IS THERE A HEALTHY IMMIGRANT EFFECT IN MENTAL HEALTH? EVIDENCES FROM POPULATION-BASED HEALTH SURVEYS IN CANADA

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ABSTRACT

This article presents a review of recent studies based on Statistics Canada's health surveys to examine the mental health of immigrants and its changes over time, and documents factors found to influence mental health. The article concludes with a discussion on recent developments in data collection at Statistics Canada and how the data can shed light on immigrant mental health.

INTRODUCTION

Immigration has increased the diversity in Canada over the past 40 years. According to the 2006 census, recent immigrants (those arriving within the last five years) mainly came from Asia (58%), followed by Europe (16%) (Chui et al. 2007). The corresponding figures were drastically different in 1971 at 11% and 61% respectively. Immigrants, especially those from the non-traditional sources such as Asia and Africa, may face adjustment challenges because many of these are visible minorities who come from countries with cultures and languages very different from those of Canada. The difficulties associated with settling in a new country are likely to affect the mental health of immigrants.

Past studies on immigrant health mostly found a health advantage among immigrants to Canada, possibly a result of strong selection factors.[1] However, these studies also found a loss in this advantage over time in several standard health measures including self-reported health (Chen et al. 1996a; Newbold and Danforth 2003; Ng et al. 2005), self-reported chronic disease (Pérez 2002; McDonald and Kenndy 2004), self-reported disability (Chen et al. 1996a; Chen et al. 1996b), and mortality (Wilkins et al. 2008).[2] Previous research on immigrant mental health in Canada, however, has found that immigrants experienced high level of psychiatric disorders, depression or substance abuse. These studies have typically focused on specific sub-groups of immigrants such as refugees or recent immigrants from various war-torn parts of the world (Ali 2002). Because mental health of immigrants is emerging as an important issue in Canada (Khanlou 2009), there is a need to have an overall picture of it at a population level.

This article has three objectives. First, it reviews selected studies based on population-based health surveys from Statistics Canada to establish whether the healthy immigrant effect at arrival and its loss over time extends to the mental health.[3] Second, we report on important factors found to influence mental health for the overall and/or immigrant populations. Lastly, we highlight recent developments in data collection within Statistics Canada that can potentially shed light on various aspects of immigrant mental health.

INSIGHTS ON IMMIGRANT MENTAL HEALTH FROM STATISTICS CANADA'S HEALTH SURVEYS

With the implementation of the various cycles of large population-based health surveys such as the National Population Health Survey (NPHS from 1994 to present) and the Canadian Community Health Survey (CCHS from 2000 to present), Statistics Canada has provided health practitioners, researchers and policy

makers the information to understand immigrant mental health at the population level.[4] In this short article, we review selected research work on the healthy immigrant effect in the area of mental health, based on a systems approach used by Khanlou (2009) which allows for multi-layered analysis. Specifically, we look at how each of the studies reviewed considers the influences at the individual, intermediate and systemic levels. Table 1 shows the three levels used to organize the factors influencing mental health. First, individual factors include age (including the age at immigration), gender, cultural background and religious identity. Second, intermediate factors include family, social support networks, and acculturation. Third, the systemic level includes economic barriers, appropriate services, healthcare access, prejudice, discrimination and racism.

Our search of literature yielded four articles on immigrant mental health studies based on Statistics Canada Health Survey data with a focus on healthy immigrant mental health effect. Table 2 summarizes the comparison of the four research works reviewed. First we review the work by Ali (2002) published by Statistics Canada on mental health of immigrants, followed by other studies conducted by researchers who used Statistics Canada health surveys to examine explicitly the healthy immigrant effect in terms of mental health (Lou and Beaujot 2005; Wu and Schimmele 2005; Bergeron, Auger and Hamel, 2009).

1. Using the Canadian Community Health Survey (2000 CCHS cycle 1.1),[5] Ali (2002) examined mental health in terms of depression and alcohol dependence, and found that 8% of Canadians aged 12 or older reported symptoms suggesting that they had at least one major depressive episode within the 12 month before the survey interview. For those born in Canada, the rate was 8%, while the corresponding rate for immigrants was statistically lower, at 6%. In fact, immigrants were found to have lower rates in both depression and alcohol dependence than the Canadian-born population, with this healthy immigrant effect being strongest among recent immigrants. On the other hand, long-term immigrants had similar depression rates as the Canadian-born. This study also found a country of origin effect whereby the rates of depression and alcohol dependence were both lower among those from Africa and Asia. The country of origin effect is highly related to the recency of arrival effect, as those from Africa and Asia were most likely to be recent immigrants.

Even after taking into consideration the differences in individual influences such as age, sex, marital status, income and education, and by other factors at the intermediate or systemic levels such as language barriers, sense of belonging or employment status, recent immigrants were still found to have the lowest risk for both depression and alcohol dependence. These results are consistent with the healthy immigrant effect at arrival and the convergence toward the Canadian norm over time.

This article also provided insights into factors that influence mental health for the overall population which includes immigrants. At the individual level, compared to females, males were less likely to have a depressive episode, but were much more likely to have alcohol dependence. The study also shows, for both sexes, a gradient by household income and educational level for both depression and alcohol dependence, that is, the higher the socioeconomic status, the lower the risk of having mental health issues. At the intermediate level, those with a sense of belonging to local community also had a lower risk of both depression and alcohol dependence. Finally, at the systemic level, those who held a job were less likely than those who did not to have depression.

2. Lou and Beaujot (2005) used the cycle 1.2 of the Canadian Community Health Survey (2002)[6], which had as its focus mental health. Their analysis confirmed a healthy immigrant effect and the decline in health for longer term immigrants. Mental health was measured in this study through a self-reported measure, where 'fair' and 'poor' are defined as 'poor' mental health, in response to the question: 'In general, would you say your mental health is Excellent/Very good/Good/Fair/Poor?' The proportion of poor mental health of the Canadian-born and foreign-born populations were 7% and 6% respectively. Recent immigrants have a statistically significant

TABLE 1: Systems Approach Framework on Factors Influencing Mental Health of Migrants*

LEVEL	FACTORS (EXAMPLES)	DETAILS
Individual (micro)	age, sex/gender, cultural background, religious identity	Children (including the age at immigration), adolescents, the elderly
Intermediate (Meso)	family, social support networks, acculturation	• Informational, instrumental and emotional • Cultural, ethnic and spiritual
Systemic level (Macro)	economic barriers, appropriate services, healthcare access by migration status, prejudice, discrimination and racism.	• Unemployment and underemployment • Based on age, gender, cultural differences and immigration status • Immigrants, refugees and those with precarious status

* based on Khanlou (2009)

TABLE 2: Summary Table of Review of Recent Articles using Statistics Canada Dataset to Study the Healthy Immigrant Effect in terms of Mental Health.

	ALI (2002)	LOU AND BEAUJOT (2005)	WU AND SCHIMMELE (2005)		BERGERON ET AL. (2009)
Nature of the study	Statistics Canada Health Report article	Research report funded by Health Canada	Research published in academic journal		Research published in public health journal
Dataset used	CCHS 1.1	CCHS 1.2	NPHS cycle 2		CCHS 3.1
Mental health outcome(s) examined	1. Depression 2. Alcohol dependence	Self-rated poor mental health	1. Depressive symptoms 2. Experience of major depressive episode		Self-rated mental health
Target population	Overall population	Over population	Overall population	Immigrant population	Overall population
	Selected key factors found to be statistically significant based on the systems approach framework on factors influencing mental health of migrants (Khanlou, 2009)				
Individual level	• age • sex • marital status • income • education • country of origin	• age • sex • marital status • income • education • self-reported poor (physical) health • life dissatisfaction • self-reported underweight • self-reported ability to handle demand	• age • sex • marital status • income • education • health • chronic conditions • race/ethnicity • children under 6 • rural residence	• age at immigration (under 18) • other results not presented	Results not presented
Intermediate level	• language barriers • sense of belonging	• social support • sense of belonging to local community • number of friends and relatives	• social support • social contact	• results not presented	None
Systemic level	• employment status	• lack of fit between occupation and education	None		None
Healthy immigrant mental effect and its loss over time (confirmed or not)	Yes	Yes	Yes		Yes for visible minority recent immigrants only

advantage of 4% compared to 7% for those who had arrived more than five years before the survey. They argued that the variation in immigrant mental health may be explained by selection factors as well as the structural strain theory at the macro level or stress theory in the micro level.[7] Although various demographic and socio-economic, stress and coping factors were significantly associated to self-reported poor mental health, immigrants still maintained a mental health advantage over non-immigrants even after taking the structural strain and stress factors into consideration.

The selected factors from all levels were found to be significantly related to poor mental health. These include young age, female gender, being previously married (widowed, separated or divorced), low education or income, poor self-reported health, life dissatisfaction, being underweight, self-reported poor ability to handle demand at the individual level; lack of social support, weak sense of belonging to local community, fewer close friends and relatives at the intermediate level; and the lack of fit between occupation and education at the systemic level. Specifically, compared with people having higher education, but working in less professional occupations, those working in occupations that match their high education level have lower risk of reporting poor mental health.

3. Using cycle 2 of the National Population Health Survey (NPHS 1996/97), Wu and Schimmele (2005) examined changes in depression among immigrants over time.[8] They measured depression as the number of depressive symptoms and experience of major depressive episode (MDE). Their analysis confirmed the healthy immigrant effect and loss in health advantage over time: visible minority immigrants were especially mentally healthy, and that depression among immigrants was found to increase soon after arrival.

This study also found individual factors such as being female, low family income, lower education, having children under 6, marital status (separated/divorced, widowed, never married compared to married/cohabitation) to be significantly related with depression. At the intermediate level, the study found social support and social contact to be protective factors against depression, while at the systemic level whether one was employed or not did not seem to matter.

An interesting finding here is the age of migration effect; people who immigrated young (less than age 18) had a higher risk of depression. The authors reasoned that the pressures for young immigrants to 'fit' in at school and in the new social environment can create potentially stressful conflicts between the values and norms present in their homes and those learned in school and social life. Others may explain this by way of various structural or macro factors such as barriers to education and employment (as faced by their parents), when immigration took place at young age (Pores and Rumbaut 2005; as cited by Khanlou 2009).

4. Using the CCHS cycle 3.1, Bergeron et al. (2009) examined the relationship among time since immigration, visible minority status, and knowledge of an official language with self-rated health, self-rated mental health and body mass index for immigrants residing in Montréal, Toronto and Vancouver, Canada's largest metropolitan and gateway cities.[9] Concerning mental health, the study found that recent visible minority immigrants were less likely to report poor mental health relative to the non-immigrant population. Although this study supports the healthy immigrant effect, the effect is only present in certain subgroups of immigrants. Specifically, non-visible minority recent immigrants did not report better mental health than the non-immigrant population, contrary to what the healthy immigrant effect would suggest.

Although the study controlled for individual level characteristics such as age, sex, education, income, marital status and region, the results were not reported. A limitation of the study is that it did not take into consideration intermediate or systemic levels.

DISCUSSION

The consensus from this review is that these studies in general provide support for the healthy immigrant mental health effect and its loss overtime. However, there are some exceptions to this overall conclusion. For example, Wu and Schimmele (2005) noted that the Chinese ethnic group has better overall mental health than those from Northern and Western Europe. As well, Bergeron et al. (2009) also observed that the healthy immigrant mental health effect is only present in certain visible minority recent immigrants. Further research would be needed to affirm these observations.

A few common limitations of all these studies can be observed. First, since these studies used surveys that are collected at one point in time, the examination of the healthy immigrant effect is not ideal. Although the study by Wu and Schimmele was based on the NPHS which has a longitudinal component, it used only data at one time point. Longitudinal surveys that follow a cohort of individuals over time can better handle the transition from good to poor health (e.g. Ng et al. 2005). Second, previous immigrant mental health research tends to focus on refugees or immigrants from various war-torn parts of the world based on sub-group specific survey (e.g. Noh et al. 1999). In contrast, none of the studies based on Statistics Canada's health surveys we reviewed focused on refugees or conducted the analysis by immigration class. This is mainly because immigrant respondents were not asked for information about their immigration class at the time of entry.[10] Thirdly, most of these studies combined immigrant population with non-immigrant population in the analysis, and provide rich information on the factors that influence the overall mental health of the overall population. However, it is not known whether the factors that affect non-immigrant mental health are the same as those for immigrant population. There is therefore a need for studies in this area. Fourthly, some of the authors acknowledged that there are limits associated with the measurement of mental health, and that self-reported mental health can be prone to reporting errors due to non-objectivity or cultural differences, such as variation of social acceptability of the reporting of poor mental health. Individual interpretation and construction of what 'healthy' means may also change with time spent in Canada, as well as with age. Lastly, while age was included to control for the age effect in all the studies reviewed, it is also important to examine age effects *per se* on mental health in the context of life course transitions (Khanlou 2009).

CONCLUDING REMARKS AND FUTURE PROSPECTS

The health survey program at Statistics Canada has provided information to health practitioners, researchers and policy makers to understand immigrant mental health. All CCHS cycles gathered several dimensions of mental health, and can be used by researchers to examine various aspects of immigrant mental health, other than the healthy immigrant effect. For example, Smith et al. (2007) used CCHS 1.1 to examine the effects of income and gender on depression among immigrants and found a differential income effect on depression for male and female recent immigrants. Researchers have also used other Statistics Canada surveys such as National Longitudinal Survey on Children and Youth to study topics such

as behaviours and outcome of immigrant children (e.g. Beiser et al. 2002; Georgiades Boyle and Duku 2007).

Mental health has come out of the shadows in Canada as evidenced by the formation of the Mental Health Commission of Canada in 2007. The Commission, created by the Federal Government to focus national attention on mental health issues, has highlighted immigrant and refugee, ethno-cultural and racialized groups as one of the priority areas for investigation in terms of mental health services appropriateness. One recent data development at Statistics Canada that attempts to link health records with Statistics Canada surveys can potentially enable researchers to examine the health care utilization patterns for groups with different health conditions (Canadian Institute for Health Information 2008). For example, one can examine from the linked datasets whether immigrants experienced more or less mental health related hospitalization than the local-born population. Also, the 2012 Canadian Community Health Survey which has a mental health focus may also be an appropriate population-based survey for researchers to gain more recent insights on mental health issues of immigrant and ethno-cultural groups.

Finally, health literacy, defined as the ability to access and use health information to make appropriate health decisions and maintain basic health (Canadian Council on Learning 2007), has been identified as an important health-related tool to improve the population health (Canadian Council on Learning 2007 and 2008). However, the role of health literacy on mental health has not been well studied (Simich, 2009). The International Adult Literacy and Skills Survey (IALSS) is a unique survey that allows researchers to examine the mental condition of immigrants and refugees compared to non-immigrants, as well as to understand the role of health literacy on mental health.

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FOOTNOTES

[1] For various reasons, good health is associated with the immigration process. For example, healthier people tend to be more likely than those in poor health to emigrate (self-selection effect). As well, immigration screening rules in Canada also ensure that mostly healthy immigrants are selected in at entry.

[2] Many reasons have been put forth to explain this apparent loss of health with the increase of time spent in Canada. For example, immigrants may encounter stress and barriers in the settlement period leading to health problems. Alternatively, immigrants may adopt negative health behaviours and sedentary lifestyle that lead to gradual health decline.

[3] Other evidences on mental health of immigrants can be found in Hyman (2007), which reviewed recent work on mental health of seniors, children and youth, women, and refugees (adults and youth) and in Khanlou (2009), which also summarized finding of review of mental health of migrant populations.

[4] The reviews reported here are summary findings. Readers are encouraged to examine for themselves the respective articles and reports reviewed.

[5] The CCHS 1.1 survey collected information on health status and health care utilization from over 131,000 respondents aged 12 and over in all provinces and territories.

[6] The CCHS cycle 1.2 was a survey conducted in 2002 with a sample of 36,984 respondents.

[7] The structural strain theory relates to the lack of sustained economic growth following the large numbers of arrivals that influence immigrant mental health through fewer opportunities and increased competition. The stress theory refers to the impact of acculturative stress results from uprooting, relocation and adaptation, and the interaction between certain risk factors such as alienation and discrimination and the strength of coping factors such as psychological resources and sense of belonging to community.

[8] This study used the NPHS cycle 2, conducted in 1996-97, had a sample of about 70,000, after excluding children under 12 for whom no mental health condition was collected and cases where any dependent mental health measure was missing.

[9] The CCHS cycle 3.1 was conducted in with a sample of 132,947 respondents. This study focused on the 22,694 respondents residing in Montreal, Toronto and Vancouver.

[10] Though not a health survey, the Longitudinal Survey of Immigrants to Canada is a good exception, as it contains both immigrant class information and on mental and physical health condition of recent immigrants (including incidence of emotional problems and stress levels).

