Residential Independence of Elderly Immigrants in Canada*

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RÉSUMÉ

Cet article traite trois questions: les immigrants âgés sont-ils moins susceptibles que les personnes âgées, nées au Canada, de vivre de façon autonome? Quels sont les effets que les facteurs économiques, culturels et du parcours de vie exercent sur l'indépendance résidentielle chez les immigrants âgés? Quels sont les effets des caractéristiques propres aux immigrants, tels que la durée de résidence et le contexte culturel? Les résultats descriptifs montrent que les immigrants âgés sont moins susceptibles de vivre de façon autonome, mais le grand écart de plus de 15 pour cent est réduit à 5 pour cent quand les facteurs économiques, culturels, du parcours de la vie, et d'autres sont pris en compte dans l'analyse multivariée. Les effets des facteurs économiques, culturels et du parcours de vie sont pour la plupart comme prévu, de même que ceux des caractéristiques propres aux immigrants, comme la durée de résidence. Bien que les modes de vie des immigrants âgés sont plus variés que ceux de leurs pairs nés au Canada, ceux-ci sont de plus en plus susceptibles d'inclure l'indépendance résidentielle.

ABSTRACT

This article addresses three questions: Are elderly immigrants less likely than Canadian-born elderly people to reside independently? What are the effects of economic, cultural, and life course factors on residential independence among elderly immigrants? What are the effects of immigrant-specific characteristics such as duration of residence and cultural background? Descriptive results show that elderly immigrants are less likely to reside independently, but the large gap of over 15 per cent is reduced to 5 per cent once economic, cultural, life course, and other factors are considered in the multivariate analysis. Effects of economic, cultural, and life course factors are mostly as expected, as are those of immigrant-specific characteristics such as duration of residence. Although aging immigrants have more-varied living arrangements than their Canadian-born peers, these are likely to increasingly include residential independence.

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Two demographic trends, immigration and population aging, serve as context for this article. First, immigration has been the main source of Canada's population growth since 1993–1994, and for the year ending 30 June 2012, net international migration accounted for two-thirds of population growth (Statistics Canada, 2012a).[1] Population growth increasingly stems from the contribution of immigration because fertility levels are below replacement. Canada's total fertility rate (TFR) has remained fairly steady at around 1.6 to 1.7 for many years (Statistics Canada, 2007: Table 1). With continued immigration and below replacement fertility,

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Table 1: Descriptive statistics of study sample: Elderly Canadians, aged 55 and older

Characteristic	All Elders	Canadian-born	Immigrants
Sample Size			
Unweighted	207,063	147,803	59,260
Weighted[a]	7,616,887	5,444,011	2,172,876
Variable			
Category	Per cent	Per cent	Per cent
Gender	100.0	100.0	100.0
Female	53.2	52.4	43.7
Male	46.8	47.6	56.3
Living Arrangements	100.0	100.0	100.0
Residential Independence:			
Living Alone	22.2	24.3	17.0
Living with spouse/partner only	51.3	53.6	45.5
Non-Residential Independence:			
Living with spouse/partner and others	15.2	12.0	23.2
Living with children	5.6	5.1	6.8
Living with relatives	3.8	2.9	6.1
Living with non-relatives	1.9	2.1	1.4
Presence of Children in Household	100.0	100.0	100.0
No	74.4	80.3	59.8
Yes	25.6	19.7	40.2
Presence of Other Adults in Household	100.0	100.0	100.0
No	94.0	96.1	88.9
Yes	6.0	3.9	11.1
Family Income[b]	100.0	100.0	100.0
0–$19,999	5.0	4.2	6.9
$20,000–$29,999	12.5	12.2	13.2
$30,000–$39,999	13.1	13.3	12.7
$40,000–$49,999	12.0	12.5	11.0
$50,000–$59,999	10.7	11.2	9.5
$60,000–74,999	12.9	13.4	11.7
$75,000–$99,999	14.3	14.7	13.4
$100,000–$149,999	12.5	12.1	13.3
$150,000+	7.0	6.5	8.3
Canada/Quebec Pension Plan (C/QPP) Income	100.0	100.0	100.0
No	41.3	38.9	47.4
Yes	58.7	61.1	52.6
OAS/GIS Income	100.0	100.0	100.0
No	50.5	50.9	49.6
Yes	49.5	49.1	50.4
Private Retirement Pension Income	100.0	100.0	100.0
No	58.8	56.9	63.7
Yes	41.2	43.1	36.3
Homeownership	100.0	100.0	100.0
No	20.9	18.9	12.7
Yes	79.1	81.1	87.3
Highest Degree Completed	100.0	100.0	100.0
Less than high school	33.3	33.8	32.3
High School	22.6	23.4	20.8
Trades certificate	12.1	12.3	11.6
Other non-university	18.3	18.1	18.8
Bachelor's	9.3	8.8	10.6
Master's	3.0	2.7	3.9
Doctorate	0.8	0.6	1.4
Professional	0.5	0.4	0.7
Ethnic Origin	100.0	100.0	100.0
Canadian	17.6	24.2	0.4
British	14.7	15.3	13.2
French	6.4	8.4	1.1
Other European	17.3	9.6	37.4
Aboriginal	1.0	1.4	0.0
Arab/Middle Eastern	0.9	0.1	2.9
South Asian	2.4	0.0	8.4
Chinese	3.1	0.1	10.9
Filipino	0.6	0.0	2.2
Korean	0.2	0.0	0.7
Vietnamese	0.2	0.0	0.6
Other E/SE Asian	0.3	0.2	0.6
Latin American	0.2	0.0	0.8
African/Caribbean	1.0	0.1	3.4
Other Single Origins	0.2	0.1	0.2
Multiple Origins	33.9	40.5	17.0
Language Background[c]	100.0	100.0	100.0
English/French MT/HL	77.3	94.9	33.1
Other MT; English/French HL	11.1	4.2	28.7
Other MT/HL; knows English/French	8.1	0.8	26.5
Other MT/HL; does not know English/French	3.4	0.1	11.7
Age Group	100.0	100.0	100.0
55–59	26.9	27.9	24.7
60–64	20.5	20.8	19.9
65–69	15.9	15.5	16.6
70–74	13.4	13.1	14.1
75–79	11.1	10.8	11.8
80–84	7.4	7.1	8.3
85+	4.8	4.8	4.8
Marital Status	100.0	100.0	100.0
Divorced	8.4	9.1	6.6
Married/ Common-law	67.2	66.1	69.8
Separated	2.4	2.4	2.5
Never-married (single)	5.6	6.2	4.1
Widowed	16.4	16.2	17.0
Duration of Residence in Canada[d]			100.0
0–4 years			2.6
5–9 years			3.6

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Table 1. Continue

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Characteristic	All Elders	Canadian-born	Immigrants
10–14 years			6.6
15–19 years			5.9
20–24 years			3.6
25–29 years			10.9
30–34 years			12.8
35–39 years			15.1
40 or more years			39.0
Age at Immigration[d]			100.0
0–4 years			3.8
5–9 years			4.0
10–14 years			3.9
15–19 years			7.5
20–29 years			33.8
30–39 years			19.1
40–49 years			11.7
50–59 years			9.2
60 and older			6.9
Place of Residence	100.0	100.0	100.0
Montreal	11.3	11.5	10.9
Toronto	14.2	6.6	33.3
Vancouver	6.5	4.2	12.1
Other metropolitan area	31.1	31.9	29.1
Non-metropolitan	36.9	45.9	14.6

[a] Using population weights adjusted for sample size in the Public Use Microdata File (Statistics Canada, 2011).

[b] As noted in the text, individuals in non-census families did not have family income; instead, we used personal income for these persons.

[c] MT = mother tongue; HL = home language.

[d] Immigrants only.

the foreign-born population is projected to increase to between 25 to 28 per cent of the population in 2031 (Statistics Canada, 2010).

The second demographic trend shows that the Canadian population is aging, indicated by increased median age of the population from 26.2 in 1971 to 40.0 in 2011 (Statistics Canada, 2012a) and by an increase in the percentage of persons aged 65 and older, from 9.6 per cent in 1981 to 14.8 per cent in 2011 (Statistics Canada, 2012b). Elderly immigrants are a significant proportion of the elderly population because of aging-in-place of immigrants over their life course and the immigration of older immigrants. Data from the 2006 census show that more than a quarter of the population aged 65 years and older are foreign-born (Turcotte & Schellenberg, 2007).

An additional important aspect of these two trends is the increased ethnocultural diversity of Canada's aging population and families, mainly because of immigration from Asia and other non-traditional (that is, non-European or North American) sources in recent decades (Boyd, 2011; Boyd & Vickers, 2000; Lee, 2011; Statistics Canada, 2010). Most recent immigrants are from Asian countries, particularly East and South Asia. Asian Canadians now account for 45 per cent of the foreign-born population and will increase their share as mortality effects reduce the number and proportion of earlier immigrant cohorts from Europe. Increased ethnocultural diversity has many implications including potentially different needs and residential preferences of an aging immigrant population.

Issues related to an aging population have rightly concerned researchers and policy makers in recent years. Surprisingly, however, issues and potentially distinct needs of a growing and increasingly diverse elderly immigrant population and aging immigrant families have not received as much attention, as noted by Gelfand (1989) and Wilmoth (2001). In this article on the living arrangements of elderly immigrants, we address one aspect of this neglect.

Elderly Adults' Living Arrangements

Studying the living arrangements of the elderly population is important as these affect and reflect family type and household structure. Research shows that these arrangements are, in turn, related to social support, intergenerational relations, health status, social isolation, and general well-being (Gaymu & Stringer, 2012; Gee, 2000; Sarma, Hawley, & Basu, 2009; Wister, 1990).

Older people have several residential options, including (a) residential independence or independent living arrangements, defined as living alone if not married or partnered, or living with spouse or partner only if married or partnered (Burr & Mutchler, 2007; Cameron, 2000); (b) co-residence with family members or extended family living; (c) co-residence with non-family members; and (d) institutional living: for example, retirement homes and assisted-living facilities. A trend towards residential independence has arisen among older people in many countries, particularly in the west (Klinenberg, 2012; Kramarow, 1995; Ruggles, 2007; United Nations, 2005). A similar trend is observed in Canada. Over the past 50 years, absolute and relative increases have occurred in the number of Canadian elderly individuals in independent living arrangements (Gee, 2000; Priest, 1985; Wister, 1990). These increases contrast with declining proportions in co-residential living arrangements, including living with other family members or with non-relatives.

Many factors influence elderly adults' living arrangements. First, rising incomes among the elderly population have allowed more to maintain residential independence (Burch & Matthews, 1987; Klinenberg, 2012; Ruggles, 2007). Second, subjective preferences also influence elderly adults' living arrangements. Whereas

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there is a growing preference for residential independence because of greater value placed on personal privacy and autonomy (see Klinenberg, 2012, on older people living alone; and Priest, 1985, p.7, "Many elderly people want the privacy of their own dwelling"), traditional cultural values among some groups, particularly immigrants, may translate into a preference for sharing living arrangements with relatives and even non-relatives, shown by numerous studies on co-residence or extended living arrangements among immigrants (Gee, 2000; Gurak & Kritz, 2010; Kaida, Moyser, & Park, 2009; Lai, 2005).

A third factor influencing living arrangements is evidenced by life course perspectives, several themes of which Elder (1994) identified (including lives and historical time, timing of lives, linked lives) that relate to older people's living arrangements. For example, more elderly adults are in independent-living arrangements today compared with the past because of changing norms, better health status and health care, and other societal changes; in addition, married elderly individuals are more likely to reside independently because of greater resources and social support that married persons provide for each other. Previous studies (Blank & Torrecilha, 1998) highlighted the role of several life-course-related characteristics on elders' living arrangements, including age, marital status, and parenthood. In her study of extended family living, Glick (2000) concluded that "there is a lifecourse pattern of extended family living" with the youngest and oldest being more likely to co-reside (p. 194). Age is also related to other life course events, including marriage, parenthood, widowhood, working, pre-retirement, and retirement (Wilmoth, 2001). Marital status can also be related to other characteristics that influence elders' living arrangements such as financial resources, health, and social support (Schneider, 2011; Shapiro & Keyes, 2008).

For our interest in elderly immigrants, the act of migration is a critical life course event that shapes subsequent experiences, leading to different life course experiences for immigrants (Edmonston, 2013). Migration has long-term implications for family relations, employment, social status, and cultural behaviours (Booth, Crouter, & Landale, 1997; Wingens, Windzio, de Valk, & Aybek, 2011). Migration is also intertwined with life chances (that is, opportunities and status achievements) of immigrants and their offspring (Jasso, 2011). For immigrants, age at migration is an important factor in many outcomes, including education and income (Lee & Edmonston, 2011; Myers, Gao, & Emeka, 2009). Closely related to age at arrival is duration of residence in the host country, which influences living arrangements at older ages since immigrants who arrive at young ages typically have longer duration of residence in the host country, and are more likely to acculturate to the host society's norms, including type of living arrangements at older ages (Blank, 1998; Boyd, 1991; Glick, 2000).

Besides the factors described above, many other factors also influence elders' living arrangements,[2] such as health and functional status (Burr & Mutchler, 2007; Sarma et al., 2009; Waite & Hughes, 1999), availability and proximity of adult children or others for co-residence (Cameron, 2000; Glick & Van Hook, 2002), community factors including housing supply and health care facilities (Burr & Mutchler, 2007), and other factors.

Research Questions and Contributions

We addressed three research questions in our study. First, we focused on residential independence rather than extended living arrangements and asked if elderly immigrants were less likely to reside independently than Canadian-born elderly adults. Second, we sought to answer the question, What are the effects of various factors such as income, age, and marital status on Canadian-born and immigrant elderly adults' residential independence? A third question we explored is, What are the effects of immigrant-specific characteristics such as cultural background and duration of residence in Canada on elderly immigrants' residential independence?

Our study, as this article describes, makes six contributions to existing research. First, the study contributes to the relative paucity of research on aging immigrant families in Canada by focusing on the living arrangements of elderly immigrants. Second, most previous studies of immigrant living arrangements have examined extended living arrangements (see, for example, Glick, 2000; Glick & Van Hook, 2002; Kamo, 2000); we offer a different perspective through our focus on *residential independence* among elderly immigrants because of the secular rise in this type of living arrangements among the elderly population in Canada and many western societies.

Third, we have included all elderly Canadians in this study whereas many previous studies limited attention to non-married females because they comprise the highest proportion of the elderly population in advanced years, especially those older than age 80 (Costa, 1999; Wolf & Soldo, 1988). In this study, we focused on elderly females and males, of all marital statuses, and who were aged 55 and older (Burr & Mutchler, 1999; Kaida et al., 2009, used a similar age cut-off).[3] This allowed us to examine variations in living arrangements for all elderly people over a broader age range at various ages. Comparing age group differences may also provide clues to future trajectories in elderly adult living arrangements.

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Fourth, we have expanded the measurement and understanding of the role of finances on elderly adult living arrangements by including several measures besides personal or family income. We included information on whether the elderly person had income from different government sources and private retirement pensions (Boyd, 1991; Burr & Mutchler, 2007; Kaida et al., 2009), and we added homeownership as a consideration (Burch & Matthews, 1987; Kaida et al., 2009). Having some form of guaranteed income (from government or private pensions) or owning one's home (Burch & Matthews, 1987; Edmonston & Lee, 2013) indicates greater financial resources that are expected to facilitate residential independence.

Fifth, we have expanded the investigation of ethnic origin effects by comparing 16 ethnic groups instead of a few broad groups that may obscure ethnic group differences. Immigrants are more ethnoculturally diverse than the Canadian-born (Boyd, 2011; Lee, 2011), and previous studies showed that cultural factors (indirectly measured by ethnic origin or country of birth or language) have played important roles in elderly living arrangements (Boyd, 1991; Glick & Van Hook, 2002; Gurak & Kritz, 2010; Kaida et al., 2009). We also included a language background measure that combined information on mother tongue, home language, and knowledge of Canada's official languages (English and French). The language background variable serves as an indirect measure of cultural background and acculturation: immigrants who have one of the official languages as their mother tongue and/or home language, and/or are proficient in English and/or French would be closer to Canadian culture and thus be more acculturated, and more likely to have adopted the host society's norms, including living arrangements at older ages.

Finally, additional analysis of the role of life course characteristics – such as age at immigration and the closely related duration of residence and marital status (Blank & Torrecilha, 1998; Glick, 2000) – offered additional insights on life-course-related factors on elderly immigrants' living arrangements.

Data and Methods

We analysed data from the Public Use Microdata File (PUMF) on individuals in the 2006 Census of Canada (Statistics Canada, 2011a). These data are from a 2.7 per cent sample of the population enumerated in the census. This is a cross-sectional analysis and has the usual limitations of cross-sectional studies. However, since we do not aim to provide an analysis of how elderly immigrants transition into particular types of living arrangements (see Sarma et al., 2009 for an example of such studies), a cross-sectional analysis is still appropriate for addressing the three research questions.

The study sample included men and women aged 55 and older of all marital statuses (never-married, married/common-law union, separated, divorced, and widowed). We excluded elderly adults living in collective housing arrangements because public-use census data do not provide information on the characteristics of persons in these living arrangements.[4]

Outcome Variable: Residential Independence or Independent Living Arrangement

We used census data on household and family structure and individual family status to code five types of living arrangements: (1) living alone if not married or partnered; (2) married or common-law couple living with partner only; (3) living with children; (4) living with other relatives; and (5) living with non-relatives. As noted earlier, we excluded elderly adults living in collective housing such as nursing homes or assisted-living arrangements. On the basis of the five types of living arrangements defined, we followed the definition of residential independence used by Cameron (2000) and Burr and Mutchler (2007): residential independence or independent living arrangement refers to types (1) or (2) above, with the remaining three types defined as non-independent living arrangements.

Explanatory Variables and Expected Effects

The analysis examined three main sets of explanatory variables: economic factors, cultural factors, and life course factors.

Economic Factors

We used four variables to measure economic factors: (1) family income;[5] (2) government or private pension income; (3) homeownership; and (4) education.

Family income included income from wages and salaries, farm income, retirement income, investment income, and income from government and other sources. Income has been presented in nine categories, ranging from less than $20,000 to $150,000 and more. We expected family income to have positive effects on residential independence (Boyd, 1991; Burr & Mutchler, 2007; Kaida et al., 2009).

Previous research (Boyd, 1991; Burr & Mutchler, 2007; Kaida et al., 2009) showed the importance of pension income on elderly living arrangements. Canada's main pension system consists of the three federal (or Quebec) government pension plans – Canada/Quebec Pension Plan (C/QPP) based on employment history and contributions, Old Age Security program (OAS), and Guaranteed Income Supplement (GIS) – and private pension

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plans.[6] The three government plans have different eligibility requirements, including age, work history, and years of Canadian residence. For example, a person must be aged 65 or older and have resided in Canada for at least 10 years since age 18 to qualify for OAS. The GIS is intended mainly for low-income older persons. Most Canadians do not have private pensions: data for 2005 and 2010 show that only about one-third of Canadians in the labor force are covered by registered private pension plans (Statistics Canada, 2011b). We included three dummy variables (yes/no) to measure whether an elderly person had government (C/QPP) and OAS/GIS income (income from these two sources are combined in the census data), or private pension income. Having C/QPP and private pension income increases the likelihood of residential independence, as both income sources are more likely to signify economically advantaged persons, while having OAS/GIS income is expected to reduce residential independence.[7]

We considered homeownership because homeownership indicates adequate or greater economic resources (Burch & Matthews, 1987; Cameron, 2000), increasing the likelihood of residential independence. Homeownership was coded as a binary variable (owned or did not own home). Finally, education has well-documented associations with economic resources (Burr & Mutchler, 2007; Gurak & Kritz, 2010), and we included eight categories of educational attainment, ranging from less than high school to professional degree.

Cultural Factors

We used two indirect measures of cultural factors: *ethnic origin* to indicate ethnocultural roots, and *language background* to indicate similarity to Canadian culture and acculturation. Ethnic variations in living arrangements of elders, some of which are related to nativity (immigrants have closer ties to the cultures of their origin countries), have been documented elsewhere (Glick & Van Hook, 2002; Kamo, 2000). Some ethnic groups (such as Italians, Mexicans, Chinese, and South Asians) hold more traditional family-focused views about living arrangements that promote co-residence with family members (Gee, 2000; Glick & Van Hook, 2002; Gurak & Kritz, 2010; Kaida et al., 2009; Lai, 2005; Wilmoth, 2001). In this study, we compared 16 specific ethnic-origin groups to investigate ethnocultural influence on elderly residential independence.

Second, we included a language variable that combines mother tongue and home language as an indicator of similarity to Canadian culture and acculturation among elderly immigrants (Kaida et al., 2009). There were four categories for the language variable: (1) English or French mother tongue and home language; (2) other language mother tongue (that is, neither English nor French) but home language was English or French; (3) other language mother tongue and home language but the immigrant knew English or French; and (4) other language mother tongue and home language and the immigrant did not know English or French.[8] Similarity to Canadian culture and acculturation was highest for the first category and lessened from the first to the fourth category. Residential independence was expected to decrease from the first to the last category of the language background variable.

Life Course Factors

We included several measures of life course factors. The first was marital status (Blank, 1998; Blank & Torrecilha, 1998).[9] We categorized the study sample by whether the elderly person was married or living in a common-law union (that is, partnered) or not partnered. Non-married/non-partnered elderly adults included never-married, separated, divorced, and widowed individuals.

A second important life course variable was age (Blank, 1998; Blank & Torrecilha, 1998; Glick, 2000). As elderly immigrants become older, they may be less able to reside independently because of declining health and functionality (Hays, Pieper, & Perser, 2003; Waite & Hughes, 1999). Age also reflects other life course stages – for example, whether the elderly person is still working or retired or widowed. We categorized the study participants into seven age groups: 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, and 85 and older.

For elderly immigrants, an important life-course-related characteristic is age at immigration to Canada, which overlaps with duration of residence (Boyd, 1991; Edmonston, 2013; Glick, 2000). Some studies of immigrants' living arrangements have examined the role of duration of residence and found that immigrants with longer duration of residence are less likely to co-reside (Boyd, 1991; Glick, 2000), but others did not (Blank, 1998). We measured duration of residence using nine categories, ranging from fewer than five years to 40 or more years, and age at arrival using 13 age categories, ranging from less than 5 years old to age 60 and older.

Other Control Variables

We considered gender because of gender differences in longevity and economic resources (Boyd, 1991; Klinenberg, 2012), and we included categories for Canada's three largest metropolitan areas (Montreal, Toronto, and Vancouver), other metropolitan areas, and non-metropolitan areas. Over 91 per cent of immigrants reside in Canada's metropolitan areas compared with 63 per cent of non-immigrants (Statistics Canada, 2013), and mass urbanization has contributed to the rise in residential independence (Klinenberg, 2012).

We conducted descriptive analyses to describe the study sample and bivariate relationships between selected characteristics and residential independence. In the multivariate analyses, we estimated logistic regression models as the outcome variable is coded as a binary variable. All analyses were performed using sample weights provided in the PUMF (Statistics Canada, 2011a). For interpreting the multivariate results, we calculated the predicted probability for each of the explanatory variables using the margins command in Stata 12 statistical software (Stata, 2011).

Descriptive Results

Table 1 shows selected descriptive statistics of the study sample. As the table indicates, Canadian-born and immigrant elderly are notably different on several characteristics.[10] Elderly immigrants had more varied living arrangements. They were less likely to reside independently: 62.5 per cent compared with almost 78 per cent of Canadian-born elders, but were more likely to co-reside: 37.5 per cent compared with 22.1 per cent of Canadian-born elders. Higher percentages of elderly immigrants lived in households that contained children (40.2%, compared with 19.7% of Canadian-born elders) or other adults (11.1% versus 3.9%).

Higher percentages of Canadian-born elders had income from the Canada/Quebec Pension Plan (61.1% versus 52.6% of immigrant elders), or from private retirement pensions (43.1% versus 36.3%). However, elderly immigrants were more likely to own their homes (87.3% compared with 81.1% of Canadian-born elders).

The ethnic origins of Canadian-born and immigrant elderly adults differed, reflecting the changing origins of Canada's immigrants over the years and greater ethnocultural diversity among immigrants. Most Canadian-born elderly individuals reported multiple origins (40.5%), followed by single origins as Canadian (24.2%), British (15.3%), French (8.4%), and "other European" (9.6%). On the other hand, only 17 per cent of immigrant elderly individuals reported multiple origins; 37.4 per cent reported "other European" origins, followed by 13.2 per cent reporting British, 10.9 per cent reporting Chinese, and 8.4 per cent reporting South Asian origins.

There were also large differences in language background. Almost all Canadian-born elderly persons (94.9%) had English or French as their mother tongue and home language compared with only one-third of elderly immigrants. Close to 12 per cent of elderly immigrants reported a non-official language (that is, neither English nor French) as their mother tongue and home language, and no knowledge of either official language.

Another characteristic of our study indicating large differences between Canadian-born and immigrant elderly adults is metropolitan place of residence. Elderly immigrants were highly concentrated in the three largest metropolitan areas of Toronto, Vancouver, and Montreal (56.3%) and other metropolitan areas (29.1%), with just 14.6 per cent residing in non-metropolitan areas. In contrast, 45.9 per cent of Canadian-born elderly people resided in non-metropolitan areas.

Finally, Table 1 shows duration of residence and age at immigration for immigrants. These two characteristics closely overlap. Since our respondents were aged 55 and older, most had been in Canada for many years: 39 per cent had been in Canada for 40 or more years, and another 27.9 per cent had been in Canada for 30 to 39 years. Most arrived in their 20s and 30s (52.9%), but 16.1 per cent arrived at age 50 and older.

Relationship between Residential Independence and Selected Characteristics

Results from bivariate analysis of residential independence and selected characteristics are shown in Table 2.

The overall lower level of residential independence among elderly immigrants shown in Table 1 is also seen in most comparisons within each category of variables in Table 2.

Family income shows the expected positive relationship with residential independence for both Canadian-born and immigrant elders: the proportion residing independently increased with income, except for a decline for the highest income group ($150,000 or higher), where the decrease was larger for immigrants. For both Canadian-born and immigrant elderly individuals, homeowners were more likely to reside independently.

Notable differences occurred across ethnic groups for both Canadian-born and immigrant elderly adults. Among Canadian-born elderly adults, those of Aboriginal, South Asian, Filipino, and African/Caribbean/Black ethnic origins were less likely to reside independently. Among elderly immigrants, many ethnic groups – including several Asian, Latin American, and African/Caribbean/Black ethnic groups – were less likely to reside independently.

Canadian-born elderly people whose mother tongue and home language were either English or French had the highest percentage residing independently (78%). This percentage declined to 50 per cent for those with a mother tongue or home language other than English or French and who did not know either official language. The relationship between language background and residential independence is similar for elderly immigrants: just 48 per cent of elderly immigrants with a mother tongue or home language that was other than English or French and who did not know either official language resided independently.

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Table 2: Per cent residing independently by selected characteristics and nativity[a]

Characteristic	Canadian-born	Immigrants
Economic Characteristics:		
Family Income		
$0–$19,999	70.0	52.4
$20,000–$29,999	70.3	51.3
$30,000–$39,999	74.8	56.6
$40,000–$49,999	77.9	61.4
$50,000–$59,999	79.7	64.2
$60,000–74,999	80.6	67.3
$75,000–$99,999	81.3	69.3
$100,000–$149,999	81.4	70.9
$150,000+	78.1	62.0
Homeownership		
No	76.8	60.8
Yes	82.4	69.9
Cultural Characteristics		
Ethnic Origin		
Canadian	77.8	60.8
British	80.5	69.9
French	80.9	76.8
Other European	82.0	80.1
Aboriginal[b]	55.2	76.9
Arab/Middle Eastern	70.2	70.2
South Asian	52.9	68.8
Chinese	62.7	42.1
Filipino[b]	50.0	46.2
Korean[b]	100.0	45.3
Vietnamese[b]	50.0	39.1
Other East/Southeast Asian	71.6	51.1
Latin American	83.3	36.0
African/Caribbean	62.2	46.9
Other Single Origins	88.9	38.4
Multiple Origins	76.4	44.2
Language Background[c]		
English/French MT/HL	78.0	70.5
Other MT; English/French HL	79.5	65.9
Other MT/HL; knows English/French	64.2	55.2
Other MT/HL; does not know English/French	50.0	48.4
Life Course Characteristics:		
Age Group		
55–59	67.4	43.2
60–64	79.2	60.7
65–69	84.3	69.3
70–74	84.0	72.8
75–79	83.6	74.5
80–84	83.0	74.6
85+	78.9	67.3
Marital Status		
Divorced	70.3	60.4
Married/Common-law	81.6	65.9
Separated	67.6	51.6
Never-married (single)	67.1	56.8
Widowed	72.8	52.6
Duration of Residence in Canada[d]		
0–4 years		50.1
5–9 years		47.4
10–14 years		44.5
15–19 years		47.0
20–24 years		53.0
25–29 years		52.3
30–34 years		55.1
35–39 years		67.5
40 or more years		77.2
Age at Immigration[d]		
0–4 years		69.9
5–9 years		69.0
10–14 years		66.9
15–19 years		67.5
20–29 years		66.7
30–39 years		64.8
40–49 years		51.2
50–59 years		52.3
60 and older		52.1

Table 2. Continue

[a] As shown in Table 1 and noted in the text, *residential independence* refers to living alone for non-married/non-partnered persons, and living with spouse/partner only for married/partnered persons.

[b] The few foreign-born elderly Aboriginals were all born in the United States. By law, they are permitted to reside in either country and are not considered immigrants. There were very few Canadian-born elders reporting Filipino, Korean, or Vietnamese origins.

[c] MT = mother tongue; HL = home language.

[d] Immigrants only.

Age showed an inverted U-shaped relationship with residential independence: lower percentages of residential independence at the younger and older age groups. There were large differences by marital status. For both Canadian-born and immigrant elderly adults, the highest percentage residing independently was among married or partnered individuals: 81.6 per cent of Canadian-born and 65.9 per cent of immigrant elders who were married or in common-law unions resided independently. Among Canadian-born elderly adults, the separated or never-married had the lowest percentage residing independently (about 68%), while among immigrants, the separated and widowed had the lowest percentage residing independently (about 52 to 53%).

Finally, duration of residence and age at immigration showed large and expected differences in residential independence among elderly immigrants and were mirror images of each other. The percentage residing independently generally increased with duration of residence and generally decreased with increased age at immigration.

Multivariate Results

We estimated two logistic regression models of residential independence. Model I was estimated for all

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elderly persons and Model II was estimated for older immigrants only.

Model I

Multivariate results from the logistic regression model for all elderly individuals (Model I) are shown in Table 3. All coefficients were statistically significant at the 0.05 level or lower except for those in italics.

Taking all other factors into account, we found that 75.4 per cent of Canadian-born elderly individuals resided independently compared with 70.3 per cent of elderly immigrants. The large 15 per cent gap shown in Table 1 was considerably reduced to 5 per cent. The effects of other variables generally confirm the robustness of descriptive findings.

Economic Characteristics

The effects of all economic characteristics (except for homeownership) were as expected. Predicted probabilities of residential independence increased as family income increased.[11] For example, 69.1 per cent of elderly people with a family income below $20,000 resided independently; this increased to 74.9 per cent for elderly people with family incomes between $75,000 and $99,999, and increased further to 75.8 per cent for elderly people in the highest family income category ($150,000 and more).

Elderly adults with C/QPP and private retirement income were also more likely to reside independently: 75.7 per cent of those with C/QPP income resided independently compared with 71.8 per cent for those without such income and 79 per cent of those with private pension income compared with 70.5 per cent for those without resided independently. The impact of OAS/GIS income was as expected: elderly people receiving income from these government plans were less likely to reside independently (70% compared with 76% for those who do not receive OAS/GIS income), supporting our decision to examine C/QPP and OAS/GIS income separately.

The association with homeownership, however, was negative and differed from the bivariate finding in Table 2 (which showed a positive relationship with residential independence): the multivariate results show that 71.9 per cent of homeowners resided independently compared with 80.7 per cent of non-homeowners. Educational attainment had expected positive implications: the proportion of elderly individuals residing independently generally increased with education (for example, 68.3% of those with less than high school resided independently compared with 77% of those with a bachelor's degree).

Cultural Characteristics

The impact of cultural characteristics was consistent with descriptive findings. Elderly individuals from certain ethnic groups – for example, Aboriginal, Arab/Middle Eastern, Filipino, Vietnamese, and African/Caribbean/Black – were less likely to reside independently, with below 60 per cent in independent living arrangements, compared with elderly individuals from ethnic groups such as British, French, and "other European" in which over 75 per cent resided independently.

Language background also had large expected associations with residential independence. The per cent residing independently decreased from over 75 per cent for elders whose mother and home languages were either English or French to 61 per cent for those whose mother and home languages were neither English nor French and who had no knowledge of either official language.

Life Course Characteristics

Life course characteristics had large effects on elderly residential independence in our study. We found that age differences followed an inverted U-shape: the percentage residing independently increased with age, from a low of 64.6 per cent for the 55–59 age group to 82 per cent for the 80–84 age group, before decreasing to 79.6 per cent for the oldest group, age 85 and older. It is not surprising that the younger-old were less likely to reside independently as many may still have had children in the household. This pattern is interesting in another way, suggesting that when all other factors in the model were considered, residential independence did not decrease with age until at a much older age (in this analysis, at age 85 and older).

The largest difference across marital status categories occurred between married and non-married elderly individuals. Whereas 80.9 per cent of married elderly resided independently, less than 60 per cent of non-married elderly were in independent living arrangements. Widowed elderly adults had the lowest per cent residing independently, at 51.3 per cent, followed by never-married elderly adults, at 55.4 per cent.

Other Controls

The additional controls for gender and metropolitan residence show that elderly women were more likely to reside independently, with 75.6 per cent doing so compared with 71.7 per cent for elderly men. Place-of-residence effects were not large, with a modestly higher percentage of elders in non-metropolitan areas residing independently.

Model II

We limited additional analysis to elderly immigrants and estimated a logistic regression model of residential independence for elderly immigrants only (Model II), which includes all the explanatory variables in Model I plus duration of residence (see Table 4).[12] All coefficients in the table are statistically significant at the 0.05 level or lower, except for those in italics.

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Table 3: Model I: Logistic regression of residential independence: All elders[a]

Variable Category	Logistic Regression Estimates		Predicted Probability	
	Coefficient[b]	Standard Error	Predicted Probability	Standard Error
Nativity				
Canadian-born	—*		0.7538	0.0013
Immigrants	–0.3147	0.0186	0.7029	0.0024
Economic Characteristics:				
Family Income				
0–$19,999	–0.4077	0.0300	0.6909	0.0046
$20,000–$29,999	–0.4153	0.0265	0.6894	0.0035
$30,000–$39,999	–0.3178	0.0252	0.7089	0.0032
$40,000–$49,999	–0.2360	0.0253	0.7241	0.0031
$50,000–$59,999	–0.1821	0.0263	0.7333	0.0032
$60,000–$74,999	–0.1268	0.0251	0.7418	0.0027
$75,000–$99,999	–0.0739	0.0237	0.7492	0.0023
$100,000–$149,999	*–0.0086*	0.0225	0.7571	0.0019
$150,000 or more	—*		0.7580	0.0017
Canada/Quebec Pension Plan (C/QPP) Income				
No	—*		0.7183	0.0017
Yes	0.2413	0.0167	0.7566	0.0015
Private Retirement Pension Income				
No	—*		0.7052	0.0013
Yes	0.5442	0.0147	0.7899	0.0015
OAS/GIS Income				
No	—*		0.7624	0.0017
Yes	–0.4034	0.0278	0.7002	0.0028
Highest Degree Completed				
Less than high school	—*		0.6828	0.0018
High School	0.3812	0.0162	0.7448	0.0018
Trades certificate	0.4355	0.0202	0.7531	0.0026
Other non-university	0.5800	0.0179	0.7741	0.0019
Bachelor's	0.5504	0.0219	0.7699	0.0026
Master's	0.6955	0.0337	0.7901	0.0042
Doctorate	0.9866	0.0640	0.8270	0.0074
Professional	0.8537	0.0815	0.8108	0.0101
Homeownership				
No	—*		0.8068	0.0018
Yes	–0.5984	0.0161	0.7189	0.0010
Cultural Characteristics:				
Ethnic Origin				
Canadian	—*		0.7292	0.0025
British	0.2629	0.0221	0.7703	0.0025
French	0.1690	0.0278	0.7561	0.0038
Other European	0.3936	0.0245	0.7891	0.0023
Aboriginal	–0.9979	0.0520	0.5434	0.0101
Arab/Middle Eastern	–0.8482	0.0601	0.5734	0.0114
South Asian	–0.5981	0.0412	0.6223	0.0070
Chinese	–0.4439	0.0403	0.6514	0.0065
Filipino	–0.9381	0.0712	0.5554	0.0138
Korean	–0.5863	0.1162	0.6246	0.0219
Vietnamese	–0.8769	0.1283	0.5677	0.0253
Other East/Southeast Asian	–0.3231	0.0928	0.6735	0.0164
Latin American	–0.7365	0.1085	0.5955	0.0210
African/Caribbean	–0.8439	0.0543	0.5742	0.0103
Other Single Origins	0.5479	0.1624	0.8101	0.0211
Multiple Origins	0.0577	0.0174	0.7386	0.0016
Language Background[c]				
English/French MT/HL	—*		0.7578	0.0012
Other MT; English/French HL	–0.2164	0.0238	0.7234	0.0033

Continue

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Table 3. Continue

Variable Category	Logistic Regression Estimates		Predicted Probability	
	Coefficient[b]	Standard Error	Predicted Probability	Standard Error
Other MT/HL; knows English/French	–0.6833	0.0275	0.6407	0.0045
Other MT/HL; does not know English/French	–0.8510	0.0375	0.6087	0.0067
Life Course Characteristics:				
Age Group				
55–59	—*		0.6461	0.0033
60–64	0.4100	0.0168	0.7195	0.0029
65–69	0.8147	0.0303	0.7825	0.0026
70–74	0.8749	0.0338	0.7910	0.0030
75–79	0.9982	0.0350	0.8077	0.0030
80–84	1.0914	0.0374	0.8196	0.0033
85+	0.9099	0.0401	0.7958	0.0041
Marital Status				
Divorced	—*		0.5818	0.0037
Married/Common-law	1.4148	0.0220	0.8090	0.0009
Separated	*–0.0513*	0.0382	0.5721	0.0065
Never-married (single)	–0.1454	0.0286	0.5541	0.0044
Widowed	–0.3578	0.0245	0.5129	0.0030
Other Controls				
Gender				
Female	—*		0.7560	0.0012
Male	–0.2518	0.0120	0.7165	0.0014
Place of Residence				
Montreal	—*		0.7176	0.0028
Toronto	–0.1284	0.0225	0.6959	0.0026
Vancouver	0.0755	0.0279	0.7300	0.0035
Other metropolitan areas	0.1508	0.0198	0.7420	0.0016
Non-metropolitan	0.2905	0.0199	0.7634	0.0016
Constant	0.7084	0.0311		
Summary Statistics				
Number of observations	202,532			
Degrees of freedom	53			
Wald chi-square test	38,360.33			
Probability of chi-square	0.00			
Log pseudolikelihood	–97,244.10			
Pseudo-R^2	0.2647			

*** Reference category.**
[a] As in Table 2.
[b] All coefficients are statistically significant at $p \leq .05$, except those in italics.
[c] MT = mother tongue; HL = home language.

The effects of many variables, including economic variables (family income, C/QPP, OAS/GIS, and private pension income, education, and homeownership), life course variables (age and marital status), and gender and place of residence were similar to those reported for Model I and are not described again. We briefly note the effects of cultural characteristics (ethnic origin and language background) and describe in more detail the effects of duration of residence.

Cultural Characteristics

Less than 55 per cent of elderly immigrants reporting Arab/Middle Eastern, Filipino, Korean, Vietnamese, Other East/Southeast Asian, Latin American, and African/Caribbean/Black origins resided independently, compared with other ethnic groups.

Elderly immigrants whose mother and home languages were neither English nor French, and who did not have any knowledge of either of Canada's official languages had the lowest percentage residing independently (57.9%), compared with 68.6 per cent for elderly immigrants whose mother and/or home languages were either English or French.

Duration of Residence

Effects of duration of residence were as expected. Residential independence was higher among elderly immigrants with more years of residence in Canada, after

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Table 4: Model II: Logistic regression of residential independence: Elderly immigrants[a]

Variable Category	Logistic Regression Estimates		Predicted Probability	
	Coefficient[b]	Standard Error	Predicted Probability	Standard Error
Economic Characteristics:				
Family Income				
0–$19,999	–0.5023	0.0566	0.5757	0.0072
$20,000–$29,999	–0.5179	0.0510	0.5730	0.0057
$30,000–$39,999	–0.4021	0.0487	0.5939	0.0058
$40,000–$49,999	–0.3122	0.0489	0.6104	0.0061
$50,000–$59,999	–0.2573	0.0508	0.6202	0.0066
$60,000–$74,999	–0.1699	0.0486	0.6351	0.0059
$75,000–$99,999	–0.0940	0.0459	0.6469	0.0050
$100,000–$149,999	*0.0275*	0.0424	0.6630	0.0038
$150,000 or more	—*		0.6597	0.0036
Canada/Quebec Pension Plan (C/QPP) Income				
No	—*		0.6242	0.0032
Yes	0.1649	0.0316	0.6516	0.0032
Private Retirement Pension Income				
No	—*		0.6073	0.0025
Yes	0.5280	0.0293	0.6952	0.0036
OAS/GIS Income				
No	—*		0.6620	0.0032
Yes	–0.3492	0.0472	0.6063	0.0045
Highest Degree Completed				
Less than high school	—*		0.5726	0.0035
High school	0.3908	0.0323	0.6380	0.0039
Trades certificate	0.4454	0.0403	0.6469	0.0054
Other non-university	0.7050	0.0354	0.6878	0.0040
Bachelor's	0.6332	0.0416	0.6767	0.0052
Master's	0.9052	0.0610	0.7178	0.0081
Doctorate	1.2795	0.0977	0.7697	0.0123
Professional	0.9655	0.1282	0.7265	0.0181
Homeownership				
No	—*		0.7268	0.0041
Yes	–0.6989	0.0315	0.6165	0.0020
Cultural Characteristics:				
Ethnic Origin				
Canadian	—*		0.7179	0.0314
British	*–0.0097*	0.2057	0.7164	0.0066
French	*0.1437*	0.2363	0.7396	0.0184
Other European	*–0.2141*	0.2049	0.6839	0.0035
Aboriginal	*0.8018*	1.2784	0.8264	0.1455
Arab/Middle Eastern	–1.1355	0.2134	0.5218	0.0117
South Asian	–0.8922	0.2074	0.5663	0.0070
Chinese	–0.8426	0.2076	0.5753	0.0066
Filipino	–1.1931	0.2170	0.5111	0.0137
Korean	–1.0469	0.2383	0.5381	0.0224
Vietnamese	–1.2483	0.2454	0.5010	0.0252
Other East/Southeast Asian	–1.0488	0.2452	0.5377	0.0249
Latin American	–1.0685	0.2354	0.5341	0.0216
African/Caribbean	–1.2171	0.2101	0.5067	0.0108
Other Single Origins	*–0.1065*	0.3106	0.7012	0.0374
Multiple Origins	–0.4962	0.2043	0.6366	0.0046
Language Background[c]				
English/French MT/HL	—*		0.6859	0.0042
Other MT; English/French HL	–0.2334	0.0365	0.6483	0.0037
Other MT/HL; knows English/French	–0.5291	0.0391	0.5983	0.0039
Other MT/HL; does not know English/French	–0.6423	0.0513	0.5787	0.0065

Continue

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Table 4. Continue

Variable Category	Logistic Regression Estimates		Predicted Probability	
	Coefficient[b]	Standard Error	Predicted Probability	Standard Error
Life Course Characteristics				
Age Group				
55–59	—*		0.5196	0.0061
60–64	0.5342	0.0319	0.6171	0.0054
65–69	0.8760	0.0510	0.6758	0.0051
70–74	1.0267	0.0575	0.7003	0.0059
75–79	1.1642	0.0605	0.7218	0.0063
80–84	1.2779	0.0656	0.7389	0.0071
85+	0.9820	0.0733	0.6931	0.0093
Marital Status				
Divorced	—*		0.4977	0.0078
Married/Common-law	1.3219	0.0500	0.7110	0.0019
Separated	*–0.1214*	0.0829	0.4770	0.0122
Never-married (single)	*–0.1000*	0.0690	0.4807	0.0094
Widowed	–0.6967	0.0541	0.3803	0.0049
Duration of Residence in Canada[d]				
0–4 years	—*		0.5190	0.0128
5–9 years	*0.0804*	0.0830	0.5336	0.0107
10–14 years	*0.1131*	0.0768	0.5396	0.0081
15–19 years	0.3387	0.0791	0.5803	0.0079
20–24 years	0.5387	0.0873	0.6156	0.0097
25–29 years	0.5091	0.0760	0.6104	0.0056
30–34 years	0.5934	0.0758	0.6251	0.0050
35–39 years	0.8101	0.0769	0.6618	0.0047
40 or more years	0.9917	0.0772	0.6914	0.0036
Other Controls:				
Gender				
Female	—*		0.6632	0.0024
Male	–0.3429	0.0234	0.6070	0.0027
Place of Residence				
Montreal	—*		0.5839	0.0057
Toronto	0.1090	0.0366	0.6030	0.0030
Vancouver	0.3103	0.0451	0.6375	0.0051
Other metropolitan areas	0.5362	0.0394	0.6748	0.0036
Non-metropolitan	0.8495	0.0483	0.7235	0.0053
Constant	0.7084	0.0311		
Summary Statistics				
Number of observations	52,940			
Degrees of freedom	60			
Wald chi-square test	16,765.88			
Probability of chi-square	0.00			
Log pseudolikelihood	–26,285.70			
Pseudo-R^2	0.3418			

*** Reference category.**

[a] As in Table 2.

[b] All coefficients are statistically significant at $p \leq .05$ except those in italics.

[c] MT = mother tongue; HL = home language.

[d] Duration of residence and age at immigration closely overlapped and could not be included in the same model. We estimated a separate model, replacing duration of residence with age at immigration, and including all other explanatory variables. Comparing the two models, effects of duration of residence and age at immigration are mirror images of each other: the probability of residential independence increased with longer duration of residence (or younger age at immigration). For both models, the coefficients for other explanatory variables were similar. We reported the model with duration of residence.

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all other variables in Model II were considered. An interesting finding was that differences in residential independence were negligible and not statistically significant among elderly immigrants with less than 15 years of residence: about 52 to 54 per cent of these elderly immigrants resided independently. Increases in the per cent residing independently were larger and statistically significant among elderly immigrants with 15 or more years of residence. For example, 58 per cent of elderly immigrants with 15 to 19 years of residence resided independently. This increased to 62.5 per cent for those with 30 to 34 years of residence, and further increased to 69.1 per cent for immigrants with 40 or more years of residence.

Discussion and Conclusion

Issues related to immigration and population aging have long occupied the attention of researchers and policy makers in Canada and other societies that are experiencing both demographic processes. Although there is a growing research literature on elderly immigrants (much of which is U.S.-based), research and policy discussions about Canada's aging population often neglect the growing population of elderly immigrants and aging immigrant families. Our research addressed one aspect of this neglect by examining living arrangements of elderly immigrants in Canada.

Unlike many previous studies of immigrants' living arrangements that examined extended living arrangements (see, for example, Blank, 1998; Boyd, 1991; Glick, 2000; Glick & Van Hook, 2002; Kaida et al., 2009), we examined residential independence, using the definition by Burr and Mutchler (2007) and Cameron (2000). Residential independence among elders refers to non-partnered elderly individuals living alone and partnered elderly individuals living with a partner only. The rise in residential independence among the elderly population, with concomitant declines in co-residence or shared living arrangements, is well-documented (Klinenberg, 2012; Priest, 1985; Ruggles, 2007). However, descriptive statistics and many previous studies, including those just cited, generally show that immigrants and elderly immigrants are more likely to co-reside, mostly with family members.

We discuss the three research questions addressed in our study in the concluding section. First, are elderly immigrants less likely to reside independently? Several studies on extended living arrangements among immigrants (Glick, 2000; Glick & Van Hook, 2002; Gurak & Kritz, 2010; Kaida et al., 2009) suggest that the answer should be "yes" because immigrants are more likely to co-reside, and therefore less likely to reside independently. Our findings are consistent with these previous studies: descriptive statistics show that 78 per cent of Canadian-born elders reside independently compared with 63 per cent of elderly immigrants, a gap of 15 per cent. However, once the effects of economic, cultural, life course, and other factors are considered, the gap narrows to just 5 per cent, a statistically significant but relatively modest difference. This finding suggests that residential independence is not uncommon among elderly immigrants. In addition, the effects of many variables on residential independence are similar for Canadian-born and immigrant elders. It is possible that the remaining gap of 5 per cent could be further reduced if data on unmeasured factors such as health status, availability and proximity of adult offspring, housing stock and expenses, and other factors were included. Health and functionality are particularly important for elderly adults to reside independently (Hays et al., 2003; Sarma et al., 2009). Unfortunately, such information is not available in the census data examined here.

Our second research question is, What are the effects of economic, cultural, and life course characteristics on elderly immigrants' residential independence? Results from Model II estimating residential independence among elderly immigrants show that economic factors have major effects. The findings provide strong support for the role of economic advantage in elderly residential independence, consistent with previous research on co-residence that showed higher levels of co-residence among lower income elderly (see, for example, Boyd, 1991; Glick, 2000; Kaida et al., 2009; Priest, 1985). Residential independence is more likely with greater economic resources, measured by family income (or personal income for elders living alone), and government (C/QPP) or private pension income. Elderly immigrants who receive OAS/GIS income are less likely to reside independently, which underlines the importance of separating OAS/GIS government income from C/QPP income, as each income source has opposite effects on residential independence. Residential independence also increases with education, confirming the positive relationship between education and economic advantage.

Elderly immigrant homeowners are less likely to reside independently than renters, contrary to expectations. This suggests that whereas homeownership may indicate greater economic resources, it may also indicate other factors (such as homeowners having larger homes) that influence living arrangements, including facilitating co-residence (Kaida et al., 2009). Another explanation could be that elders may downsize their housing as they age, without any implications for their economic status or preference for residential independence.

A limitation of the census data we examined is the lack of direct measures of cultural values and norms for elderly immigrants' living arrangements. As in previous

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studies (see, for example, Gurak & Kritz, 2010; Kaida et al., 2009), we used ethnic origin and language background as indirect measures of cultural factors. The findings confirm that cultural factors remain important influences on elderly immigrants' residential independence. Non-European origin elderly immigrants are much less likely to reside independently, controlling for all other variables in the model. While over 70 per cent of most European-origin elderly immigrants reside independently, only around 50 per cent of elderly immigrants of Filipino, Vietnamese, and African/Caribbean ethnic origins reside independently. "Mainstream" Canadian culture is based on European culture, particularly British and French, and European-origin immigrants would be much closer to Canadian culture while immigrants from Asia, Africa, and other non-European societies would be culturally more different.

Effects of the language background indicator of similarity to Canadian culture and acculturation provide further support for the influence of cultural factors, as residential independence is higher among more acculturated elderly immigrants. Besides being more acculturated, elderly immigrants who speak or know either of Canada's two official languages may also be better equipped to navigate Canadian society and more able to reside independently, while elderly immigrants with limited language proficiency co-reside as an adaptive strategy, as previous studies have suggested (Glick & Van Hook, 2002; Gurak & Kritz, 2010; Kaida et al., 2009).

We recognize the limitations of the two indirect cultural measures. Direct and better measures of elderly immigrants' cultural values regarding living arrangements would be preferable. However, given that the effects of both indirect cultural factors are consistent with expectations, we cautiously conclude that cultural characteristics remain important for understanding elderly immigrants' living arrangements.

Life course characteristics are also important. Residential independence is much less likely below age 60: once all other factors in Model II are considered, just 52 per cent of elderly immigrants aged 55–59 resided independently. This jumped to 62 per cent for those aged 60–64, further increased to 70 per cent for the group aged 70–74, and peaked at 74 per cent for the group aged 80–84, before falling back to 69 per cent for those aged 85 and older (a pattern similar to that observed by Glick, 2000).

It is not surprising that elderly people in their 50s and early 60s were less likely to reside independently. Some may still have had children in the household, including adult children living at home while attending college, or who returned to the parental home after having left, perhaps because of divorce or job loss, the so-called "boomerang kids" (see, for example, Mitchell & Gee, 1996; Newman, 2012).

That the peak percentage residing independently occurred among elderly immigrants aged 80 to 84, a relatively older age group, is a bit surprising and raises questions for future research. For example, are elderly immigrants healthier and better able to maintain autonomy at older ages, including residential independence? Perhaps the "healthy immigrant effect" (see, for example, McDonald & Kennedy, 2004; Newbold, 1982) extends into older age and affects other outcomes, including living arrangements. However, results from Model I (estimated for all elders) showed a similar age gradient, so possibly elderly people in general are remaining healthier and more autonomous into older ages, thereby facilitating residential independence. As previously noted, the Canadian census data examined in this study lack information on health and functionality, so these possibilities will have to be examined by future research using different data.

Being married or living as common-law, that is, being partnered, is an important life course characteristic affecting residential independence, a finding similar to those reported in previous studies (Blank & Torrecilha, 1998; Burr & Mutchler, 2007; Wilmoth, 2001). The difference in residential independence between partnered and non-partnered elderly immigrants is substantial. If maintaining residential independence in old age is valued and preferred, then being in a partnered relationship is clearly beneficial for the elderly population, showing that the benefits of marriage extend over the life course into elderly living arrangements.[13]

Finally, our research examined the question, What are the effects of immigrant-specific characteristics, such as age at arrival and duration of residence in Canada? The two variables closely overlap and results are as expected and consistent with previous studies (see, for example, Boyd, 1991; Glick, 2000; Gurak & Kritz, 2010): elderly immigrants with more years of residence in Canada (or who arrived at younger ages) are more likely to reside independently. The influence of duration of residence and age at immigration are usually interpreted as acculturation into the host society's culture: in this case, cultural norms about living arrangements at older ages.

While answering the main research questions that motivated our study, the findings also raise issues and questions. We began our analysis by making no assumptions about whether residential independence is the "best" living arrangement for elderly immigrants. The increased social trend to elderly residential independence suggests that most elderly people prefer this type of living arrangement (see, for example, Klinenberg, 2012), but we recognize that for some elderly people,

and particularly elderly immigrants, co-residence may actually be preferable and more advantageous, lowering the risk of social isolation, particularly for non-married elderly immigrants and those with limited language proficiency who are less acculturated. Some studies (see, for example, Gee, 2000) noted that elderly immigrants in co-residential living arrangements report being happier and more satisfied.

However, as we reflect on our findings, a picture has emerged suggesting that residential independence is associated with characteristics that can only be described as advantages. These include higher income and education, being married or partnered, and additionally, for elderly immigrants, being more acculturated, indicated by ethnic origin, language background, younger age at immigration, and longer duration of residence in Canada. These characteristics may be related to other dimensions of well-being, such as more extensive social ties and support (through marriage) and better health, given the positive relationship between marriage and socioeconomic status with health (Smith, 2007). Still, we cannot conclude that residential independence is the optimal living arrangement for all elderly immigrants. Cultural factors continue to play an important role, indicated by ethnic group differences, as elderly immigrants from some cultural backgrounds continue to prefer co-residence even when they have the financial, social, and personal (being married, for example) resources that facilitate residential independence.

One important area for further research is separate analysis of residential independence for married versus non-married elderly immigrants. In this research, we combined the two groups in the multivariate analysis because we wanted to explore the effects of different marital statuses, including different non-married statuses. However, residential independence requires different levels of resources, health, and functionality for a married elderly person compared with a non-married elderly person, whether it is someone who had never married or is divorced or separated or widowed. Residential independence for non-married elders means living alone. Non-married elderly individuals may face greater economic burdens and other related issues: for example, housing affordability and social isolation (see, for example, Wolf & Soldo, 1988). This is, therefore, an important topic for future research, preferably with different data that can supplement the findings reported here based on census data.

As with many previous studies, this research lacks information about living arrangement choices available to the elderly adult and elderly immigrant. The census and other cross-sectional survey data usually analysed have data on current living arrangements but none on alternative living arrangements available to elders. If an elderly person does not live with a relative, does this mean that he or she chose not to live with a relative or that such a relative was unavailable to co-reside with?

Ideally, we would have data on the range of living arrangements available, including co-residence with adult child or other relatives or non-relatives, and types of group housing. If such data were available, researchers could conduct a nested logit analysis similar to that of Burr and Mutchler (2007) or of Cameron (2000), with the first decision modeled as a choice by the elders to reside independently or not, on the basis of available options, and the second decision modeled as a choice of living arrangements if they chose not to reside independently. The ideal data set would also have direct measures of cultural and subjective preferences and information on health and functionality of the elderly immigrant.

Unfortunately, the challenge for researchers is not how to conduct analysis but the lack of data to carry out the appropriate analyses. Lack of data and data limitations should not, however, preclude research that can still produce new and useful findings on elders' and elderly immigrants' living arrangements and what these imply for their overall well-being. Despite data and other limitations, the findings we have reported here confirm the importance of economic, cultural, and life course factors on residential independence among elderly immigrants. Our focus on residential independence instead of extended living arrangements shows that elderly immigrants in Canada are not too different from Canadian-born elderly adults in their propensity to reside independently, once appropriate factors are considered.

Notes

1 Almost 21 per cent of Canada's population is foreign-born, compared with 13.5 per cent in the United States. Of the main "traditional" destination countries, only Australia's per cent is higher, at 26.8 per cent (Statistics Canada, 2013). Similar to Australia, Canada has a selective points-based immigration system (potential immigrants must have a minimum number of points based on their education, language proficiency, occupation, family members in Canada, etc.), unlike the U.S. system, which is mainly based on family reunification. See Boyd and Vickers (2000) for a brief history of immigration in Canada.

2 We briefly describe these other factors but did not examine them in this study.

3 Researchers studying the "elderly" or the "aged" recognize that using a particular age to define elderly people is arbitrary and open to question. We recognize that the "elderly" population is a very heterogeneous group and reaching a particular age (be it 55, 60, 65, or 70) does not always imply declining economic or health status. We use

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age 55 in order to show more clearly potential differences that occur between age groups and to cover a wider age range at the "older" ages.

4 Most elderly individuals live in private housing. According to 2011 Census data, the majority – or 92 per cent – of seniors (defined as age 65 and older) live in private housing, and only 8 per cent reside in collective housing (Statistics Canada, 2012c). The percentage in private housing decreases with age. This research includes persons aged 55 and older, and the percent in private housing can be expected to be even higher than 92 per cent.

5 In the census, information on family income is recorded for census families. A census family can be any of the following: a married couple with or without children of either or both spouses; a couple living as common-law with or without children of either or both partners, or a lone parent of any marital status with at least one child living in the same dwelling (Statistics Canada, 2011a). Persons in the study sample who were not in a census family did not have information on family income; instead, we used their personal income in the analysis.

6 Some provinces have supplemental plans but these vary and usually provide relatively modest benefits.

7 Some studies did not distinguish between C/QPP and OAS/GIS income, categorizing respondents into whether they received or did not receive income from C/QPP, OAS, or GIS (Boyd, 1991; Kaida et al., 2009). We believe receiving income from C/QPP or OAS/GIS has different effects and have kept them as separate variables.

8 Culture and acculturation are closely related but distinct concepts, and language is generally a central component of both. The first group – elderly adults whose mother and home languages are either English or French (Canada's two official languages) would be considered Canadian by cultural (language) background and acculturated. The second group – elderly people whose mother tongue is neither English nor French but whose home language is one of these two languages have a cultural background different from the first group but are more acculturated than the last two groups – elderly with mother and home languages different from English or French. These two groups have non-Canadian cultural (language) backgrounds and are not as acculturated as the second group. The fourth group is the least acculturated because of lack of knowledge of either English or French. The language background variable therefore indicates both similarity to Canadian culture and acculturation.

9 For convenience, we refer to married or living as common-law elderly people as married or partnered elderly adults.

10 We did not report statistical significance for descriptive results; we focused on statistical significance of the effects of different independent variables in the multivariate analyses.

11 Multiplying predicted probabilities by 100 converts them to percentages, which is more convenient for describing and discussing the multivariate results.

12 Duration of residence and age at immigration closely overlap, and cannot be included in the same statistical model. We estimated two separate models, one with age at immigration, the other with duration of residence, and all other predictor variables. The effects of age at immigration and duration of residence are mirror images of each other, while the effects of other variables are similar. Because several previous studies used duration of residence (Boyd, 1991; Glick, 2000), we have reported, and discuss, the model with duration of residence.

13 There is extensive documentation of the advantages and benefits of marriage (Musick & Bumpass, 2012; Schneider, 2011; Shapiro & Keyes, 2008).

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