



Gender variations in the health status among immigrants in Canada

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ABSTRACT

This study examines gender variations in self-perceived health status and prevalence of high blood pressure, diabetes, and heart disease among immigrants in Canada using data from the 2007-2008 Canadian Community Health Survey. Respondents' self-perceived health status is examined through the application of ordered probit model. The prevalence of high blood pressure, diabetes, and heart disease is investigated using logistic regression. Important sociodemographic characteristics are taken into account in the analysis. Overall, I find that there is no substantial difference in health status among recent immigrants by gender. However, among long-term immigrant males have higher prevalence of diabetes and heart disease than females which suggests that with increasing duration of residence in the host society the health status of male immigrants deteriorates to larger extent than their female counterparts. Possible explanations and policy implications are discussed.

Keywords: Gender, immigrants, health status, high blood pressure, diabetes, heart disease

INTRODUCTION

Canada is one of the highest migrant receiving countries in the world. In 2001, Canada's 5.4 million immigrants made up 18.4% of the population, the highest percentage in 70 years. Canada now receives more than 200,000 immigrants each year, and they account for close to 60% of population growth. Without sufficient immigration to compensate for below-replacement fertility, the Canadian population would start to decline in about 30 years.^{15,13} Most of the earlier research on immigration has looked at immigrants' assimilation into the host country in terms of their socioeconomic attainment.^{4, 6, 7, 9, 17} Another aspect of the literature has looked at the changing pattern of immigrants' health status in the host society in comparison with the native born population.^{14,16,17,5,11,19}

However, limited attention has been given in examining gender variations in health status among immigrants in Canada. In addition, only a few studies have looked at gender differentials regarding the prevalence of heart disease, high blood pressure, and

diabetes among immigrants. This study is a modest attempt to void these gaps in the literature. More specifically, the objectives of this study are to examine the extents to which self-perceived health status, heart disease, high blood pressure, and diabetes among male immigrants differ from that of female immigrants in Canada. Previous research shows that there are substantial variations in health status among immigrants based on their duration of residence in the host country.¹⁴ Therefore, it is important to conduct separate analysis of immigrant health status based on their duration of residence in the country of destination. For this reason, this study also aims to conduct separate analysis of immigrant health status based on their duration of residence in order to provide better understanding of gender differentials in health status among immigrants.

REVIEW OF LITERATURE

Various theories have been proposed in the literature in efforts to explain gender inequality in health status. One of aspect of these theories argues that "gender inequalities in health were in the most part

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socially produced, rather than biologically given. As such they could be ameliorated, even eradicated, through changes in the gender order".² This explanation of gender inequalities in health is based on the premise that society creates different roles for females and that they are subject to various forms of exploitation by the male dominated society. Another theoretical perspective has attributed the gender inequalities in health to the variations in socioeconomic attainment between males and females.³

Researchers have found evidence in support of variations in health status across gender. Lacey and Walters (2003) found that women had poorer self-perceived health status than men in England. They also notice that those with lower educational attainment were more likely to report poor health status as compared to those with higher education. In addition, Denton and Walters (2013) observed that the most important determinant of health is the structures of social inequality (i.e., differences in education, occupation, income, and social support) in Canada. They also notice that there were significant differences in predictors of men's health and women's health.

Trovato (1993) found that death rates were lower for immigrants as compared to the Canadian born. The author also noticed 15 percent higher risk of death for Canadian men and 11 percent higher risk for Canadian women as compared to immigrant men and women respectively. Similarly, Perez (2002) observed health advantage of immigrants as compared to native born Canadians only for men when age, education and household income are taken into account in the analysis. However, the health advantage of immigrant men in relation to the Canadian born disappeared with increasing duration of residence in Canada. Perez (2002) also found that women had no advantage of health status in relation to the Canadian born regardless of their time since immigration.

What comes out from the above discussion is that there are substantial gender differences in health status, and immigrants' health status varies based on their duration of residence in the host country. With

increasing duration of residence in the host country, immigrants' experience various changes in their lifestyle. For example, immigrants adopt behaviours that may have negative health impacts in the long term such as taking alcohol. Other conditions may result from the process of immigration itself: financial constraints, employment problems and possibly difficulties in adjustment to the new society can each take toll on their well-being. In connection with this, Ali (2002) found that recent immigrants had lowest rates of depression and alcohol dependence as compared to long-term immigrants and the Canadian-born. They also reported that there was no significant difference in the rates of depression and alcohol dependence between long-term immigrants and the Canadian born.

DATA & METHODS

I used data from the 2007-2008 Canadian Community Health Survey (CCHS). The 2007-2008 CCHS is a cross-sectional survey conducted by Statistics Canada designed to support health programs by providing health data at national, provincial, and intra-provincial levels. The 2007-2008 CCHS covers the population ages 12 year and over living in the ten province and territories. The dataset contain information on wide range of health issues of respondents including self-perceived health status, heart disease, high blood pressure, and diabetes. The dataset also provides respondents sociodemographic characteristics and ethnic backgrounds. These variables are important and relevant for this study.

For this study, I selected both male and female respondents 30 years of age and over. Thus, the final sample size for this study was reduced to 15,177. Age was included in the dataset as follows: 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80 and over. I took mid-points of these age groups to make the age variable continuous so that we can use it in the multivariate regression analysis.

Gender is coded into two categories: male and female. In the multivariate analysis, female has been used as the reference category. The dataset includes respondents' marital status into four categories: married, common-law, widowed/separated/divorced, and single/never married. Marital status is coded into

two categories: married and single. Thus, married category includes the first three categories of married, common-law, widowed/separated/divorced. The category of "single" has been used as the reference category. Education is coded into two types: less than post secondary education and post secondary education. In the analyses, post secondary education has been used as the reference category.

In this study, immigrants are coded into two categories: recent immigrants and long-term immigrants. Recent immigrants are those whose duration of residence in Canada is less than 10 years, and long-term immigrants are those whose duration of residence in Canada is 10 years or more. Respondents' employment status is coded into two types: employed and not employed. The employed category also includes those who were self-employed. The *not employed* category is comprised of those who were either unemployed or not working due to other reasons such as studying. Respondents' income is coded into two categories: high income and low income. The cut off point between two categories of income is \$36,451, the average income of the respondents'.

Respondents' perceived health status is reported into five categories: poor, fair, good, very good, excellent. For the purpose of multivariate analysis, perceived health status is coded as ordinal variable as follows: 0=poor, 1=fair, 2=good, 3=very good, 4=excellent. Prevalence of high blood pressure among respondents is coded into two categories: yes and no (yes=1 and no=0). Prevalence of diabetes is also coded into two categories: yes and no (yes=1 and no=0). Similarly, heart attack is coded into two categories; yes and no (yes=1 and no=0).

The data is analyzed through the application of both bivariate and multivariate approach. In bivariate analysis, percentages of reporting perceived health status as "poor", "fair", "good", "very good", and "excellent" are presented by gender both for recent and long-term immigrants. For high blood pressure, diabetes, and heart disease, the percentages of whether have those diseases or not are reported. In all bivariate analyses, the statistical significance is presented using Chi-square test. The self-perceived health status of the respondents is presented in ordinal level. Therefore, in multivariate analysis, Ordered Probit Regression is used to examine gender variations in self-perceived health status of immigrants in Canada. Respondents' prevalence of high blood pressure, diabetes, and heart disease is reported in two categories: yes and no. Because of the dichotomous nature of the outcome variables, logistic regression is used to investigate gender variations in the prevalence of high blood pressure, diabetes, and heart disease among immigrants in Canada.

Sample characteristics

The total sample size in this study is 15,177 of which 45.3 per cent are males and 54.7 per cent are females. Eighty five per cent of the respondents are long-term immigrants and the remaining 15 per cent are recent immigrants (Table 1). A vast majority of the respondents are married (90.8%). Majority of the respondents have post-secondary education (66.2%). About half of the respondents are employed and the remaining respondents are not employed. The percentage of respondents who belong to low income category (69.8%) is much higher than those who belong to high income category (30.2%). Among respondents, 27.5 per cent have high blood pressure, 9.2 per cent have diabetes, and 8.3 per cent have heart disease (Table 1).

Table 1 Sample characteristics of the respondents

Variables	N	%
<i>Gender</i>		
Male	6875	45.3
Female	8302	54.7
Total	15177	100.0
<i>Marital Status</i>		
Married	13775	90.8
Single	1402	9.2
Total	15177	100.0
<i>Education</i>		
Less than post secondary	5130	33.8
Post secondary	10047	66.2
Total	15177	100.0
<i>Employment Status</i>		
Employed	7740	51.0
Not employed	7437	49.0
Total	15177	100.0
<i>Income</i>		
Low income	10601	69.8
High income	4576	30.2
Total	15177	100.0
<i>Immigrant Status</i>		
Recent immigrants	2267	14.9
Long-term immigrants	12910	85.1
Total	15177	100.0
<i>Self-perceived Health</i>		
Poor	739	4.9
Fair	1812	11.9
Good	5069	33.4
Very good	4783	31.5
Excellent	2774	18.3
Total	15177	100.0
<i>High Blood Pressure</i>		
Yes	4178	27.5
No	10999	72.5
Total	15177	100.0
<i>Diabetes</i>		
Yes	1392	9.2
No	13785	90.8
Total	15177	100.0
<i>Heart Disease</i>		
Yes	1265	8.3
No	13912	91.7
Total	15177	100.0

Source: The 2007-2008 Canadian Community Health Survey

RESULTS

The objectives of this study are to examine the extents to which perceived health status, prevalence of high blood pressure, diabetes, and heart disease differ by gender among immigrants in Canada. Because of substantial variations in health status between recent immigrants and long-term immigrants, a separate analysis has been conducted for these two sub-groups of immigrants in Canada. The bivariate analysis of this study is presented below followed by multivariate analysis.

Bivariate Analysis

The self-perceived health status among recent and long-term immigrants in Canada is presented in Table 2. Among recent immigrants, the percentages of reporting "very good" and "excellent" health status are higher for males than those of females. This pattern is also evident for long-term immigrants. Comparing self-perceived health status between recent immigrants and long-term immigrants shows that recent immigrants (both for males and females) consistently reported better health status than long-term immigrants (Table 2).

Table 2 Self-perceived health status among recent and long-term immigrants

Self-perceived health status	Recent Immigrants				Long-term Immigrants			
	Male		Female		Male		Female	
	N	(%)	N	(%)	N	(%)	N	(%)
Poor	14	(1.3)	22	(1.8)	302	(5.2)	401	(5.7)
Fair	48	(4.5)	71	(5.8)	712	(12.2)	981	(13.8)
Good	313	(29.6)	458	(37.9)	1931	(33.2)	2367	(33.4)
Very good	394	(37.4)	383	(31.7)	1858	(31.9)	2148	(30.3)
Excellent	288	(27.2)	276	(22.8)	1015	(17.4)	1195	(16.8)
Total	1057	(100.0)	1210	(100.0)	5818	(100.0)	7092	(100.0)
Significance	Chi-square = 23.68, df=4, P <0.01; N=2267				Chi-square = 10.95, df=4, P <0.05; N=12910			

Source: The 2007-2008 Canadian Community Health Survey

Table 3 Prevalence of high blood pressure, diabetes and heart disease among immigrants

Health Status	Recent Immigrants		Long-term Immigrants	
	Male N (%)	Female N (%)	Male N (%)	Female N (%)
High blood pressure				
Yes	106 (10.0)	104 (8.6)	1672 (28.7)	2296 (32.4)
No	951 (90.0)	1106 (91.4)	4146 (71.3)	4796 (67.6)
Total	1057 (100.0)	1210 (100.0)	5818 (100.0)	7092 (100.0)
Significance test	Chi-square = 1.38, df=1, P =n.s. N=2267		Chi-square = 19.84, df=1, P <0.01; N=12910	
Diabetes				
Yes	43 (4.1)	44 (3.6)	635 (10.9)	670 (9.4)
No	1014 (95.9)	1166 (96.4)	5183 (89.1)	6422 (90.6)
Total	1057 (100.0)	1210 (100.0)	5818 (100.0)	7092 (100.0)
Significance test	Chi-square =0.28, df=1, P =n.s. N=2267		Chi-square = 7.57, df=1, P <0.01; N=12910	
Heart disease				
Yes	24 (2.3)	21 (1.7)	648 (11.1)	572 (8.1)
No	1033 (97.7)	1189 (98.3)	5170 (88.9)	6520 (91.9)
Total	1057 (100.0)	1210 (100.0)	5818 (100.0)	7092 (100.0)
Significance test	Chi-square =0.83, df=1, P =n.s. N=2267		Chi-square =35.25, df=1, P <0.01; N=12910	

Source: The 2007-2008 Canadian Community Health Survey

Table 3 presents the prevalence of high blood pressure, diabetes, and heart disease among recent

and long-term immigrants in Canada. Among recent immigrants, males have higher prevalence of high blood pressure (10.0%), diabetes (4.1%), and heart disease (2.3%) than females (8.6%, 3.6%, and 1.7% respectively) though the differences are not statistically significant. Among long-term immigrants, males have significantly lower prevalence of high blood pressure (28.7%) than females (32.4%). However, males have higher prevalence of diabetes (10.9%) and heart disease (11.1%) than females (9.4% and 8.1% respectively). These differences are statistically significant (Table 3).

Comparison of the prevalence of high blood pressure, diabetes, and heart disease between recent and long-term immigrants shows that long-term immigrants consistently have higher prevalence of high blood pressure, diabetes, and heart disease. This is true both for males and females (Table 3).

Multivariate Analysis

Self-perceived health status

The odds ratios of self-perceived health status among recent and long-term immigrants by gender derived through the Ordered Probit regression are displayed in Table 4. The ordered probit models also include control variables of marital status, education, employment status, and income. Table 4 shows that among recent immigrants in Canada, males have better health status than females after controlling for age, marital status, education, employment status and income. However, among long-term immigrants, males have lower health status than females adjusted for the sociodemographic characteristics. This suggests that with increasing duration in the host society male immigrants health status deteriorates as compared to female immigrants.

Table 4 also shows that among long-term immigrants, married immigrants are more likely to have better health status than single immigrants in Canada. Although there is no significant difference in health status between the two categories of education among recent immigrants, long-term immigrants with post-secondary education are likely to have lower health status than their counterparts

with post-secondary education. Both recent and long-term immigrants who are employed have better health status than those who are not employed, indicating positive effect of employment on health status. Furthermore, both recent and long-term immigrants who have lower income have lower health status than those who have higher income (Table 4).

Prevalence of high blood pressure

The odds ratios of high blood pressure among recent and long-term immigrants by gender are presented in Table 5. The logistic regression models also include other explanatory variables such as age, marital status, education, employment, and income. It is evident that among recent immigrants there is no significant difference in prevalence of high blood pressure between males and females. However, among long-term immigrants males have 9.7 per cent lower odds of having high blood pressure as compared to their female counterparts adjusted for the sociodemographic characteristics (Table 5).

Both for recent and long-term immigrants, there is no significant difference in the prevalence of high blood pressure between married and single immigrants. Long-term immigrants with less than post-secondary education have 26.5 per cent higher prevalence of high blood pressure than their counterparts with post-secondary education. However, among long-term immigrants, employed immigrants have 18.1 per cent lower odds of having high blood pressure than their not employed counterparts. In addition, both among recent and long-term immigrants, there is no significant difference in the prevalence of high blood pressure between low income and high income categories (Table 5).

Prevalence of high blood pressure

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Table 4 Ordered Probit Regression estimates of self-perceived health status among immigrants

Self-Perceived Health	Recent Immigrants Coeff. (Std. Error)	Long-term Immigrants Coeff. (Std. Error)
<i>Gender</i>		
Male	0.135 (0.048)**	-0.071 (0.019)**
Female (R)		
<i>Age</i>	-0.017 (0.002)**	-0.007 (0.008)**
<i>Marital Status</i>		
Married	-0.087 (0.076)	0.082 (0.033)*
Single (R)		
<i>Education</i>		
Less than post secondary	0.012 (0.063)	-0.0234 (0.020)**
Post secondary		
<i>Employment Status</i>		
Employed	0.115 (0.055)*	0.310 (0.026)**
Not employed (R)		
<i>Income</i>		
Low income	-0.173 (0.055)**	-0.265 (0.023)**
High income (R)		
<i>Intercept₁</i>	-2.998**	-2.251**
<i>Intercept₂</i>	-2.3080**	-1.493**
<i>Intercept₃</i>	-1.0067**	-0.487**
<i>Intercept₄</i>	-0.0754**	0.468**
<i>-2 Log Likelihood</i>	2893.85	18101.58
<i>N</i>	2267	12910

**p < 0.01; *p < 0.05

Source: The 2007-2008 Canadian Community Health Survey

Table 5 Odds ratios from logistic regression of high blood pressure, diabetes and heart disease

Variables	High Blood Pressure		Diabetes		Heart Disease	
	Recent Immigrants	Long-term Immigrants	Recent Immigrants	Long-term Immigrants	Recent Immigrants	Long-term Immigrants
<i>Gender</i>						
Male	1.267	0.903**	1.410	1.361**	1.487	1.705**
Female (R)						
<i>Age</i>	1.089**	1.056**	1.067**	1.028**	1.084**	1.077**
<i>Marital Status</i>						
Married	1.328	1.001	2.065	0.714**	1.294	1.498*
Single (R)						
<i>Education</i>						
Less than post secondary	0.978	1.265**	1.532	1.149**	1.040	0.999
Post secondary						
<i>Employment Status</i>						
Employed	0.932	0.819**	0.827	0.745**	0.695	0.663**
Not employed (R)						
<i>Income</i>						
Low income	1.175	0.933	1.921	1.451**	0.943	1.114
High income (R)						
<i>Intercept</i>	0.001**	0.015**	0.002**	0.019**	0.001**	0.003**
<i>-2 Log Likelihood</i>	599.14	7050.86	324.49	4034.54	189.43	3431.60
<i>N</i>	2267	12910	2267	12910	2267	12910

**p < 0.01; *p < 0.05

Source: The 2007-2008 Canadian Community Health Survey

among long-term immigrants males have 9.7 per cent lower odds of having high blood pressure as compared to their female counterparts adjusted for the socio-demographic characteristics (Table 5).

Both for recent and long-term immigrants, there is no significant difference in the prevalence of high blood

pressure between married and single immigrants. Long-term immigrants with less than post-secondary education have 26.5 per cent higher prevalence of high blood pressure than their counterparts with post-secondary education. However, among long-term immigrants, employed immigrants have 18.1 per cent lower odds of having high blood pressure

than their not employed counterparts. In addition, both among recent and long-term immigrants, there is no significant difference in the prevalence of high blood pressure between low income and high income categories (**Table 5**).

Prevalence of diabetes

Table 4 illustrates that among recent immigrants there is no significant difference in the prevalence of diabetes between males and females after adjusting for age, marital status, education, employment, and income. However, among long-term immigrants males have 36.1 per cent higher prevalence of diabetes net of the sociodemographic characteristics.

In addition, among recent immigrants, there is no significant difference in the prevalence of diabetes across various categories of marital status, education, occupation, and income. In contrast, among long-term immigrants, married immigrants have 27.6 per cent lower prevalence of diabetes than their single counterparts. Similarly, employed women have 25.5 per cent lower prevalence of diabetes than those who are not employed. Conversely, long-term immigrants with less than post-secondary education have 14.9 per cent higher prevalence of diabetes than their counterparts with post-secondary education. Consistent with this trend, long-term immigrants with low income have 45.1 per cent higher prevalence of diabetes than those with high income (**Table 5**).

Prevalence of heart disease

Table 5 also shows the prevalence of heart disease among recent immigrants and long-term immigrants by gender in Canada. The logistic regression estimates of prevalence of heart disease also include control variables of marital status, education, employment status, and income. It is evident that among recent immigrants there is no significant difference in the prevalence of heart disease between males and females after adjusting for age, marital status, education, employment, and income. On the other hand, among long-term immigrants, males have 70.5 per cent higher prevalence of heart disease than females even after adjusting for the sociodemographic characteristics.

Consistent with the prevalence of high blood pressure and diabetes, among recent immigrants, there is no significant difference in the prevalence of heart disease across various categories of education, employment, and income. However, there are substantial differences in the prevalence of heart disease among long-term immigrants in Canada across the categories of marital status and income. For example, among long-term immigrants married immigrants have 49.8 per cent higher prevalence of heart disease than single immigrants. Conversely, those who are employed are less likely to have heart disease than those who are not employed (**Table 5**).

DISCUSSION & CONCLUSION

To obtain a comprehensive understanding of the health status of immigrants we need to examine both self-reported health status and the prevalence of disease such as high blood pressure, diabetes, and heart disease. The objective of this study is to examine gender variations in health status of immigrants in Canada. In this study, the health status of immigrants is measured in terms of four categories: self-perceived health status, high blood pressure, diabetes, and heart disease. Because of significant differences in health status between recent immigrants and long-term immigrants, separate analysis of their health status is conducted. Important sociodemographic characteristics are also taken into account in multivariate analysis.

This study arrived at three basic conclusions. First, there are significant differences in self-perceived health status by gender both among recent and long-term immigrants. Among recent immigrants, males have better health status than females; however, among long term immigrants males have lower health status than females. These results suggest that with increasing duration of residence in the host society male immigrants health status deteriorates largely than females. Part of the reason might be that male immigrants adopts health behaviours that are not conducive for good health such as drinking alcohol, lack of exercise, and not eating balanced diet. In addition, various stress associated with migration and getting settled socially and economically might contribute to some extent in

deteriorating their health status as compared to their female counterparts.

Second, there is no gender difference in the prevalence of high blood pressure, diabetes, and heart disease among recent immigrants in Canada. This is due to the fact that immigrants are a select group and that they have better health status at the time of immigration. This explanation is consistent with the hypothesis of "healthy immigrant effect" which is well established in the literature (McDonald and Kennedy, 2004). Finally, among long-term immigrants there are significant variations in the prevalence of diabetes and heart disease by gender. For example, males have higher prevalence of diabetes and heart disease than females net of sociodemographic characteristics.

REFERENCES

1. Ali J (2002). Mental health of Canada's immigrants. Statistics Canada. Health Reports Vol. 13
2. Annadale E, and Hunt K (2000). *Gender inequalities in health*. Open University Press, Buckingham.
3. Arber S, Gilbert N, and Dale A (1985) Paid employment and women's health: a benefit or a source of role strain? *Sociology of Health and Illness*. 7(3): 375-99.
4. Boyd M (2009). Immigrant generations at the starting gate: Race, color and labour market integration. *Conference Papers -- American Sociological Association*, 1.
5. Chen J, Wilkins R, and Ng E (1996). Health expectancy by immigrant Status, 1986 and 1991. Statistics Canada, Health Reports. Winter Vol. 8, No. 3
6. Chiswick BR, and Miller PW (2010). The effects of educational-occupational mismatch on immigrant earnings in Australia, with international comparisons. *International Migration Review*. 44(4), 869-898.
7. Connor P, and Massey DS (2010). Economic outcomes among Latino migrants to Spain and the United States: Differences by source region and legal status. *International Migration Review*. 44(4), 802-829.
8. Denton M, and Walters V (2013). Gender differences in structural and behavioral determinants of health: An analysis of the social production of health. *Social Science and Medicine*. 48(9), 1221-1235.
9. Fong E, and Shen J (2011). Explaining ethnic enclave, ethnic entrepreneurial and employment niches: A case study of Chinese in Canadian immigrant gateway cities. *Urban Studies*, 48(8). 1605-1633.
10. Lacey EA, and Walters SJ (2003). Continuing inequality: gender and social class influences on self perceived health after a heart attack. *Journal of Epidemiology Community Health*. 57, 622-627.
11. Marmot MG, Adekstein AM, Bulusu L. (1984). *Lessons from the study of immigrant mortality*. *Lancet*. June 30: 1455-7.
12. McDonald JT, and Kennedy S (2004). Insights into the 'healthy immigrant effect': Health status and health service use of immigrants to Canada. *Social Science and Medicine*. 59(8): 1613-1627.
13. Ng, Edward E, Wilkins R, Gendron F and Berthelot JM (2005). The changing health of immigrants. Statistics Canada. Catalogue No. 11-008
14. Perez CE. (2002). Health status and health behavior among immigrants. Statistics Canada. Volume 13, Catalogue 82-003
15. Statistics Canada (2001). Population projections for Canada, provinces and territories, 2000-2026. Statistics Canada Catalogue no. 91-520.
16. Trovato, F. and Clogg CC (1992). General and cause specific mortality among immigrants in Canada, 1971



- and 1981. *Canadian Studies in Population*. 19(1): 47-80
17. Trovato F (1993). Mortality differences by nativity during 1985-8. *Canadian Studies in Population*. 20(2): 207-233
18. White MJ, Fong E, and Cai Q (2003). The segregation of Asian-origin groups in the United States and Canada. *Social Science Research*. 32(1), 148.
19. Young CM (1990). Changes in the demographic behavior of migrants in Australia and the transition between generations. *Population Studies*. 4:68-89.