an Ordinary Least Square (OLS) model, which can be expressed as:

$$T = \beta X + \varepsilon$$

where T is the vector of total time (in hours) spent on childcare in a day by all individuals and X is a matrix of independent variables influencing the amount of childcare hours. β is the vector of estimated parameters and ε is the error term.

However, because I have a number of zero responses to our question of interest (time spent on childcare per day), the OLS is not the appropriate framework and would lead to biased estimates of the coefficients. In particular, regressing the observable variable y_i on the independent variables x_i by OLS, will give an upward-biased estimate of the intercept term and a downwards-biased estimate of the slope coefficients (Tobin 1958). Alternatively, a Tobit model is a better approach as it takes into account the fact that the data are censored at zero (Tobin 1958; Cragg 1971). In fact, I

run both procedures to see the extent to which the results differ – and I find that they do not differ very much at all. Qualitatively the conclusions are identical, as expected (Stewart 2013); moreover, the actual magnitude of the estimated coefficients does not differ very much across the two procedures.

The Tobit regression model is a latent modelling approach, as follows:

$$y_i = \begin{cases} y_i^* & if\ y_i^* > 0 \\ 0 & if\ y_i^* \leq 0 \end{cases}$$

where y_i^* is a latent (i.e. unobservable) variable:

$$y_i^* = \beta x_i + u_i, u_i \sim N(0, \sigma^2)$$

The model assumes that the true value of y_i^* (desired hours of childcare) is unobservable. Rather, I observe the corresponding recorded variable y_i (actual hours of childcare) and vector of independent variables x_i. There is a linear relationship between the latent variable y_i^* and independent variables x_i via the vector of parameters β. The latent variable y_i^* together with observable variable y_i forms a piecewise function which indicates that the observable variable y_i equals to the latent variable if the latent variable is above zero and zero otherwise. Additionally, this model assumes that the error term u_i is independent and normally distributed, which can capture random effects on the corresponding relationship. The β estimated using the Tobit procedure accounts for the combination of the variation in y_i above the limit, weighted by the probability of being above the limit, and the change in the probability of being above the limit, weighted by the expected value of y_i if above (Amemiya 1979).

5. Regression results and discussions

Table 4 presents the results from an OLS linear regression and a Tobit regression for the full-size sample, and for two subsamples (minority immigrants and non-minority-immigrants) using the person weights provided by Statistics Canada for the whole sample. t-statistics are presented in parenthesis, and all estimations use the robust standard error option in order to account for heteroskedasticity in the error structure. The first and second columns present the results of the OLS and Tobit regressions for the full-size sample respectively. Estimators from the regression using the OLS procedure are similar to those using the Tobit model, as suggested by Stewart (2013) and Foster and Kalenkoski (2013). However, consistent with expectations, I find that the estimated intercept term is slightly larger for the OLS results, while the estimated coefficients for the other factors are mostly a bit lower when OLS is employed relative to the Tobit model. That being said there is only a small difference in magnitude between the estimated coefficients of the two models. But considering there is some zero value shown in the data that may lead to biases when using OLS, I focus on results when applying the Tobit model.

5.1 Consistency of my results with previous findings

As expected, gender plays a huge role in the amount of time devoted to childcare. Similar to the results by Hill and Stafford (1980), Zick and Bryant 1996 and Gauthier *et al.* (2004), I find that females spend almost 3.5 hours a day more on childcare than their male counterparts. Regarding the effects of family structure and marital status, I find

that married people whose family structure is the first-marriage family with children spend about 1.5 hours a day more than those who live in a stepfamily without a common child, a figure that is just slightly higher than that found for the hours of day spend in childcare by the stepfamily with common children (1.3 hours/day), again relative to those who live in a stepfamily without a common child. This corroborates the finding by Cooksey and Fondell (1996) that biological relationships between parents and children will affect childcare plan. Carlin and Flood (1997) postulates that if a family consists of reconstructed parents and both common children and stepchildren live together, biological parent will spend a little bit more time (2 or 3 hours a day) on his or her natural children because these children may feel left out by the stepparent. In my sample, some respondents are biological parents and some are stepparents in the stepfamilies. It makes sense that I assume that the increase of time use on childcare from the biological parent slightly exceeds the decrease from stepparent (non-biological one) in the aggregate level. Consequently, the regression results imply that there is a significant difference at 5% level between childcare time between stepfamilies with common children and stepfamilies without a common child.

Looking through the results, I also discover that less and less time is spent on childcare as parents get older, which is contrary to South and Spitze (1994) who report that middle-aged (30-49 years old) people devote more time to childcare. But it makes intuitive sense. As parents grow old, they have accumulated more wealth and can thus afford childcare services in the market. Moreover, as children age, they no longer need as much care by parents. There is also a positive and statistically significant effect on

childcare time as the number of children in the household rises, which is consistent with the findings from Carlin and Flood (1997).

The results display no noticeable pattern when it comes to the impact of education level on the amount of time given to childcare, which is consistent with works by Zaiceva and Zimmermann (2014) but contrary to analyses by Zick and Bryant (1996) that state better-educated parents will spend more time on childcare and by Early and Burchinal (2001) that conclude that high-education parents are more likely to choose center-based care. This kind of disaccord can be attributed to differences in data sets and differences in countries under study.

According to Gauthier *et al.* (2004) using earlier Canadian data, time spent at work has a negative effect on time for childcare. My findings support this result. Specifically, I find that an increase in the number of hours worked for pay per day decreases childcare hours by 0.2 per day and for no pay decreases by 0.5 per day.

The coefficient on income level indicates that people who have a higher level of income spend less time on childcare, which is contrary to the findings of Huston *et al.* (2002) but supports the work of Hirshberg *et al.* 2005 which states that parents with higher level of income tend to choose center-based care, thus reducing the corresponding time required to look after children of their own. More than three quarters of significant results of provincial dummies show that people residing in Quebec spend less time on childcare. This can be attributed to the subsidized the daycare system in Quebec (Dagan 2010; Stalker and Ornstein 2013).

5.2 Childcare arrangement and minority immigrants

It is clear from the estimated coefficient on *minimmigrant* that minority immigrants spend around 1.2 fewer hours a day on childcare than the others, *ceteris paribus*, which is consistent with indications from our descriptive statistics. This coefficient is significant at the 1% level. In order to measure the difference between the minority immigrant group and others in general, and in order to account for the fact that being a minority immigrant may influence the impact of a host of other variables on time spent on childcare, I turn to the results of the regressions when the sample is split into two: minority immigrants (n=297) and others (n=2,168).

The third and fourth columns of the table 4 report the results of the Tobit models for the minority immigrant group and for the other group, respectively. As before, the data are weighted by the person weights, t-statistics are presented in parentheses, and all estimations use the robust standard error option. Considering the magnitude and level of significance for these coefficients, I can argue that huge differences exist across these two groups. Family structure, for instance, has a completely different impact on minority immigrants than on others. Respondents being part of a *couplechild* family and who are minority immigrants would spend about 4.8 more hours a day relative to our reference family (step family without a common child), relative to 1.3 more hours per day for the non-minority-immigrant group. People who belong to a *stepwithchild* family and who also are minority immigrants would spend around 4.9 more hours per day than reference family while for non-minority-immigrant group there is no difference between these two family structures. The similar situations that there is difference in significance

between minority immigrants and non-minority-immigrants appear in the behaviours of dummies for number of children, all the income dummies and dummies for provinces.

From the regression for minority immigrants, the variable—work time for no pay is dropped by STATA because no minority immigrant in my sample is willing to work for no pay. Thus, I conclude that there is an important difference between behaviours of minority immigrants and others.

To look more closely at the impact of being an immigrant and belonging to a minority group, I turn to the estimated coefficients of two dummy variables: *immigrant* and *minority* (as defined in table 1) and find that the correlation between these two groups is, as expected, quite high—0.6658. This means that a considerable portion of the impact of being an immigrant is due to being a minority, and vice versa. As a result, I estimate two other Tobit models: one that includes the dummy variable *immigrant* and the other that includes the dummy variable *minority*. Table 5 shows the results of these two regressions; the first column presents the estimated results for the specification using *immigrant* and the second column uses *minority.* I find that in the first regression, the estimated coefficient on *immigrant* is negative but only statistically significant at the 10% level while in the second regression, the estimated coefficient on *minority* is also negative but with stronger statistical significance. Moreover, the magnitude of the estimated coefficient on *immigrant* is smaller (in absolute value terms) at -0.594 relative to that on *minority* (-0.735). Minorities would spend 0.6 fewer hours a day to take care of children than would non-minorities, *ceteris paribus*, whereas immigrants tend to spend 0.7 fewer hours per day relative to non-immigrants. It would appear that

identifying as belonging to a minority group has about a 20% larger negative impact on childcare hours than is being an immigrant, per se, when it comes to time spent on childcare.

The minority identification has a larger effect on childcare hours when compared to the immigrant identification. This finding is consistent with Miller *et al.* (2013) who show that Asian immigrants are inclined to choose parental care over other options. Combining *minority* with *immigrant* can provide further evidence about behaviours of a specific group. When the regression includes the interaction of *minority* and *immigrant* – *minorityimmig* – I find a much larger reduction in childcare hours for those belonging to this group relative to belonging to either the immigrant only or the ethnic only group (-0.594 (*immigrant*), -0.735 (*minority*) vs. -1.191 (*minorityimmig*) hours/day). Like I stated before, most of the minority immigrants are more likely to be Asians, so these childcare behaviours could be attached to Asian attributes, which helps to explain why there is such an obvious distinction between minority immigrants and others.

In consideration of the small size of the sample, my regression results may not be credible enough to conclude that there are some differences in the behaviours of the minority immigrants and others when it comes to time spent on childcare. In order to test the reliability of the inferences arising from the estimations from the main sample, I use a random sampling method to shrink the sample to a quarter of its size, to half its size and to three-quarters of its size and do the same Tobit regressions based on these three subsamples.[7] This method is introduced in the analysis of Zhao and Wang (2009)

[7] In this process, I use the STATA command "sample [number], count" to pick the sample randomly.

about "Fractional factorial designs" and in that of Jönsson (2011) about "size of test". Table 6, first, second and third columns, report the estimated coefficients for these three subsamples respectively. Comparing the estimators of these three columns to those of the second column of table 4 (full sample), I see only small differences in the magnitude of the estimated coefficients on *minorityimmig*: -1.190, -1.115, -1.072 and -1.191, respectively for quarter, half, three-quarter and full size sample. The main difference is that the estimated coefficient is statistically insignificant for the quarter sample, likely due to the sample size. Most of the estimated coefficients for the other variables are consistent in sign across these three subsamples relative to the full sample, but the magnitudes are different. Some of the biggest differences are found in the estimated coefficients on education level. Generally speaking, the estimated impact of the variable of interest, *minorityimmig*, on childcare hours is robust.

6. Discussion: why minority immigrants behave differently?

Taken into account the fact that most of the minority immigrants are more likely to be Asian immigrants, some particularities of Asian immigrants and family structure may help explain the reduction of childcare time spent by the minority immigrant group relative to others. Generally speaking, caring for and teaching children is considered by Asian parents to be a serious responsibility, as Confucian values have permeated the Asian culture for thousands of years (Unger 1993; Cardia and Ng 2003). Based on this point, it seems like that minority immigrants would spend more time on childcare. But the opposite seems to hold true. However, as Cardia and Ng (2003) demonstrated, the

intergenerational transfers of time or money from grandparents or other family members will reduce childcare loads of parents; Siow (2011) shows that the proximity of grandparents and other kin makes this kind of transfers easier and thus further lessens the time spend on childcare by parents.

However, in reality, grandparents and other relatives may not be available to immigrants, especially if they are newly arrived. A large number of parents have to care for children on their own and therefore have to juggle time spent on children and the obligation to work for money. Moreover, many immigrants lack the requisite experience and education to qualify for high paying jobs in their host country and as a result they tend to work more hours in order to meet the demands of life (Lie 2006). In a similar vein, immigrants may be highly qualified from their home country, but arrive in Canada and face problems having their qualifications recognized (Milot, 2012). As such, the drive to carve out a better life means that the children of immigrants may have to do with less parental time than those of other individuals. It is even not unheard of that children are left home alone in Asian immigrant families (Lie 2006).

However, not all immigrants arrive here without economic means. Some specific cohorts of immigrants are wealthy and move to a developed country mainly in search of a better environment for their children. Recent Statistics Canada data tell us something about the size of this "economic immigrant" cohort. In 2010, the number of economic immigrants from Asia was 96,289 – constituting 51.53% of all such immigrants. It is also the case that economic immigrants make up roughly 66.59% among all immigrants.[8]

[8] Source: Citizenship and Immigration Canada, Statistics Canada. (2012). Canada Facts and Figures, Immigration

Taken together, this means that a substantial number of immigrants, especially of the more recent Asian ones, are relatively affluent and hence more willing to purchase childcare in the market.

In Canada, several policies are geared towards helping the economically disadvantaged individual deal with the expenses associated with raising children. As discussed by Cleveland *et al.* (2008), subsidized daycare spots exist on a cost-shared basis between the federal government and the provinces/territories (in Ontario, municipalities are responsible for 20 percent of the total); Quebec has generous subsidies that are mostly independent of family means; Child Care Expense Deductions (CCED) are supposed to help defray childcare costs, the maternity and parental leave and benefits, and the provision of universal and free kindergarten for age-eligible children constitute important aspects of childcare policies. Advocates point to the generous childcare daycare policy in Quebec as an excuse to extend early education (Kottelenberg and Lehrer 2013). Even though all these policies are aimed at low-income families rather than immigrants exclusively, immigrants who often belong to the disadvantaged group when they first arrive will certainly benefit from these measures. However, there is still a desperate need for policies aimed at the vulnerable minority immigrant group.

7. Conclusions

Two recent trends – the fall in time spent by parents on childcare and the increase in minority immigrants (Asian immigrants) – have led me to examine how this group

behaves towards childcare. Some studies have suggested that immigrants behave differently in the childcare plan relative to native borns, which further suggests that minority immigrants will spend different amounts of time on childcare, ceteris paribus. Using data from GSS (2010), I regress daily hours on childcare on a variety of variables, and I find that gender, family structure, age, income level and place of residence have some effects on the time devoted to childcare. Descriptive statistics and regression results demonstrate that minority immigrants devote less time to childcare.

Conducting some robustness tests, and including different indicators of whether the individual is an immigrant or whether he or she considers themselves to be belonging to an ethnic group, I find that belonging to a minority group has a larger effect on time spent on childcare relative to being an immigrant. Interacting *minority* with *immigrant* allows me to look at this specific part of the population. Some characteristics of Asians can explain why minority immigrants might spend less time on childcare. Firstly, in the face of discrimination and prejudice, this group of people has to strive harder in the labour market in order to succeed in life. Secondly, some of the more recent immigrants arrive with abundant wealth and hence may find it convenient to purchase childcare services. Thirdly, childcare policies aimed at low-income families may benefit some of the more disadvantaged minority-immigrant group. Finally, the educational level of immigrants may be undervalued in the Canadian market hence necessitating a greater than otherwise investment of time in this market.

Although I used the best available data set for the questions addressed in my paper, the data were not without limitations. Largely, it would have been very useful to know

exactly the ethnicity of the respondents, rather than simply that they belonged to a minority. The interviews were done by telephone, and hence possibly underrepresent immigrants with weak language skills, even though Statistics Canada took measures to try to avoid such a situation.

The data set did not allow me to look at questions dealing with the preferences of parents for different types of childcare services. It would have been beneficial to be able to look at this question at the same time as analyzing time spent on care at home. On a similar note, the GSS did not provide information on time spent with children by another family member – again information that would have enriched my analysis. More and better data would lead to a richer analysis.

Nevertheless, I was able to look at how being a member of a minority group and an immigrant affected time spent on childcare. By and large, these individuals spent less time on childcare relative to others, and I have suggested several reasons why this is the case.

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9. Tables

Table 1
Definitions of variables used in the analysis

Dependent variable	**Definition**
time	Average hours respondent spend looking after one or more of the children per day
Independent variables	**Definition**
female	Binary variable, 1 if respondent is female, 0 if male
stepwithoutchild(reference)	Lives in a stepfamily without a common child (but with children).
stepwithchild	Lives in a stepfamily with common children.
couplechild	Lives in a first-marriage family with common children
age1524 (reference)	Age from 15 to 24
age2534	Age from 25 to 34
age3544	Age from 35 to 44
age4554	Age from 45 to 54
onechild (reference)	One child (age 0 -14) in the household
twochildren	Two child (age 0 -14) in the household
three+children	Three or more child (age 0 -14) in the household
lesshigh (reference)	Highest education level is Some secondary/elementary/no schooling
high	Highest education level is high school or equivalent
somePS	Highest education level attended some university/community college/CEGEP/nursing or some trade/technical but did not get a proof of qualification
diploma	Highest education level got a diploma/certificate from community college or trade/technical school
univ	Highest education level got a doctorate/master/bachelor degree
worktimepay	Total duration (hours/day) for work for pay at the main job+ total duration (hours/day) for work for pay at other jobs+ Total duration (hours/day) for overtime work
wortimenopay	Total duration (hours/day) for unpaid work in a family business/farm
worktimelooking	Total duration (hours/day) for looking for work
noincome(reference)	No income per year
incless5k	Income is $5,000 or less per year
inc5-10k	Income ranges from $5,000 to $9,999 per year
inc10-15k	Income ranges from $10,000 to $14,999 per year
inc15-20k	Income ranges from $15,000 to $19,999 per year

inc20-30k	Income ranges from $20,000 to $29,999 per year
inc30-40k	Income ranges from $30,000 to $39,999 per year
inc40-50k	Income ranges from $40,000 to $49,999 per year
inc50-60k	Income ranges from $50,000 to $59,999 per year
inc60-80k	Income ranges from $60,000 to $79,999 per year
inc80-100k	Income ranges from $80,000 to $89,999 per year
incmore100k	Income is $100,000 or more per year
QC (reference)	Resides in Quebec
NL	Resides in Newfoundland and Labrador
PE	Resides in Prince Edward Island
NS	Resides in Nova Scotia
NB	Resides in New Brunswick
ON	Resides in Ontario
MB	Resides in Manitoba
SK	Resides in Saskatchewan
AB	Resides in Alberta
BC	Resides in British Columbia
minorityimmig	Interaction term and binary variable, 1 if has or had landed immigrant status in Canada and also belongs to the visible minority, 0 otherwise
immigrant	Binary variable, 1 if respondent has or had landed immigrant status, 0 if not
minority	Binary variable, 1 if respondent belongs to the minority group, 0 if not

Note:
The main job refers to a job that provides the main income and occupies most of work time of the respondent relative to other jobs.
In the interview, personal income refers to the income from main source such as wage, salaries and worker compensation but do not include capital gains/losses or withdrawals from a pension plan or RRSP.

Table 2

Immigrant populations in Canada by region of origin and period of immigration

Place of birth	Total–Immigrant population (number)	Period of immigration				
		Before 1991	1991 to 1995	1996 to 2000	2001 to 2005	2006 to 2010
Total - place of birth	**6,186,950**	**3,408,415**	**823,925**	**844,625**	**728,972**	**973,752**
Asian	**2,348,770**	**822,070 (24.12%)**	**443,505 (53.83%)**	**478,990 (56.71%)**	**468,099 (64.21%)**	**647,390 (66.48%)**
China, People's Republic of	466,940	133,910 (16.29%)	69,635 (15.70%)	108,285 (22.61%)	122,027 (26.07%)	148,674 (22.97%)
India	443,690	156,830 (19.08%)	67,825 (15.29%)	89,890 (18.77%)	98,394 (21.02%)	137,710 (21.27%)
Philippines	303,195	107,765 (13.11%)	65,485 (14.77%)	52,060 (10.8%)	60,162 (12.85%)	124,369 (19.21%)
Hong Kong, Special Administrative Region	215,430	107,925	66,570	33,505	5,941	5,658
Viet Nam	160,170	107,760	31,005	10,860	7,424	11,447
Pakistan	133,280	19,760	14,740	41,150	45,301	41,124
Sri Lanka	105,670	24,695	35,390	23,280	17,815	16,893
Korea, South	98,395	26,500	13,250	23,195	29,272	30693
Iran	92,090	24,285	15,535	24,665	20,527	32625
Lebanon	75,275	41,320	15,790	6,815	8,065	14038
Taiwan	65,205	12,670	17,240	24,575	7,892	13876
Afghanistan	36,165	4,215	5,390	10,320	13,688	9681
Iraq	33,545	6,420	8,210	8,930	9,003	14260
Bangladesh	33,230	4,325	5,215	10,140	9,707	15507
Malaysia	21,885	14,305	3,780	1,680	1,503	3563
Japan	21,705	9,330	2,535	4,000	4,468	6839
Turkey	21,580	8,165	3,755	3,315	4,652	7500
Israel	21,320	11,890	2,155	2,325	2,258	12933
European	**2,129,150**	**1,680,540**	**152,560**	**143,805**	**121,880**	**165,078**
United Kingdom	579,620	515,135	20,630	18,200	19,114	42976
Italy	296,850	289,820	2,540	2,225	1,849	2607
Germany	171,405	149,020	6,155	8,595	4,605	16913
Poland	170,490	123,435	32,655	7,905	5,304	5239
Portugal	150,390	136,945	7,795	2,700	2,544	2677
Netherlands	111,990	102,415	2,555	3,365	2,768	3961
Romania	82,645	22,560	15,400	16,605	23,687	14756
France	79,550	44,685	7,815	9,860	12,270	31057
Greece	73,125	69,385	1,715	970	912	1016
Trinidad-Tobago	65,540	43,755	11,545	6,165	3,271	4869

Russian Federation	64,130	12,995	8,290	21,715	18,276	13266
Ukraine	59,460	23,180	6,910	13,975	13,520	11321
Hungary	45,940	39,080	2,335	1,970	2,019	2029
Croatia	39,250	28,275	4,145	5,170	1,576	428
Bosnia-Herzegovina	28,730	3,335	10,615	12,175	2,357	1101
Serbia-Montenegro	25,465	7,215	6,415	7,185	3,966	2117
Ireland (Eire)	22,370	20,340	820	485	411	2406
Czech Republic	22,030	18,580	1,190	1,145	951	741
Belgium	20,215	16,625	875	1,215	1,070	2930
Switzerland	19,955	13,760	2,160	2,180	1,410	2668
America	**704,935**	**424,065**	**90,230**	**72,060**	**92,028**	**134,303**
United States	250,535	168,840	18,770	24,155	27,827	51576
Jamaica	123,420	84,345	18,355	11,285	7,744	10794
Guyana	87,195	57,525	14,815	7,575	6,012	5675
Haiti	63,350	34,400	10,860	7,400	9,040	12410
Mexico	49,925	18,950	5,965	8,485	13,690	15855
El Salvador	42,780	25,180	11,920	2,810	2,449	4037
Colombia	39,145	6,995	1,605	5,240	19,492	24677
Chile	26,505	19,375	2,920	1,890	1,873	2104
Peru	22,080	8,455	5,020	3,220	3,901	7175
Africa	**231,660**	**96,005**	**35,355**	**39,145**	**46,965**	**26,981**
Egypt	40,575	21,975	5,990	5,740	5,224	1651
Morocco	39,055	14,460	3,555	6,240	11,691	3109
South Africa, Republic of	38,305	19,225	5,450	7,105	5,258	1267
Algeria	32,255	3,615	3,165	9,245	11,722	4513
Kenya	22,475	13,600	2,675	1,925	3,462	3082
Tanzania, United Republic of	19,765	14,430	2,055	1,345	1,636	1047
Ethiopia	19,715	5,460	4,425	3,180	5,003	7502
Somalia	19,515	3,240	8,040	4,365	2,969	4810

Source: Citizenship and Immigration Canada, Statistics Canada (2012), Census of Population and Canada Facts And Figures, Immigration Overview Permanent and Temporary Residents, 2011.
http://www.cic.gc.ca/english/resources/statistics/facts2011/permanent/index.asp

Note:

Immigrants are persons who are, or have ever been, landed immigrants in Canada. A landed immigrant is a person who has been granted the right to live in Canada permanently by immigration authorities. Some immigrants have resided in Canada for a number of years, while others are more recent arrivals. Most immigrants are born outside Canada, but a small number were born in Canada. Includes immigrants who landed in Canada prior to Census Day, May 16, 2006.

The official name of Viet Nam is the Socialist Republic of Vietnam.

The official name of Korea, South is the Republic of Korea.

The official name of Iran is Islamic Republic of Iran.

The official name of United Kingdom is the United Kingdom of Great Britain and Northern Ireland.

Table 3

Data statistics of average time use on childcare with the person weight by relative characteristic groups

Characteristic groups (hours/day)	minorityimmig =1		minorityimmig =0	
	Male (n=100)	Female (n=119)	Male (n=1011)	Female (n=1235)
couplechild	3.43*	7.73+	4.12	8.86
stepwithchild	3.35	12.76	5.62	9.49
stepwithoutchild	1.24	5.78^	3.40	6.85
age1524	3.43	(.)	8.00	9.95
age2534	4.53	10.91	4.60	10.32
age3544	3.47	7.14	4.23	8.11
age4554	2.50	3.64++	3.20	6.83
onechild	2.96	6.63	3.61	7.76
twochildren	4.04	8.08	4.61	8.99
three+children	2.68*	10.93	4.66	11.17
lesshigh (reference)	2.08	12.96	5.66	7.69
high	3.30	9.11	4.39	9.95
somePS	2.33	7.43	3.89	10.10
diploma	3.69	8.81	4.07	8.55
univ	3.53	6.98++	3.98	8.45
QC	4.02	8.22	3.94	7.18
NL	1.43^	5.79	3.92	9.22
PE	5.12^	6.29^	4.95	8.57
NS	5.00^	10.40	3.29	8.53
NB	2.11	5.15	5.06	8.08
ON	3.10**	7.00+++	4.39	9.07
MB	3.28	4.03+++	3.39	10.38
SK	5.25	6.57	4.07	9.36
AB	3.34	6.98+	4.05	9.66
BC	4.02	10.67	4.47	9.81
income (CAD/year)	46531***	27575+++	62600	35855
worktimepay (hours/day)	5.14	2.70	5.21	2.84
worktimenopay (hours/day)	0	0	0.0624	0.1109
worktimelooking (hours/day)	0.2150***	0	0.0317	0.0206

***, **, * (+++, ++, +) indicates that the mean value for minority immigrant (*minorityimmig*= 1) men (women) is statistically different from the mean value for Not minority immigrant (*minorityimmig*= 0) men (men) at the 1, 5 and 10 per cent level, respectively.

(.) means there is no data for this calculation.

^ means there is only one observation for this calculation, so it may be inconvincible.

Note:

In the process of income calculation, I use midpoint value of each range for each respondent because I only know which income range the respondent belongs to. So the results of this row are just rough estimators and show a rough comparison.

Table 4

Estimated impacts of minority immigrants on full sample (n=2402) and subsamples (with the sampling weight (person weight) and the robust option)

variables	OLS	Tobit		
		fullsize	minorityimmig=1	minorityimmig=0
		time		
female	3.440***	3.551***	2.758***	3.492***
	(16.13)	(15.72)	(4.77)	(14.47)
couplechild	1.387***	1.463***	4.761***	1.336***
	(3.52)	(3.44)	(4.50)	(2.97)
stepwithchild	1.225**	1.285**	4.888***	0.963
	(1.97)	(1.98)	(2.67)	(1.41)
age2534	-0.787	-0.766	2.190	-0.716
	(-0.96)	(-0.90)	(1.18)	(-0.78)
age3544	-1.953**	-1.981**	-1.097	-1.716*
	(-2.40)	(-2.32)	(-0.70)	(-1.83)
age4554	-2.999***	-3.102***	-2.953*	-2.715***
	(-3.65)	(-3.60)	(-1.85)	(-2.87)
twochildren	0.997***	1.093***	0.900	1.082***
	(4.43)	(4.63)	(1.41)	(4.43)
three+children	1.743***	1.854***	1.514	1.942***
	(5.24)	(5.31)	(1.55)	(5.35)
high	0.00133	-0.0302	-0.815	0.205
	(0.00)	(-0.06)	(-0.51)	(0.41)
somePS	-0.0913	-0.139	0.0123	-0.0357
	(-0.20)	(-0.29)	(0.01)	(-0.07)
diploma	0.0839	0.107	-2.782*	0.510
	(0.16)	(0.20)	(-1.63)	(0.93)
univ	0.216	0.184	0.159	0.284
	(0.40)	(0.32)	(0.09)	(0.47)
worktimepay	-0.206***	-0.215***	-0.171***	-0.224***
	(-9.37)	(-9.01)	(-2.82)	(-8.76)
worktimenopay	-0.529***	-0.529***	0	-0.539***
	(-2.72)	(-2.72)	(.)	(-2.58)
worktimelooking	-0.0723	-0.0618	-0.0938	0.220
	(-0.24)	(-0.21)	(-0.60)	(0.40)
Incless5k	-1.475**	-1.432*	-0.124	-1.780**
	(-2.03)	(-1.92)	(-0.07)	(-2.16)
Inc5-10k	-0.767	-0.762	-4.900***	-0.701
	(-1.02)	(-0.97)	(-3.25)	(-0.85)
Inc10-15k	-1.363*	-1.360*	-1.624	-1.652**
	(-1.90)	(-1.79)	(-0.96)	(-2.00)
inc15-20k	-1.000	-0.957	2.505	-1.983**
	(-1.01)	(-0.93)	(0.82)	(-2.55)

Inc20-30k	-1.713***	-1.692***	-1.790*	-1.926***
	(-3.03)	(-2.80)	(-1.62)	(-2.81)
Inc30-40k	-1.868***	-1.789***	-1.522	-2.015***
	(-3.43)	(-3.14)	(-1.32)	(-3.22)
inc40-50k	-1.950***	-1.904***	-1.368	-2.223***
	(-3.83)	(-3.54)	(-1.15)	(-3.83)
inc50-60k	-2.363***	-2.338***	-0.657	-2.766***
	(-4.51)	(-4.21)	(-0.60)	(-4.58)
inc60-80k	-2.298***	-2.272***	-0.275	-2.831***
	(-4.56)	(-4.25)	(-0.22)	(-4.99)
inc80-100k	-2.053***	-2.059***	-0.766	-2.556***
	(-3.78)	(-3.57)	(-0.40)	(-4.19)
incmore100k	-2.435***	-2.421***	-1.790	-2.903***
	(-4.54)	(-4.24)	(-1.49)	(-4.77)
NL	0.905**	0.742	-1.345	0.968**
	(2.14)	(1.56)	(-0.92)	(2.07)
PE	1.007*	1.020*	1.472	1.080**
	(1.88)	(1.85)	(0.56)	(1.97)
NS	0.747*	0.623	0.458	0.800*
	(1.84)	(1.40)	(0.15)	(1.81)
NB	0.736*	0.685	-1.867	0.910*
	(1.67)	(1.47)	(-1.16)	(1.95)
ON	1.061***	1.020***	-1.429	1.322***
	(3.53)	(3.26)	(-1.17)	(4.40)
MB	0.902**	0.788*	-2.954	1.264***
	(2.10)	(1.69)	(-1.26)	(3.20)
SK	0.889**	0.801*	-2.542	1.017**
	(2.08)	(1.75)	(-1.31)	(2.19)
AB	0.932**	0.874**	-1.422	1.233***
	(2.34)	(2.09)	(-1.06)	(2.95)
BC	1.763***	1.692***	1.264	1.627***
	(4.63)	(4.24)	(0.95)	(4.14)
minorityimmig	-1.143***	-1.191***		
	(-2.98)	(-2.91)		
N	2402	2402	284	2118

t statistics in parentheses

* p < 0.10, ** p < 0.05, *** p < 0.01

Note:

The number of recent minority immigrants who work for no pay is not enough to get a regression estimator.

STATA drops variables that are missing which is why the number of observations for the regression does not match the number of observations for the descriptive statistics. Besides, due to the small sample of the minority immigrant group, inferences from estimators of this group are only treated as some clues to induce attributes of behaviours of minority immigrants and probably not enough convincible.

Table 5

Tobit model results about childcare time use on relative variables replacing *minimmgrant* with *immigrant* and *minority* respectively

variables	with immigrant	with minority
	time	
female	3.596***	3.575***
	(15.94)	(15.84)
couplechild	1.445***	1.452***
	(3.38)	(3.40)
stepwithchild	1.270*	1.266*
	(1.94)	(1.94)
age2534	-0.740	-0.746
	(-0.87)	(-0.88)
age3544	-1.957**	-1.985**
	(-2.31)	(-2.34)
age4554	-3.097***	-3.131***
	(-3.61)	(-3.65)
twochildren	1.068***	1.082***
	(4.54)	(4.59)
three+children	1.838***	1.852***
	(5.27)	(5.31)
high	-0.158	-0.0940
	(-0.32)	(-0.19)
somePS	-0.184	-0.141
	(-0.37)	(-0.29)
diploma	0.0651	0.109
	(0.12)	(0.20)
univ	0.113	0.156
	(0.20)	(0.27)
worktimepay	-0.217***	-0.216***
	(-9.11)	(-9.06)
worktimenopay	-0.503***	-0.504***
	(-2.69)	(-2.62)
worktimelooking	-0.0860	-0.0795
	(-0.28)	(-0.26)
incless5k	-1.355*	-1.433*
	(-1.78)	(-1.91)
inc5-10k	-0.666	-0.724
	(-0.84)	(-0.91)
inc10-15k	-1.292*	-1.352*
	(-1.69)	(-1.77)
inc15-20k	-0.939	-0.964
	(-0.92)	(-0.94)

inc20-30k	-1.685***	-1.700***
	(-2.76)	(-2.80)
inc30-40k	-1.768***	-1.785***
	(-3.07)	(-3.11)
inc40-50k	-1.850***	-1.894***
	(-3.40)	(-3.49)
inc50-60k	-2.243***	-2.275***
	(-4.01)	(-4.08)
inc60-80k	-2.140***	-2.190***
	(-3.98)	(-4.10)
inc80-100k	-1.907***	-1.942***
	(-3.30)	(-3.38)
incmore100k	-2.246***	-2.346***
	(-3.92)	(-4.11)
NL	0.751	0.766
	(1.58)	(1.61)
PE	1.033*	1.040*
	(1.88)	(1.89)
NS	0.669	0.671
	(1.49)	(1.50)
NB	0.712	0.718
	(1.51)	(1.54)
ON	0.978***	0.998**
	(3.14)	(3.18)
MB	0.798*	0.778*
	(1.68)	(1.65)
SK	0.784*	0.803*
	(1.72)	(1.76)
AB	0.835**	0.873**
	(2.01)	(2.07)
BC	1.660***	1.707***
	(4.19)	(4.24)
immigrant	-0.594*	
	(-1.84)	
minority		-0.735**
		(-2.03)
N	2402	2402

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6

Tobit model results about childcare time use on relative variables based on the quarter size, half size and three-quarter-size sample

variables	with quarter size	with half size	with three-quarter size
	time		
female	3.077***	3.593***	3.456***
	(6.17)	(10.80)	(13.31)
couplechild	1.679**	1.068	1.391***
	(2.21)	(1.59)	(2.84)
stepwithchild	0.640	1.056	0.833
	(0.51)	(1.06)	(1.10)
age2534	0.675	-0.892	-0.651
	(0.32)	(-0.57)	(-0.67)
age3544	-0.503	-2.126	-2.003**
	(-0.24)	(-1.37)	(-2.06)
age4554	-1.312	-3.490**	-2.938***
	(-0.64)	(-2.29)	(-2.98)
twochildren	0.512	1.085***	1.035***
	(1.12)	(3.16)	(3.64)
three+children	1.536**	1.532***	2.046***
	(2.25)	(2.83)	(5.16)
high	0.306	-0.0621	0.136
	(0.26)	(-0.08)	(0.25)
somePS	0.257	0.259	0.0833
	(0.21)	(0.34)	(0.15)
diploma	-0.146	0.509	0.263
	(-0.12)	(0.63)	(0.43)
univ	0.969	0.396	0.246
	(0.70)	(0.44)	(0.38)
worktimepay	-0.197***	-0.228***	-0.225***
	(-3.70)	(-6.54)	(-7.82)
worktimenopay	-0.589***	-1.152***	-0.669***
	(-3.78)	(-2.94)	(-3.37)
worktimelooking	-0.909***	0.119	-0.629***
	(-3.78)	(0.26)	(-4.27)
inclless5k	1.205	-1.193	-1.428*
	(0.95)	(-1.01)	(-1.78)
inc5-10k	0.114	-0.989	-0.830
	(0.08)	(-1.01)	(-1.07)
inc10-15k	-0.722	-2.007*	-1.505*
	(-0.47)	(-1.90)	(-1.73)
inc15-20k	1.891	-1.267	-0.588
	(0.71)	(-0.81)	(-0.51)
inc20-30k	-0.984	-2.370***	-1.695**

	(-0.83)	(-3.04)	(-2.43)
inc30-40k	-2.272**	-1.688**	-2.074***
	(-2.32)	(-2.06)	(-3.39)
inc40-50k	-1.768*	-2.100***	-1.777***
	(-1.73)	(-2.87)	(-3.01)
inc50-60k	-2.935***	-2.818***	-2.548***
	(-2.73)	(-3.90)	(-4.29)
inc60-80k	-2.322**	-2.776***	-2.205***
	(-2.32)	(-3.79)	(-3.78)
inc80-100k	-1.461	-2.387***	-1.811***
	(-1.25)	(-2.97)	(-2.81)
incmore100k	-2.595**	-2.473***	-2.417***
	(-2.43)	(-2.95)	(-3.88)
NL	-0.162	0.257	0.822
	(-0.19)	(0.37)	(1.55)
PE	-0.429	0.00365	1.152*
	(-0.39)	(0.00)	(1.71)
NS	-0.197	0.304	0.524
	(-0.21)	(0.48)	(1.07)
NB	-0.569	0.424	0.936*
	(-0.57)	(0.65)	(1.69)
ON	0.726	0.881*	1.117***
	(1.07)	(1.74)	(3.12)
MB	0.322	0.114	0.986**
	(0.25)	(0.15)	(2.11)
SK	0.419	0.633	1.064*
	(0.44)	(1.09)	(1.95)
AB	-0.316	0.469	1.068**
	(-0.39)	(0.72)	(2.12)
BC	2.106**	1.749***	1.954***
	(2.53)	(2.97)	(4.31)
minorityimmig	-1.190	-1.115*	-1.072**
	(-1.34)	(-1.81)	(-2.19)
N	600	1202	1796

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$