

Life Satisfaction Among Recent Immigrants in Canada: Comparisons to Source-Country and Host-Country Populations

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Abstract Research examining how changes in life circumstances affect subjective well-being has been dominated by set-point theory. New evidence challenges the assumptions of this theory, indicating that major life events can result in lasting changes to individuals' life satisfaction. This study examines whether changes in national-level conditions following migration affect the life satisfaction of immigrant groups from different source countries by comparing the average life satisfaction levels of immigrant groups to that of non-emigrants in their source countries. Life satisfaction differences between immigrant groups and the native-born population in Canada are also examined. Results show that migration to a country with improved national-level conditions increases immigrants' life satisfaction. Most immigrant groups had higher life satisfaction than their source-country counterparts and life satisfaction scores were similar to those of the native-born population. These findings persist when the sample includes immigrants who have resided in Canada for up to 20 years.

Keywords Canada · Immigrants · Life satisfaction · Set-point theory · Subjective well-being

1 Introduction

Subjective well-being research has largely relied on set-point theory for understanding individuals' reactions to major life events. Studies employing this perspective conclude that significant life changes only have a temporary effect on subjective well-being; individuals adapt to their new circumstances and their level of life satisfaction returns to a pre-determined set point. However, an emerging literature challenges this assumption. Researchers advocating for

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revisions to set-point theory argue that significant life events can result in lasting changes to individuals' life satisfaction. The extent to which life satisfaction adjustments occur depends on the nature of the event. For example, changes in non-economic spheres, such as family life, are particularly influential and lead to long-lasting changes in well-being. In the absence of longitudinal data, a useful means of assessing whether individuals revert back to a set-point level of well-being is to compare the average levels of life satisfaction between a group which has experienced an event with that of a group which has not (Diener et al. 2006).

Previous literature indicates that national-level factors are associated with the average life satisfaction of a nation's citizens. However, this research is mostly limited to cross-national comparisons. By comparing the average life satisfaction levels of immigrant groups to that of non-emigrants in their source countries, further insight into whether migration to a new society changes individuals' well-being can be obtained. This approach has also been used by researchers testing whether generalized trust is primarily a "set" cultural attitude or subject to change based on the context of the host country (e.g. Dinesen 2012, 2013). Although much of the trust literature supports the cultural perspective, there is evidence that interaction with "high-trusting" cultures can positively affect groups' trust levels (Dinesen 2012, 2013; Uslaner 2008:738). Therefore, in addition to its methodological approach, this article also contributes to the wider literature on the persistence or change in attitudinal traits when individuals are exposed to a different social and institutional environment.

This analysis compares the life satisfaction of immigrant groups with both their source-country populations and the native-born in the host country, allowing for an examination of whether changes in national-level conditions affect life satisfaction. If the average life satisfaction of immigrant groups does not differ significantly from the native-born population in the host country, but does differ from their source-country populations, this would suggest that changes in national conditions are important to individuals' well-being. The question of whether immigrants' life satisfaction in the host country is representative of a "set point" or whether migration results in a lasting change in their well-being can then be addressed.

This study examines variations in life satisfaction for 43 groups of recent immigrants who have resided in Canada for 10 years or less. Three research questions are addressed: (1) Compared with their source-country counterparts, are immigrants to Canada more or less satisfied with their life after accounting for differences in individual-level socio-demographic and health factors? (2) If immigrants are more satisfied than their source-country populations, is this associated with a positive change in national-level factors, as measured by levels of economic development and civil liberty? (3) How does the life satisfaction of immigrant groups compare with that of the Canadian-born population and what accounts for any difference? A separate sample of immigrants who have lived in Canada for up to 20 years is also examined to assess whether average life satisfaction changes persist over a longer period of time. This sample allows for the inclusion of a greater number of immigrant groups (58 groups).

2 Review of Literature

The prevailing theory used to understand how new circumstances affect individuals' subjective well-being¹ is set-point theory, which posits that changes in individuals' life satisfaction after a significant life event are temporary. Set-point theorists argue that, while

¹ Subjective well-being is a general term used to refer to a range of assessments of life satisfaction (Diener et al. 2010). "Happiness" is often used synonymously with life satisfaction and the two terms are typically

major events might cause a brief period of increased or decreased happiness, individuals typically adapt to the new circumstance and revert back to their previous level of satisfaction (e.g., Brickman and Campbell 1971). This theory has been dominant in the subjective well-being literature due to its utility in explaining the stability of happiness levels (Diener et al. 2006). For example, some researchers find that increases in a nation's level of economic development results in little to no change in average happiness over time (e.g., Easterlin 1995; Maddison 1991).

Set-point theory thereby suggests that any improvements in life circumstances will not have a long-lasting effect on individuals' happiness. However, this assumption has increasingly been challenged, with several researchers advocating for revisions to the model (e.g., Diener et al. 2006; Easterlin 2003; Headey 2008). Diener et al. (2006:308) point to cross-national comparisons as evidence that "life circumstances matter." Comparative studies indicate that different conditions influence average levels of life satisfaction. For instance, individuals residing in wealthy nations typically have higher happiness levels than those in poorer nations (e.g., Diener et al. 1995; Diener and Suh 1999). National factors such as political freedom, environmental conditions, health care accessibility, and gender and income inequality are also associated with happiness levels (Bartram 2011; Bonini 2008; Böhnke 2008; Diener and Suh 1999; Frey and Stutzer 2002; Triandis 2000; Veenhoven and Ehrhardt 1995). Diener (2000) asserts that differences in average levels of well-being are largely attributable to a nation's ability to meet the basic needs of its citizens. These characteristics contribute to a nation's "livability" and can affect happiness at the aggregate level, as all individuals in a society may be similarly affected by factors such as services, infrastructure, and government stability (Bartram 2011:73; Diener and Oishi 2000; Veenhoven 2000).

In addition to macro-level factors, particular life events can alter an individual's level of well-being. Easterlin (2003), for example, asserts that when significant changes occur in the non-economic spheres of an individual's life (e.g., family, health), reverting back to a baseline level of life satisfaction is not definite. Results from some longitudinal studies also indicate that major events such as "divorce, death of a spouse, unemployment and disability are associated with lasting changes" to well-being (Lucas 2007:75). Thus, the subjective well-being literature is moving toward a revised version of set-point theory which acknowledges that changes in individuals' circumstances can have an enduring effect on their well-being (Diener 2000; Lucas 2007; Lyubomirsky et al. 2005).

Several issues raised by the literature can be addressed by comparing the life satisfaction levels of immigrant groups to that of their source-country and host-country populations. This approach allows for an assessment of how national-level conditions may be associated with individuals' life satisfaction. If the economic or social conditions in the host country are notably higher than conditions in the source-country, and there is a significant improvement in the immigrant group's life satisfaction relative to the source-country population, this would indicate that improvements in national conditions are important to individuals' life satisfaction. Similarly, further support for the importance of national conditions to individuals' well-being would be obtained if the average life

Footnote 1 continued

employed in subjective well-being survey questions (Selezneva 2011). The literature identifies two aspects of individuals' assessments of "happiness", distinguishing cognitive evaluations of their life as a whole from emotional states or moods such as joy or anger (Diener et al. 1997). Measures of life satisfaction employed in this study specifically refer to individuals' assessments of life "as a whole", representing the cognitive evaluation of individuals' satisfaction with their life overall. The review of literature for this paper draws on studies that refer to happiness, life satisfaction, and subjective well-being.

satisfaction levels of immigrant groups do not differ significantly from that of the native-born population in the host country. Extending the sample to include immigrants who have resided in the host country for a longer time period also helps to determine whether changes in life satisfaction are temporary.

Within the immigrant life satisfaction literature, several studies examine whether there is evidence of a durable cultural disposition after individuals migrate to another country. This is primarily studied through intergenerational comparisons or by comparing immigrants with their source-country populations (Inglehart 1990; Oishi and Diener 2001; Rice and Steele 2004; Safi 2010; Senik 2011; Veenhoven 1994). The main assumption is that members of a cultural group are socialized to have a particular outlook, which causes them “to see most things in a positive or negative light” (Inkeles 1993:12). Research examining second generation immigrants indicates that the cultural disposition of immigrant groups weakens over time in the host country (e.g., Rice and Steele 2004), supporting similar studies which note intergenerational changes in trust levels among immigrant populations (e.g., Dinesen and Hooghe 2010; Soroka et al. 2007).

In the absence of longitudinal data providing pre-migration measurements of life satisfaction, comparisons between the average life satisfaction of individuals who have migrated with that of non-emigrants in their country of origin is useful in determining whether adaptation occurs (Diener et al. 2006). Immigrants share the same cultural traits as their source-country populations but share the same general living conditions, institutions, and freedoms with the native-born population in Canada. Therefore, the data used in this study present a unique opportunity to disentangle cultural disposition from national conditions when examining predictors of life satisfaction, providing insight into whether migration is associated with a long-term change in well-being.

3 Data, Measures and Methods

3.1 Data

This study pools data from several sources to compare self-reported life satisfaction levels for immigrant groups in Canada and the populations in their source countries. The Canadian data are from two nationally representative household surveys: the General Social Survey (GSS) (2008–2011) and the Canadian Community Health Survey (CCHS) (2009–2011). The data for immigrants’ source country populations are from Waves 3–5 of the World Values Survey (WVS), conducted between 1994 and 2008.

The annual GSS targets the Canadian population aged 15 or older. Each GSS contains socio-demographic questions that are common across years, as well as a set of unique questions focusing on specific social or policy issues. The response rates to the four GSS data files used range from 55 % (2010) to 66 % (2011). The total sample sizes are 20,401 (2008), 19,422 (2009), 15,390 (2010), and 22,435 (2011).

The annual CCHS collects standard demographic and socioeconomic data, as well as information about health status, determinants of health, and health service utilization for the household population aged 12 or older. The response rates are 73.1 % (2009), 71.5 % (2010), and 69.8 % (2011). The total sample sizes are 61,673 (2009), 63,197 (2010), and 63,542 (2011). To be consistent with the GSS sample, only CCHS respondents aged 15 or older are included in this analysis.

The 4 years of GSS data and 3 years of CCHS data are combined to increase the sample size and improve the reliability of estimates. Because these surveys have similar designs and were conducted within a 4-year period, pooling is feasible and has the advantage of reducing sampling, coverage and measurement errors (Hou 2014; Schenker and Raghunathan 2007). An immigrant group for a source country is only included in the analysis if at least 20 respondents in the Canadian data are members of that group and if the WVS was conducted in the source country. The final sample contains 6306 recent immigrants, defined as those who arrived in Canada in the previous 10 years, from 43 source countries (Table 1). When the sample is extended to include immigrants who arrived in Canada in the previous 20 years, the number of immigrant groups meeting the two criteria increases to 58 and the total immigrant sample increases to 11,276.

The World Values Survey, carried out by an international network of social scientists, collects data about beliefs, values and attitudes from nationally representative samples. Since 1981, nearly one hundred countries have conducted at least one WVS; this study uses Waves 3–5. Depending on the country, Wave 3 took place from 1994 to 1998; Wave 4, from 1999 to 2004; and Wave 5, from 2005 to 2008. Only the 43 source countries with at least 20 immigrant respondents in the GSS/CCHS data are included.² Not all of these countries administered the WVS in all three waves: four have data only from Wave 3; two only from Wave 4; and eight only from Wave 5.³ The other 29 countries have data from at least two waves. The WVS sample size at the country level ranges from 989 to 8899 (Table 1).

3.2 Measures

The outcome indicator in this study is self-reported life satisfaction. The 2008, 2009 and 2010 GSS asked respondents: *Using a scale of 1–10 where 1 means “Very dissatisfied” and 10 means “Very satisfied,” how do you feel about your life as a whole right now?* The 2011 GSS and 2009–2011 CCHS asked the same question, but an 11-point scale was used in the CCHS, with 0 representing “very dissatisfied” and 10 as “very satisfied.” An evaluation study demonstrated that this slight change in the scale had no impact on the average level of reported life satisfaction or on the correlation between life satisfaction and its common covariates (Bonikowska et al. 2013). The WVS question is somewhat different: *All things considered, how satisfied are you with your life as a whole these days?* A 10-point scale is used, with 1 representing “dissatisfied” and 10 representing “satisfied.” The slight difference in wording between the Canadian surveys and the WVS is unlikely to

² To test whether limiting our sample to immigrant groups with higher numbers of respondents produces different results, two sensitivity tests were conducted for the regression model presented in Table 2 (available upon request). The model was first run for immigrant groups with at least 40 observations, followed by a second test for immigrant groups with at least 50 observations. These alternative models produced the same conclusions as those based on immigrants with at least 20 observations; that is, source-country GDP per capita was negatively and significantly associated with our dependent variable—the differences in life satisfaction between recent immigrants and their source-country populations.

³ El Salvador has WVS data only from Wave 3. Algeria, Pakistan, Saudi Arabia, and Zimbabwe have WVS data only from Wave 4. Ethiopia, France, Hong Kong, Italy, Netherlands, Trinidad and Tobago have WVS data only from Wave 5. Venezuela, the United Kingdom and Poland participated in two WVS waves, but data from only one wave were used in this study. The Wave 4 Venezuela survey did not contain self-reported health; the Polish survey did not include employment status; and the Wave 3 UK survey did not contain self-reported health. Because these variables are needed as demographic controls, these data were not included in the analyses.

Table 1 Average level of life satisfaction of recent immigrants to Canada, by source country

Source country	Observed life satisfaction score (mean)			Adjusted life satisfaction score (mean)			Sample size	
	Immigrants	Source country	Difference	Immigrants	Source country	Difference	Immigrants	Source country
New Zealand	7.27	7.79	−0.51	7.28	7.83	−0.55	20	2099
Colombia	8.18	8.36	−0.19	8.25	8.71	−0.46***	171	6013
The Netherlands	7.50	7.76	−0.26	7.62	8.03	−0.40	43	1049
Australia	7.47	7.44	0.03	7.58	7.58	0.00	41	3449
Mexico	8.30	7.90	0.40***	8.43	8.38	0.05	181	5351
Brazil	8.14	7.44	0.70***	8.02	7.80	0.22	38	2640
Turkey	6.79	6.26	0.53	6.90	6.68	0.22	25	6646
Trinidad and Tobago	7.84	7.33	0.51	7.94	7.60	0.34	38	999
United Kingdom	8.13	7.60	0.54***	8.21	7.81	0.40***	349	1038
Vietnam	7.79	6.86	0.92***	7.73	7.31	0.42	38	2474
China	7.35	6.73	0.61***	7.50	7.05	0.45***	888	4445
United States	8.09	7.56	0.53***	8.14	7.67	0.47***	401	3975
Poland	8.09	7.02	1.07***	8.05	7.53	0.52*	51	989
Japan	7.60	6.71	0.89***	7.62	7.08	0.54	44	2396
Iran	7.33	6.40	0.93***	7.35	6.73	0.62***	157	5171
Indonesia	7.65	6.93	0.72***	7.98	7.32	0.65***	27	2896
Bangladesh	7.21	6.09	1.12***	7.30	6.61	0.70**	89	2976
Germany	8.14	7.11	1.03***	8.20	7.47	0.73***	124	4073
Argentina	8.65	7.33	1.32***	8.60	7.72	0.87***	24	3339
El Salvador	8.76	7.50	1.26***	8.79	7.91	0.88*	20	1229
Taiw an	7.83	6.57	1.25***	7.85	6.87	0.99***	41	2005
Hong Kong	7.72	6.41	1.31***	7.80	6.80	1.00***	39	1244

Table 1 continued

Source country	Observed life satisfaction score (mean)			Adjusted life satisfaction score (mean)			Sample size	
	Immigrants	Source country	Difference	Immigrants	Source country	Difference	Immigrants	Source country
Philippines	8.11	6.75	1.35***	8.24	7.23	1.01***	853	2399
Saudi Arabia	8.43	7.28	1.15***	8.29	7.25	1.04***	28	1494
Venezuela	8.10	6.72	1.38***	8.12	7.03	1.09***	30	1187
Peru	7.99	6.63	1.36***	8.36	7.22	1.14***	24	4171
Korea, South	7.50	6.28	1.21***	7.63	6.48	1.15***	97	2370
France	8.35	6.91	1.44***	8.37	7.20	1.18***	182	1000
Italy	8.53	6.89	1.64***	8.67	7.15	1.53***	24	1006
Algeria	7.74	5.67	2.06***	7.93	6.34	1.60***	87	1269
Russia	7.50	5.27	2.23***	7.71	6.09	1.62***	164	4033
Egypt	7.44	5.55	1.89***	7.64	5.93	1.72***	59	6048
India	7.85	5.82	2.04***	7.94	6.20	1.73***	934	5859
Nigeria	8.81	6.74	2.07***	8.75	6.82	1.92***	55	4011
Morocco	7.69	5.77	1.91***	8.02	6.09	1.94***	119	3458
South Africa	8.05	5.77	2.28***	8.05	6.07	1.98***	98	8899
Bulgaria	7.79	4.93	2.87***	7.62	5.43	2.19***	23	2014
Romania	7.96	5.37	2.59***	8.14	5.86	2.28***	161	2892
Ethiopia	7.97	4.99	2.98***	8.10	5.53	2.57***	28	1490
Pakistan	7.68	4.85	2.83***	7.84	5.23	2.61***	295	1693
Ukraine	7.65	4.42	3.23***	7.87	5.23	2.64***	106	3665

Table 1 continued

Source country	Observed life satisfaction score (mean)			Adjusted life satisfaction score (mean)			Sample size	
	Immigrants	Source country	Difference	Immigrants	Source country	Difference	Immigrants	Source country
Iraq	7.80	4.82	2.98***	7.83	5.18	2.65***	61	4995
Zimbabwe	7.75	3.94	3.82***	7.94	4.41	3.53***	29	1000

Recent immigrants to Canada are immigrants who arrived in Canada in the last 10 years. Countries are ordered by the difference in adjusted life satisfaction scores between immigrants and source countries. Negative values are listed first, followed by the life satisfaction differences from smallest to largest. The observed life satisfaction scores are the average of reported scores by survey respondents. The adjusted levels are calculated from regression models controlling for sex, age, age squared, marital status, education, employment status, self-reported health and whether living in a city with a population 500,000 or more

Sources: Statistics Canada, General Social Survey, 2008–2011, and Canadian Community Health Survey, 2009–2011; and World Values Survey, Waves 3–5

*** Significantly different from reference category ($p < 0.001$)

** Significantly different from reference category ($p < 0.01$)

* Significantly different from reference category ($p < 0.05$)

Table 2 Regression coefficients relating source-country civil liberty and Gross Domestic Product (GDP) per capita to differences in life satisfaction between recent (last 10 years) immigrants to Canada and source-country population

	Unweighted		Weighted by sample size of immigrant groups	
	Coefficient	Standard error	Coefficient	Standard error
Unweighted				
Intercept	3.88***	0.76	3.71***	0.72
Civil liberty	-0.01	0.10	0.06	0.09
GDP per capita	-0.33**	0.11	-0.33**	0.10
Adjusted R ²	0.264		0.224	

Sources: Statistics Canada General Social Survey 2008–2011 and Canadian Community Health Survey 2009–2011; World Values Survey Waves 3–5

*** Significantly different from reference category ($p < 0.001$)

** Significantly different from reference category ($p < 0.01$)

jeopardize the comparability of life satisfaction levels in the two data sources.⁴ Furthermore, one purpose of this study is to examine whether variations between immigrant and source-country life satisfaction are associated with the economic and social attributes of the source countries. Such variations should not be affected by differences in the scales used for immigrants in Canada and the source-country population in the WVS as long as the scales are consistent in the Canadian data and the WVS data.

Seven individual-level variables that can be coded consistently in the Canadian surveys and the WVS (sex, age, marital status, educational attainment, employment status, geographic distribution of residence, and self-assessed health status) are used to control for differences between the socio-demographic characteristics of immigrants to Canada and their source-country populations. Age is coded as a single year; age squared is included to capture the U-shaped age profile of life satisfaction (Blanchflower and Oswald 2008). Marital status is coded into five categories: married, common-law, widowed, separated/divorced, and single. Education is coded into five categories: university degree, some postsecondary education, high school graduation, less than high school graduation, and education not reported. Employment status is coded into three categories: employed, unemployed, and not in the labor force. Geographic distribution of residence is based on whether the respondent resides in a city with a population of 500,000 or more. Self-assessed health status is a five-point ordinal scale in both the Canadian surveys and the

⁴ To examine the potential impact of the slightly different wording in the WVS and Canadian surveys, mean reported life satisfaction in the 2006 WVS for Canada (a sample size of 2157) was compared with the 2005 and 2006 GSS (each with a sample size of about 20,000). The average life satisfaction score for Canada in the 2006 WVS was 7.76, 0.03 points ($p = 0.130$) higher than in the 2005 GSS and 0.21 points ($p < 0.001$) lower than the level in the 2006 GSS. These differences barely change when differences in age, sex, education, employment status, and geographic distribution are controlled. By comparison, in ten Canadian household surveys conducted from 2003 to 2011 that used the same question, average life satisfaction scores ranged from 7.60 to 8.31, and no clear trend emerged (Bonikowska et al. 2013). Therefore, differences in reported life satisfaction are greater among the Canadian surveys than the difference between the WVS and the Canadian surveys. The difference between the WVS and Canadian surveys in average life satisfaction is also small relative to what is observed between immigrants in Canada and their source-country populations (Table 1).

WVS; to make the variable more comparable between the surveys, the five-point scale is converted to a four-point scale: 1 (poor), 2 (fair), 3 (good), and 4 (very good).⁵

Two aggregate variables represent source countries' economic and social environment. The first is GDP per capita based on purchasing power parity (PPP), downloaded from the World Bank.⁶ This factor is represented by the average over the 1998-to-2008 period when the majority of immigrants in the study sample arrived in Canada. The second measure is the index of civil liberties developed by Freedom House and employed in other well-being studies (e.g., Böhnke 2008; Rice and Steele 2004).⁷ Again, the 1998-to-2008 average is used. The original civil liberty scale ranges from 1 to 6, with higher scores indicating less civil liberty. For this analysis, the scale is reversed so that higher scores indicate higher levels of civil liberty. GDP (PPP) and civil liberties are correlated with several national-level characteristics in the source country. GDP (PPP) has positive and significant ($p < 0.001$) relationships with life expectancy at birth ($r = 0.68$), enrolment in tertiary education (percent gross) ($r = 0.67$), and health expenditures per capita ($r = 0.84$), as well as with the traditional/secular-rational scale ($r = 0.43$) and survival/self-expression scale ($r = 0.62$) of cultural values developed by Inglehart and Welzel (2010).⁸ GDP (PPP) also has negative and highly significant ($p < 0.001$) relationships with fertility rate (births per woman) ($r = -0.53$) and infant mortality ($r = -0.62$).⁹ Therefore, a significant association between source-country GDP per capita and the level of life satisfaction should not be interpreted narrowly as the effect of income on well-being since GDP per capita is associated with a range of quality-of-life indicators and cultural values. The civil liberty measure exhibits similar relationships, although the correlations are slightly weaker. Overall, GDP (PPP) and the civil liberties index are measures of national economic and social development that reflect a broad range of conditions and outcomes.¹⁰

⁵ In the WVS, the scale is very poor, poor, fair, good, and very good; in the Canadian surveys, the scale is poor, fair, good, very good, and excellent. In the converted four-point scale, very poor and poor are combined as "poor" in the WVS, and very good and excellent are combined as "very good" in the Canadian surveys. Including the converted general health measure as a control variable in multivariate regression models results in a slightly higher adjusted level of life satisfaction for populations in source countries than when the original general health measure is used. However, using the converted or original health measure does not alter general conclusions about the higher average life satisfaction among immigrants than among the source-country populations and the correlates of the differences.

⁶ <http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD/countries?display=default>, downloaded in February 2013.

⁷ The civil liberty scale represents freedom of expression, assembly, association, education and religion. Civil liberty data were downloaded from <http://www.freedomhouse.org/> in February 2013.

⁸ Based on the 1998–2008 average, using data provided by Ronald Inglehart at the University of Michigan. The traditional/secular-rational scale reflects the importance of religion, traditional family values and deference to authority. The survival/self-expression scale reflects the transition from industrial societies to post-industrial societies and the accompanying shift in importance from economic and physical security toward subjective well-being, self-expression and quality of life.

⁹ These additional country-level characteristics were obtained from the World Bank database (2005–2008 averages).

¹⁰ Note that only 3 of the 43 source countries examined have higher GDP (PPP) per capita than Canada (United States, Hong Kong, and the Netherlands). In addition, Canada is assigned the highest score on the civil liberties index, indicating a high level of freedoms (Freedom House 2013). The majority of source countries examined (35 of 43) had lower levels of civil liberty than Canada.

3.3 Methods

To answer our first research question, the observed and adjusted average levels of life satisfaction of immigrant groups in Canada are compared with their source-country populations. The observed level is the average of life satisfaction reported by respondents in the respective surveys. The adjusted level is estimated from an OLS regression model pooling immigrants from the Canadian household surveys and source-country respondents in the WVS. This model uses life satisfaction as the outcome variable and includes identifiers of immigrant groups and source countries, and the seven individual-level variables discussed above. The adjusted life satisfaction level for immigrant groups in Canada and their source-country populations is a regression-standardized estimate. This estimate assumes that they have the same observed characteristics as measured by the seven individual-level variables and that the effects of these variables on life satisfaction are the same across immigrant groups and source countries.

Inclusion of these seven variables in the model should remove much of the impact of immigration selectivity on the difference in life satisfaction between immigrants and their source-country populations. Age, education, employability and health are the main selection criteria for immigration to Canada; thus, they are key characteristics for distinguishing immigrants from the non-emigrant population in their source countries. Moreover, self-assessed health has been used as a “partialing fallacy” device to reduce unobserved heterogeneity, as some individuals are more positive in their perceptions of their life and the world in general (Helliwell 2003; Morrison 2011). Such people would over-report their health status in the same way that they over-report their life satisfaction. Therefore, including self-assessed health as a control variable should reduce the effect of such bias (Halpern 2005).

The sample weights for each survey are used in the model estimates. In the model comparing immigrant groups in Canada with their source-country populations, the sample weights associated with immigrant respondents in the Canadian survey data are standardized (i.e., dividing by the sum of the weights and then multiplying with the number of the total immigrant respondents) so that the sum of the standardized weights equals the sample size. Additionally, the sample weights in the WVS are standardized so that the sum of the standardized weights in the WVS is the same as the number of the immigrant sample in the Canadian data. These standardized weights maintain each survey’s representativeness of its target population while ensuring that the Canadian and WVS samples make the same contribution to the model estimation.

The second research question asks whether differences in life satisfaction between immigrant groups and their source-country populations are associated with changes in national-level factors. The difference in the average adjusted life satisfaction of immigrant groups in Canada and their source country population (“stayers”) is used as the outcome variable. The difference in life satisfaction is regressed on source-country GDP per capita and source-country civil liberty, based on the grouped data estimated above.

To answer the third question regarding whether there is an observed difference between immigrant groups and the Canadian-born population, three OLS regression models are estimated by pooling immigrant and Canadian-born respondents from the Canadian surveys. The first model, which contains dummy variables representing immigrant groups with Canadian-born as the common reference group, and without control variables, simply replicates the observed differences in life satisfaction between each immigrant group and the Canadian-born. The second model controls for sex, age, age squared, marital status,

mean life satisfaction score among recent immigrants to Canada by source country

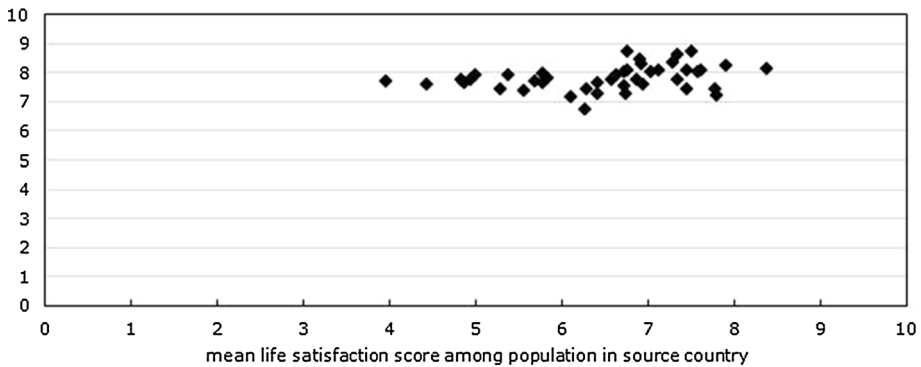


Fig. 1 Observed life satisfaction among recent (last 10 years) immigrants to Canada and source-country population. *Sources:* Statistics Canada General Social Survey 2008–2011 and Canadian Community Health Survey 2009–2011; World Values Survey Waves 3–5

educational attainment, employment status, geographic distribution, and self-assessed health status. The third model controls for additional variables that are available in the Canadian surveys: household income, household size, home ownership and detailed geographic regions.¹¹

4 Results

4.1 Life Satisfaction Differences Between Immigrants and Their Source-Country Populations

Most immigrant groups in Canada have a higher level of life satisfaction than their source-country populations (Table 1). This holds for both the observed and adjusted results (Figs. 1, 2). Among the 43 immigrant groups, 38 have observed life satisfaction scores that exceed those of their source-country populations by more than 0.5 points. Of these, all but two groups show statistically significant life satisfaction differences. There is considerable variation in the magnitude of the difference as 12 immigrant groups have an observed level of life satisfaction that is more than 2 points higher than that in their source country, 16 have a level of life satisfaction that is 1–2 points higher, and 10 groups have a level of life satisfaction that is 0.5–1 points higher. In the remaining five pairs, the immigrant-stayer difference is less than half a point. Only three immigrant groups in Canada—those from New Zealand, the Netherlands, and Colombia—have slightly lower levels of life satisfaction than their source-country populations.

¹¹ Household income is coded as six categories rather than as an interval variable because substantial percentages of respondents reported their household income in broad ranges instead of exact dollar amounts or did not report their household income. The income categories are lowest (<\$30,000), lower-middle (\$30,000–\$59,999), middle (\$60,000–\$99,999), higher-middle (\$100,000–\$149,999), high (\$150,000 or more), and missing. Because the household income categories do not take the economies of scale associated with family size into account, household size (square root) was included to control for the reduced consumption needs of additional members. The geographic controls are six geographic regions and seven groups of urban/rural areas.

mean life satisfaction score among recent immigrants to Canada by source country

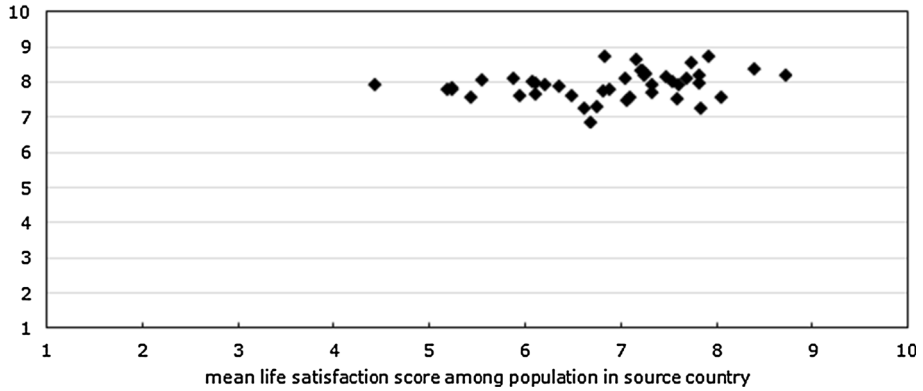


Fig. 2 Adjusted life satisfaction among recent (last 10 years) immigrants to Canada and source-country population. *Sources:* Statistics Canada General Social Survey 2008–2011 and Canadian Community Health Survey 2009–2011; World Values Survey Waves 3–5

mean life satisfaction score among immigrants by source country

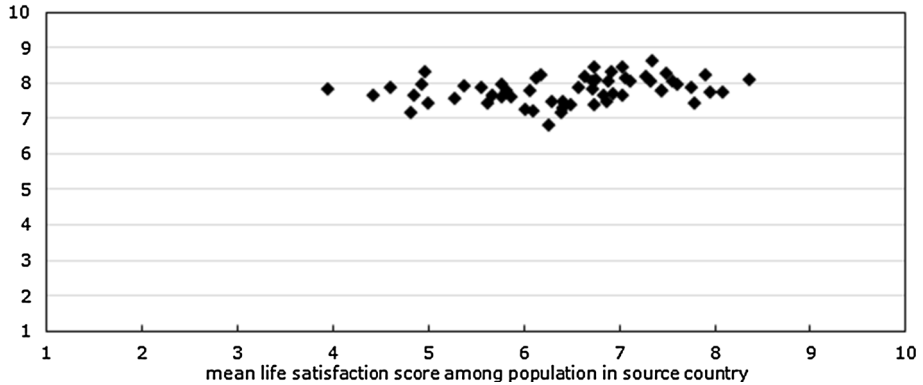


Fig. 3 Observed life satisfaction among immigrants (last 20 years) to Canada and source-country population. *Sources:* Statistics Canada General Social Survey 2008–2011 and Canadian Community Health Survey 2009–2011; World Values Survey Waves 3–5

Adjusting for the socio-demographic characteristics of immigrants and source-country populations generally reduced the immigrant-stayer differences in life satisfaction. For instance, the difference between immigrants from India and the population in India decreases from 2.04 to 1.73 points after adjustment. This suggests that selectivity, as captured by these socio-demographic variables, accounts for some of the difference in life satisfaction between immigrants and source-country populations. Nonetheless, sizable differences remain within most immigrant-source country pairings when selectivity is taken into account.¹²

¹² After controlling for socio-demographic characteristics, the number of immigrant-source country pairings with a difference in average life satisfaction of 0.5 or greater declines from 38 to 31 (of the 43 overall), while the number for which the life satisfaction difference is 0.4 or greater declines from 39 to 35.

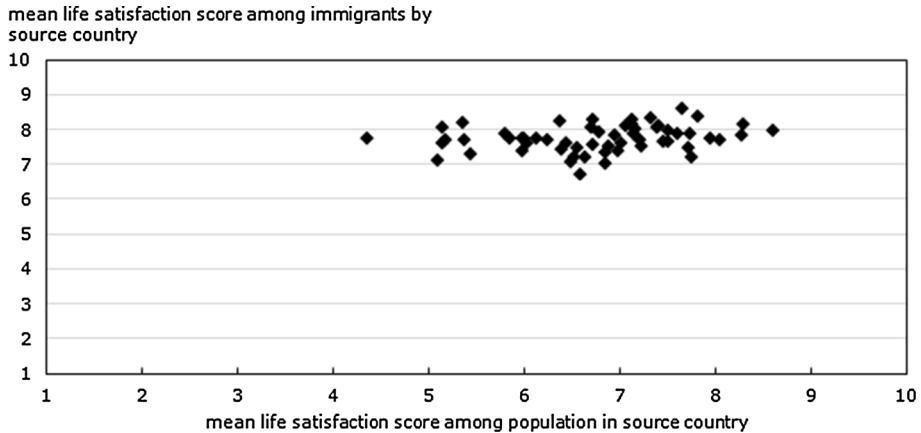


Fig. 4 Adjusted life satisfaction among immigrants (last 20 years) to Canada and source-country population. *Sources:* Statistics Canada General Social Survey 2008–2011 and Canadian Community Health Survey 2009–2011; World Values Survey Waves 3–5

These patterns persist when the analysis is extended to include immigrants who have been in Canada for up to 20 years (11,276 immigrant respondents from 58 source countries). Most groups have observed and adjusted levels of life satisfaction higher than those of their source-country population (Figs. 3, 4). Only three groups have an observed level of life satisfaction slightly below (0.2–0.3 points) that of their source-country population (data available on request).

From a different perspective, the data also show a larger variation in life satisfaction across source countries than across immigrant groups in Canada. Across the 43 source countries, average life satisfaction scores range from 3.94 to 8.36, with a standard deviation of 1.03 and a range of 4.4 points. In contrast, across the 43 immigrant groups in Canada, average life satisfaction scores range from 6.79 to 8.81, with a standard deviation of 0.43 and a range of 2.0 points. These patterns support the view that national contexts influence life satisfaction and that the common experience of life in Canada is associated with a narrowing range of scores across immigrant groups.¹³

4.2 Accounting for Immigrant-Stayer Differences in Life Satisfaction

The descriptive analyses indicate that most immigrant groups in Canada have higher levels of life satisfaction than their source-country counterparts, even when socio-demographic factors related to immigrant selectivity are controlled for. However, the differences in life satisfaction are much larger for some groups than for others. At the bivariate level, the immigrant-stayer difference in life satisfaction is strongly and negatively associated with source-country levels of life satisfaction ($r = -0.91$, $p < 0.001$). That is, the immigrant-

¹³ If this is the case, one would also expect life satisfaction scores to converge as immigrant groups reside in Canada for longer periods of time. However, this cannot be tested with our pooled cross-sectional data as it is not possible to distinguish cohort differences from assimilation effects. For example, factors affecting the migration decisions of immigrants from Hong Kong who had resided in Canada for 11–20 years in our data would differ greatly from those of their counterparts who had arrived within 10 years.

Difference in mean life satisfaction score between recent immigrants and source-country population

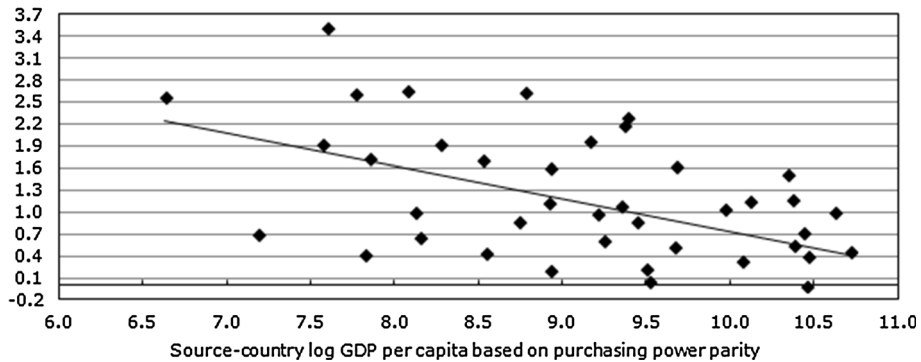


Fig. 5 Adjusted recent (last 10 years) immigrant-stayer differences in life satisfaction, by source-country GDP per capita. *Sources:* Statistics Canada General Social Survey 2008–2011 and Canadian Community Health Survey 2009–2011; World Values Survey Waves 3–5

stayer differences in life satisfaction are mostly influenced by differences in life satisfaction across source countries rather than by differences in life satisfaction among immigrant groups in Canada.

Furthermore, at the bivariate level the immigrant-stayer difference in life satisfaction is significantly associated with both source-country log GDP per capita (PPP) (Pearson $r = -0.55$, $p < 0.001$) (Fig. 5) and civil liberty ($r = -0.36$, $p < 0.05$). Because source-country log GDP per capita (PPP) is also significantly correlated with civil liberty ($r = 0.65$, $p < 0.001$), their independent associations with immigrant-stayer differences in life satisfaction must be examined in a regression model.

Table 2 presents regression models with the adjusted immigrant-stayer differences in life satisfaction as the outcome variable. Source-country log GDP per capita (PPP) and level of civil liberty are the explanatory variables. The set of results in the first column are not weighted; results in the second column are weighted by the sample size of immigrant groups to account for the fact that the immigrant-stayer difference in life satisfaction is estimated more reliably with large sample sizes. The unweighted and weighted regression results are generally similar.

When both source-country log GDP per capita (PPP) and civil liberty are included in the same model, only the effect of the former is statistically significant (Model 1). The significant and negative coefficient implies that immigrants who come to Canada from countries with lower GDP per capita tend to have a larger improvement in life satisfaction relative to their source-country population.¹⁴ When the analysis is extended to include immigrants who have been in Canada for up to 20 years, the results are similar (data not shown).

¹⁴ In a separate multivariate model, about one-quarter of the variation in life satisfaction across source countries is accounted for by GDP per capita; the effect of civil liberty is not significant when GDP per capita is taken into account. Again, this suggests that immigrants from countries with lower levels of economic development experience greater improvements in life satisfaction after migration.

4.3 Life Satisfaction Differences Between Immigrant Groups and the Native-Born

Table 3 presents regression models with immigrant-Canadian-born differences in life satisfaction as the outcome variable. Model 1 includes no control variables and shows the observed difference in life satisfaction between each recent immigrant group and the Canadian-born population. Only three groups (Argentina, France and Nigeria) have significantly higher levels than the Canadian-born, and eight groups have significantly lower levels. The latter eight groups are from countries in Asia, the Middle East and Eastern Europe—the major sources of new immigrants to Canada (see Table 3, Model 1).

In Model 2 (Table 3), sex, age, age squared, marital status, educational attainment, employment status, geographic distribution, and self-assessed health status are controlled for. Among the three immigrant groups with significantly higher levels of life satisfaction than the Canadian-born, the difference becomes much smaller or non-significant and two additional immigrant groups have significantly lower levels of life satisfaction than the Canadian-born. The life satisfaction gaps remain or widen for the eight immigrant groups with significantly lower levels than the Canadian-born. While these results suggest that socio-demographic factors largely explain why some immigrant groups report higher levels of life satisfaction than the native-born population, these factors do not help to explain why other immigrant groups have lower levels of life satisfaction than the Canadian-born.

Model 3 includes household income, household size, homeownership, and more finely defined geographic areas. With the addition of these variables, 32 of the 43 immigrant groups do not differ significantly from the Canadian-born in average life satisfaction. Only four immigrant groups (Bangladesh, Bulgaria, China, Iran) continue to have significantly lower levels of life satisfaction than the Canadian-born, and the gaps are narrower. Moreover, three immigrant groups have significantly higher levels of life satisfaction than the Canadian-born (Italy, Mexico, Nigeria). The narrowed gaps among some immigrant groups from Model 2 to Model 3 suggest that the added variables representing inferior economic positions and geographic concentration partly account for their lower levels of life satisfaction relative to the Canadian population.

Although statistically significant differences from the Canadian-born are not found for most immigrant groups, negative coefficients are observed for the majority. Previous research suggests that immigrant status is negatively associated with life satisfaction (e.g., Bonikowska et al. 2013; Burton and Phipps 2010). To further investigate this issue, an immigrant indicator variable was examined in an alternate model. The results indicated a significant and negative relationship between immigrant status and life satisfaction.¹⁵ A consideration of both sets of results suggests that the negative relationship between immigrant status and life satisfaction may be influenced by certain immigrant groups. That is, the use of an immigrant dummy variable may mask the variation in life satisfaction between groups from different source countries.

¹⁵ In Model 1 (no controls), the coefficient for immigrant status is -0.21 ($p < 0.001$); in Model 2 (sex, age, age squared, marital status, education, employment status, self-assessed health, and geographic distribution included in the model) the coefficient is -0.28 ($p < 0.001$); in Model 3 (household income, household size, home ownership and detailed geographic regions added to the model) the coefficient for immigrant status is -0.12 ($p < 0.001$).

Table 3 Regression models examining differences in life satisfaction between recent (last 10 years) immigrants to Canada and Canadian-born population, by source country

	Model 1		Model 2		Model 3	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Ethiopia	-0.07	0.57	-0.07	0.57	0.28	0.55
Zimbabwe	-0.29	0.40	-0.25	0.52	-0.12	0.49
Bangladesh	-0.82**	0.27	-0.90***	0.25	-0.66*	0.26
Pakistan	-0.36	0.19	-0.37*	0.18	-0.14	0.17
Iraq	-0.24	0.31	-0.38	0.27	-0.16	0.28
Vietnam	-0.26	0.28	-0.38	0.26	-0.21	0.27
India	-0.19**	0.07	-0.29***	0.07	-0.10	0.07
Nigeria	0.77**	0.25	0.50*	0.25	0.67*	0.26
Philippines	0.06	0.10	0.01	0.09	0.17	0.09
Egypt	-0.60*	0.26	-0.48*	0.21	-0.29	0.20
Indonesia	-0.39	0.26	-0.29	0.21	-0.18	0.22
Ukraine	-0.39	0.22	-0.39	0.21	-0.27	0.21
Morocco	-0.35	0.22	-0.14	0.21	-0.06	0.21
China	-0.69***	0.07	-0.69***	0.07	-0.53***	0.07
Taiwan	-0.22	0.15	-0.30	0.19	-0.16	0.19
El Salvador	0.71	0.39	0.55	0.38	0.78	0.42
Iran	-0.71***	0.18	-0.88***	0.17	-0.70***	0.16
Algeria	-0.31	0.26	-0.31	0.24	-0.16	0.24
Peru	-0.05	0.29	0.18	0.30	0.28	0.27
Colombia	0.13	0.16	0.06	0.18	0.19	0.19
Bulgaria	-0.25	0.28	-0.67*	0.28	-0.60*	0.27
Brazil	0.10	0.18	-0.26	0.18	-0.12	0.17
Romania	-0.08	0.12	-0.15	0.11	-0.06	0.10
Argentina	0.61**	0.22	0.40	0.24	0.45	0.25
South Africa	0.01	0.18	-0.23	0.18	-0.19	0.18
Venezuela	0.06	0.32	-0.16	0.37	-0.05	0.35
Russia	-0.54*	0.24	-0.49*	0.21	-0.34	0.22
Turkey	-1.26*	0.62	-1.20	0.67	-1.01	0.66
Mexico	0.26	0.16	0.19	0.14	0.36**	0.14
Poland	0.05	0.26	-0.12	0.22	0.06	0.23
Saudi Arabia	0.39	0.30	0.08	0.31	0.21	0.32
Trinidad and Tobago	-0.20	0.29	-0.33	0.28	-0.20	0.28
South Korea	-0.55*	0.22	-0.48*	0.20	-0.32	0.20
New Zealand	-0.77	0.48	-1.12	0.58	-1.04	0.59
Hong Kong	-0.32	0.17	-0.34	0.18	-0.20	0.18
Italy	0.49	0.26	0.45	0.25	0.58*	0.25
France	0.31*	0.13	0.18	0.11	0.19	0.12
Germany	0.10	0.16	-0.07	0.14	0.02	0.14
Japan	-0.44	0.33	-0.48	0.32	-0.33	0.32
Australia	-0.57	0.43	-0.58	0.48	-0.51	0.48

Table 3 continued

	Model 1		Model 2		Model 3	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
United Kingdom	0.09	0.09	−0.07	0.09	0.00	0.09
Netherlands	−0.54	0.45	−0.65*	0.33	−0.57	0.34
United States	0.05	0.12	−0.15	0.10	−0.05	0.10
R ²	0.004		0.187		0.196	

Countries are ordered by GDP (PPP), from lowest to highest. The coefficients are the differences in life satisfaction between immigrant groups and the Canadian-born (the reference). Model 1 has no controls. Model 2 controls for sex, age, age squared, marital status, educational attainment, employment status, self-assessed health, and whether living in a city with a population of 500,000 or more. Model 3 adds household income, household size, home ownership and geographic regions

Sources: General Social Survey 2008–2011; Canadian Community Health Survey 2009–2011

*** Significantly different from reference category ($p < 0.001$)

** Significantly different from reference category ($p < 0.01$)

* Significantly different from reference category ($p < 0.05$)

5 Discussion

This study indicates that changes in national-level conditions following migration to the host country play an important role in immigrants' life satisfaction. The regression results show that immigrants who migrated from countries with low levels of economic development (GDP) had larger life satisfaction improvements relative to their source-country counterparts than immigrants from nations with higher GDP levels. This was upheld when the analysis was extended to include immigrants who had resided in Canada for up to 20 years, indicating that changes in life satisfaction following migration persist over time.

Previous studies suggest that if quality-of-life factors primarily explain variations in life satisfaction, immigrants and the native-born should not differ greatly (Senik 2011; Veenhoven 1994). Large life satisfaction gaps would indicate that changes in national-level factors upon migration to the host country are less influential, especially if source-country and host-country characteristics are dissimilar. The results from this study indicate that sharing the same general living conditions and freedoms as the Canadian-born population results in similar life satisfaction levels for most immigrant groups. Moreover, few groups differed significantly from the native-born population in life satisfaction when socio-demographic, employment, income and geographic factors were taken into account.

The similar levels of life satisfaction found between most immigrant groups and the Canadian-born population, as well as the differences observed between the average life satisfaction of most immigrant groups and their source countries, also challenge the assumption that cultural disposition is a principal influence in individuals' well-being assessments. A pre-determined cultural outlook does not appear to be highly influential to the life satisfaction evaluations of immigrants. These results, however, could also indicate that immigrants to Canada are substantively different than their source-country populations.

Selectivity is a concern when comparing immigrants with their source-country populations. Canada's points system for immigrant selection results in a concentration of highly skilled immigrants who may not be representative of the general population in their source

countries. They may be more likely to possess characteristics that are highly correlated with happiness such as good health and higher levels of education (Diener and Seligman 2004; Diener et al. 2003). The life satisfaction gaps between the immigrant and source-country populations decreased slightly after taking into account socio-demographic factors that are used to select immigrants to Canada. Therefore, although some differences remain, selection effects based on such characteristics appear to play a small role in the life satisfaction differences between these groups.

Differences between the average life satisfaction of immigrant groups and their source-country populations could also be attributable to unobserved factors. For example, life satisfaction in the source country may influence individuals' decision to migrate; Otrachshenko and Popova (2011) argue that individuals with lower levels of happiness are more likely to leave their country of origin. Life satisfaction is also a significant predictor of whether an immigrant remains in the host country (Massey and Akresh 2006). Those who are unhappy in the host country are more likely to return to their source country or move to another country, which would result in an over-representation of immigrants with high life satisfaction. Data limitations prevent an examination of these issues in this paper.

The lower life satisfaction scores observed for some immigrant groups may be due to a negative reception of immigrants in the host country or their approach to integration. For example, immigrants' experience of discrimination in the host country may negatively affect their life satisfaction (Chow 2007; Houle and Schellenberg 2010; Safi 2010). Immigrants' experience with anti-immigrant attitudes may also vary regionally, as attitudes toward immigrant groups are often developed based on local factors, such as the proportion of immigrants or immigrant unemployment rate in the region (Markaki and Longhi 2013). Additionally, higher levels of life satisfaction have been found among immigrants who engage with individuals outside their cultural group (Chow 2007; Phinney et al. 2001).

Therefore, experiences unique to immigrant groups must be considered. Since migration may represent the attainment of a goal, the higher levels of life satisfaction observed among most immigrant groups compared to their source countries may be reflective of this accomplishment. Furthermore, immigrants' motivation for leaving their source countries may be related to their level of life satisfaction. For example, immigrants who arrive as refugees were likely motivated to migrate for different reasons than economic migrants. Sacrifices immigrants make, such as family separation, or shifts in their relative status in the host country (Bartram 2011; Mara and Landesmann 2013) and acculturation factors such as proficiency in the host country's official language(s) may also play a role (Miglietta and Tartaglia 2009).

The results indicate that improvements in national conditions following migration to the host country are important to immigrants' life satisfaction. Most immigrant groups show higher life satisfaction scores than their source-country populations and the majority of groups do not differ significantly from the Canadian-born in average life satisfaction. These findings persist when the sample includes immigrants who have resided in Canada for up to 20 years. Thus, a major life event such as migration can have long-term effects on average levels of life satisfaction, countering the assumptions of set-point theory. Furthermore, the results indicate that individuals' assessments of life satisfaction are likely more influenced by life circumstances than by cultural disposition.

The findings from this study highlight the need for future research on the subjective well-being of immigrant populations to consider variations in life satisfaction that exist across different immigrant groups. Moreover, research in this area would benefit from considering how different integration issues may affect immigrants' life satisfaction. Further research into the source of lower life satisfaction observed for some immigrant

groups could be beneficial in determining whether these results are due to integration difficulties, the receptiveness of host-country communities toward immigrants, or varying motivations for migration.

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