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The Life Satisfaction of Immigrants in Canada: Does Time of Arrival Matter?

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THE LIFE SATISFACTION OF IMMIGRANTS IN CANADA: DOES TIME OF ARRIVAL MATTER?

by

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ABSTRACT

The subjective life satisfaction of individuals reveals valuable information about the overall well-being of a society. Furthermore, the large prevalence of international migration has led to the importance of studying the life satisfaction of immigrants within host-countries, including Canada. This study uses secondary data from the 2013 Canadian General Social Survey, Cycle 27, to assess the life satisfaction of immigrants in Canada in comparison to Canadian-born individuals, and to determine if immigrants' year of arrival has a significant impact on their life satisfaction. Using bivariate and multivariate statistical models, the results reveal that the life satisfaction of immigrants does not significantly differ from the Canadian-born population, and that year of arrival has no significant effect on immigrants' life satisfaction. Income, however, seems to be a more important determinant of immigrants' life satisfaction in Canada.

Keywords: Life satisfaction, immigrants, immigration, year of arrival, income.

INTRODUCTION

The study of life satisfaction has become an increasing interest within academic and policy discussions (Bartram 2011; Bonikowska, Helliwell, Hou & Schellenberg 2014; Diener & Diener 1995; Diener, Inglehart & Tay 2013). Studies of life satisfaction often assess individual accounts of overall life satisfaction to measure societal and national-level well-being (Helliwell, Layard & Sachs 2018). Furthermore, the prominence of international migration has led to an important merging of immigration and life satisfaction research in recent years (Angelini, Casi & Corazzini 2015; Bartram 2011; Frank, Hou & Schellenberg 2014; Kogan, Shen, Siegart 2018). The dedication to better-understanding immigrants' life satisfaction within host-countries has yielded valuable information surrounding their ability to integrate both socially and economically (Arpino & de Valk 2018).

There are a multitude of factors that have the potential to impact immigrants' life satisfaction within a host-country. Existing research reveals inconsistent findings surrounding the life satisfaction of immigrants within different host-countries. A number of studies on immigrant life satisfaction have been conducted in various European countries (Calvo & Cheung 2018; Kogen et al 2018; Obućina 2013; Safi 2010), Israel (Amit & Riss 2014; Kushnarovich & Sherman 2017), the United States (Bartram 2016), and a number of other high income countries (Olgiati, Calvo & Berkman 2013). Within Canada, a few studies on immigrant life satisfaction have been conducted in recent years. For instance, Frank et al measured the life satisfaction of immigrants in Canada compared to both their source-country counterparts and native-born individuals (Frank et al 2014). Additionally, the association between immigrants' life satisfaction and their integration and acculturation strategies has been analyzed within Canada (Berry & Hou 2016).

Despite some study of the life satisfaction of immigrants in Canada, research gaps remain. This study fills aspects of these research gaps by analyzing important factors of immigrant life satisfaction that have not been sufficiently explored in the Canadian context. This study uses the 2013 Canadian General Social Survey (GSS) to answer the following research questions. The first two research questions are meant to compare the life satisfaction of immigrants and non-immigrants in Canada. First, is the life satisfaction of immigrants in Canada similar to that of the Canadian-born population? Second, to what extent do individual-level factors affect life satisfaction for immigrants and non-immigrants in Canada? The second aspect of this study is meant to assess two potentially focal aspects of life satisfaction for immigrants specifically. Therefore, the final two research questions are the following. Does length of time since arrival impact the life satisfaction of immigrants in Canada? Finally, does controlling for income reduce or strengthen the effect between life satisfaction and immigrants' length of time in Canada?

A more comprehensive understanding of the life satisfaction of immigrants in Canada is important due to the large number of immigrants settled within the country. Additionally, assessing life satisfaction provides a deeper understanding of immigrants' own assessments of their lives in Canada, which reveals important information about their ability to integrate in, and contribute to Canadian society. Presently, assessing immigrants' life satisfaction as it relates to length of time spent in Canada has not been a focus throughout existing literature. This study assesses year of arrival as a central aspect of immigrants' life satisfaction and ultimately seeks to provide insight into the potential association between these two factors. This study also extends upon existing Canadian literature by determining if income strengthens or reduces the potential association between year of arrival and life satisfaction.

LITERATURE REVIEW

Understanding Life Satisfaction

With growing importance in academic and policy arenas, the constructs of subjective well-being and life satisfaction have been widely applied to a variety of study subjects. Most often, the terms life satisfaction, subjective well-being, and happiness are used interchangeably. Consistent throughout existing literature, and applied throughout the present study, life satisfaction is regarded as a specific concept of subjective well-being (Dolan & Metcalfe 2012). The majority of work on subjective well-being and life satisfaction is based on self-report assessments taken from widely-distributed surveys, with life satisfaction typically used as a mechanism that measures subjective well-being (Bonikowska et al 2014; Diener 2009). Research demonstrates that life satisfaction is an empirically valid construct, and it is typically defined as an individual's evaluation of their life as a whole (Diener 2009; Fors & Kulin 2016; Helliwell 2003).

Research on individuals' life satisfaction is important for several reasons. For instance, previous findings suggest that self-reports of life satisfaction contain valuable information that can potentially explain individual behaviour (Clark, Frijters & Shields 2008). Additionally, life satisfaction scholars claim that life satisfaction may predict future behaviours of individuals in social settings (Diener et al 2013). The potential for life satisfaction to predict human behaviour demonstrates its relevance to policy making in a variety of policy arenas (Easterlin & Switek 2014).

Measures of life satisfaction are prominent in both international and national-level policy discussions as they provide an assessment of societal progress and the overall well-being of populations (Bonikowska et al 2014; Helliwell et al 2018). Much of the motivation behind

national and global development is to increase societal well-being (Bonini 2008; Dolan & Metcalfe 2012; Bonikowska et al 2014). However, societal well-being is an overall measure of each individual's subjective well-being and satisfaction with life. Individuals may report their satisfaction with life differently based on their unique expectations, values, and previous experiences (Diener, Suh, Lucas & Smith 1999). The subjectivity of satisfaction with life points to the importance of understanding the individual-level factors that affect life satisfaction (Bonini 2008; Rodriguez-Pose & Maslauskaite 2012). Assessing the subjective factors that have an impact on life satisfaction is a primary goal of this study.

Immigration and Life Satisfaction

The 2018 *World Happiness Report* revealed that as of 2015, 244 million individuals lived outside of their country of birth (Helliwell et al 2018). The large number of international migrants worldwide has led to further investigation into immigrants' life satisfaction within their host-countries, and whether immigrants' life satisfaction is comparable to native-born individuals. Within Canada specifically, the 2016 Census revealed that nearly 22% of the Canadian population is comprised of immigrants (Statistics Canada 2017). The proportion of immigrants within the Canadian population warrants further investigation into their life satisfaction, as well as how their life satisfaction compares to Canadian-born individuals.

In recent years, literature surrounding immigration and life satisfaction has become increasingly linked. Immigrants' life satisfaction is important as it represents a mechanism that reveals how they perceive their life, and may also represent a proxy for immigrants' conditions within host-countries (Arpino & de Valk 2018). A common question asked by immigration scholars is whether migrants experience an increase or decrease in life satisfaction as a result of migrating (Bartram 2011; Olgiati et al 2013; Kogan et al 2018; Kushnirovich & Sherman 2017).

At the individual level, many studies have demonstrated that life satisfaction typically remains stable over time, however, it can also be sensitive to major life events including immigration (Bartram 2011; Diener 2009). Existing literature has established that not all immigrants are equally as happy or unhappy within host-countries (Bartram 2011; Frank et al 2014; Safi 2010; Simpson 2013). Some scholars suggest that upon arrival, immigrants are exposed to adverse experiences within their host-country and are therefore at a greater risk of experiencing poor well-being and low life satisfaction compared to native-born individuals (Cobb, Branscombe, Meca, Schwartz, Xie, Zea, Molina & Martinez 2019; Simpson 2013). Interestingly, some studies reveal that recent immigrants report higher levels of life satisfaction (Obućina 2013). Therefore, these findings are not consistent across all host-countries.

As international migration continues to expand, immigrant-receiving nations make an effort to achieve satisfactory levels of immigrant integration. Traditionally, immigrants' integration has been analyzed through objective measures including labour market participation, education, and language acquisition (Bloemraad, Korteweg & Yurdakul 2008; Calvo & Cheung 2018), as well as social integration (Arpino & de Valk 2018), citizenship, and security of legal or residential status (Bartram 2016; Kirmanoğlu & Başlevent 2014). Previous studies have found that immigrants' life satisfaction has implications on their ability to successfully integrate within host countries (Kogan et al 2018; Angelini et al 2015). Inversely, life satisfaction may also be affected by an immigrants' lack of ability to successfully integrate into their host-society. Therefore, subjective factors have been increasingly studied to assess immigrants' life satisfaction within host-countries (Amit 2010; Bonini 2008; Chu, Shen & Yang 2018). This study seeks to enhance and expand current understanding of the subjective, individual-level factors that impact immigrants' life satisfaction within Canada.

Life Satisfaction Comparisons between Immigrants and Non-Immigrants

Throughout both life satisfaction and immigration literature, several studies have analyzed disparities in life satisfaction between immigrants and the native-born population within host-countries. For instance, one European study revealed that immigrants are generally less satisfied with their lives compared to native-born Europeans, and this disparity does not diminish with time or across generations (Safi 2010). Similarly, Arpino and de Valk found that even though differences did diminish over generations, the life satisfaction of immigrants remained lower than the European-born population overall (Arpino & de Valk 2018). In the American context, Bartram found that being an immigrant in the United States is associated with lower levels of life satisfaction. The preceding study also concluded that immigrants from less developed countries often report even lower levels of life satisfaction compared to immigrants from more developed countries (Bartram 2011).

In the Canadian context, one study analyzed the life satisfaction of 43 immigrant groups within Canada and found that 32 of the 43 immigrant groups did not differ significantly in their life satisfaction compared to the Canadian-born population (Frank et al 2014). Although existing research consistently reveals that immigrants are less satisfied than native-born individuals, there exists a gap in research analyzing immigrant life satisfaction within Canada. Due to the lack of confirmed findings that immigrants' life satisfaction does not differ from the Canadian-born population, it is hypothesized that the results of this study will generally match those of other host countries, with immigrants reporting slightly lower levels of life satisfaction. Further assessment of immigrants' life satisfaction in comparison to the Canadian-born population will reveal important information regarding immigrants' assessments of their lives in Canada.

Personal vs External Factors

Throughout existing literature, there are mixed findings surrounding immigrant life satisfaction and the many different factors that contribute to changes in life satisfaction. Existing literature consistently reveals that both individual-level factors and external conditions strongly influence life satisfaction (Bonini 2008; Frank et al 2014; Kushnirovich & Sherman 2017; Luhmann, Murdoch & Hawkley 2015). Some studies focus on individual-level factors, while others extend beyond subjective factors and employ a broader approach. For instance, using the European Social Survey, Kogan, Shen & Siegart analyzed host-country characteristics to assess their influence on immigrants' life satisfaction and found that positive social settings and high levels of human development positively impacted immigrants' life satisfaction (Kogan et al 2018). Other research has focused on the prevalence of host-country discrimination towards immigrants and the effects that discriminatory experiences may have on immigrants' life satisfaction (Safi 2010; Angelini et al 2015). Furthermore, one cross-national study revealed that roughly 81% of the variation in life satisfaction is due to subjective factors including age, gender, income, education, and marital status, while 19% is due to country-specific external factors such as GDP and human development (Bonini 2008).

The Importance of Subjective Factors

There are a number of individual-level factors that are known to have an effect on life satisfaction. This study focuses on various individual-level factors and how they impact life satisfaction. Important subjective factors include age, gender, marital status, family structure, educational attainment, income, health, and others. Research reveals a non-linear relationship between age and life satisfaction, in which life satisfaction is typically high in young adulthood, rather low throughout middle-aged years, then rises again nearing retirement (Bartram 2011;

Helliwell 2003; Kirmanoğlu & Başlevent 2014). However, for immigrants specifically, age is often positively related to life satisfaction (Wagner 2014).

Research analyzing gender differences in life satisfaction are somewhat mixed, however, women tend to be generally more satisfied than males (Graham & Chattopadhyay 2012; Obućina 2013; Statistics Canada 2019). Gender differences in life satisfaction among immigrant populations are not as explored, however, several studies reveal that immigrant women integrate better than immigrant men, and that this may have a positive impact on their life satisfaction (Portela-Maseda, Neira & del Mar Salinas-Jiménez 2012).

Marital status, family structures, and family relationships are often considered to be important factors that determine life satisfaction, with married individuals with children being more satisfied with life (Bartram 2011; Diener 2009; Helliwell 2003; Kushnirovich & Sherman 2017). Regarding education, higher levels of educational attainment are typically associated with higher levels of life satisfaction, and this finding holds true for both immigrant and non-immigrant populations (Amit & Litwin 2010; Diener 2009). It is hypothesized that the control variables included in this study will reveal associations with life satisfaction similar to those throughout existing literature.

Income and Life Satisfaction

A common consideration throughout life satisfaction literature is whether income and monetary resources have a significant effect on life satisfaction (Diener 2009; Bartram 2016; Olgiati et al 2013). International migrants typically experience an increase in material well-being by migrating to nations with higher average annual incomes. However, when looking at subjective life satisfaction following migration, many immigrants are dissatisfied with their lives (Bartram 2011; Calvo & Cheung 2018; Stillman, Gibson, McKenzie & Rohorua 2013; Safi

2010). The link between income and immigrant happiness is difficult to reveal as immigrants' life satisfaction may be impacted by many other factors, especially at the time of arrival (Calvo & Cheung 2018). The dissatisfaction of immigrants in various host-countries despite increases in income may be due to several factors, as the widely held belief that increases in income translate into increases in life satisfaction has been extensively challenged throughout existing literature (Ferrer-i-Carbonell 2013; Clark et al 2008; Easterlin, McVey, Switek, Sawangfa & Zweig 2010).

Even when there is a linkage found between immigrants' life satisfaction and increases in income, the effects are often small (Calvo & Cheung 2018). Interestingly, one cross-national study revealed that some immigrants within the USA, France, and Finland reported a negative association between income and life satisfaction (Olgiati et al 2013). Among immigrants, it is possible that income is positively associated with life satisfaction only until the point at which non-monetary factors associated with length of stay become dominant (Olgiati et al 2013). These factors may include employment outcomes, residential neighbourhood, language acquisition, and more. Based on previous findings, it is important to disentangle the non-monetary factors that affect the life satisfaction of immigrants within their host-countries. There remains a gap in existing literature regarding the relationship between income and life satisfaction. In the present study, personal income group is controlled for to assess whether increases in income translate into increases in life satisfaction among both immigrants and non-immigrants in Canada. Furthermore, income is controlled for to test the potential relationship between immigrants' length of stay and their life satisfaction.

Length of Stay in Host Country

The length of time spent in a host-country is often linked to immigrants' life satisfaction. However, it can be difficult to determine if there are underlying factors that may lead to the

association between length of stay and immigrants' life satisfaction. Findings in this regard are somewhat inconsistent, with differences typically depending on the host-country. For instance, one European study found the life satisfaction of first-generation migrants to be lower than the native-born population, yet they found a generational gradient with smaller gaps for the second and third generations (Arpino & de Valk 2018). Existing literature typically focuses on generational differences in life satisfaction, as generational differences may be difficult to separate from length of stay (Angelini et al 2015; Safi 2010). Specifically analyzing the association between life satisfaction and immigrants' length of stay in the Canadian context is a primary goal of this study.

Prior to analyzing the potential relationship between immigrants' life satisfaction and their length of time spent in Canada, it is imperative to contextualize the potential trends which have emerged from studies conducted in other common host-countries. For instance, socio-economic indicators (i.e. income, employment, etc.) reveal that immigrants tend to behave more like natives as length of time in the host-country increases (Arpino & de Valk 2018). However, the extent to which these changes impact immigrants' life satisfaction is not as heavily studied. Some studies reveal that immigrants are less satisfied than native-born populations regardless of length of stay. For instance, one European study demonstrated that immigrants report significantly lower levels of life satisfaction compared to natives, and that this disparity did not diminish by immigrant generation or length of stay (Safi 2010).

Findings that reveal a negative association between life satisfaction and length of stay in the host-country are often linked to the fact that initial increases in income within the host-country provide immigrants with high levels of life satisfaction upon arrival. However, this positive association between income and life satisfaction diminishes after immigrants become

more settled within their host-country, therefore leading to a decrease in life satisfaction over time (Calvo & Cheung 2018; Olgiati et al 2013). On the other hand, increases in immigrants' income may simultaneously occur as length of stay increases, which can lead to a positive relationship between length of stay and life satisfaction (Obućina 2013). The present study controls for personal income to assess whether the potential association between length of stay and life satisfaction is directly related to income, or if there are other important factors that influence this association.

Social Comparison Theory

To further assess the subjective factors that may affect life satisfaction for immigrants specifically (i.e. length of time since arrival and income), this study attempts to situate these factors in social comparison theory. A central aspect that influences an individual's life satisfaction is who they compare themselves to. The practice of comparing oneself to others is a central feature of human social life (Buunk & Mussweiler 2001), and there is a wide-ranging set of literature suggesting that social comparisons affect individual life satisfaction (Perez-Asenjo 2011; Frank et al 2014; Stillman et al 2013).

Social comparison theory is a set of hypotheses that attempt to explain the process in which people evaluate themselves and their standing relative to others (Rogelberg 2017). Evidence points to the idea that life satisfaction depends on one's condition relative to others (Davis & Wu 2014). Social comparisons may have positive or negative effects on an individual depending on who the individual is comparing themselves to (Mussweiler, Ruter & Epstude 2004). Regarding social comparison theory, the group of people which an individual is comparing themselves to is typically called a reference group (Perez-Asenjo 2011). It is

important to consider the social construction of comparison targets and the process by which individuals determine their reference group (Buunk & Mussweiler 2001).

Social comparisons are often situated in social contexts (Buunk & Mussweiler 2001), hence, when an immigrant changes their social context upon migrating, they are likely to change their reference group (Frank et al 2014). One study on social comparisons and life satisfaction found that racial, geographical, occupational, and social segregation has an influence on individuals' reference groups within the United States (Davis & Wu 2014). Additionally, Cobb and colleagues suggest that immigrants' appraisals of their host country as more favourable than their origin country may be due to the comparisons they make and the reference group they choose (Cobb et al 2019). Existing literature demonstrates that the reference group against which immigrants choose to compare themselves is critical to their life satisfaction (Bartram 2011; Cobb, Meca, Xie, Schwartz & Moise 2017). For example, immigrants from poor developing nations typically retain their country of origin as their reference group and often show higher levels of life satisfaction compared to immigrants whose reference group is the native-born population within the host-country (Clark et al 2008). If immigrants change their reference group upon migrating, they may experience a fall in relative position which can result in decreased life satisfaction (Stillman et al 2013; Knight & Gunatilaka 2012).

The Current Study

The lack of consistent findings regarding immigrants' life satisfaction warrants further analysis. In the Canadian context, it remains uncertain whether immigrants are more or less satisfied than their Canadian-born counterparts (Frank et al 2014; Berry & Hou 2016). This study will contribute to existing literature by examining the life satisfaction of immigrants in the Canadian context, and also by focusing on the life satisfaction of immigrants in

comparison to the Canadian-born population. Additionally, this study seeks to determine if length of time since arrival impacts the life satisfaction of immigrants. Although existing literature indicates mixed findings, situating the findings of this study in social comparison theory will allow for an improved understanding of changes in immigrants' life satisfaction within Canada.

The study of life satisfaction as a measure of societal well-being has influenced policy-making in many countries, including Canada (Bonikowska et al 2014). The findings yielded from this study will reveal the subjective factors that influence the life satisfaction of immigrants in Canada. Current Canadian immigration policies are tailored around the selectivity of immigrants who are expected to make the greatest contributions to Canadian society (Bonikowska, Hou & Picot 2015). Existing literature speculates that immigrants with poor well-being and low life satisfaction will experience difficulty integrating and contributing to their host-societies (Kogan et al 2018; Angelini et al 2015). The findings of this study reveal whether the life satisfaction of immigrants in Canada is comparable to Canadian-born individuals, and whether immigrants life satisfaction changes as their length of time in Canada increases. Based upon previous literature and existing findings, this study seeks to test three main hypotheses:

1) Immigrants are expected to report slightly lower levels of life satisfaction compared to the Canadian-born population.

2) Year of arrival is expected to impact immigrants' life satisfaction in that recent immigrants are likely to experience an increase in well-being due to improved quality of life, and are therefore likely to report higher levels of life satisfaction.

3) Income is expected to significantly impact the life satisfaction of immigrants, in that those belonging to the medium ($30,000-$59,000) to high ($60,000 or more) income groups will be most satisfied.

4) Controlling for income will reduce the effect of year of arrival on immigrants' life satisfaction.

METHODOLOGY

Data

This study uses secondary data from the 2013 Canadian General Social Survey (GSS). The GSS is a nationally representative household survey distributed by Statistics Canada that provides data on the well-being and living conditions of Canadians over time (Statistics Canada 2015). The GSS targets a sample of non-institutionalized Canadians aged 15 years and older, living in the 10 Canadian provinces. Each GSS contains a standard set of sociodemographic questions that are consistent across all cycles, as well as a set of questions that focus on specific social issues and policy considerations (Statistics Canada 2015). This study uses data from the public-use microdata file of the 2013 Social Identity Survey, GSS Cycle 27, which was conducted between 2013 and 2014. Cycle 27 of the GSS asks respondents a variety of questions regarding their social networks and engagement, as well as their overall well-being (Statistics Canada 2015).

Using a cross-sectional design, the survey was conducted through telephone sampling in which both cellular and land-line telephone numbers were accessed from Statistics Canada sources, as well as electronic versions distributed via the Internet (Statistics Canada 2015). Respondents had the option to respond to the survey in either English or French. In some cases, the survey was carried out in a third language if an interviewer was available to conduct the

interview in the same language as the respondent (Statistics Canada 2015). The best practice of seeking interviewers who speak a third language is an important aspect of the GSS. The option for respondents to answer survey questions in a third language improves the reliability of this data as a proportion of the immigrants included in the analytic sample may not speak and/or understand English or French fluently. Additionally, the 2013 GSS involved a stratified sampling strategy that oversampled immigrants and youth to allow for accurate analyses of these populations (Berry & Hou 2016; Statistics Canada 2015). The overall sample consisted of 27,534 respondents, and the response rate was 48.1%. Survey weights were designed and applied to adjust for non-responses (Statistics Canada 2015).

The dependent, independent, and control variables were recoded, and all missing values for each of these variables were dropped from the sample. Overall, the analytic sample contains 19,297 observations – 12,455 non-immigrants and 6,842 immigrants. Although the 2013 GSS included a question asking immigrant respondents to report their continent of origin, this variable was not included due to issues with collinearity within the logistic regression models. Additionally, immigrants' source-region was not a necessary consideration as the heterogeneity of the immigrant population in Canada was not a central feature of this study.

Measures

Dependent Variable

The dependent variable for the proposed study is self-reported life satisfaction. The 2013 GSS asks respondents to rate their self-reported life satisfaction by asking the following question: "On a scale from 0 to 10, where 0 means 'very dissatisfied' and 10 means 'very satisfied', how do you feel about your life as a whole right now?" (Statistics Canada 2015). The use of the 11-point Likert scale allows respondents to answer subjectively about how satisfied

they are with their lives in an overall sense. The above question is consistently used across

Canadian surveys and is widely applied throughout subjective well-being and life satisfaction

literature (Bonikowska et al 2014). Previous studies have found that the use of self-reported

measures of life satisfaction shows both adequate reliability and validity (Bonikowska et al 2014;

Diener 2009).

There is little consensus surrounding the way in which the life satisfaction scale should

be coded, however, scholars emphasize that the way in which the scale is coded should direct the

methodological approach (Bonikowska et al 2014; Diener et al 2013; Obućina 2013). For this

analysis, the self-reported life satisfaction scale is recoded into a binary variable so that it may be

included in logistic regression models. Previous studies assessing the 11-point life satisfaction

scale included in the Canadian GSS reveal that the median life satisfaction score is consistently a

score of 8. Bonikowska et al conducted a comprehensive assessment of life satisfaction

responses on a number of Canadian surveys, and found that consistently, 2% or less of

respondents rate their overall satisfaction with life at or below 2, and 5% or less at or below a

score of 5 (Bonikowska et al 2014).

The binary life satisfaction variable included in this study is coded in the following way –

those reporting their life satisfaction to be between 0 to 5 are in one group labelled "dissatisfied",

and those reporting their life satisfaction to be between 6 to 10 are in another group labelled

"satisfied". An important note is that consistent with other Canadian surveys, a much larger

proportion of respondents rate their satisfaction with life above a score of 5, meaning that the

majority of the analytic sample will be included within the "satisfied" category of the life

satisfaction binary variable (Bonikowska et al 2014).

Independent Variables

Within this study, the first focal independent variable is the birthplace of the respondent. In the public-use file of the GSS, birthplace is measured simply by asking respondents whether or not they were born in Canada. In this study, the binary variable for birthplace is coded as 0 if respondents were born in Canada, and 1 if they were born outside of Canada. This study also includes a second focal independent variable that is specific to immigrant respondents, which is the range of years when the respondent first came to Canada. In the GSS, the range of years since respondent arrived in Canada is measured as a categorical variable. The question asks respondents to report the time period during which they first arrived in Canada, ranging from before 1946 up to 2013. Most variable categories within this question increase in increments of four years, with the exception of the first and final categories.

To address issues with collinearity within the regression models and to ease interpretation, the year of arrival variable was coded from a categorical variable into seven binary variables which are coded as a "0" if they did not arrive in Canada during that particular range of years, and coded as a "1" if they did. Respondents who reported that they arrived in Canada any time prior to 1946 are excluded from the analytic sample because the number of immigrants who arrived during this time period is too small to have enough statistical power.

Income represents a third independent variable within this study, as previous literature reveals mixed findings regarding the effect of income on life satisfaction. Within this study, income is included in some models and excluded from others (reasons for exclusion are explained in detail in following sections). In the GSS, personal income group is an ordinal categorical variable with 12 categories. Within this study, income categories were collapsed to include four categories. New categories were labelled in the following way – "no income",

respondents making $5,000-$29,000 labelled "low income", respondents making $30,000-$59,000 labelled "medium income", and those making $60,000 or more included in the "high income" group. Income categories were coded in this way to measure if income group impacts life satisfaction. Including each of the original categories was not critical to the analysis or interpretation of this study.

Control Variables

Along with the above focal independent variables, this study also controls for various standard sociodemographic variables including sex, age, educational attainment, marital status, employment status, and others. These individual-level variables are included to control for and to compare the sociodemographic characteristics between immigrants and the Canadian-born population (Frank et al 2014). Additional individual-level control variables are also included in most regression models, including visible minority status, home ownership, living arrangements, population centre indicator, self-rated health, importance of religious beliefs, sense of belonging to Canada, and experiences of discrimination. The majority of the control variables included in this study are coded as binary variables to provide ease in analysis and interpretation. Below are additional coding details of the control variables that are included in this study.

Table 1: *Regression coding for control variables (2013 GSS analytic sample).*

Variable	Coding
Gender	
Male (reference group)	0
Female	1
Age	
15-24 (reference group)	0
25-34	1
35-44	2
45-54	3
55-64	4
65-74	5
75+	6

Marital Status
    Not Married (reference group – includes   0
single, divorced, and widowed)
    Common-Law   1
    Married   2
Education
    High School (reference group)   0
    Post-Secondary Education (includes trades   1
certificates, college diplomas, and university
degrees)
Employment Status
    Unemployed (reference group)   0
    Employed   1
Visible Minority
    Not a visible minority (reference group)   0
    Visible minority   1
Household Ownership
    Renting (reference group)   0
    Owning   1
Living Arrangement
    Living Alone (reference group)   0
    Living with Others   1
Children in Household
    None (reference group)   0
    One or more children   1
Population Centre Indicator
    Rural (reference group)   0
    Urban   1
Self-Rated Health
    Poor (reference group)   0
    Good   1
Religion
    Not Important (reference group)   0
    Important   1
Sense of Belonging (SBL) to Canada
    Weak SBL (reference group)   0
    Strong SBL   1
Experienced Discrimination in Last 5 Years
    No (reference group)   0
    Yes   1

Methods

To answer the research questions of this study, various statistical models are used.

Initially, descriptive statistics are included to provide a detailed description of the analytic

sample, as well as to analyze sociodemographic differences between the immigrant and non-

immigrant samples. Further associations are analyzed using various bivariate and multivariate statistical models. Specifically, logistic regressions are used to provide a clear understanding of how each of the sociodemographic variables impacts life satisfaction. Logistic regressions are best used when the dependent variable is binary, as is life satisfaction in this study.

Model 1 includes the standard sociodemographic variables to assess life satisfaction differences between immigrants and non-immigrants, and to see which individual-level factors are more likely to impact life satisfaction. Model 2 introduces the year of arrival binary variables as well as the remaining control variables. This model excludes income to determine if there is an association between immigrants' year of arrival and their life satisfaction when income is not included in the regression. Model 3 is nearly identical to Model 2, but includes income to assess whether income impacts the potential association between immigrants' life satisfaction and their length of time in Canada. Finally, Model 4 includes an interaction term between income and birthplace to provide a better measure of the potential association between immigrants' income group and their life satisfaction.

RESULTS

Descriptive Statistics and Bivariate Results

Non-immigrants and Immigrants

As mentioned, the sample used throughout this study includes both immigrants (35%) and non-immigrants (65%) to allow for basic life satisfaction comparisons. Prior to assessing the life satisfaction differences of these sub-samples, Table 2 provides information about the demographic characteristics of each of these sample groups. Regarding overall life satisfaction, immigrants (9.1) have a higher mean score than non-immigrants (8.9). Interestingly, 10.08% of non-immigrants report being dissatisfied with life, while 9.61% of immigrants report being

dissatisfied. Additionally, 89.92% of non-immigrants report being satisfied and 90.39% of immigrants report being satisfied. These numbers reveal that there is a slightly larger proportion of immigrants who are satisfied with life, and a slightly larger proportion of non-immigrants who report being dissatisfied with life overall.

Regarding the gender distribution of the sample, there are more males in both the immigrant (50.98%) and non-immigrant (51.81%) samples, however, gender is quite equally distributed. Regarding age, there are more non-immigrants concentrated in the 15-24 age group, while there are more immigrants concentrated within the 35-44 and 45-54 age groups. Additionally, a larger proportion immigrants report being married and having some sort of post-secondary education in comparison to the Canadian-born sample, while a slightly larger proportion of immigrants report being unemployed. Regarding income, there are more immigrants who report having no income compared to non-immigrants, however, there are also more immigrants concentrated in the medium income group ($30,000-$59,000 annually). Slightly more immigrants rate their general health as "good". In comparison to non-immigrants, a larger proportion of immigrants report belonging to a visible minority group, valuing religious and spiritual beliefs, residing in urban population centers, having a strong sense of belonging to Canada, and having experienced discrimination in the last five years. On the other hand, more non-immigrants report owning their home as opposed to renting, and are more likely to live alone compared to immigrants. Most sociodemographic differences between the immigrant and non-immigrant samples within this study are significant, aside from life satisfaction, gender, employment status, and self-rated general health.

Table 2: *Sociodemographic characteristics of the immigrant and non-immigrant sub-samples (%) (N = 19,297)*

Sociodemographic Variables	Canadian-Born (65%)	Immigrants (35%)	Chi-Square	*p*-Value
Mean Life Satisfaction	8.9	9.1		
Dissatisfied	10.08	9.61	0.83	0.49
Satisfied	89.92	90.39		
Gender				
Male	51.81	50.98	0.95	0.48
Female	48.19	49.02		
Age				
15-24	18.30	9.61		
25-34	18.09	18.57		
35-44	15.67	20.47		
45-54	17.96	20.06	219.58	<0.001
55-64	15.44	15.36		
65-74	8.89	10.36		
75+	5.65	5.57		
Marital Status				
Not married	41.72	31.40	501.85	<0.001
Common-law	13.13	5.28		
Married	45.14	63.32		
Education				
High school only	42.99	29.00	276.13	<0.001
Post-secondary	57.01	71.00		
Employment Status				
Unemployed	35.21	36.18	1.37	0.38
Employed	64.79	63.82		
Income				
No income	8.22	10.63		
<$5,000 - $29,000	31.87	30.96	31.82	<0.001
$30,000 - $59,000	31.27	32.28		
$60,000 or more	28.64	26.14		
Self-Rated Health				
Good	89.51	90.05	1.07	0.42
Poor	10.49	9.95		
Visible Minority				
No	94.91	43.95	6328.65	<0.001
Yes	5.09	56.05		

Home Ownership				
Renter	19.96	26.67		
Owner	80.04	73.33	90.25	<0.001
Living Arrangement				
Living alone	12.88	10.23	22.13	<0.001
Living with others	87.12	89.77		
Religious				
No	38.91	24.59	301.82	<0.001
Yes	61.09	75.41		
Population Indicator				
Rural	19.02	5.08	492.16	<0.001
Urban	80.98	94.92		
Sense of Belonging				
Weak	8.01	4.50	62.24	<0.001
Strong	91.99	95.50		
Exp. Discrimination				
No	69.83	4.49	44.79	<0.001
Yes	30.17	35.51		

Life Satisfaction

A focus throughout this study is the extent to which subjective factors impact individuals' life satisfaction. Table 3 below displays the results of cross-tabulation tables of each sociodemographic control variable and whether respondents in each of these categories report being "satisfied" or "dissatisfied" with their life overall. The distribution of life satisfaction compliments trends of other studies, with 89.74% of respondents reporting that they are satisfied, and only 10.26% reporting that they are dissatisfied with life. Differences in life satisfaction between immigrants and non-immigrants were highlighted in the Table 2 description, and will be further analyzed throughout the following sections.

Referring to Table 3, males appear to be slightly more satisfied than females. Respondents who are in the younger age groups, married, highly educated, and employed, all

have higher life satisfaction. Additionally, respondents with an annual income of $60,000 and

over are the most satisfied with life out of all income categories. Respondents with good self-

rated health are much more likely to report being satisfied with life. Additionally, respondents

who own their home, live with others, have a strong sense of belonging to Canada, and no

experiences of discrimination in the last five years, are significantly more satisfied than

respondents in the other categories of these variables.

Table 3: *Life satisfaction differences among sociodemographic characteristics (%) (N = 19,297)*

Sociodemographic Variables	Satisfied (89.74%)	Dissatisfied (10.26%)	Chi-Squared	*p*-Value
Non-Immigrant	89.92	10.08	0.83	0.49
Immigrant	90.39	9.61		
Gender				
Male	90.08	9.92	0.065	0.85
Female	89.97	10.03		
Age				
15-24	90.86	9.13		
25-34	90.77	9.22		
35-44	90.58	9.41		
45-54	89.26	10.74	12.78	0.32
55-64	89.01	10.99		
65-74	89.86	10.14		
75+	89.01	10.99		
Marital Status				
Not married	85.63	14.37		
Common-law	91.4	8.59	276.16	<0.001
Married	93.22	6.78		
Education				
High school only	87.56	12.44	86.20	<0.001
Post-secondary	91.65	8.35		
Employment Status				
Unemployed	86.57	13.43	140.12	<0.001
Employed	91.91	8.08		
Income				

No income	88.22	11.78		
<$5,000 - $29,000	85.74	14.26	239.78	<0.001
$30,000 - $59,000	91.22	8.78		
$60,000 or more	94.08	5.92		
Self-Rated Health				
Good	68.41	31.59	1160.77	<0.001
Poor	92.52	7.48		
Visible Minority				
No	90.03	9.96	0.009	0.95
Yes	89.97	10.03		
Home Ownership				
Renter	84.76	15.24	162.63	<0.001
Owner	91.46	8.53		
Living Arrangement				
Living alone	83.80	16.20	116.52	<0.001
Living with others	90.89	9.11		
Religious				
No	89.16	10.84	8.83	0.035
Yes	90.50	9.50		
Population Indicator				
Rural	91.37	8.63	7.31	0.026
Urban	89.77	10.23		
Sense of Belonging				
Weak	80.84	19.16	140.87	<0.001
Strong	90.74	9.26		
Exp. Discrimination				
No	92.53	7.46	296.57	<0.001
Yes	84.53	15.47		

Multivariate Results

Table 4 below displays the results for four different logistic regression models measuring the odds of being satisfied with life. Model 1 includes birthplace as the focal independent variable, and controls for five standard sociodemographic control variables. Model 2 is an extension of Model 1, and introduces the year of arrival binary variables as an independent variable, as well as a number of other control variables. Model 3 is identical to Model 2, but also

includes income to assess differences in life satisfaction when income is added as an independent

variable. Finally, Model 4 includes an interaction term to determine the association between

immigrant status and income, and the interaction effects on self-reported life satisfaction.

Table 4: *Logistic regression results predicting the odds of being satisfied with life, GSS 2013 (N = 19,297)*

Variables	Model 1	Model 2	Model 3	Model 4
Birthplace	.95	.94	.99	2.1
(ref. Canadian-born)				
Year of arrival				
1946-1959		1.1	1.1	1.2
1960-1969		.92	.86	.94
1970-1979		.90	.84	.95
1980-1989		1.3	1.2	1.3
1990-1999		1.2	1.1	1.2
2000-2009		.86	.85	.86
2010-2013		1.4	1.4	1.4
Income				
(ref. No income)				
<$5,000 - $29,000			.93	1.1
$30,000 - $59,000			1.3	1.7**
$60,000 or more			1.7**	2.2***
Immigrant x Income				
<$5,000 - $29,000				.43**
$30,000 - $59,000				.36**
$60,000 or more				.38**
Gender (ref. Males)	1.1	1.1	1.2*	1.2*
Age (ref. 15-24)				
25-34	.44***	.50***	.44***	.43***
35-44	.33***	.36***	.31***	.30***
45-54	.31***	.34***	.29***	.28***
55-64	.35***	.37***	.32***	.31***
65-74	.52***	.45***	.40***	.38***
75+	.68**	.56**	.50**	.48***
Marital Status				

(ref. Not married)				
Common-law	2.1***	2.2***	2.1***	2.1***
Married	2.9***	2.7***	2.5***	2.5***
Post-sec Education (ref. High school only)	1.5***	1.4***	1.3**	1.3**
Employed (ref. Unemployed)	1.9***	1.5***	1.3**	1.3**
Good Self-Rated Health (ref. Poor SR-health)		4.4***	4.2***	4.2***
Visible Minority (ref. Not a visible minority)		1.1	1.1	1.1
Own Home (ref. Renting)		1.3**	1.2**	1.2**
Living w Others (ref. Living alone)		.78*	.84	.84
Children in Home (ref. No children in home)		.97	.94	.94
Religious (ref. Does not value religion/spirituality)		1.3**	1.3**	1.3**
Urban (ref. Rural)		.81*	.78**	.78**
Strong SBL (ref. Weak SBL)		1.9***	1.9***	1.9***
Discrimination (ref. no experience of discrimination)		.49***	.49***	.49***

Pseudo R-Squared	0.0482	0.1248	0.1295	0.1311

Life satisfaction is the outcome variable.
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Continuing with an analysis of Table 4, there are several important observations to be made. First, it is important to note that the life satisfaction differences between immigrants and non-immigrants are consistently small and not significant. This trend is apparent in each of the models in Table 4, with some differences in the results of Model 4.

Model 1 demonstrates that the life satisfaction differences between immigrants and non-immigrants are small and not significant, with immigrants having 5% lower odds of reporting being satisfied with life. The association between age and life satisfaction reveals that individuals in the 35-44 and 45-54 age ranges have the lowest odds of being satisfied with life, while those reaching or at retirement ages having higher odds of being satisfied with life. Regardless of the age group, each age category has lower overall odds of being satisfied compared to the reference group (15-24 years). There are no significant gender differences in life satisfaction. Model 1 also demonstrates that individuals who are married, educated beyond high school, and employed, have higher odds of being satisfied with life. The largest significant effect exists between marital status and life satisfaction, with those who live common-law having 2.1% higher odds of being satisfied, and those who are married having 2.9% higher odds of being satisfied with life compared to those who are not married.

The introduction of the year of arrival binary variables in Model 2 did not yield significant results. Additionally, controlling for more subjective factors in Model 2 reveals trends similar to those in Model 1. In Model 2, the odds of immigrants being less satisfied with life becomes slightly higher. It can be observed that immigrants have about 6% lower odds of being

satisfied with life compared to non-immigrants, although this difference is still not significant. There remains no significant gender differences in life satisfaction. Additionally, good self-rated health, owning a home, strong religious beliefs and a strong sense of belonging to Canada, all produce significantly greater odds of being satisfied with life. Living in urban areas produces 19% lower odds of being satisfied with life, and having experienced discrimination in the last five years produces 51% lower odds of being satisfied.

Models 3 extends upon Model 2 by including income as an independent variable. The purpose of including income in Model 3 is to assess if income mediates any effect between immigrants' year of arrival and their life satisfaction. As previously stated, the results for Model 2 reveal that controlling for year of arrival does not have a significant effect on immigrants' life satisfaction, with no year of arrival interval yielding significant results. The results in Model 3 reveal similar trends. Controlling for income in Model 3 did not lead to statistically significant findings between life satisfaction and immigrant status or immigrants' year of arrival. Interestingly, the addition of income in Model 3 reduced differences in life satisfaction between immigrants and non-immigrants, with immigrants having only 1% lower odds of being satisfied with life compared to non-immigrants. Regarding income specifically, there exists a significant relationship between income and life satisfaction only for the high income group, with those making $60,000 or more annually having 1.7% greater odds of being satisfied with life.

Interaction Between Birthplace and Income

Models 2 and 3 in Table 4 demonstrate that year of arrival does not have a significant effect on immigrants' life satisfaction, and that controlling for income does not impact this effect in a statistically significant way. It therefore becomes important to measure potential interactions between specific variables within the models. Since income is an important variable within this

study, as well as the majority of existing studies on life satisfaction, an interaction term was run

between birthplace and income. Model 4 in Table 4 displays the results for the interaction term

that tests the relationship between life satisfaction, immigrant status, and income group.

The inclusion of the interaction term between immigrant status and income yielded

significant results. As displayed in Model 4, the odds ratio of the main effect between life

satisfaction and immigrant status is different from previous models, with immigrants having

2.1% higher odds of being satisfied with life compared to non-immigrants. However, this effect

is not significant. Consistent with previous models, none of the year of arrival binary variables

have a significant effect on immigrants' life satisfaction. On the other hand, the medium and

high income categories produce significant main effects.

Looking specifically at the interactions between immigrant status and income, all income

categories are significant. The interaction therefore reveals that income impacts the life

satisfaction of immigrants within each of the income categories. Specifically, immigrants in the

low income category have 57% lower odds of being satisfied with life. Immigrants in the

medium income group have 64% lower odds of being satisfied with life, and immigrants in the

high income group have 62% lower odds of being satisfied with life. The results of the

interaction term reveals that there are significant differences in the way that income impacts the

life satisfaction of immigrants and non-immigrants. Interestingly, however, immigrants in the

low income category had the lowest odds of being dissatisfied, while immigrants in the medium

and high income category had higher odds of being dissatisfied.

A final consideration is in regard to the fit of each model included in Table 4, which can

be assessed based on the value of pseudo R-squared. Model 1 has the lowest pseudo R-squared

value of all models, as it includes the lowest number of control variables. The addition of the

year of arrival binary variables and further controls increases the value, with a pseudo R-squared of 0.1248 in Model 2, meaning that the variables explain 12.48% of the variations in life satisfaction. It can be observed that Model 4 provides the best explanation of life satisfaction. A pseudo R-squared of 0.1311 indicates that 13.11% of the variation of life satisfaction can be explained by the variables included in the model.

DISCUSSION

The primary goal of this study was to provide further insight into the life satisfaction of immigrants in Canada. Results indicate several important findings that extend upon existing research of immigrant life satisfaction in the Canadian context. This study sought to answer four main research questions: 1) Is the life satisfaction of immigrants in Canada similar to that of the Canadian-born? 2) To what extent do individual-level factors affect life satisfaction for immigrants and non-immigrants in Canada? 3) Does length of time since arrival impact the life satisfaction of immigrants in Canada? 4) Does controlling for income affect the association between immigrants' length of stay and their life satisfaction?

Regarding the first research question, it was hypothesized that immigrants would have slightly lower levels of life satisfaction compared to non-immigrants in Canada. This assumption was based on existing findings in other host-countries, as well as the lack of literature in the Canadian context. Previous studies have indicated that immigrants often report lower levels of life satisfaction compared to the native-born population within the host-country, and this finding is consistent within the United States and various countries across Europe (Arpino & de Valk 2018; Bartram 2016; Safi 2010). While a small number of Canadian studies have assessed the life satisfaction of immigrants compared to the Canadian-born population, this area of research remains relatively unexplored. Results of this study indicate that immigrants within Canada

report slightly higher levels of life satisfaction. These results are generally consistent with two previous Canadian studies which revealed that immigrants either report similar scores of life satisfaction or report significantly higher scores of life satisfaction (Berry & Hou 2016; Frank et al 2014). Therefore, the finding that immigrants report slightly higher levels of life satisfaction both confirms and adds to preliminary findings in the Canadian context.

Although immigrants reported slightly higher life satisfaction scores compared to non-immigrants (9.1 and 8.9 respectively), regression results did not reveal significant differences between immigrant status and life satisfaction. This finding indicates that being an immigrant in Canada does not significantly impact life satisfaction, neither in a negative nor a positive way. The absence of a significant effect indicates that other factors associated with being an immigrant or non-immigrant are more likely to impact an individual's life satisfaction.

Regarding the second research question, this study produced findings consistent with existing literature regarding the individual-level factors that impact life satisfaction. The control variables within this study represented subjective factors that are known to impact life satisfaction. Consistent with previous findings, age impacts life satisfaction in a non-linear fashion (Bartram 2011; Calvo, Carr & Matz-Costa 2019; Kirmanoğlu & Başlevent 2014). Additionally, being married, being employed, attaining some sort of post-secondary education, and good self-rated health are all subjective factors that positively impact life satisfaction. Each of these findings is consistent with existing life satisfaction research (Bartram 2011; Diener 2009; Helliwell 2003). Results showing the associations between life satisfaction and other subjective factors are also consistent with previous research.

The most central aspect of this study focused on immigrants' life satisfaction more specifically. Existing literature surrounding the association between length of stay and

immigrants' life satisfaction is inconsistent across host-countries. Additionally, the potential association between length of stay and immigrants' life satisfaction remains relatively unexplored in the Canadian context. It was hypothesized that year of arrival would significantly impact the life satisfaction of immigrants, with recent immigrants reporting higher levels of life satisfaction. According to the findings of this study, recent immigrants who arrived at some point between 2010 and 2013 have the highest odds of being satisfied with life. This supports the hypothesis that upon arrival, immigrants are likely to experience an increase in overall well-being (i.e. socially, economically, etc.) that translates into higher life satisfaction. This finding is consistent with aspects of existing studies, for instance, Obućina's study of immigrants in Germany and the negative association between life satisfaction and length of stay (Obućina 2013). Interestingly however, this trend is not consistent for immigrants who arrived during the second most recent range of years (2000-2009). Additionally, the life satisfaction of immigrants who have been settled in Canada for many years is not consistent with the hypothesis that only recent immigrants will be the most satisfied. Therefore, the results support aspects of the hypothesized trends in the associations between year of arrival and life satisfaction, however, the trends are not entirely consistent.

Furthermore, the lack of significant associations between length of stay and immigrants' life satisfaction is important to discuss. Within this study, none of the associations between year of arrival and immigrants' life satisfaction were significant, however, this is not uncommon. For instance, one study of 18 European countries revealed no significant associations between year of arrival and immigrants' life satisfaction across any of the included countries (Kogen et al 2018). In his 2016 study, Bartram also revealed that year of arrival indicators were removed from his analysis due to no significant associations being found (Bartram 2016). Similarly,

Obućina's German study revealed that only some year of arrival intervals significantly impacted immigrants' life satisfaction (Obućina 2013). The present study consistently revealed that year of arrival does not significantly impact immigrants' life satisfaction in Canada. The reasons as to why the year of arrival variables are not significant are difficult to pinpoint. For instance, one potential answer is that year of arrival may be associated with other factors associated with integration, including education, employment, home ownership, and more. Although income did not impact the association between length of stay and immigrants' life satisfaction, other factors associated with length of stay better explain changes in immigrants' life satisfaction overtime (Olgiati et al 2013).

Without significant findings regarding year of arrival, it is difficult to confirm whether social comparisons impact immigrants' life satisfaction. It is possible, however, to speculate the reason behind recent immigrants having the highest odds of being satisfied with life. Several studies have indicated that recent immigrants may be more likely to retain their source country as their reference group, and therefore compare their own circumstances to those in the source country (Bartram 2011; Cobb et al 2019). Additionally, the trends across the year of arrival ranges reveal that social comparisons have the potential to be an underlying factor that influences changes in immigrants' life satisfaction as length of time in Canada increases (Stillman et al 2013; Knight & Gunatilaka 2012).

The final research question sought to test if income impacts the association between immigrants' length of stay and their life satisfaction. It was hypothesized that income would significantly impact immigrants' life satisfaction, and that including income would reduce the associations between year of arrival and life satisfaction. Results revealed that income does not significantly impact the association between length of stay and immigrants' life satisfaction,

however, income was significantly associated with immigrants' life satisfaction as revealed through the interaction effect. The significance of the interaction effect between immigrant status and income indicates that income is a factor that impacts immigrants' life satisfaction more than their length of time in Canada. Consistently revealed throughout existing literature is the complicated association between income and life satisfaction (Ferrer-i-Carbonell 2013; Clark et al 2008; Easterlin et al 2010). The complicated nature of the association between income and life satisfaction seems to be heightened when looking at this association for immigrants specifically – possibly due to the unique factors experienced by this demographic as they navigate life in a new country (Cobb et al 2019; Olgiati et al 2013).

The results of the interaction term within this study reveal that the impact of income on immigrants' life satisfaction remains complicated. The fact that immigrants in the medium income group have the highest odds of being dissatisfied with life is an interesting finding, as it would be expected that immigrants in the low income group would report the highest odds of being dissatisfied. There are various reasons that can explain why this trend was found. Primarily, research on the economic outcomes of immigrants in Canada explains and supports aspects of this finding. For instance, although immigrants typically experience increases in income alongside their length of stay, most immigrant groups do not exceed an annual income of over $40,000, even after having lived in Canada for up to 10 years (Statistics Canada/IMDB 2019). Furthermore, recent immigrants are even more likely to be concentrated in lower income categories. With descriptive statistics showing that most immigrants in the analytic sample are concentrated in the medium and low income categories, the fact that immigrants in the low income category were shown to have the lowest odds of being dissatisfied with life is not all that surprising. This finding can also be supported by Olgiati, Calvo, and Berkman's study. In

assessing the associations between economic migration, income, and life satisfaction, Olgiati and colleagues revealed that there may be a "subsistence effect" among more recent immigrants, in that income improves immigrants' well-being until the point at which other factors associated with duration of stay become more dominant (Olgiati et al 2013). Therefore, the finding that immigrants in the low income category have the lowest odds of being dissatisfied may simply be related to the trend of recent immigrants valuing the initial income increases they experience upon arrival. While this study revealed useful information about how immigrants' life satisfaction is impacted by income, future research should further explore the factors contributing to the interesting interactions between immigrants' income group, and their level of life satisfaction.

Limitations

Although this study filled research gaps surrounding the factors that impact immigrants' life satisfaction in Canada, there are limitations. The first limitation lies in the inability to analyze differences in immigrants' life satisfaction based on their source-countries. The public-use file of the 2013 GSS does not ask immigrants to report their source-country, and problems with collinearity prevented the inclusion of birth-region. Although, had birth-region been successfully included in regression models, the lack of specificity of where immigrants were born is unlikely to have yielded important findings.

Furthermore, the absence of longitudinal data means that the life satisfaction of specific immigrants within Canada could not be tracked overtime. The year of arrival binary variables were only able to assess immigrants' life satisfaction at one particular point in time. Future research studying the association between immigrants' life satisfaction and their length of time spent in Canada should seek to include longitudinal data that tracks the same sample of

immigrants as their length of time in Canada increases. Another limitation of this study rests in the inability to pinpoint immigrants' reference groups. While most existing studies – including the present study – tend to use social comparisons as a theoretical orientation, future research should attempt to include a mechanism whereby reference groups can be better-analyzed.

A final limitation of this study lies in the subjectivity of the dependent variable, life satisfaction. Although the study of life satisfaction through the use of quantitative scales is widely viewed as valid and reliable (Diener 2009; Diener et al 2013; Helliwell 2013), it is likely that a qualitative component to this study would have yielded further explanations of the reasons behind the lack of significant associations between immigrants' length of stay and their life satisfaction. The inclusion of personal narratives and experiences of immigrants has the potential to fill remaining gaps in the study of their life satisfaction in Canada, perhaps through a better-understanding of the specific factors that contribute to changes in their life satisfaction over time.

CONCLUSION

Regardless of limitations, this study contributes to existing literature surrounding the life satisfaction of immigrants in Canada by revealing that immigrants' life satisfaction is interestingly slightly higher than Canadian-born individuals, and that year of arrival does not directly impact immigrants' life satisfaction. Rather, other subjective factors such as income, play a more important role in impacting immigrants' life satisfaction. Analyzing and understanding the life satisfaction of immigrants in their host-countries is critical as it reveals valuable information about immigrants' assessments of their lives, as well as their prospects for successful integration. Future research should seek to determine additional underlying factors associated with length of stay that have the potential to increase or decrease immigrants' life satisfaction in Canada.

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