Language Proficiency, Gender and Self-reported Health

An Analysis of the First Two Waves of the Longitudinal Survey of Immigrants to Canada

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ABSTRACT

Background: Most immigrants to Canada now come from Asia, the Middle East, the Caribbean and Africa, where cultures and languages often differ significantly from the Canadian context. Subgroups of immigrants experience disparities in health. Inability to communicate in an official language in Canada may be a marker of risk for poor health due to both pre- and post-migration factors. We aimed to study the relationship between language proficiency and self-reported health.

Methods: We conducted a cross-sectional analysis of the first two surveys of the Longitudinal Survey of Immigrants to Canada (2001, 2003), a population-based cohort study of new immigrants to Canada. Specifically, we used logistic regression analyses to examine the relationship between self-reported health and language proficiency by sex, controlling for a range of health determinants at 6 months (wave 1) and 2 years (wave 2) after arrival.

Results: After controlling for covariates (age, sex, education, region of birth, immigrant class, job satisfaction, access to health care), analysis of the wave 1 survey showed that poor proficiency in English or French is significantly related to the self-reported poor health (OR=2.0, p<0.01). And this relationship was consistent in the wave 2 survey (OR=1.9, p<0.01). We also found that this statistically significant association between poor language proficiency and self-reported health holds only for women (wave 1 survey OR=2.6, p <0.01, wave 2 survey OR=2.2, p<0.01), not for men.

Conclusion: The association between poor language proficiency and poor self-reported health, and particularly its significantly greater impact on women, has implications for language training, health care and social services, and health information.

Key words: Language proficiency; gender; self-reported health; immigrants and refugees

The pattern and demographics of Canadian immigration have changed dramatically over the past 30 years. Most immigrants now come from Asia, the Middle East, Caribbean and Africa where language and cultures often differ profoundly from the Canadian context.[1] Disparities in health outcomes have recently begun to surface within immigrant* subgroups, most notably within refugee communities.[2] Disparities in health status also exist among immigrants by source countries.[3-5] Disparities in access to and utilization of health services[6-9] combined with an array of economic, linguistic and socio-economic barriers that circumscribe access not only to health services, but to other social determinants of health as well, may play a role in these poorer health outcomes.[10-13]

Many immigrants face language barriers, cultural alienation, disparate gender ideologies, and institutional barriers that may impede their abilities to reclaim remunerative and meaningful employment and subsequently professional and personal identities.[14-16] Generally speaking, women – especially those from non-Western countries – can be regarded as particularly vulnerable to downward mobility and entrenched poverty and marginalization.[4,17-19] In Canada, the gendered associations of these categories are highly evident with women comprising 75% of the family class migrants to Canada while 75% of independent (economic) migrants are males.[20] Importantly, one's status upon entry into Canada has an impact on settlement and integration through the types of programs offered by the Canadian government, rights and responsibilities associated with each category, and the ability to work and settle in a profession and location of one's choice.[21,22]

Although initially immigrants to Canada report better health than their Canadian-born counterparts, there is seemingly a gradual loss of this "healthy immigrant effect".[3,5,23-25] Self-reported health is strongly associated with morbidi-

* The term "immigrant" generally refers to voluntary migrants, as distinguished from refugees or involuntary migrants who are compelled to leave their homelands for reasons outlined by the Geneva Convention. For the purposes of this paper, however, we employ the term "immigrant" as a general category to refer to both voluntary and involuntary migrants, in recognition of the fact that the Longitudinal Survey of Immigrants in Canada uses this term as a primary rubric.

TABLE I

Profile of All Immigrants and Percentages Reporting Poor Health by Sex, LSIC Wave 1

	Total			Male			Female		
	n N Weighted %	11,802 160,854 Self-rated Poor Health		n N Weighted %	5890 79,342 Self-rated Poor Health		n N Weighted %	5912 81,512 Self-rated Poor Health	
		%	95% CI		%	95% CI		%	95% CI
Total	100	3.1	2.7-3.4	100	2.3	2.0-2.8	100	3.8	3.3-4.3
Age									
15-24	16	2.1	1.5-2.8	18	2.4	1.5-3.7	14	1.8	1.2-2.8 E
25-44	66	2.0	1.7-2.4	65	1.6	1.2-2.1	68	2.5	2.0-3.1
45-64	14	6.6	5.5-7.9	14	4.3	3.1-5.9	15	9.0	7.3-11.2
65+	3	13.4	10.0-17.7	3	9.1	5.3-15.1 E	3	16.8	11.8-23.2 E
Education									
< Secondary school graduation	15	6.5	5.5-7.7	12	4.4	3.1-6.2 E	17	8.0	6.5-9.7
Secondary school graduation	12	2.8	2.0-3.8	10	2.8	1.8-4.4 E	14	2.8	1.9-4.2 E
Some post-secondary	19	3.1	2.5-4.0	16	2.5	1.7-3.8 E	22	3.6	2.7-4.7
University graduation	36	2.2	1.8-2.8	40	2.1	1.5-2.8	33	2.4	1.8-3.3
Masters or above	19	2.0	1.4-2.8 E	23	1.3	0.8-2.2 E	14	3.0	2.0-4.7 E
Immigration Class									
Refugee	6	5.9	4.8-7.3	6	4.0	2.9-5.6 E	6	7.7	5.9-10.0
Family class	27	5.0	4.3-5.9	21	4.2	3.2-5.6	34	5.5	4.6-6.6
Skilled workers†	67	2.0	1.7-2.4	73	1.6	1.3-2.1	60	2.4	1.9-3.0
Place of Birth									
Africa	9	1.7	1.1-2.6 E	10		F	8	2.4	1.4-4.3 E
Caribbean/South and Central America	6	3.7	2.6-5.4 E	6	3.5	1.9-6.2 E	7	3.9	2.4-6.4 E
Asia	68	3.3	2.9-3.7	67	2.6	2.1-3.2	69	3.9	3.3-4.6
US/Europe/Oceania	17	2.6	2.0-3.4	17	1.5	0.9-2.5 E	17	3.7	2.8-5.0
Health Care Access Problem									
No problem	82	2.5	2.2-2.8	84	1.9	1.5-2.3	81	3.0	2.6-3.6
Language	3	8.7	5.9-12.4 E	2	9.9	5.7-16.5 E	3	7.9	4.7-13.0 E
Cost	3	5.9	4.0-8.7 E	3		F	3	7.4	4.5-11.9 E
Waiting list	6	5.8	4.3-7.9	6	4.4	2.6-7.2 E	6	7.2	4.8-10.4 E
No doc available	2		F	2		F	2		F
Others	4	5.4	3.5-8.3 E	3		F	4	7.1	4.2-11.8 E
Job Satisfaction									
Good job satisfaction	32	1.4	1.0-1.9	39	1.5	1.0-2.1 E	26	1.3	0.8-2.0 E
No job satisfaction	11	3.4	2.5-4.7	14	2.9	1.8-4.4 E	8	4.3	2.8-6.7 E
Not currently working	57	3.9	3.5-4.4	47	2.9	2.3-3.6	66	4.7	4.0-5.4
Language Proficiency									
Good	63	1.6	1.3-2.0	70	1.6	1.2-2.1	56	1.7	1.2-2.2
Poor	37	5.4	4.8-6.1	30	4.0	3.2-5.0	44	6.4	5.5-7.4

† including business class
E Coefficient of variation between 16.6% and 33.3% (interpret with caution)
F Coefficient of variation greater than 33.3% (suppressed because of extreme sampling variability)
Note: not all percentages add to 100% due to rounding

ty, mortality and utilization of health services.[26,27] Using data from the Longitudinal Survey of Immigrants to Canada (LSIC),[20] we provide some baseline estimates by examining cross-sectionally the determinants of health in relation to self-reported health in new immigrants to Canada. The relationships among language proficiency, gender and self-reported health are not well understood and thus we focus on those relationships.

DATA AND METHODS

This cross-sectional analysis used data from a longitudinal population-based cohort survey of immigrants to Canada.[20] About 21,000 people aged 15 and over were selected out of approximately 250,000 immigrants who settled in Canada from abroad between October 2000 and September 2001. 12,040 agreed to participate in wave 1. The first 2 waves of interviews were conducted 6 months and 2 years after arrival, respectively. Wave 2 had 9,322 respondents providing answers, representing a response rate of 77%. Most interviews were conducted face-to-face and lasted about 90 minutes. The interviews were conducted in 1 of the 15 languages most frequently spoken by new immigrants, including English and French.*

Persons claiming refugee status from within Canada (refugee claimants) were omitted from the sample and thus LSIC results do not speak for this group of refugees. Participation rate was limited not

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* The 15 languages are English, French, Chinese (Mandarin, Cantonese), Punjabi, Farsi/Dari (one language), Arabic, Spanish, Russian, Serbo-Croatian, Urdu, Korean, Tamil, Tagalog, and Gujarati. The 15 languages selected cover approximately 93% of the immigrant population in Canada.

because of refusal to participate, but because of difficulty tracing participants and this inability to find participants has made it difficult to collect information to better understand this group. Specifically, the probability that immigrants leave Canada is quite high compared to Canadians in general, thus making this longitudinal survey quite unique; the target population changes at each wave.

In this analysis, the questions concerning self-reported health were conventionally reclassified from five to two categories: "excellent", "very good", and "good" became "good health" and "fair" and "poor" became "poor health". The questions on language proficiency focused on language-speaking abilities (English and French), and, after some in-depth analyses, the six possible categories were reclassified into two for each language separately:

TABLE II

Adjusted Odds Ratios (95% CI) of Having Self-reported Poor Health by Selected Characteristics, LSIC Wave 1†

	Overall		Male		Female	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
Age						
15-24	1.0		1.0		1.0	
25-44	1.2	0.8-1.9	0.9	0.5-1.8	1.4	0.8-2.4
45-64	3.0 **	2.0-4.4	1.9 *	1.0-3.6	4.2 **	2.4-7.1
65+	5.3 **	3.2-8.7	2.9 *	1.2-6.9	7.5 **	4.0-14.3
Sex						
Male	1.0					
Female	1.3 *	1.0-1.7				
Education						
< Secondary school graduation	1.6	1.0-2.5	1.9	0.9-4.2	1.2	0.6-2.2
Secondary school graduation	0.9	0.5-1.4	1.3	0.6-2.9	0.6	0.3-1.2
Some post-secondary	1.1	0.7-1.8	1.5	0.7-3.1	0.9	0.5-1.6
University graduation	1.0	0.7-1.5	1.3	0.7-2.6	0.8	0.4-1.3
Masters or above	1.0		1.0		1.0	
Immigration Class						
Refugee	2.1 **	1.5-2.9	1.8 *	1.1-3.0	2.3 *	1.5-3.5
Family class	1.3	1.0-1.7	1.5	0.9-2.6	1.2	0.8-1.7
Skilled workers††	1.0		1.0		1.0	
Place of Birth						
Africa	0.7	0.4-1.1	0.7	0.3-1.9	0.7	0.3-1.4
Caribbean/South and Central America	1.3	0.8-2.1	1.9	0.8-4.7	1.1	0.5-2.1
Asia	1.0	0.7-1.3	1.4	0.8-2.6	0.8	0.6-1.2
US/Europe/Oceania	1.0		1.0		1.0	
Language Proficiency						
Good	1.0		1.0		1.0	
Poor	2.0 **	1.5-2.7	1.4	0.9-2.3	2.6 **	1.8-3.9
Health Care Access Problem						
No problem	1.0		1.0		1.0	
Language	2.7 **	1.7-4.3	4.4 **	2.1-9.3	2.0 *	1.0-3.8
Cost	2.8 **	1.7-4.5	2.3	0.9-5.5	3.3 **	1.7-6.2
Waiting list	3.1 **	2.1-4.6	2.8 **	1.5-5.4	3.4 **	2.1-5.6
No doc available	2.0	0.7-5.6	2.0	0.4-9.2	2.1	0.6-7.1
Others	2.9 **	1.8-4.7	2.4	1.0-6.2	3.3 **	1.7-6.1
Job Satisfaction						
Good job satisfaction	1.0		1.0		1.0	
No job satisfaction	2.6 **	1.6-4.2	2.1 *	1.1-3.9	3.7 **	1.8-7.9
Not currently working	1.8 **	1.3-2.5	1.5	0.9-2.4	2.3 **	1.3-3.9

† Only model 2 presented
†† including business class
* Statistically significant at p<0.05
** Statistically significant at p<0.01

"cannot speak", "speak poorly", and "fairly well" became "poor proficiency", and "well", "very well", and "first language" (i.e., speak most often at home) became "good proficiency". Given that the majority of immigrants in Quebec settle in Montreal, we used English and French proficiency to determine overall language proficiency in this province, while we used only English proficiency elsewhere.

Data analysis

We used univariate and bivariate statistics to give a profile of the LSIC wave 1 survey respondents as well as to portray the relationship between self-reported health and selected characteristics at 6 months after arrival. We then used multivariate logistic regression to examine the relationship between self-reported poor health and language proficiency, controlling for sex, age, education, region of origin, immigration class in model 1, followed by model 2 which in addition controls for problems

with access to health care and job satisfaction to see if these additional variables could explain away our observed significant relationship. Both models were estimated for the immigrant population (overall and by sex) at 6 months and 2 year surveys, but only model 2 will be presented in the table. Analyses were conducted cross-sectionally to provide baseline estimates for future longitudinal analysis. SAS software was used, and SAS-callable SUDAAN procedures were used to incorporate bootstrap weights to account for the survey's complex sampling design.

RESULTS

Table I shows the weighted distribution of wave 1 by selected characteristics of 11,802 respondents by age, sex, education, immigration status, place of birth, job satisfac-

tion, access to health care, and language proficiency.* These immigrants were relatively young with high education level. The majority came in under the skilled workers class (which includes business class in this analysis), and most were born in Asia. 37% of this wave 1 cohort reported poor language proficiency 6 months after arrival; this was more so for women than men (44% versus 30%, respectively).

Table I also shows weighted percent of self-reported poor health by selected characteristics within the first six months of arrival. As expected, self-reported poor health was more associated with older age. Those with less than secondary education had a higher percentage of poor self-reported health than those with masters' level education or higher (7% vs. 2%). Refugee and family class respondents more often reported poor self-reported health

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* Excluded from the analysis are 112 respondents whose immigrant class information could not be easily classified (provincial nominees and other immigrants abroad), as well as 126 others whose responses to educational level, place of birth, health care access problem and job satisfaction were missing or were hard to code.

TABLE III

Adjusted Odds Ratios (95% CI) of Having Self-reported Poor Health by Selected Characteristics, LSIC Wave 2†

	Overall		Male		Female	
	AOR	95% CI	AOR	95% CI	AOR	95% CI
Age						
15-24	1.0		1.0		1.0	
25-44	1.5	1.0-2.3	1.2	0.6-2.6	1.7	1.0-3.0
45-64	3.4 **	2.2-5.3	3.0 **	1.4-6.6	3.9 **	2.2-7.0
65+	5.3 **	3.2-8.9	4.6 **	1.9-11.4	5.7 **	2.9-11.1
Sex						
Male	1.0					
Female	1.6 **	1.2-2.0				
Education						
< Secondary school graduation	0.9	0.6-1.3	1.2	0.6-2.5	0.7	0.4-1.2
Secondary school graduation	0.9	0.6-1.3	1.2	0.6-2.4	0.7	0.4-1.2
Some post-secondary	1.0	0.7-1.4	1.7	0.9-3.3	0.7	0.4-1.1
University graduation	0.8	0.5-1.1	1.0	0.6-1.8	0.6 *	0.4-1.0
Masters or above	1.0		1.0		1.0	
Immigration Class						
Refugee	1.9 **	1.4-2.6	2.1 **	1.3-3.5	1.8 **	1.2-2.7
Family class	1.3	1.0-1.6	1.8 *	1.1-2.9	1.1	0.8-1.5
Skilled workers††	1.0		1.0		1.0	
Place of Birth						
Africa	1.0	0.6-1.7	1.0	0.4-2.2	1.1	0.5-2.1
Caribbean/South and Central America	1.0	0.6-1.7	0.9	0.3-2.6	1.0	0.5-2.2
Asia	1.2	0.9-1.6	1.2	0.7-2.0	1.2	0.8-1.8
US/Europe/Oceania	1.0		1.0		1.0	
Language Proficiency						
Good	1.0		1.0		1.0	
Poor	1.9 **	1.5-2.4	1.4	0.9-2.2	2.2 **	1.6-3.0
Health Care Access Problem						
No problem	1.0		1.0			
Language	2.8 **	1.5-5.4	2.8	0.8-9.3	3.0 **	1.3-6.6
Cost	3.3 **	2.0-5.5	3.8 **	1.6-9.3	2.9 **	1.5-5.7
Waiting list	2.3 **	1.6-3.2	2.2 *	1.2-4.3	2.3 **	1.5-3.5
No doc available	1.3	0.6-2.8	.		2.0	0.9-4.6
Others	4.4 **	3.0-6.5	1.1	0.3-3.8	6.1 **	3.9-9.7
Job Satisfaction						
Good job satisfaction	1.0		1.0		1.0	
No job satisfaction	1.9 **	1.3-2.9	2.1 *	1.1-3.9	1.9 *	1.1-3.2
Not currently working	1.9 **	1.5-2.4	2.3 **	1.5-3.4	1.7 **	1.3-2.4

† Only model 2 presented
†† including business class
* Statistically significant at p<0.05
** Statistically significant at p<0.01

(6% and 5%, respectively) than skilled workers (2%). Those with no job satisfaction also showed higher percentages of self-reported poor health than those with (3% versus 1%). Finally, those with poor language proficiency more often reported poor health than those with good language proficiency (5% versus 2%).

Table II shows our logistic regression results (only Model 2 shown) from wave 1. After controlling for the initially selected variables in Model 1, we saw a statistically significant relationship between poor language proficiency and self-reported health (OR=2.2, 95% CI=1.7-3.0). In Model 2 – which in addition controls for problems of access to health care and job dissatisfaction – poor language proficiency was still associated with poor self-reported health overall, compared to those with good language proficiency (OR=2.0, 95% CI=1.5-2.7). This relationship was statistically significant for women (OR=2.6, 95% CI=1.8-3.9) but not for men (OR=1.4, 95%

CI=0.9-2.3). Being a refugee was also significantly associated with poor self-reported health compared to skilled workers (OR=2.1, 95% CI=1.5-2.9), both for females and males.

Table III shows the same multivariate logistic regression results for wave 2. Poor language proficiency remained significantly related to self-reported poor health overall in both models 1 and 2, and once again, by gender, poor language proficiency was significant only in women (OR=2.2, 95% CI=1.6-3.0), not in men (OR=1.4, 95% CI=0.9-2.2), when job satisfaction and health care access were further controlled.

DISCUSSION

The LSIC has enabled an analysis of destination country language proficiency (i.e., English and/or French), gender, and other determinants of health with respect to poor self-reported health.

Limitations

We used poor self-reported health as our primary outcome measure. Although associated with mortality and morbidity,[26,27] this question may be open to varying interpretations and its response may be influenced by numerous factors including nuances across languages and cultures. The inherent reference group for immigrants may change over time in Canada as they become acculturated. Also, LSIC used self-reported language proficiency rather than measured spoken language proficiency. These measures are likely to be strongly related, but the degree of association is not known nor the reasons why they might diverge. LSIC had difficulty finding participants, leading to a low response rate. It is difficult to measure the consequences of this limitation. LSIC excluded refugee claimants and this limits our scope of refugee class analysis. Finally, our analyses were cross-sectional rather than longitudinal, so changes over time were not mea-

sured in the same individuals. Future research will include a longitudinal examination of individuals across LSIC waves to understand language proficiency as a determinant of change in self-reported health.

Two key results have surfaced from this analysis: first, poor language proficiency was associated with poor self-reported health, even when controlling for a range of characteristics that included access to health care and job satisfaction; and second, this association primarily involved women. This differential gender finding required analyzing females and males separately. Other relevant associations with self-reported poor health included age, immigrant class, health care access problem and job satisfaction, which is consistent with other research on immigrant health.[5,28]

Difficulties with linguistic and cultural communication are among the most frequently cited barriers to access to health and auxiliary health services among immigrants and refugees to Canada.[13,29] Traditionally, language barriers to health care have only been partially addressed through supplementing the health message with foreign language handouts or use of interpreters. Karliner et al. (2007) commented that "although professional interpreter use is associated with improvement in patients' perceived knowledge of diagnosis and treatment, it did not alter actual knowledge."[30] This suggests that understanding language proficiency as a language barrier issue alone may not be sufficient to account for both the access to care barrier and the lower health status of some immigrants. Language proficiency may make more sense within a health literacy framework, where it includes patient empowerment and education and not merely access to health services.[31]

While language proficiency plays a role in the selection of skilled workers, knowledge of one of Canada's official languages is not a requirement of admission for refugees and family class immigrants. For example, a longitudinal study of refugees from Vietnam revealed that fewer than 10% of men and 25% of women spoke English upon arrival in Canada, and after 10 years, women still lagged behind in language learning.[32] While both women and men improved English on arrival, men were more likely to improve their language skills. Women caring for family members with severe illness or disabilities may forgo access to services that may alleviate some of their care-work responsibilities.[29]

Language skills are linked to economic success.[33] Migrants with greater capacity to communicate in English or French are more likely to be employed in higher-skilled jobs; conversely those with lower levels of proficiency tend to be found in low-wage occupations. Evidence from LSIC showed that this is true especially for English proficiency.[34] Therefore, it may be that the link between language, gender and health is mediated through employment. Meaningful, remunerative employment is not only a determinant of health due to financial rewards, but can also serve as a source of social networking, social support, and self-esteem. Our analysis did show that overall, even after controlling for health care access problem and job satisfaction, the relationship between poor language proficiency and poor health still holds for women. In the next phase of our analysis, we will examine the dynamic relationships among socio-economic status, employment, and health with the 3 waves of LSIC.

Implications

The association of language proficiency with poor self-reported health has implications for health and social services, health information and language training. Language proficiency has implications beyond access to health care; for example, impact on job market, access to better paid positions, and developing health knowledge. This study also shows the importance of separate gender-based analysis and suggests the importance of adding health literacy measures in immigrant health surveys.

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RÉSUMÉ

Contexte : La plupart des immigrants au Canada viennent de l'Asie, du Moyen-Orient, des Caraïbes et de l'Afrique, où souvent les cultures et les langues diffèrent énormément du contexte canadien. Les sous-groupes d'immigrants présentent des disparités sur le plan de la santé. L'incapacité de communiquer dans l'une des langues officielles du Canada peut être un indicateur de risque de mauvaise santé résultant de facteurs pré- et post-migratoires. Nous avons voulu étudier la relation entre l'auto-évaluation de la santé et les compétences linguistiques.

Méthode : Nous avons mené une analyse transversale des deux premières Enquêtes longitudinales auprès des immigrants du Canada (2001, 2003), des études représentatives de cohortes de nouveaux immigrants. Spécifiquement, nous avons procédé par analyse de régression logistique pour examiner le rapport entre l'auto-évaluation de la santé et les compétences linguistiques par sexe, en tenant compte de divers déterminants de la santé, dans un délai de six mois (première vague) et de deux ans (deuxième vague) après l'arrivée au Canada.

Résultats : Compte tenu des effets des covariables (âge, sexe, scolarité, classe d'immigrants, satisfaction au travail, accès aux soins de santé), l'analyse de la première vague de l'enquête indique que les compétences linguistiques faibles en anglais ou en français présentent une association statistiquement significative avec la mauvaise santé déclarée par l'intéressé (rapport de cotes (RC) = 2,0, p<0,01). Ce rapport se maintient dans la deuxième vague de l'enquête (RC=1,9, p<0,01). De plus, nous avons constaté que cette association significative entre les faibles compétences linguistiques et la santé auto-déclarée s'applique seulement aux femmes (première vague : RC=2,6, p<0,01, deuxième vague : RC=2,2, p<0,01) et non aux hommes.

Conclusion : Le rapport entre les faibles compétences linguistiques et la mauvaise santé déclarée par l'intéressé, et en particulier son impact beaucoup plus important sur les femmes, a des conséquences pour la formation linguistique, les soins de santé, les services sociaux et l'information sur la santé.

Mots clés : compétence linguistique; genre; auto-évaluation de la santé; immigrants et réfugiés