Perceived Health Status of Francophones and Anglophones in an Officially Bilingual Canadian Province

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ABSTRACT

Objective: It has been reported that being part of a minority group may be negatively associated with self-perceived health. The objective of this analysis was to determine whether there are differences in perceived health between the Francophone minority and Anglophone majority in New Brunswick, the only officially bilingual province in Canada.

Methods: Data from the first four primary cycles of the Canadian Community Health Survey (2001 to 2007) were obtained for 17,729 New Brunswick residents. Odds of reporting good health among Francophones and Anglophones were compared using multivariate logistic regressions accounting for age, health-related behaviours, socio-demographic variables, and medical conditions.

Results: In the final models, Francophone men and women were less likely than Anglophones to report their health as being good, although these differences were not statistically significant (Odds ratio, 95% confidence interval: 0.88, 0.61-1.26; 0.71, 0.49-1.04, in men and women, respectively).

Conclusion: This study suggests that being part of the linguistic minority in New Brunswick is not associated with statistically significant differences in self-perceived health.

Key words: Minority; language; self-perceived health; disparity

La traduction du résumé se trouve à la fin de l'article.

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Inequalities in health represent a major public health issue for many countries and their governing bodies.¹ Many factors have been suggested to contribute to health inequalities, including socio-economic disparities^{2,3} and social capital.⁴ Actual and perceived health inequalities are of particular concern among minority groups. In the US, inequalities in health and mortality have been documented between Caucasians and the African-American minority.^{5,6} In comparison to the majority, lower self-rated health has also been demonstrated in minority populations of Australia (Aboriginal and Torres Strait Islander communities).⁷ Despite boasting a public health care system, discrepancies in health exist between the Caucasian majority and racial and ethnic minorities in Canada.^{8,9} Differences in health also appear to exist between the Anglophone majority and the Francophone minority in Canada.¹⁰

Canadian Francophones outside the province of Quebec are described as living in a minority setting. They are dispersed throughout the country in communities that tend to be rural and present a relatively old population with low levels of education and socio-economic status.¹¹ A recent Canadian study suggested that, compared to Anglophone men outside of Quebec, more Francophone men living in minority settings rate their health as being poor.¹⁰ No such difference was noted among women. In Ontario, Francophone men and women were also more likely to report being in poorer health than Anglophones and Allophones.¹²

New Brunswick represents Canada's only officially bilingual province. Similar to Canada, about one third of its population is

Francophone which, on a relative scale, represents the largest concentration of Francophones outside of Quebec. Two ecological studies have explored the health of Francophones in this province. They indicated that whereas the health of populations in mainly Francophone regions of New Brunswick has improved between 1985 and 2003, disparities still exist between French and English regions.^{13,14} An analysis of self-rated health using individual-level data and accounting for known determinants of health has not yet been conducted in New Brunswick. It therefore remains unclear whether language is an important correlate of perceived health in the only province with an officially bilingual public health care system. This study aimed at determining whether there are differences

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Conflict of Interest: None to declare.

Table 1. Socio-demographic and Health-related Characteristics of Francophones and Anglophones in New Brunswick

	Men, %		p-value	Women, %		p-value
	Francophone (n=2336)	Anglophone (n=4743)		Francophone (n=2524)	Anglophone (n=5051)	
Perceived health						
Good	83.3	85.0	0.07	83.6	86.3	0.002
Poor	16.7	15.0		16.4	13.8	
Age (years)						
25-44	41.7	43.4	0.07	40.4	41.4	0.3
45-64	42.2	39.4		39.7	37.8	
≥65	16.0	17.2		19.9	20.9	
Physical activity						
Very active	20.1	19.0	0.6	15.3	14.2	0.3
Moderately active	22.5	22.6		23.7	23.0	
Inactive	57.5	58.4		61.0	62.9	
Tobacco use						
Regular	20.8	22.5	0.2	18.2	20.4	0.03
Occasional or former	54.9	52.9		46.9	44.3	
Never	24.3	24.6		18.2	20.4	
Diet (fruits and vegetables)						
≥5 per day	27.2	24.9	0.08	45.7	38.8	<0.001
<5 per day	72.8	75.1		54.3	61.2	
Body mass index (kg/m ²)						
<25	35.5	33.2	0.01	46.0	49.6	<0.001
25-30	45.0	44.2		34.3	27.4	
>30	19.5	22.6		19.8	23.0	
Alcohol use						
Regular	17.8	16.3	<0.001	30.8	28.1	<0.001
Occasional	65.0	61.7		43.6	38.5	
Never or former	17.3	22.0		25.7	33.5	
Household income						
Quintile 1 (lower)	18.4	13.9	<0.001	24.1	16.7	<0.001
Quintile 2	20.0	15.6		19.0	17.0	
Quintile 3	18.8	16.9		16.6	17.4	
Quintile 4	17.0	20.7		13.2	16.3	
Quintile 5 (higher)	15.8	20.4		13.6	17.0	
Missing	10.4	12.6		13.5	15.7	
Education						
University	16.8	19.9	<0.001	16.3	19.1	<0.001
Postsecondary	44.2	46.1		42.2	46.1	
High school	13.1	18.3		13.1	18.0	
Less than high school	25.9	15.7		28.4	16.9	
Employment						
Active	67.7	70.0	0.05	55.4	58.0	0.04
Inactive	32.3	30.0		44.6	42.1	
Place of residence						
Urban	44.6	53.0	<0.001	48.0	55.5	<0.001
Rural	55.4	47.0		52.0	44.5	
Type of household						
Living alone	14.7	13.6	0.003	18.2	19.4	0.2
Single parent	46.9	51.2		49.2	47.1	
Living with partner and children	38.4	35.2		32.6	33.5	
Chronic condition						
None	57.1	54.4	0.01	55.5	49.6	<0.001
One	26.5	26.2		24.7	27.0	
Two or more	16.5	19.4		19.8	23.5	
Has a physical incapacity	13.2	11.4	0.02	21.0	20.7	0.7
Perceives a lot of stress	61.1	61.0	0.8	63.3	62.9	0.8

in perceived health between Francophones (linguistic minority) and Anglophones in New Brunswick when accounting for known determinants of health.

METHODS

Population

Data were obtained from the Canadian Community Health Survey. To meet analytical needs, data from cycles 1.1, 2.1, 3.1, and 4.1 (conducted in 2001, 2003, 2005 and 2007, respectively) were combined as suggested by Thomas and Wannell.¹⁵ This analysis was restricted to New Brunswick household residents over 25 years old. The response proportions for cycle 1.1, 2.1, 3.1 and 4.1 were 84.7%, 80.6%, 79.0% and 77.6%, respectively and there were 4996, 4929, 5100 and 2704 New Brunswickers sampled in these respective cycles.

We assigned a Francophone or Anglophone linguistic identity to participants according to the algorithm presented in Figure 1.¹⁶

More specifically, the following steps were followed until one mutually exclusive category was identified: 1) participants were sorted based on the language(s) they can use to converse; as necessary, additional sorting was performed based on 2) mother tongue, 3) language of interview, and 4) preferred language.

Variables

Self-perceived health of participants was measured with the question: “In general, would you say your health is?” followed by five response options which were dichotomized into good (excellent, very good, and good) or poor (fair or poor). Such a measure of self-rated health has been shown to be a valuable predictor of mortality.¹⁷ Socio-demographic variables included quintiles of household income (adjusted for Canadian region), level of education (university, postsecondary, high school, or high school not completed), and employment status (full-time, part-time, unemployed). Contextual information on the respondents’ lives was complemented

Table 2. Adjusted Odds Ratios (OR) and 95% Confidence Intervals (CI) for Reporting Good Self-perceived Health in Men and Women

Francophone (Reference = Anglophone)	Model 1* Adjusted OR (95% CI)	Model 2*† Adjusted OR (95% CI)	Model 3*†‡ Adjusted OR (95% CI)	Model 4*†‡§ Adjusted OR (95% CI)	Model 5*†‡§ Adjusted OR (95% CI)
Men	0.86 (0.63-1.16)	0.80 (0.58-1.10)	0.93 (0.66-1.30)	0.93 (0.66-1.29)	0.88 (0.61-1.26)
Women	0.81 (0.62-1.06)	0.72 (0.54-0.97)	0.84 (0.62-1.13)	0.82 (0.60-1.11)	0.71 (0.49-1.04)

* Odds ratio adjusted for age; † Adjusted for physical activity, tobacco use, body mass index, diet, and alcohol use; ‡ Adjusted for income, education, employment status; § Adjusted for urban/rural, type of household; || Adjusted for morbidity, and stress.

Figure 1. Algorithm to define linguistic identity

with a variable representing living in a rural or urban setting and type of household (living alone, with a partner, with a partner and children, single parent, or other). Health-related behaviours included physical activity (active or inactive), tobacco use (regular, occasional or former smoker, or never-smoker), diet (≥ 5 or < 5 fruits and vegetables per day), body mass index (< 25 , 25-30, > 30 kg/m² calculated from self-reported height and weight), and alcohol use (regular, occasional or former drinker, or never-drinker). Medical status was based on the presence or absence of 11 chronic conditions, physical incapacity (needing assistance for daily activities), and self-perceived stress experienced on typical days.

Analyses

The chi-square statistic was used to compare frequencies for various variables between Francophones and Anglophones. Additive multivariate logistic regressions modeled the association between linguistic identity in New Brunswick and self-perceived health. In sex-specific analyses, model 1 accounted for age, model 2 accounted for age and health-related behaviours (physical activity, tobacco use, body mass index, diet, and alcohol use), model 3 additionally accounted for socio-demographic variables (income, education, employment status), model 4 added variables related to living context (urban/rural, type of household), and model 5 included measures of medical condition (morbidity, and stress). Analyses were conducted using SAS (version 9.2) and standard errors were estimated with the Bootstrap method to account for the complex study design.¹⁸

RESULTS

In comparison to Anglophones, there were fewer Francophone men and women reporting their health as being good (Table 1). More Francophone men reported physical incapacities than Anglophones. However, a similar number of French- and English-speaking women had physical incapacities. In both men and women, reports of chronic conditions were more prevalent among Anglophones than Francophones. Compared to Anglophones, more Francophones were among the low-income quintiles, were less educated, and lived in rural areas. Consumption of fruits and vegetables was more frequent among Francophones and fewer Francophones than Anglophones reported being obese (BMI ≥ 30 kg/m²).

Age-adjusted odds ratios suggest no statistically-significant difference between the two linguistic groups in likelihood of having a good self-reported health (Model 1, Table 2). Among men, further adjustments continued to suggest an absence of difference in the odds of reporting good health. Most models also suggested no difference between the odds of reporting good health between French and English women. However, it must be noted that the confidence intervals for the estimates were wide and only the end of the tail of the intervals overlapped the null value of 1. In both men and women, additional adjustments did not substantively change the estimated effect of language on the likelihood of reporting good health.

DISCUSSION

Although Francophones, and in particular Francophone women, tended to be more numerous to rate their health as poor, this study shows that once we account for well-known determinants of health, similar proportions of Francophones and Anglophones perceive themselves as being in good health within the only officially bilingual province in Canada. Unlike reports of the 1980s and 1990s,^{13,14} which were based on regional-level data and included no statistical adjustments, our results suggest that there may be no disparity in perceived health between Francophones and Anglophones in New Brunswick.

Alternatively, the lack of statistical difference between perceived health of the linguistic groups may be explained by varying interpretations of health as a concept. Although self-rated health was shown to be a reliable predictor of morbidity and mortality,¹⁷ the measurement of self-rated health remains subjective and could be affected by cultural background. For example, when Hispanics were more likely to report fair to poor health than non-Hispanic Whites in a previous study,¹⁹ the authors, who could not identify differences in morbidity or socio-economic factors, proposed that Hispanics who are deeply rooted in tradition and culture might be disinclined to rate their health in a positive manner.¹⁹ In another study, marked differences in self-reported health between older Black and White adults with similar levels of physical and psychological function suggested increased “pessimism” towards health

among the Black elderly population.²⁰ This relates to the “enduring self-concept” which proposes that self-rated health be assessed with the recognition that cultural differences exist in how health is interpreted and influenced by external factors.^{20,21} Challenges associated with the potentially different meaning of health across different groups have also been documented among chronically ill and non-ill individuals and among individuals of varying socio-economic status.²²

The absence of significant differences in perceived health in our analysis may also be attributed to changes in the levels of access to health services. The importance of having access to health services in one's language was highlighted in a Health Canada report at the turn of the century.²³ The presence of language barriers has also been identified as an important determinant of health among Canadian Francophone minorities.²⁴ In a recent report, Bouchard et al. highlighted important developments in Francophone social capital in Canada and growing vitality of Francophone minorities over the past half-century, ranging from the Official Languages Act in 1969 to the survival of the French Montfort Hospital in Ottawa, Ontario.¹¹ Elements of growth have also taken place for the Francophone population of New Brunswick. Among them, we note a substantial increase in the number of French-speaking physicians and in the number of opportunities for future physicians to obtain part of their medical training in French in New Brunswick,²⁵ the creation of the “Société santé et mieux-être en français du Nouveau-Brunswick”, and the appointment of a deputy minister of health for Francophones.

The influence of social capital on perceived health has been observed to promote better health in linguistic minority groups elsewhere. For example, in Finland, the Swedish-speaking minority presents more social capital (characterized by social participation and contacts, trust, and sense of security) than the Finnish-speaking majority, which is associated with better self-rated health among the minority group.²⁶ Similarly, a study in Hungary reported better self-rated health among German, Romanian and Serbian minorities than among the Hungarian population,²⁷ suggesting that in some instances, being part of a minority appears to be associated with favourable health indicators. This also suggests a complex relationship between social positioning and health. With a long history of struggle for recognition of its identity, the Francophone population of New Brunswick distinguishes itself from minority groups in these examples since it does not have a history of elevated social position. The bilingual status of New Brunswick and its institutions may therefore have contributed to modifying the relationships of power in the province and improved the well-being of Francophones. This would be in accordance with the theory of health gradient, which proposes that social gains can translate into health gains.^{28,29}

The cross-sectional design of this study limits the assessment of causality. However, it would be impracticable to control assignment of a variable such as language in any type of study design. Statistics Canada used both telephone and face-to-face interviews to collect data for this series of surveys (approximately one third by telephone). It is possible that people interviewed by telephone overestimated their health to a greater extent than those interviewed in person.³⁰ There is nevertheless no evidence to suggest that this could have introduced bias in our results since the error of estimation was likely similar among Francophones and Anglophones.

There is no gold standard for the self-rated assessment of health. The outcome used in this analysis was based on a single self-reported item. The potential for attenuation of the odds ratio as a result of non-differential misclassification has to be taken into consideration.

In conclusion, this study suggests that there may be no difference in the proportion of Francophones and Anglophones perceiving themselves as being in good health in New Brunswick. It is nevertheless unclear if the apparent absence of difference between perceived health status of the two official linguistic groups in this province is attributable to improvements in access to health care in one's language, varying interpretation of the concept of health, random misclassification, or a combination of these and other factors.

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RÉSUMÉ

Objectif : Faire partie d'un groupe minoritaire peut être lié à une moins bonne santé perçue. L'objectif de cette analyse est de déterminer s'il existe des différences au niveau de la santé perçue entre la minorité francophone et la majorité anglophone du Nouveau-Brunswick, la seule province officiellement bilingue au Canada.

Méthodes : Les données des quatre premiers cycles de l'Enquête sur la santé dans les collectivités canadiennes (2001 à 2007) ont été obtenues pour 17 729 résidents du Nouveau-Brunswick. Les chances de rapporter une bonne santé chez les francophones et les anglophones ont été comparées en utilisant des rapports de côtes prenant en considération les variables âge, comportements liés à la santé, facteurs sociodémographiques, et conditions médicales.

Résultats : Dans les modèles finaux, les hommes et femmes francophones étaient moins enclins que les anglophones à rapporter une bonne santé, mais ces différences n'étaient pas statistiquement significatives (rapport de côtes, intervalle de confiance à 95 % : 0,88, 0,61-1,26; 0,71, 0,49-1,04, chez les hommes et les femmes, respectivement).

Conclusion : Cette étude suggère que le statut de francophone en situation minoritaire au Nouveau-Brunswick n'est pas lié à une différence statistiquement significative de la santé perçue.

Mots clés : minorité; langue; santé auto-évaluée; disparité

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