Pre- and Post-Migration Labour Market Integration of Women from Middle Eastern and North African (MENA) Countries: Canadian Evidence

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Abstract

Using the Longitudinal Survey of Immigrants to Canada (LSIC) and the linked LSIC-Longitudinal Immigration Database (IMDB), this study finds that of all immigrant women in Canada, those from the Middle East and North Africa (MENA) region have the lowest labour participation rate. After controlling for various socioeconomic factors and employing logistic regressions on multiple rounds of the LSIC and LSIC-IMDB datasets, this study claims that patriarchal gender roles may have survived for MENA women even after a few years of living in Canada, resulting in relatively low labour force participation.

Keywords: Female labour force participation; immigrant; Canada; Middle East and North Africa (MENA); labour market; migration; gender; culture

JEL Codes: J15; J16; J61; O15; F22; R23; B54

1. Introduction

As a combined region,[2] the Middle East and North Africa (MENA) has the lowest rate of female labour force participation (FLFP) in the world (World Bank, 2011a; ILO, 2012; OECD, 2012; World Economic Forum, 2015; El-Swais, 2016). Yet at the same time, women in MENA have some of the highest levels of education in the developing world (World Bank, 2011b; Majbouri, 2016). Scholars such as Solati (2017) argue that patriarchal culture and patriarchal institutions are the main reasons why the FLFP rate (FLFPR) is low in MENA countries, despite the region experiencing a remarkable improvement in education for females, a significant decline in the birth rate, and an increasing average age of first marriage for women. This deep-rooted patriarchal culture has influenced labour, civil, and family laws in the MENA region to the disadvantage of women, affecting the supply of and demand for women's paid work in the formal labour market, often limiting women to the private sphere (Solati, 2017; see also Moghadam, 2003; Offenhauer, 2005; Haghighat-Sordellini, 2010; İlkkaracan, 2012; Hayo and Tabias, 2013).

The population living in the MENA region is not at all homogeneous. However, when it comes to gender roles and women's participation in the labour market, the similarities across countries and nationalities are compelling. Caldwell (1982), Moghadam (2003), and Offenhauer (2005) all point to deep-rooted patriarchal culture as the unique and unifying feature of MENA countries, cutting across borders, ethnicities, religions, and classes. The MENA region is located

[2] Countries in the MENA region considered in this study are Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, Turkey, and United Arab Emirates. A MENA country in this study is defined as being geographically located in the Middle East or North Africa. However, we have excluded a few of the eighteen countries that international organizations such as the World Bank consider to be part of MENA. For example, Israel, which is not a developing country, is not relevant to our focus on immigrants from developing MENA countries. We have also excluded Palestine and Syria due to their lack of available necessary data.

in what Caldwell (1978) calls the Patriarchal Belt. The patriarchal belt includes East Asia, Central Asia, South Asia, the Middle East (including Turkey) and North Africa, the same geographical area described by Kandiyoti (1988) as Classic Patriarchy. The classic patriarchy is mainly characterized by the strict sexual division of labour, low status of women, son preference, and low participation rate of women in public spheres (Solati, 2017). According to Kandiyohi, patriarchal culture in the patriarchal belt entails "forms of control and subordination that cut across cultural and religious boundaries" (Kandiyoti, 1988, p. 278). However, according to Moghadam (2003) and Solati (2017), the MENA countries, on average, experience even a more severe form of patriarchy compared to other countries on the patriarchal belt, particularly when it comes to women participating in public spheres and access to the means of production.

Moghdam (2002) describes the MENA region by "patriarchal gender contract" in which male is the breadwinner and female is the dependent homemaker. The patriarchal gender contract is deeply rooted in the MENA region overall, and in many countries of this region, the patriarchal gender roles are integrated into law (family and labour law). In MENA, "in exchange for subordinate status and unequal access to resources, the woman is entitled, according to the 'patriarchal bargain', to maintenance and protection" (Offenhauer 2005, 57-58). Women in general are required to have permission from their fathers and husbands for education, employment, and starting a business (Solati 2017). According to Offenhauer (2005), even if families do not have traditional patriarchal structure, they are instead a modernized version of an inegalitarian household with inegalitarian family structure which is still quite patriarchal.

In recent decades, Canada has become one of the main destinations for international migration. Fifty-nine percent of female immigrants who landed in Canada between 1991 and 2000 reported the Middle East or Asia as their birthplace, a figure that is relatively consistent for those

who landed in more recent years (Hudon, 2015). Based on 2006 census data, 41% of female immigrants in Canada were born in Middle Eastern or Asian countries. A significant number of these immigrants are highly educated (World Bank, 2008; Hou and Picot, 2016). According to the 2011 Canadian census, the majority of visible minorities in Canada are women (Hudon, 2016). More than two-thirds of visible minority females are immigrants, and a large portion of these immigrants were born in MENA countries. The flow of immigrant women from MENA countries has increased tremendously over time. According to Statistics Canada (2017), the number of MENA women who arrived in Canada between 1981 and 1990 was 72,950. This number soared to 184,325 between 2011 and 2015.

Despite a huge inflow of female immigrants from MENA countries, no existing studies examine whether female immigrants from MENA countries continue to be under-represented in labour force participation in Canada, where institutions and access to the public sphere are significantly different than their home countries. Focusing on US immigrants, Read (2004a) claims that the female labour force participation rate (FLFPR) of immigrants who have migrated from Arab countries is the lowest, while the FLFPR of native-born Arab-Americans is similar to that of US-born white women. Frank and Hou (2015) examine both the earnings profiles of immigrant women in Canada and the FLFPR in their source countries and claim that women from high-FLFPR countries are more likely to work in higher-paying industries or occupations upon their arrival in Canada.

We intend to address the gaps in the literature by examining how female immigrants from MENA countries are integrating into the Canadian economy. Although various socio-economic and cultural factors can influence FLFPR (Contreras and Plaza, 2010), women's participation in the Canadian labour market consistently improves their families' economic well-being and

contributes tremendously to Canadian gross domestic product. From a feminist perspective, women's access to the labour market is extremely important, as economic power and financial independence are major sources of empowerment for women (Blumberg, 1984; Sen, 1999; Nussbaum, 2000). Economic power that is linked to paid work is considered to be the most important predictor of women's well-being and status (Blumberg, 1984; Sen, 1999; Kabeer, 2013).

The availability of the Longitudinal Survey of Immigrants to Canada (LSIC) by Statistics Canada allows us to compare the FLFPR of different groups of immigrants. Immigrants in the LSIC were interviewed three times: six months, two years, and four years after their arrival. Due to high attrition rates, we are unable to use all three waves. Rather, we link Wave 1 of LSIC with the Longitudinal Immigration Database (IMDB) and trace the same immigrants in 2005, 2010, and 2015. Using the LSIC Wave 1 and linked LSIC-IMDB data, we examine a series of questions. First, how does the FLFPR vary among groups of immigrants in Canada from different regions (e.g., MENA, Asia, Sub-Saharan Africa, Central and South America, North America, and Europe)? Second, how does the FLFPR of MENA women change over time? Third, what socio-economic factors influence immigrants' participation in the labour force? Fourth, what are the possible reasons for variation in the FLFPR of immigrants from MENA countries compared to other regions? Do the deep-rooted cultural norms of the region survive over time and continue influencing MENA immigrants several years after their arrival in Canada? Our findings assert that female immigrants from MENA countries increase their FLFPR after arrival in Canada. However, their rate of participation is still much lower than that of female immigrants from other regions. We echo existing studies in finding that deep-rooted cultural behaviors have still carried forward for immigrant women from MENA countries, even when they live within significantly different

cultures and institutions. However, the FLFPR increases with the length of these immigrants' residence in Canada.

This study contributes to the existing literature in the following ways: First, it is the first study to examine the difference between LFPR of female immigrants from MENA and the other regions to Canada while considering a wide range of socio-economic factors. We employ a linked dataset that allows us to observe the labour market participation of these immigrants in four different time periods. Second, this study observes how determinants of labour force participation vary over time for immigrants of different origins and categories (e.g., economic, family, business)[3]. Third, following the existing literature (Fernandez and Fogli, 2009; Frank and Hou, 2015; He & Gerber, 2019), the study proxied the female labour force participation rate with the Gender Inequality Index (GII) to control for the impact of (home country's) culture on FLFPR of immigrants in Canada. Crafting appropriate policies based on the findings of this study is likely to entice more female immigrants to integrate into the Canadian economy.

[3] Immigrants arrive in Canada under different categories, i.e., economic, family, refugee, and other. For details, please see https://www.canada.ca/en/immigration-refugees-citizenship/corporate/publications-manuals/immigration-category-confirmation-permanent-residence-copr.html

2. Literature Review

Most available studies on the FLFPR of immigrants are focused on the US; however, the few studies focused on Canada argue that there is a strong relationship between the culture from the country of origin (namely those around gender roles) and FLFPR after migration. Looking at second-generation American women, Fernandez and Fogli's (2009) study shows that even after controlling for education and spousal characteristics, culture (beliefs regarding a woman's role) has a significant effect on the FLFPR of immigrants in the US. Proxying culture with past female labour force participation, they argue that cultural transmission occurs in immigrants' families, and the roles that female immigrants play in the public and private spheres are directly related to that transmission. They argue that the daughters of immigrant mothers from countries with low FLFPRs tend to participate in the labour market less. Using the FLFPRs of immigrants' home countries as proxies for culture, they argue that culture plays an important role in explaining the large variation among the FLFPRs of immigrants.

Similarly, Read (2004a) argues that differences in the FLFPRs of different groups of immigrants in the U.S. are not related to education or family income, but are directly linked to traditional norms that define women mainly as mothers and caregivers at home. Referring to the findings of several earlier studies in the U.S., such as Yamanaka and McClelland (1994), Ortiz and Cooney (1984), and Fong (1997), Read (2004a) argues that ethnic and religious social networks encourage Arab immigrant women to stay away from the labour market, even though they are highly educated. According to Aswad and Bilge (1996) and Dallafar (1996), there exists a paradox concerning immigrant women in the U.S. who have come from the Middle Eastern countries. Although there are differences across countries, defining women mainly as mothers and discouraging females from labour market participation is a deep-rooted cultural norm across the

region (Read 2004a). Furthermore, women are made responsible for maintaining and reproducing their home ethnicity and culture in North America. Female domesticity is fundamental in patriarchal cultures because patriarchal societies primarily follow the male breadwinner and female caregiver model. Consequently, female participation in paid work is discouraged (Ajrouch 1999). However, there are differences across social classes, levels of education, and generations.

One may assume that religion might be the reason behind the low FLFPR of immigrants; however, Read (2004b) does not support that assumption. Studies focused on Middle Eastern immigrant women in the U.S. show that being Muslim does not necessarily signify attachments to certain cultural traditions of the Middle East, like patriarchy (Read 2004b). Along the same line, Naff (1994) claims that while Arabs have the lowest FLFP rates among immigrants in the U.S., the majority of this group (two-thirds) is not Muslim. Haddad and Smith (1996) also state that many Muslim Arab Americans are secular and distinguish their religious beliefs from their ethnic identity. Thus, the authors conclude that it is not necessarily Islam but rather the patriarchal culture of the region that continues to impact women's participation in the labour market, even after they have immigrated to the U.S. Furthermore, FLFPRs vary by ethnic identity, religiosity, and social class among Muslim Arab Americans (Read 2004b). Thus, the low rate of FLFP after migration seems to be a cultural carryover from back home (Bozorgmehr, Der-Martirosian, and Sabagh 1996). Read's (2004a) study on the FLFPR of immigrant women who have come from the Middle East to the U.S. shows that having young children in the home dampens FLFPR, while having older children does not. Moreover, Arab women who have Arab husbands are more likely to support patriarchal gender roles.

A more recent study on this topic similarly argues that a home country's cultural norms around gender roles influence the labour supply decisions of immigrant women significantly. He

and Gerber (2019) argue that despite the selectivity[4] of migrant women in terms of motivations to work, the impact of the home country's culture on labour force participation in the host country cannot be fully ignored. However, compared to other categories of immigrants, single women and principal (primary) applicants are less impacted by their home country's cultural legacies when deciding whether to participate in the labour force after migration

The labour market participation of immigrant women in Canada has been the subject of relatively little research. Morissette and Galarneau (2016) look at the FLFP of immigrants' wives in Canada and claim that the female-to-male labour force participation ratio in the source country is the main driver of the difference in participation observed between different groups of married immigrant women in Canada. Their study, however, is limited to descriptive statistics of wives of immigrants using the Labour Force Survey.

Kaida (2015) argues that immigrant women in Canada are less likely to work if they have immigrated from countries with a cultural emphasis on the domestic responsibility of women (male breadwinner/female homemaker model). However, they add that exposure to more egalitarian cultures in the host country encourages these women to participate in the labour market. Kaida (2015) points out that the male breadwinner model is not necessarily a thing of the past.

Using Canadian censuses, Frank and Hou (2015) indicate that immigrant women coming from patriarchal societies feel conflicted between preserving the cultural traditions of their source countries and taking advantage of new opportunities available to them in the host country. Newly arrived male immigrants from patriarchal countries seem to reinforce the cultural values of those countries by restricting women from participating in the labour market (Frank and Hou 2015).

[4] Only more motivated female immigrants tend to migrate which separates them from the general population.

However, the authors argue that assimilation and FLFPR should increase in these communities over time.

Bonikowska and Hou (2017) explore labour force participation and education levels of married female immigrants in Canada, and note that programs in the economic stream of Canadian immigration primary select immigrants with higher labour market qualifications. However, these immigrants are chiefly the principal applicants and are mostly men. In comparing wives in the family class with the wives of economic class principal applicants, they find that the female spouses of economic class principal applicants have higher labour market qualifications (i.e., education and language ability), higher employment rates, and higher earnings than wives in the family class by a significant margin (60%). Although they do not differentiate female immigrants by their source country, they argue that because of positive assortative mating,[5] Canada is receiving female immigrants with higher qualifications, even if those females are not the principal applicants themselves.

We should note that there are major differences between immigration policies in Canada and the U.S. Due to Canada's points-based immigration policy, the majority of recent immigrants in Canada are highly educated. Therefore, the labour market integration of Canadian immigrants is likely to be idiosyncratic and different from the integration of U.S. immigrants. To the best of our knowledge, none of the studies in Canada so far exploit any comprehensive dataset observing the determinants of FLFPR for immigrants from different regions over time incorporating their detailed socio-economic characteristics. There is a clear gap in terms of identifying the factors

[5] Assortative mating occurs when people choose to mate with someone similar to themselves (e.g., when an educated person mates with an educated person).

influencing the labour force participation of various groups of immigrants upon their arrival in Canada. Hence, we intend to fill these voids.

3. Methodology

We conduct our analysis using data from two sources. First, we utilize wave-1 data from the Longitudinal Survey of Immigrants to Canada (LSIC). Second, we use the linked data of LSIC Wave 1 and the Longitudinal Immigrants Database (IMDB). LSIC respondents are immigrants who arrived in Canada between October 2000 and September 2001. The dataset only includes immigrants who were 15 years or older at the time of landing and who applied through a Canadian mission abroad. The survey provides important information about factors that help or hinder the adjustment process of new immigrants to Canada. The overall integration process of immigrants can take many years; however, the LSIC was designed to reflect on the first four years of settlement and to observe immigrants' social, economic, and cultural ties upon arrival (Statistics Canada, 2007).

The LSIC provides information about various aspects of immigrants, including their educational attainment, training and skills, ethnicity, integration into Canadian society, labour market adjustment, mobility, and health. Using a two-stage stratified sampling method, the number of immigrants interviewed in Wave 1 was 12,040[6]. In Waves 2 and 3, these numbers dropped to 9,322 and 7,716, respectively. Participation in the survey was voluntary, and each interview lasted approximately 90 minutes in Wave 1, and 65 minutes during Waves 2 and 3. The interviews were conducted in 15 different languages to extract the best information from the participants.

One of the major problems of using subsequent waves of LSIC data is the high attrition rate, as the number of participants dropped substantially from wave to wave. If a particular group

[6] This sample represents 79,440 observations.

of immigrants was more likely than others to drop out of the study, then a longitudinal analysis based on subsequent waves of the LSIC could be biased. Moreover, the LSIC was discontinued after 2005. Recently, Statistics Canada has allowed researchers to link the LSIC dataset with the Longitudinal Immigrant Database (IMDB). The IMDB, a longitudinal database running from 1982 until 2016, combines administrative immigration data with tax files using the unique IMDB identifier. By linking Wave 1 of the LSIC with the IMDB dataset, we can trace the LSIC cohorts over time and observe their labour market performance.

This study proceeds in two steps. First, we provide comprehensive descriptive statistics of the female labour force participation rate (FLFPR), where characteristics and labour market outcomes of different groups of female immigrants are compared. Second, we estimate four different regression models, with a cross-section for each wave. Our first set of regressions examines the determinants of labour force participation using Wave 1 of the LSIC dataset. We estimate whether female immigrants from the MENA region act differently when integrating into the labour market upon arrival in Canada, compared to those from other regions. Due to our focus on the FLFPR, we consider female participants only. The labour force participation rate (LFP) reflects the section of the working-age population (ages 15–65) who are currently working or looking for work. In Wave 1, immigrants were asked whether they were currently working or looking for work, which constitutes the labour force participation variable.

Our choice of the control variables in the regression models are based on the existing literature (Read, 2004a, b; Read and Cohen, 2007). We categorize female immigrants in our sample based on their country/region of origin (i.e., MENA, Asia, Africa, Central and South America, and North America and Europe). Our estimation is intended to reflect whether the comparatively low FLFPR of MENA women continues upon their arrival in Canada. Historically,

human capital characteristics of women (e.g., education) can explain the differences in their labour force participation (Cohen and Bianchi, 1999; England, Garcia-Beaulieu, and Ross, 2004; Read and Cohen, 2007). We expect that the level of education would have a positive relationship with labour force participation. However, the impact of education in the home country may decline over time (Aydemir and Skuterud, 2005; Ferrer and Riddell, 2008; Fuller and Martin, 2012). Age is an important determinant in LFP (Read, 2004a). Therefore, we include age as a categorical variable that reflects whether the impact of age on LFP is monotonic (e.g., whether it increases over time). It also reflects whether immigrants' participation in the labour force declines after a certain age and if any age group tends to participate in the labour force more than others.

Household characteristics and resources, like number of children and spouse/partner's income, are likely to have an important impact on an immigrant's labour force participation (Contreras and Plaza, 2010; Fuller and Martin, 2012). We hypothesize that as the number of children grows, female participation in the labour market is likely to go down (Greenless and Saenz, 1999; Read, 2004a; Read and Cohen, 2007; Fuller and Martin, 2012). However, depending on the age of the children, the FLFPR may vary. Our control variable is comprised of children under the age of 18; however, it does not provide specific information on the age of the child. Higher spousal income is likely to reduce the chances of women participating in the labour market (Stier and Tienda, 1992; Worswick, 1996; Read and Cohen, 2007). In the LSIC, the participants were asked whether their spouse was working and their range of income. We observe that having a spouse with an income in the 90^{th} percentile acts in some cases as a threshold for immigrants to change their behavior in the labour market. Hence, we create a dummy variable that takes the value of one if the individual respondent's spouse is earning more than the 90^{th} percentile of income.

Immigration category is likely to have an important impact on an immigrant's decision to participate in the labour force. We thus incorporate different categories of immigrants in order to capture their impact on LFP. For example, one may argue that skilled/economic class immigrants are more likely to participate in the labour force, as they are better prepared. Alternatively, it could be argued that family class immigrants are more likely to participate in the labour market, as they already have a network/family member in Canada who is likely to help them find a job upon arrival (Fuller and Martin, 2012). Furthermore, the responsibility an individual bears as a principal applicant may compel them to enter the labour force. Many LSIC respondents were principal applicants. Correspondingly, the "dependent" of the principal applicant may be less likely to participate in the labour force (Boyd and Pikkov, 2005; Fuller and Martin, 2012; Sweetman and Warman, 2013). We include a dummy for the principal applicant in our regression estimation.

Labour market conditions and the presence of ethnic enclaves can have an important influence on labour force participation (Greenless and Saenz, 1999; Browne, 1999; Read and Cohen, 2007). Most immigrants to Canada arrive or settle in major cities (Edmonston, 2016). This tendency is attributed to economic and network (ethnic enclave) impacts. We capture destination-specific impacts by including dummy variables for the most populated destinations for immigrants (metropolitan area). Moreover, proficiency in Canada's official languages (English and French) often pays off for immigrants in terms of their labour market success. In the LSIC, immigrants whose mother tongue was neither English nor French were asked to rate their speaking ability in those two languages on five different scales. Each survey participant was asked if they spoke English or French "very well," "well," "fairly well," "poorly," or "not at all." Hence, we create a binary language variable for each of the official languages.

Our second set of regressions uses the linked LSIC-IMDB data for three periods: 2005, 2010, and 2015, or 5, 10, and 15 years respectively (called Waves 5, 10, and 15 in the calculations below) after the arrival of immigrants to Canada. The variables we use in the LSIC-IMDB linked dataset combine some information from Wave 1 LSIC datasets and others from the IMDB. We utilize the LSIC data for the immigrants' region of origin, level of education, immigration class, applicant type, and language proficiency. On the other hand, we use labour force status, age, number of children under 18, region of residence (metropolitan area), spouse's income, and education and training from the linked LSIC-IMDB dataset.

We use a logistic regression approach to conduct our empirical study. Our dependent variable, female labour force participation, takes the value of 1 if a female immigrant in the LSIC sample is working or looking for work in that particular wave of the interview; otherwise it is zero. Our control variables are either binary or categorical depending on the nature of the data. In most cases, we use the categories that contain the highest frequency as reference categories and compare that with other categories. We estimate equation (1) for LSIC wave 1, and LSIC-IMDB datasets:

$$P(lf_{it} = 1|X) = P(lf_{it} = 1|SRi, Ei, Ait, C18it, CIi, PAi, Dit, LEit, LFit, FIit) \qquad (1)$$

For 2001, lf stands for labour force participation (working or looking for work) since coming to Canada for wave 1. For waves 5, 10, and 15, lf is constituted based on whether the immigrant was employed or unemployed during the time of interview, i indicates individual, t (wave 1, 5, 10, 15) is the time period. We only use subscript i if the variable is time invariant. SR captures the source country/region of immigrants. This variable reflects how immigrants from different regions influence FLFPR. The country of origin does not vary over time.

In our model, E stands for the level of education attained outside Canada (basic, intermediate, and higher).[7] We create a dummy for each of the education categories. We follow a similar approach for all of the categorical variables. A stands for age (15–24, 25–34, 35–44, 45 and above), $C18$ is the number of children under 18 (0, 1, 2, 3, or more), CI is the category of immigrant (family, skilled, refugee), PA captures principal applicant (principal applicant/other), D is destination choice (Metropolitan area: Montreal, Toronto, Vancouver, Calgary, anywhere else in Canada), LE indicates language proficiency in English (speaks very well and well=1, otherwise 0), LF is language proficiency in French (speaks very well and well=1, otherwise 0), and FI is spouse/family income (FI=1 if income of spouse has income above the 90th percentile for that particular wave, otherwise 0). For the last three waves (LSIC-IMDB linked data), we add an education/training in Canada variable (receiving education/training upon arrival to Canada has a value of 1, otherwise 0). Our choice of estimation method is the multivariate logistic regression, based on the existing literature.[8]

We estimate the odds ratio following the logistic regression as part of our quantitative analysis. Our independent variables for each category indicate the odds of participating in the labour force compared to the reference category. An odds ratio higher than one infers the odds of participating in the labour force is higher for the specific category compared to the reference

[7] Our definition of basic education includes anyone without formal education, or with some elementary or some high school. Intermediate education includes completion of high school, some trade school, a trade certificate, some college, or a college/CEGEP diploma or certificate. Higher education comprises anyone with some university, including bachelor's, master's, or doctorate degrees.

[8] The results based on probit estimation are available upon request. We avoid the use of the Linear Probability Model (LPM) as it sometimes produces probability values more than one or less than zero (Wooldridge 2015).

category. Conversely, an odds ratio less than one indicates the odds of participating in the labour force is smaller compared to the reference category. The variation across female immigrants' participation in their host countries' labour markets could be explained by the continuing influence of home countries' cultural norms (Read and Oselin, 2008; Fernandez and Fogli, 2009; Polavieja, 2015; He & Gerber, 2020). These studies assert that the gender norms of immigrant women are likely to continue after their arrival in a new country. In other words, female immigrants from countries with less egalitarian norms are less likely to participate in the labour market compared to their counterparts. Fernandez and Fogli (2009) proxy culture with past labour force participation rates from women's countries of origin. Similarly, He and Gerber (2019) use cultural legacy to capture the impact on immigrant women's participation in the home country's labour market.

To test such a hypothesis, we proxy the region variable with the Gender Inequality Index (GII)[9]. The GII is a composite measure reported by the World Health Organization (WHO) to reflect inequality in achievement between males and females across three dimensions: reproductive health, empowerment, and labour market. These dimensions reflect gender roles in immigrants' home countries in public and private spheres. Proxying culture with the GII allows us to capture the immigrants' culture, which has been carried over to Canada. A higher value of GII indicates greater gender inequality in favour of men in the three dimensions the index measures. It implies females have lower status in their home countries, which restricts their autonomy, control over household resources, less interactions with others, and fewer opportunities for independent behaviour in both private and public spheres (WHO 2022). Our use of the GII as a

proxy is meant to point the level of gender disparity (to the disadvantage of women) between regions and the extent to which there's a cultural transmission after migration[10].

The data for GII is available for 2000, 2005, 2010, and 2015. However, as our sample of immigrants arrived in early 2000, we use the 2000 GII as our proxy to best capture their home culture. We chose three different levels of GII for each region: high, medium, and low. For each region, we chose the country with the highest GII value (meaning the highest disparity between males and females) within the region. We hypothesize that if a region had a high GII value in 2000, the post-migration FLFPR of immigrants from that region would be lower than those from regions with low GII values. Arguably, there could be differences across countries within a region. However, due to the unavailability of GII data for some countries, we could not use a country-specific proxy. Rather, we use a region-specific proxy. To test the robustness of our results and minimize the country-specific disparity issue, we use three different proxies for each region (high, medium, and low). Table 1 provides a list of countries with high, medium, and low indexes for each region. We hypothesize that the results based on all three proxies should produce similar outcomes. For 2005, we link the IMDB data with Wave 1 of the LSIC. We repeat this for 2010 and 2015.[11]

Table 1 here..

Our diagnostic tests for the estimated models ensure that they do not suffer from an unspecified functional form. Additionally, we tested many potential variables that could influence

[10] We could also have used the Gender Development Index (GDI) to capture gender inequality. However, due to the presence of a labour market component in GII, we chose it over the GDI. The GII is more comprehensive to capture the gender inequality than the past labour force participation rate.

[11] We couldn't proceed with a longitudinal estimation, as the data for some of our variables were not available longitudinally. Moreover, some of our independent variables do not vary over time as they are based on immigrants' information prior to or during their arrival, e.g., education, category of the immigrant, principal applicant or not.

labour force participation and dropped the highly collinear ones (e.g., spouse's education and marital status). We also dropped the religion variable due to great inconsistency in religion-relevant data in the LSIC.[12] Additionally, we dropped the variables that did not have any direct or indirect effect on the decision to participate in the labour force (e.g., number of members in the immigrating unit, health, having relatives in Canada, and having worked before coming to Canada). The estimated models could have endogeneity issues due to bi-directional causality between dependent and independent variables for their contemporaneous nature (Connelly et al. 2006). However, as many of our independent variables are based on the immigrants' information prior to their arrival in Canada, therefore, the biases due to the contemporaneous nature of the variables are unlikely. We use the sampling and bootstrap weight that comes with the dataset. The weighting scheme helps to produce the descriptive and regression results of the samples that closely reflects the actual population.

4. Results and Discussion

Table 2 (LSIC Wave 1) shows that 58.84% of the immigrants were in the labour force six months after their arrival. Out of all immigrants, a majority of them (62.11%) were from Asia. More than half of the immigrants (52.77%) have had higher levels of education (bachelor and above), 41.48% of them were between the ages of 25 to 34 and the average number of children under 18 years of age was less than one. Also, 62.34% of them were in economic class and 43.50% of them were the principal applicant. Compared with all other major cities in Canada, a larger

[12] We were interested in examining the link between religion and labour force participation; however, we could not conduct that experiment satisfactorily, as the information regarding religion is inconsistent across LSIC dataset waves. For example, Wave 1 reports that almost 20% of immigrants identified their faith as Jewish, but in Wave 2 only 1% did the same.

portion of immigrants reside in Toronto (46.33%). The number of immigrants who do not speak French is much greater than the number of people who do not speak English (92.43% compared with 54.46%).

Table 2 here..

The second part of Table 2 (LSIC-IMDB Wave 5, 10, 15), shows the changes over time. The labour force participation increases to about 75% in 2005 and stays the same over the next ten years. The average number of children per family who are under 18 years of age increases from 0.74 to 1.04 from 2000 to 2015. Toronto still houses the largest number of immigrants (44%) after 15 years. Spouse income however reflects that in subsequent years, the income for the 90th percentile has been increasing significantly.

Table 3 here..

Table 3 reveals that among the developing regions in the world, women from MENA and Asian countries have higher levels of education when immigrating to Canada. Table 4 shows that women from MENA consistently have a lower FLFPR than all other immigrant groups[13]. Although they increase their FLFPR in Canada substantially over 15 years (by 15%), in 2015, they still have the lowest FLFPR of all other immigrant groups.

Table 4 here..

Table 5 (Wave 1) provides the odds ratio results based on the logistic regressions for the determinants of labour force participation using cross-section data for Wave 1 of the LSIC. One of the central questions of this study is to what extent the labour force participation of MENA women differs from immigrants from other regions? Our estimations in Model 1, based on Wave 1 data (six months after arrival), suggests that female immigrants from MENA countries have 35%

[13] These differences are statistically significant too.

less likelihood of participating in the labour force than their counterparts from North America and Europe (reference group).

Table 5 here..

Upon arrival in a new country, MENA immigrants lag when compared to other regions. None of the other groups (i.e., Asians, Sub-Saharan Africans, and Central and South Americans) significantly differ in FLFP compared to the base group. Using the highest value of GII (highest inequality) as a proxy (Model 2) for the region reinforces our findings from Model 1. We find similar results in Models 3–4. Moreover, when using a low proxy (high GII value), the odds are much smaller compared to the high proxy (low GII value).[14] Our findings suggest that home countries' cultural norms around gender roles have been carried over and are deep and strong enough to impact the FLFPR of MENA immigrants, years after migration. This also supports the argument made by other scholars (Moghadam, 2003, Haghighat-Sordellini, 2010, Solati, 2017) that MENA is the most patriarchal region in the world, particularly with regard to women's participation in the public sphere (e.g., the labour market). It is likely that such cultural factors remain valid a few years after immigrants' arrivals and play a dominant role in our findings. This is also in line with the findings of Morissette and Galarneau (2016) on immigrants' wives in Canada.

According to He and Gerber (2020), patriarchal culture lingers in families coming from patriarchal societies and impacts their behaviors in societies with very different institutions, laws, and norms. We also echo the findings of Frank and Hou (2015), who argue that cultural values persist, thus gender roles persist, and hence women from countries with more patriarchal and

[14] By "low proxy," we mean less equality, and by "high proxy," we mean more equality. Low proxy therefore is associated with a high value of GII, which represents greater gender inequality.

traditional gender roles are less likely to engage in paid work. Read (2003) also asserts that foreign-born immigrants have stronger attachments to traditional values and the first generation of immigrant women feel more pressure than the second and third generation to remain in the domestic sphere and fulfill their domestic duties, which leads to low FLFPR. However, as Table 2 reveals, exposure to new opportunities or different social contexts could make gender roles negotiable and malleable; therefore, the FLFPR is likely to increase over time. Read (2003) also reports similar findings and argues that immigrant families who have lived in the U.S. for long periods have more egalitarian views and are likely to have comparatively higher rates of labour market participation. Our findings align with patriarchal indexes (Solati 2017), which show MENA countries have the highest levels of patriarchy with regards to women's participation in the public sphere.

Regarding our controls, education has a positive effect on immigrant's odds of being in the labour force. In Wave 1, individuals with intermediate and higher levels of education increases the likelihood of participating in the labor force by 41% and 80% respectively than those with basic education. This trend in education remains after using the GII proxy. Our findings suggest that the impact of age on labour force participation is not monotonic. There is no significant difference in terms of labour force participation between the 15–24 and 25–34 (reference group) age groups. Beyond age 45, the likelihood of women being in the labour force decrease by 34% compared to prime workers between the ages of 25 to 34. These findings echo Contreras and Plaza's (2010) findings for Chile.

An increase in the number of dependent children under the age of 18 decrease the odds of female labor force participation. It confirms the hypothesis that the more children, the lower the chance of women participating in the labour force (Caldwell, 1982; Bloom et al., 2009; Humphries

and Sarasua, 2012). In terms of immigration category, those in the family and refugee class are 49% and 63% respectively less likely to be in the labour force than economic class immigrants (reference category). As expected, our results for the principal applicant support the literature, indicating that being a principal applicant substantially increases one's odds of being in the labour force.

Destination plays an important role in immigrant labour force participation. Those in Montreal are 36% less likely to be in the labour force than those in Toronto (reference group), but such a scenario is reversed in the case of Calgary. Official language proficiency has important implications for female labour force participation. Proficiency in French and English increases an immigrant's odds of being in the labour force by 65% and 70% over the respective reference categories. Our results for spousal income reflect that if one has a spouse with income in or above the 90th percentile, one's likelihood of participating in the labour force are 39% less than the reference category, and vice-versa. If arranged in ascending order, low spousal income initially increases one's odds of participating in the labour force. However, the relationship changes for those with spouses who have an income in the 90th percentile and above.

Our results in Table 6 (Wave 5), Model 1, report that immigrants from MENA countries have a 66% less likelihood of participating in the labour force compared to their reference category. Female immigrants from Asia are also 44% less likely to participate in the labour force than female immigrants from North America and Europe. The use of GII as a proxy reinforces our claim that immigrants carry forward their culture from their home countries. In general, MENA and Asian have less likelihood of participating in labour force compared to the reference category. It is important to note that several countries in Asia, including the two most populated countries (China and India) and all of MENA countries, are located on the Patriarchal Belt. The fact that female

immigrants from MENA and Asia have lower odds of participation reinforces the arguments made by scholars such as Caldwell (1978), Kandiyohi (1988) and Moghadam (2003) about patriarchal gender roles in countries located on Patriarchal Belt. Tables 7 and 8 also produce similar outcomes. The results show that across all waves, immigrant women from MENA countries as well as Asia have the lowest odds of labour force participation in the Canadian labour market compared to the reference group and other regions.

Table 6 here..

Table 7 here..

Table 8 here..

Our results for controls change slightly for subsequent waves. The LSIC-IMDB linked dataset was used for waves in years 2005, 2010 and 2015. Across waves, the results show that female immigrants with a higher level of education have higher odds of participating in the labour force. Moreover, in wave 15, higher level of education doubles the likelihood of participating in the labor market. Age has similar outcomes through all three waves. Compared to the reference category, all other age groups have less likelihood of participating in the labour force. However, the results are insignificant in some cases. The number of children works negatively in enhancing the participation in all three waves. Regarding the class of immigrants, the odds of participating in the labour market subsequently declines for the refugee class compared to the economic class immigrants. This is in line with the literature that suggest economic class intergrade into the labour market quicker than those who migrate involuntarily (Gerhards and Hans, 2009; Solati et al., 2021). For wave 5, the difference between family class and economic class is insignificant, but for subsequent waves, family class immigrants have lower odds to participate in the labour force

compared to economic class immigrants. Being principal applicant works positively to increase labour force participation across all waves. In 2005, female immigrants living in Montreal or Vancouver have 40% and 25% lower likelihood, respectively, to be in the labour force than those living in Toronto. Comparing Toronto and Montreal, Grenier and Nadeau (2011) point the language proficiency and discrimination as two possible reasons for more employment rate gap between two cities among immigrants. Moreover, certain labour market scenario and ethnic enclave may also have played significant role in having higher likelihood of participating in labour market in Toronto compared to the other cities. As we didn't control for city specific labour market conditions, therefore, it won't be wise to fully justify the reasons behind such a discrepancy across cities. However, by 2015, the city specific variation in the likelihood of participating in labour market disappears.

In terms of language proficiency, the advantage of French proficiency disappears in 2005, but becomes positive, increasing, and significant in the following waves. English proficiency has a positive effect on the odds of labour market participation across waves consistent with the literature (Solati et al. 2021). Compared to wave 1, spousal income at the 90^{th} percentile becomes insignificant in all subsequent waves after arrival. From 2005 onwards, we add a new variable in our estimation: education and training received upon arrival to Canada. In the 2005 data, receiving education and training in Canada make no difference in the FLFPR. However, this changes in the 2010 data. Immigrants receiving education and training in Canada have double the odds of participating in the labour force than those who do not receive any training. Such an advantage continues in 2015. Such findings reflects the importance of receiving Canadian education and training for immigrants. It could be that receiving Canadian education/training works as signal for employability of immigrants. In general, the results for the later waves are consistent with the first

wave, showing that females from MENA have lower FLFPR, and that factors such as higher education and being a principal applicant are essential for participating in the labour force.

5. Conclusion and Policy Recommendations

Using Wave 1 of the LSIC and the linked LSIC-IMDB datasets for 2005, 2010, Using Wave 1 of the LSIC and the linked LSIC-IMDB datasets for 2005, 2010, and 2015, we observe that immigrant women (regardless of marital status) in Canada who migrated from the MENA region continue to have the lowest labour force participation rate compared to all other regions and this continues even a few years after arrival. This is perhaps because immigrant women from MENA are still a part of a patriarchal family, which dictates that the proper place for women is within the home. Although the FLFPR of MENA women increases considerably over time, it remains lower than the FLFPR of immigrants from other regions, even after 15 years. Our finding shows similarities in FLFPR of immigrants from Asia and MENA. Immigrants from these two regions have low FLFPR compared to other immigrants. This is in line with what scholars (Caldwell 1982, Kaniyoti, 1988, Moghadam 2003, Offenhaur 2005, Solati 2017) argued about gender roles in countries located in the Patriarchal Belt where patriarchal culture is ingrained into family structure in which men exclusively are defined as breadwinners. Our study shows that home countries' gender roles seem to survive even years after migration. Although women who have migrated from countries in MENA and Asia increased their FLFPR over the years, on average, they do not participate in labour market as much as other female immigrants in Canada. We also find that education, language proficiency, city of residence, and skilled worker qualifications are positively linked with FLFPR for immigrants in Canada, while number of children, age, and spouse's income negatively affect FLFPR.

It would have been ideal to compare the determinants for each group of immigrants separately; however, our dataset does not allow us to do so. The number of observations for each group was not large enough to pass the data disclosure threshold set by Statistics Canada. To overcome some of the limitations, we will extend this study to incorporate the Canadian censuses, which will allow us to observe larger groups of immigrants from different regions. However, the censuses only capture a limited number of socioeconomic attributes for immigrants. Hence, we argue the need for a large dataset to capture the increasing heterogeneity in FLFPR of immigrants to Canada. Further studies about MENA women will help to explore how to better integrate these women in the Canadian labour market.

Given Canada's skill-based immigration policy, the answer to the questions asked in this study are exceptionally important, as not utilizing the skills and education of new immigrants in the labour market is not economically wise. The findings of this study not only have significant implications for policymakers in Canada, but also for other immigrant recipient countries, like Australia and New Zealand, whose immigration policies are also geared towards increasing the labour force participation of skilled workers.

More important, women's access to paid work is considered the most important factor in improving their lives (Solati, 2020). Almost all scholars agree that for women, the first step towards empowerment is participation in the labour market. Economic empowerment is a crucial source of social and personal empowerment that when lacking is a major source of social inequality (Blumberg, 1984; Solati, 2020). Thus, by itself, a consistent low FLFPR for a particular group, relative to others, is undesirable.

While respecting each culture, it is important to educate citizens, including newly arrived immigrants, about their rights and privileges, as well as giving them the opportunity to integrate

in the labour market. The government could initiate specific policies or programs to entice immigrants from MENA countries to participate in the labour market. It will be important to disseminate information among all newly arrived immigrants explaining that women's participation in public spheres in Canada is normal, and has no negative connotations for women or their partners. If families are concerned with sexual harassment in the public sphere, including the workplace, they should be informed that sexual harassment is a serious crime in Canada. This can provide some degree of comfort for many families coming from countries that may not have strong laws (or enforcement of laws) against sexual harassment. Furthermore, sharing and celebrating the success stories of working women originally from the MENA region with their peer groups in Canada would normalize their presence of in the labour market. Seeing an increase in participation over time may result in even better integration of MENA women into the public sphere. While we could not examine whether a lower FLFPR of MENA women was due to labour market discrimination, we did not have enough evidence to rule out such a possibility. An enriched dataset would allow us to examine this question further.

Awareness programs for newcomers, such as workshops on Canadian work culture, workers' rights, and harassment laws, are important so that immigrant males feel more comfortable about females in their families participating in the labour market. Similarly, awareness programs for employers in Canada, such as workshops about other cultures, can be extremely helpful in making newcomers feel more comfortable in the Canadian labour market.

Since childcare and daycare expenses can be used as excuses in a patriarchal setting to prevent women from participating in the public sphere, affordable daycare for new immigrants can help women gain access to paid work and training. Moreover, diversity training for employers can

be fruitful in preventing discrimination against newcomers, which can impact the supply of immigrant labour.

Moreover, we need to investigate if all skills and levels of education are being evaluated equally in Canada, regardless of immigrants' home country. Are all similar degrees and credentials being treated alike in the labour market? Unfortunately, we do not have enough observations for each country or sub-group to examine the reasons behind the variation in FLFPR at a disaggregated level. Future surveys could be designed to extract those variations.

Answering the question of whether female immigrants from MENA countries participate in the Canadian labour market is crucial, yet it is not enough. Noting participation in the labour market by itself is not sufficient, as female immigrants might be unemployed, underemployed, or employed as unskilled workers despite having specific skills. However, knowing the answer to questions about qualifications and discrimination can guide us towards more effective policies for better integration, higher economic production and, above all, more opportunities for immigrant women to participate in the Canadian labour market and be economically active if they wish to do so.

These are important questions we aim to answer in future studies. Policymakers need to ensure that an increases in FLFPR is truly empowering women in the society. Despite some limitations due to the unavailability of some data, we argue that our findings importantly shed light on differences in labour force participation among various immigrant groups in Canada. They also provide a clear picture of the integration level of female immigrants from the MENA region in Canada.

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Tables

Table 1. GII as a proxy for culture

	Level of gender inequality		
Source Regions	**High**	**Medium**	**Low**
MENA	Yemen	Algeria	Tunisia
Asia	Bangladesh	Thailand	Japan
Sub-Saharan Africa	Niger	Zambia	South Africa
Central and South America	Nicaragua	Brazil	Barbados
North America and Europe	Armenia	Croatia	Sweden

Note: The higher the index, the higher the inequality

Table 2. Descriptive LSIC Wave 1 and LSIC-IMDB Wave 5, 10, 15

Variables	LSIC W1	LSIC-IMDB W5	LSIC-IMDB W10	LSIC-IMDB W15
In labour force	58.94%	75.09%	74.80%	75.30%
Not in labour force	41.06%	24.91%	25.20%	24.70%
Source Region				
MENA[15]	10.22%	10.08%	10.09%	9.91%
Asia	62.11%	62.64%	62.68%	62.55%
Sub-Saharan Africa	4.90%	4.82%	5.09%	5.28%
Central and South America	6.50%	6.60%	6.57%	6.66%
North America and Europe (reference)	16.11%	15.79%	15.49%	15.68%
Age of immigrant				
Age 15-24	18.91%	9.64%	0.55%	0.00%
Age 25-34	41.48%	35.80%	22.30%	10.07%
Age 35-44	24.99%	38.47%	45.38%	36.47%
Age 45-65	14.61%	16.16%	31.69%	53.45%
Average number of children under 18	0.74	1.07	1.144	1.04
Metropolitan area_Canada				
Toronto (reference)	46.33%	44.40%	44.68%	43.95%
Montreal	12.29%	12.16%	11.74%	11.45%
Vancouver	15.75%	15.34%	15.10%	14.87%
Calgary	4.44%	5.11%	5.48%	6.17%
Anywhere else in Canada	21.19%	23.05%	23.00%	23.56%
Language proficiency				
Speaks French well	7.56%	7.93%	7.75%	7.64%
Does not speak French well (reference)	92.43%	92.07%	92.25%	92.36%
Speaks English well	45.54%	47.89%	47.38%	47.36%
Does not speak English well (reference)	54.46%	52.11%	52.62%	52.64%
Spousal income				
Spouse's income 90th percentile[16]	-	$ 70,900	$ 96,000	$ 121,000
Education_before Canada				
Basic (reference)	16.00%	-	-	-
Intermediate	31.65%	-	-	-
Higher	52.77%	-	-	-
Immigrant class				
Family class	31.72%	-	-	-
Refugee	5.93%	-	-	-
Economic class (reference)	62.34%	-	-	-
Applicant type				
Principal applicant	43.50%	-	-	-
Not principal applicant (reference)	56.50%	-	-	-
Number of observations (weighted)	79,440	70,050	66,350	63,900

[15] Some of the numbers may not add up to 100 due to the rounding of decimals.

[16] The spousal income variable in LSIC Wave 1 has a lot of missing values.

Table 3. Education by region before coming to Canada_LSIC WAVE 1

Level of Education	MENA	Asia	Sub-Saharan Africa	Central and South America	North America and Europe
Basic	16.88%	15.85%	23.47%	21.46%	9.00%
Intermediate	33.12%	30.05%	46.13%	32.68%	32.04%
Higher	50.00%	54.10%	30.40%	45.87%	58.96%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Table 4. Labour force participation by source region

Source Region	LSIC W1		LSIC-IMDB W5		LSIC-IMDB W10		LSIC-IMDB W15	
	In labour force	Not in labour force	In labor force	Not in labour force	In labour force	Not in labour force	In labour force	Not in labor force
MENA	48.59%	51.41%	59.56%	40.44%	60.47%	39.53%	63.93%	36.07%
Asia	59.12%	40.88%	74.20%	25.80%	73.78%	26.22%	73.64%	26.36%
Sub-Saharan Africa	60.00%	40.00%	81.54%	18.46%	78.46%	21.54%	76.92%	23.08%
Central and South America	63.06%	36.94%	80.90%	19.10%	80.95%	19.05%	81.71%	18.29%
North America and Europe	62.77%	37.23%	84.51%	15.49%	84.85%	15.15%	86.01%	13.99%

Table 5. Determinants of Labour Force Participation: LSIC Wave 1

Dependent Variable: Labour force participation	Wave 1 (Model 1)	Wave 1 - Low proxy (Model 2)	Wave 1 Medium proxy (Model 3)	Wave 1 High proxy (Model 4)
Source Region				
MENA	0.647***(0.084)	0.347***(0.109)	0.497*** (0.103)	0.583***(0.094)
Asia	0.964 (0.085)	0.763(0.496)	0.920 (0.185)	0.948 (0.678)
Sub-Saharan Africa	1.283187(0.207)	1.700 (0.583)	1.466 (0.362)	1.367 (0.122)
Central and South America	1.245(0.187)	1.842 (0.770)	1.537 (0.452)	1.448 (0.144)
North America and Europe (reference)				
Education_before Canada				
Basic (reference)				
Intermediate	1.410***(0.137)	1.410***(0.137)	1.410***(0.137)	1.410***(0.137)
Higher	1.804***(0.187)	1.804***(0.187)	1.804***(0.187)	1.804***(0.187)
Age of the immigrant				
Age 15-24	0.986 (0.096)	0.986 (0.096)	0.986 (0.096)	0.986 (0.096)
Age 35-44	1.148 (0.099)	1.148 (0.099)	1.148 (0.099)	1.148 (0.099)
Age 45-65	0.661***(0.069)	0.661***(0.069)	0.661***(0.069)	0.661***(0.069)
Age 25-34 (reference)				
Number of children under 18	0.703***(0.028)	0.703***(0.028)	0.703***(0.028)	0.703***(0.028)
Immigrant class				
Family class	0.513***(0.046)	0.513***(0.046)	0.513***(0.046)	0.513***(0.046)
Refugee	0.369***(0.046)	0.369***(0.046)	0.369***(0.046)	0.369***(0.046)
Economic class (reference)				
Applicant type				
Principal applicant	1.984***(0.144)	1.984***(0.144)	1.984***(0.144)	1.984***(0.144)
Secondary applicant (reference)				
Metropolitan area_Canada				
Montreal	0.641***(0.077)	0.641***(0.077)	0.641***(0.077)	0.641***(0.077)
Vancouver	0.693***(0.060)	0.693***(0.060)	0.693***(0.060)	0.693***(0.060)
Calgary	1.430***(0.190)	1.430*** 0.190)	1.430*** (0.190)	1.430***(0.190)
Anywhere else in Canada	0.805***(0.067)	0.805***(0.067)	0.805***(0.067)	0.805***(0.067)
Toronto (reference)				
Language proficiency				
Speaks French well	1.653***(0.252)	1.653***(0.252)	1.653***(0.252)	1.653***(0.252)
Does not speak French well (reference)				
Speaks English well	1.701***(0.115)	1.701***(0.115)	1.701***(0.115)	1.701***(0.115)
Does not speak English well (reference)				
Spousal Income				

Spouse's income 90th percentile	0.615***(0.043)	0.615***(0.043)	0.615***(0.043)	0.615***(0.043)
Spouse Income below 90th percentile (reference)				
Constant	1.594***(0.236)	1.594***(0.236)	1.594***(0.236)	1.594***(0.236)
Pseudo R2 = 0.1299				

Asterisks indicate significance level (* 10%, ** 5%, *** 1%)

Table 6. Determinants of Labour Force Participation: LSIC-IMDB Wave 5

Dependent Variable: Labour force participation	Wave 5 (Model 1)	Wave 5 - low proxy (Model 2)	Wave 5 medium proxy (Model 3)	Wave 5 high proxy (Model 4)
Source Region				
MENA	0.342***(0.520)	0.074***(0.027)	0.179***(0.044)	0.264***(0.050)
Asia	0.557***(0.066)	0.013***(0.012)	0.261***(0.071)	0.425***(0.074)
Sub-Saharan Africa	1.043(0.209)	1.094(0.466)	1.067 (0.327)	1.054(0.833)
Central and South America	0.844(0.161)	0.623(0.332)	0.717 (0.269)	0.751(0.242)
North America and Europe (reference)				
Education_before Canada				
Basic (reference)				
Intermediate	1.149(0.139)	1.149(0.139)	1.149(0.139)	1.149(0.139)
Higher	1.417***(0.187)	1.417***(0.187)	1.417***(0.187)	1.417***(0.187)
Age of the immigrant				
Age 15-24	1.137(0.179)	1.137(0.179)	1.137(0.179)	1.137(0.179)
Age 35-44	1.031(0.095)	1.031(0.095)	1.031(0.095)	1.031(0.095)
Age 45-65	0.572***(0.062)	0.572***(0.062)	0.572***(0.062)	0.572***(0.062)
Age 25-34 (reference)				
Number of children under 18	0.668***(0.026)	0.668***(0.026)	0.668***(0.026)	0.668***(0.026)
Immigrant class				
Family class	0.853(0.091)	0.853(0.091)	0.853(0.091)	0.853(0.091)
Refugee	0.749**(0.100)	0.749**(0.100)	0.749**(0.100)	0.749**(0.100)
Economic class (reference)				
Applicant type				
Principal applicant	1.337***(0.115)	1.337***(0.115)	1.337***(0.115)	1.337***(0.115)
Secondary applicant (reference)				
Metropolitan area_Canada				
Montreal	0.603***(0.093)	0.603***(0.093)	0.603***(0.093)	0.603***(0.093)
Vancouver	0.752***(0.076)	0.752***(0.076)	0.752***(0.076)	0.752***(0.076)
Calgary	1.786***(0.17)	1.786***(0.17)	1.786***(0.17)	1.786***(0.17)
Anywhere else in Canada	0.905(0.087)	0.905(0.087)	0.905(0.087)	0.905(0.087)
Toronto (reference)				
Language proficiency				
Speaks French well	1.282(0.219)	1.282(0.219)	1.282(0.219)	1.282(0.219)
Does not speak French well (reference)				
Speaks English well	1.374***(0.112)	1.374***(0.112)	1.374***(0.112)	1.374***(0.112)
Does not speak English well (reference)				

Spousal Income

Spouse's income 90th percentile	0.823(0.102)	0.823(0.102)	0.823(0.102)	0.823(0.102)
Spouse Income below 90th percentile (reference)				
Education and training_Canada	1.114(0.120)	1.114(0.120)	1.114(0.120)	1.114(0.120)
Constant	6.186***(1.155)	6.186***(1.155)	6.186***(1.155)	6.186***(1.155)
Pseudo R2 = 0.0788				

Asterisks indicate significance level (* 10%, ** 5%, *** 1%)

Table 7. Determinants of Labour Force Participation: LSIC-IMDB Wave 10

Dependent Variable: Labour force participation	**Wave 10 (Model 1)**	**Wave 1 - low proxy (Model 2)**	**Wave 1 medium proxy (Model 3)**	**Wave 1 high proxy (Model 4)**
Source Region				
MENA	0.319***(0.049)	0.062***(0.023)	0.160***(0.039)	0.242***(0.046)
Asia	0.566***(0.068)	0.015***(0.013)	0.271***(0.075)	0.435***(0.077)
Sub-Saharan Africa	0.858 (0.172)	0.722 (0.445)	0.791 (0.243)	0.825 (0.445)
Central and South America	0.854 (0.167)	0.645 (0.352)	0.735 (0.422)	0.767 (0.253)
North America and Europe (reference)				
Education				
Basic (reference)				
Intermediate	1.403***(0.160)	1.403***(0.160)	1.403***(0.160)	1.403***(0.160)
Higher	1.638***(0.205)	1.638***(0.205)	1.638***(0.205)	1.638***(0.205)
Age of the immigrant				
Age 15-24	0.431 (0.221)	0.431 (0.221)	0.431 (0.221)	0.431 (0.221)
Age 35-44	0.75*** (0.081)	0.75*** (0.081)	0.75*** (0.081)	0.75*** (0.081)
Age 45-65	0.567***(0.065)	0.567***(0.065)	0.567*** (0.065)	0.567*** (0.065)
Age 25-34 (reference)				
Number of children under 18	0.771***(0.029)	0.771***(0.029)	0.771***(0.029)	0.771***(0.029)
Immigrant class				
Family class	0.663***(0.071)	0.663***(0.071)	0.663***(0.071)	0.663***(0.071)
Refugee	0.559***(0.073)	0.559***(0.073)	0.559***(0.073)	0.559***(0.073)
Economic class (reference)				
Applicant type				
Principal applicant	1.38***(0.119)	1.38***(0.119)	1.38***(0.119)	1.38***(0.119)
Secondary applicant (reference)				
Metropolitan area_Canada				
Montreal	0.821(0.118)	0.821(0.118)	0.821(0.118)	0.821(0.118)
Vancouver	0.779** (0.081)	0.779** (0.081)	0.779** (0.081)	0.779** (0.081)
Calgary	1.97***(0.335)	1.97***(0.335)	1.97***(0.335)	1.97***(0.335)
Anywhere else in Canada	0.992 (0.934)	0.992 (0.934)	0.992 (0.934)	0.992 (0.934)
Toronto (reference)				
Language proficiency				
Speaks French well	1.388* (0.247)	1.388* (0.247)	1.388* (0.247)	1.388* (0.247)
Does not speak French well (reference)				
Speaks English well	1.112 (0.091)	1.112 (0.091)	1.112 (0.091)	1.112 (0.091)

Does not speak English well (reference)				
Spousal income				
Spouse's income 90th percentile	1.066 (0.133)	1.066 (0.133)	1.066 (0.133)	1.066 (0.133)
Spouse's income below 90th percentile (reference)				
Education and training_Canada	2.416***(0.376)	2.416***(0.376)	2.416***(0.376)	2.416***(0.376)
Constant	5.886***(1.065)	5.886***(1.065)	5.886*** (1.065)	5.886*** (1.065)
Pseudo R2 = 0.0630				

Asterisks indicate significance level (* 10%, ** 5%, *** 1%)

Table 8. Determinants of Labour Force Participation: LSIC-IMDB Wave 15

Variable: Labour force participation	Wave 15 (Model 1)	Wave 15 - low proxy (Model 2)	Wave 15 medium proxy (Model 3)	Wave 15 high proxy (Model 4)
Source Region				
MENA	0.310***(0.050)	0.058***(0.023)	0.153***(0.040)	0.234***(0.047)
Asia	0.505***(0.064)	0.006***(0.006)	0.208***(0.061)	0.368***(0.068)
Sub-Saharan Africa	0.702*(0.140)	0.471*(0.200)	0.581*(0.178)	0.642*(0.161)
Central and South America	0.757(0.152)	0.460 (0.166)	0.579(0.228)	0.625(0.212)
North America and Europe (reference)				
Education				
Basic (reference)				
Intermediate	1.396***(0.160)	1.396***(0.160)	1.396***(0.160)	1.396***(0.160)
Higher	2.152***(0.273)	2.152***(0.273)	2.152***(0.273)	2.152***(0.273)
Age of the immigrant				
Age 35-44	0.641***(0.098)	0.641***(0.098)	0.641***(0.098)	0.641***(0.098)
Age 45-65	0.363***(0.054)	0.363***(0.054)	0.363***(0.054)	0.363***(0.054)
Age 25-34 (reference)				
Number of children under 18	0.826***(0.032)	0.826***(0.032)	0.826***(0.032)	0.826***(0.032)
Immigrant class				
Family class	0.650***(0.071)	0.650***(0.071)	0.650***(0.071)	0.650***(0.071)
Refugee	0.538***(0.069)	0.538***(0.069)	0.538***(0.069)	0.538***(0.069)
Economic class (reference)				
Applicant type				
Principal applicant	1.566***(0.145)	1.566***(0.145)	1.566***(0.145)	1.566***(0.145)
Secondary applicant (reference)				
Metropolitan area_Canada				
Montreal	0.985(0.154)	0.985(0.154)	0.985(0.154)	0.985(0.154)
Vancouver	0.862(0.093)	0.862(0.093)	0.862(0.093)	0.862(0.093)
Calgary	1.113(0.170)	1.113(0.170)	1.113(0.170)	1.113(0.170)
Anywhere else in Canada	0.874(0.087)	0.874(0.087)	0.874(0.087)	0.874(0.087)
Toronto (reference)				
Language proficiency				
Speaks French well	1.475**(0.282)	1.475**(0.282)	1.475**(0.282)	1.475**(0.282)
Does not speak French well (reference)				
Speaks English well	1.173*(0.099)	1.173*(0.099)	1.173*(0.099)	1.173*(0.099)

Does not speak English well (reference)				
Spousal income				
Spouse's income 90th percentile	1.228(0.161)	1.228(0.161)	1.228(0.161)	1.228(0.161)
Spouse's income below 90th percentile (reference)				
Education and training_Canada	1.637**(0.372)	1.637**(0.372)	1.637**(0.372)	1.637**(0.372)
Constant	7.650***(1.442)	7.650***(1.442)	7.650***(1.442)	7.650***(1.442)
Pseudo R2 = 0.0657				

Asterisks indicate significance level (* 10%, ** 5%, *** 1%)