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Childlessness and Loneliness in Middle and Later Life

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ABSTRACT

This study addressed the implications of childlessness for feelings of loneliness in middle and later life, including a focus on whether there is differential vulnerability to the adverse implications associated with age, gender, and marital status. Using data from the 2012 General Social Survey (GSS-26, Statistics Canada, 2012), we estimated two-stage probit and least squares regression models of loneliness for a nationally representative sample of adults aged respondents aged 45 or older (N = 16,071). Our analyses revealed the importance of having children for mitigating feelings of loneliness in the middle and later years of life. They also revealed the more negative impact of childlessness among those in the oldest age group. The findings attest to the importance of acknowledging age group differences for an understanding of the implications of childlessness for loneliness.

Key words: childlessness, loneliness, middle age, older adults

Introduction

In recent decades, there has been a marked increase in the number of individuals and couples experiencing childlessness, whether by choice or as a result of delayed marriage, infertility, or high divorce rates (Zhang & Hayward, 2001). Whereas most older adults today (those aged 85 and older an exception) belong to generations in which rates of childlessness are extremely low (Lin & Brown, 2012), subsequent cohorts have seen significant increases in rates in a number of countries, including Canada and the United States (Carriere et al., 2008; Rowland, 2007; Umberson et al., 2010b). As a result, the proportion of older adults that is childless is expected to increase significantly in coming years, as baby boomers and their children age (Lin and Brown, 2012). For example, Carriere et al (2008) have projected that the proportion of Canadian women aged 65 and older without any surviving children will increase from 16 percent in 2001 to a high of 30 percent in 2051.

Together, current and projected increases in the prevalence of childlessness and the aging of the population have led to research aimed at understanding the link between childlessness and the health and well-being of middle-aged and older adults (e.g., Bures et al., 2009; Cheng et al., 2014; Cwikel et al., 2006; Dykstra, 2006; Gibney et al., 2017; Hansen et al., 2009; McMullin & Marshall, 1996; Tanaka & Johnson, 2016). This includes a focus on its implications for feelings of loneliness (Koropeckyj-Cox, 1998, 2002; Umberson et al., 2010b). Given the view that children are critically important as sources of social support and care (instrumental, emotional) as people age (Bengtson et al., 1991; Silverstein & Bengston, 1991), there is concern that the increasing rates of childlessness will result in deficits in older adults support networks (Koropeckyj-Cox & Call, 2007), with negative implications for loneliness and other aspects of mental health and well-being of older adults.

Yet, research evidence regarding the implications of childlessness for loneliness specifically remains extremely limited and the findings contradictory. Whereas some studies have found childless older adults to be at greater risk of social isolation and loneliness than those with children (Iecovich et al., 2004), others report finding no differences between those with and without children (e.g., Hansen et al., 2009; Koropeckyj-Cox, 1998; Zhang & Hayward, 2010). However, differences in the impact of childlessness across age cohorts as well as gender and marital status groups may be important to take into account (e.g., Connidis & McMullin, 1999; Gibney et al., 2017). Not long ago, childless older adults were described as invisible within social science literature (Dykstra & Hagestad, 2007). Dykstra (2009) subsequently asserted that "research on childless older adults has suffered from historical myopia, a neglect of men, and a disregard for the diversity among the childless" (p. 671). The objective of this study is to address these gaps in our knowledge with respect to the implications of childlessness for loneliness in middle and later life.

Literature Review

Yet to be written

The Current Study

The ambiguous nature of the results from previous studies examining the relationship between childlessness and loneliness points to a need for attention to the relationship and the issue of self-selection into childlessness. Prior research tends to focus on young, middle-aged and young-old persons (Zhang & Hayword, 2001), thereby excluding the oldest-old for whom the implications of childlessness may prove the greatest. Further, there are inconsistencies in the

definition and measurement of childlessness and parental status (Bures et al., 2009) and outcomes are often assessed using single-item indicators with dichotomous outcomes (e.g., lonely vs not lonely – e.g., see Zhang & Hayward, 2001) rather than drawing on more well-validated multi-item indicators assessing different levels of loneliness. Finally, limited attention has been directed towards assessing the moderating effects of social contextual factors such as age, gender, and marital status or the issue of selectivity of childlessness in the analyses.

The current study addresses these limitations, drawing on data from a nationally representative sample of middle-aged and older adults in Canada, in order to gain a better understanding of the relationship between childlessness and loneliness. Three research questions are addressed: (1) What impact does childlessness have on feelings of loneliness among middle-aged and older adults? (2) To what extent does the impact of childlessness on feelings of loneliness attributable to such factors as age, gender, marital status, living arrangements, and health status? (3) Finally, to what extent does the impact of childlessness on feelings of loneliness vary depending on social contextual factors such as age, gender, and marital status?

Data and Methods

Data

This study used data from the 2012 General Social Survey (GSS-26) conducted by Statistics Canada. The GSS program is an annual, cross-sectional survey that collects individual-level and household-level data on social trends and monitors the living conditions and well-being of Canadians over time. Each cycle has a thematic focus; Cycle 26 focused on Aging and Social Support. The target population of the GSS included Canadians aged 15 years and older residing in all ten provinces living in private residences. Residents of the northern territories and

institutions (such as Canadian Armed Forces) were excluded from the target population. Data were collected directly from respondents through telephone interviews. Households without telephones or with only cellular phone service were not included in the sampling frame. According to the most recent Residential Telephone Services Survey (RTSS), conducted by Statistics Canada in 2010, these households represented about 14% of the target population. Survey estimates were weighted to represent all persons in the target population, including those without telephones. See Statistics Canada (2012) for further details about sample design and data collection procedures.

Computer-assisted telephone interviewing (CATI) was used to collect data. Respondents were interviewed in English or French (Canada's two official languages). When respondents did not speak either official language or were unable to participate in the survey because of a health condition relating to aging, proxies were permitted, with approximately 4% of the interviews completed by proxy respondents.

The GSS-26 included a sample of 23,093 respondents and had an overall response rate of 65.7%. Since our focus is on adults in middle and later life, we restricted our study sample to respondents aged 45 or older (N = 16,071). We further removed cases with missing values on the dependent variable, including the proxy respondents (proxy responses were not allowed for the questions on the responses used to measure the dependent variable). With these restrictions, our final study sample includes 14,505 respondents. Missing data for all other variables are generally minimal (under 2%), with the exception of income, and were imputed using the multiple imputation method (Little and Rubin 2002). In the regression analyses, missing values on household income (about one-fifth of respondents) were replaced with the mean value of

household income and a dummy variable for "income missing" was added to all regression models.

Measures

Our dependent variable is loneliness, which was constructed using the 6-item De Jong Gierveld -Van Tilburg Loneliness Scale (de Jong Gierveld & van Tilburg, 2006). The scale is a shortened version of the 11-item De Jong Gierveld Loneliness Scale (de Jong Gierveld & Kamphuis, 1985) for overall, emotional and social loneliness, which has been widely used in the literature. The scale has two interrelated dimensions: emotional loneliness (experiencing a general sense of emptiness, missing having people around, or feeling rejected) and social loneliness (not having many people one can rely on, trust, or feel close to), and can also be used as a unidimensional scale, ranging from 6 (not lonely) to 18 (extremely lonely). Originally developed and validated for use in the Netherlands (de Jong Gierveld & van Tilburg, 2006; 2010), the overall scale has been found to be reliable and valid (Dykstra & and de Jong Gierveld, 2004), and appropriate for use in several countries, including Canada (van Tilburg, Havens, & de Jong Gierveld, 2004). Translations of its shortened version, also originally validated for use in the Netherlands (de Jong Gierveld & van Tilburg, 2006), have also been tested among older adult populations in several other countries including France, Germany, Russia, Bulgaria, Georgia, and Japan (de Jong Gierveld & van Tilburg, 2010), and Hong Kong (Leung, de Jong Gierveld & Lam, 2008). For our sample data, the scale has a reliability coefficient (Cronbach's alpha) of 0.725, which is within the acceptable range for the instrument (see de Jong Gierveld & van Tilburg 2006).

< Table 1 about here >

Our independent variable is childlessness. Childlessness was measured as a dummy variable, indicating that the respondent had no birth, step- or adopted children at the time of the survey. Data from our study sample show that 13.8% of the target population was childless in 2012.

Our regression models consider several demographic control variables. Gender is a dummy variable. Table 1 suggests that women are slightly under-represented among the childless (47.6% of women vs. 52.4% of men). Age is a categorical variable with 5 levels: 45-54, 55-64, 65-74, 75-84, and 85+. It is clear that childlessness is considerably more common among younger age groups than older age groups, partly reflecting the decline in fertility over the last several decades. Marital status is also a 5-level categorical variable: cohabiting, widowed, separated/divorced, never married, and married. It is interesting to observe that approximately equal proportion of the childless population are either never married (37.7%) or married (36.4%), whereas the married dominated the parents population (69.7%). Living alone is also a dummy variable. Table 1 shows that living alone is far more common a living arrangement among childless individuals (36.4%) than among parents (13.8%).

We considered three health indicators. First, self-rated health is an ordinal variable on a 5-point scale, ranging from 1 (poor) to 5 (excellent). Second, in the GSS-26, respondents were asked: a) whether they had any long-term health conditions, or physical or mental disabilities, and b) during the past 12 months whether they needed help or care for a long-term health condition, physical or mental disability, or problems related to aging. Those who provided a positive response to either question also were asked whether this condition was mild, moderate or severe. Using the responses to these questions, we constructed an ordinal variable, indicating the level of severity of the health condition (if there is any): 1 = mild, 2 = moderate, 3 = severe

and 4 = none (the reference group). It appears that the distribution of this variable is similar between the two study populations.

Our regression analyses also consider three socioeconomic variables. Educational attainment is an ordinal variable, ranging from less than high school education (1) to university degree or higher (7). Employment status is a 4-level categorical variable: employed (outside home), caring for others (e.g., children, parents), other (e.g., unemployed), and retired (the reference group). Finally, household income was measured as a continuous variable. As noted, we replaced the missing values on income with the mean. Table 1 shows that the mean household income is lower for childless individuals than for parents.

Finally, our regression analyses included three cultural/contextual variables. Religion is a categorical variable with 4 levels: Catholic, Protestant, other, and no religion (the reference group). Immigrant status is a dummy variable, indicating whether the respondent was born outside Canada. Table 1 shows that childlessness is a more common phenomenon for native-born Canadians (23.3%) than immigrants (17.3%). Region is also a dummy variable, indicating whether the respondent is residing in French-speaking province of Quebec. Quebec and non-Quebec differences in sociodemographic and cultural behaviors are well documented (e.g., Beaujot & McQuillan, 1982). Table 1 shows that childlessness is more common among Quebeckers (27.4%) than residents living elsewhere in Canada (23.0%).

Statistical Methods

Our statistical method involved two-stage probit and least squares regression models for loneliness. Our analysis began by investigating the issue of endogeneity of childlessness. Prior theory and research has demonstrated that childlessness is selective (e.g., Veevers, 1980). If the

decision to be childless is correlated with loneliness, then the effect of childlessness on loneliness may be biased (see Greene, 2012). For instance, if individuals who choose to be childless are more likely to have certain unobserved attributes that make them more susceptible to loneliness, then the potential positive effect of childlessness on loneliness may be overestimated. Similarly, if these individuals tend to have certain unobserved attributes that make them less susceptible to loneliness, then the potential positive effect of childlessness may be underestimated. To correct for the potential selection bias, we estimated two simultaneous equations models in which one endogenous variable is continuous (loneliness) and the other is dichotomous (childlessness) using a two-stage probit least squares procedure discussed in Maddala (1983, pp. 242-247). Although not necessarily required, choosing a somewhat different set of covariates for the selection equation helps identify the effect of the "treatment" variable (relocation) in the outcome equation (Amemiya, 1985; Greene, 2012). We present the stage-2 regression estimates from the outcome models with corrected standard errors in Table 2. The results of the selection models are shown in the appendix. All regression models were estimated using STATA/SE 15.1.

Results

Table 2 presents the results of our two-stage probit regression analyses of loneliness on childlessness, with correction for selection into childlessness. Model 1, our baseline model, includes childlessness as the sole explanatory variable together with the control variables. The results reveal a positive association between childlessness and loneliness: those who are childless report higher levels of loneliness than do those with children. Models 2 through 5 sequentially add gender, age, marital status and living arrangements, and finally, health status indicators to the model. In Model 2, gender does not emerge as a significant determinant of loneliness; nor

does it attenuate the relationship between childlessness and loneliness. However, when age is added to the equation (see Model 3), gender (but not age) reaches significance with women reporting lower levels of loneliness than men. When marital status and living arrangements are included in the model (see Model 4), those who were widowed or separated or divorced are found to have significantly higher levels of loneliness than those who were married (the reference). No association is evident with regard to living arrangements (alone versus with others). Furthermore, the inclusion of these two indicators into the analyses results in strengthening the association between childlessness and loneliness. Finally, Model 5, that saw health status added to the equation, further strengthened the relationship between childlessness and loneliness. Yet, it also resulted in shifting the association between marital status and loneliness, with those who were never married and cohabiting emerging as having lower levels of perceived loneliness compared to those who were married and no significant differences now evident when comparing the other marital status groups (i.e., widowed, separated or divorced *vs* married). Those with poorer self-rated health, more chronic conditions, and more severe health problems reported feeling more lonely. With these factors as well as marital status and other covariates included in the model, those who were childless continued to report higher levels of loneliness.

<Table 2 about here>

Table 3 reports the results of analyses assessing the role of interactions between gender (Model 1), age group (Model 2), and marital status (Model 3) and childlessness in influencing reports of loneliness. The results show no significant interactions involving either gender or marital status. However, significant interactions with age group are evident. Age clearly moderates the effect of childlessness on loneliness with the detrimental effect of childlessness

less pronounced among middle-aged and young-old adults than among oldest-old adults (aged 85+). The results are portrayed graphically in Figure 1.

<Table 3 and Figure 1 about here>

Discussion and Conclusions

This study assessed the implications of childlessness for feelings of loneliness in middle and later life in the contemporary North American context, with a specific focus on the role of social contextual factors – age, gender, marital status and health status – in influencing the impact of childlessness on loneliness in middle and later life. Several theoretically- and empirically-significant findings emerged.

First, our analyses revealed the importance of children for mitigating feelings of loneliness in the middle and later years of life. Those who were childless were significantly more likely to report higher levels of loneliness compared to those with children, whether or not controls were included for marital status and other relevant covariates. These findings support previously-reported findings attesting to the importance of children for reducing feelings of loneliness among older adults (Wu & Penning, 2015). However, they counter previously others indicating that childless adults in the US (Koropeckyj-Cox, 1998; Zhang & Hayward, 2010) and elsewhere (Hansen et al., 2009) appear no more likely to report being lonely than parents or stepparents once marital status and other factors are controlled for. Reasons for the differences in our findings remain unclear and may reflect methodological (e.g., age groups sampled, measurement of the outcome variable, differential attention to selection effects) or other differences (e.g., study setting and sample composition) between the studies. Nevertheless, they suggest that notwithstanding increases in preferences for and acceptability and prevalence of

childlessness, children remain important as sources of social support, reducing loneliness, among current cohorts of middle-aged and older adults, at least in the Canadian context.

Secondly, our findings also revealed the importance of such factors as health and marital status in influencing feelings of loneliness. Other things being equal, those in poorer health were more likely to report elevated feeling of loneliness, likely reflecting the impact of poor health in limiting mobility and opportunities for social interaction and participation in middle and later life (Pinquart & Sorensen, 2001). Interestingly, with health status taken into account, the greater loneliness previously evident among widowed and separated or divorced than married individuals disappeared, suggesting that it is their generally poorer health status that accounts for this finding. On the other hand, given similar levels of health, our findings indicate that being never married or cohabiting rather than married appears beneficial in reducing perceived levels of loneliness. Such findings once again suggest the advantaged position that lifelong singles appear to have when it comes to access to nonfamilial sources of social support (Koropeckyj-Cox, 1998). Similar advantages may accrue to those involved in cohabitation arrangements. Moreover, the fact that we did not find differences in the impact of childlessness on loneliness depending on marital status suggests that the advantages associated with being single and cohabiting are unrelated to parenthood.

In addition, although there were reasons to expect both gender and age differences in levels of loneliness (Pinquart & Sorensen, 2001), this was not found to be the case in our study. Instead, no main effects of either gender or age were apparent when other relevant covariates were included in the analyses. Nor did the impact of childlessness differ based on gender, suggesting that this element of women's well-being is no more tied to having children than is that of men. However, although our findings support those reported in a number of previous

studies (e.g., Koropeckyj-Cox, 1998; Hansen et al., 2009), it has also been suggested that the impact of gender on loneliness may differ depending on marital status, with some suggesting that married women are more likely than married men to report feeling lonely in the absence of children and no differences evident among nonmarried women and men (Sorensen & Pinquart, 2001) and others suggesting the particular vulnerability of unmarried men (Zhang & Hayward, 2001). Further research will be needed to address this issue.

Finally, whereas our findings failed to corroborate findings showing that gender and marital status represent important contexts within which to understand the experience of parental status (e.g., Koropeckyj-Cox, 1998; Zhang & Hayward, 2010), they did reveal the importance of age. Specifically, the detrimental effect of childlessness was found to be less pronounced among middle-aged and young-old adults than among oldest-old adults (aged 85+). Moreover, this was the case regardless of age-related differences in marital status, health status or other factors. These findings counter those reported by Hansen et al. (2009) and suggest the particular importance of children to the social well-being of the oldest-old. As social life space shrinks in conjunction with age-related losses of friends and other network ties, children may assume increasing importance.

Several limitations should be noted when considering these findings. First, our data were cross-sectional and reflected a Canadian social context. Thus, causality cannot be assumed and the prevalence and implications of childlessness may differ from other settings. In addition, the data we used drew on proxy respondents (for those who did not speak either official language or could not participate due to a health condition related to aging) who were excluded from the analyses as these respondents were not asked questions concerning loneliness. The survey also excluded institutionalized older adults. Importantly, those who are childless are most likely to be

institutionalized than those with children (Koropeckyj-Cox & Call, 2007). Differential mortality may also be a factor influencing our results, with age-adjusted mortality rates reported to be higher among those without children than parents (see Zhang and Hayward, 2001). However, the fact that our sample is a sample of survivors and thus, of those least likely to experienced high levels of loneliness, means that our results are likely to be fairly conservative. In addition, in terms of measurement, we addressed the impact of childlessness on loneliness without differentiating between voluntary and involuntary childlessness. Yet, it has been suggested that the negative implications of childlessness may be confined to those for whom it is involuntary (e.g., see Zhang & Hayward, 2001). Yet, the extent to which childlessness is voluntary or involuntary is likely to differ across age cohorts, becoming more voluntary in more recent cohorts. Also, we have not considered the impact of differences associated with the age of children, differences between biological parents and step-parents, or between those who were always childless and those who experienced childlessness through the death of a child (Bures et al., 2009).

These and other limitations attest to the need for further studies – including longitudinal studies – to address the implications of childlessness for feelings of loneliness in middle and later life. Yet, despite these limitations, our findings underscore the importance of children to the social well-being of middle-aged and older adults and consequently, support the need for research and policy-related attention to be directed to the current and future implications of childlessness, particularly among the oldest-old.

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Table 1 Descriptive Statistics of the Variables Used in the Regression Models: Canadians (Age 45+)

	Childless		Parents	
Variable	M or %	S.D.	M or %	S.D.
Female (1 = yes)	47.6%	–	52.6%	–
Age				
45-54	42.3%	–	37.1%	–
55-64	34.6%	–	30.8%	–
65-74	15.0%	–	19.6%	–
75-84	6.0%	–	9.8%	–
85 or older (reference)	2.1%	–	2.8%	–
Marital status				
Cohabiting	14.3%	–	8.3%	–
Widowed	4.4%	–	9.5%	–
Separated or divorced	7.2%	–	10.2%	–
Never married	37.7%	–	2.3%	–
Married (reference)	36.5%	–	69.7%	–
Living alone (1 = yes)	36.4%	–	13.8%	–
Self-rated health (1 = poor, ... 5 = excellent)	3.56	0.971	3.57	1.043
Chronic illness (1 = yes)	35.9%		35.1%	
Health condition(s)				
Mild	1.4%	–	1.1%	–
Moderate	3.0%	–	2.5%	–
Severe	3.9%	–	3.5%	–
None (reference)	91.7%	–	92.9%	–
Education (1 = less than h.s., …, 7 = univ. or more)	3.67	1.833	3.46	1.988
Employment status				
Employed	54%	–	53%	–
Caring for others	1.0%	–	2.2%	–
Other	13.2%	–	10.1%	–
Retired (reference)	31.9%	–	34.4%	–
Household income (1 = none, …, 13 = 150k+)	8.86	2.263	9.51	2.403
Income missing (1 = yes)	21.2%	–	21.1%	–
Religion				
Catholic	42.0%	–	42.0%	–
Protestant	15.7%	–	20.7%	–
Other	21.5%	–	22.9%	–
None (reference)	20.8%	–	14.4%	–
Immigrant (1 = yes)	17.3%	–	23.3%	–
Residing in Quebec (1 = yes)	27.4%	–	23.0%	–
N	2,396		12,109	

Note: Weighted means or percentages, unweighted *N*.
Source: The 2012 Canadian General Social Survey.

Table 2 Two-Stage Probit Least Squares Regressions of Loneliness on Childlessness with Correction for Selection into Childlessness: Canadians (Age 45+), 2012

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Childless (1 = yes)	0.230 ***	0.222 ***	0.178 ***	0.861 *	1.032 **
Female (1 = yes)		-0.077	-0.085 *	-0.082	-0.025
Age					
45-54			0.206	0.080	0.181
55-64			0.180	0.095	0.177
65-74			-0.133	-0.023	0.170
75-84			-0.205	-0.086	0.014
85 or older (reference)					
Marital status					
Cohabiting				-0.381	-0.539 *
Widowed				0.743 ***	0.766
Separated or divorced				0.881 ***	0.781
Never married				-0.968	-1.344 *
Married (reference)					
Living alone (1 = yes)				-0.405	-0.447
Self-rated health					-0.564 ***
Chronic illness (1 = yes)					0.393 ***
Health condition(s)					
Mild					-0.279
Moderate					0.155
Severe					0.704 ***
None (reference)					
Education	-0.013	-0.012	-0.013	-0.059 *	-0.034
Employment status					
Employed	0.170 ***	0.169 **	-0.038	0.063	0.271 *
Caring for others	0.778 ***	0.793 ***	0.609 ***	0.984 ***	1.039 ***
Other	1.138 ***	1.146 ***	0.971 ***	1.117 ***	0.717 ***
Retired (reference)					
Household income	-0.188 ***	-0.190 ***	-0.198 ***	-0.156 ***	-0.111 ***
Immigrant (1 = yes)	0.536 ***	0.532 ***	0.559 ***	0.588 ***	0.574 ***
Intercept	9.921 ***	9.971 ***	10.048 ***	10.586 ***	11.929 ***
R^2	0.072	0.072	0.075	0.084	0.158
N	14,505	14,505	14,505	14,505	14,505

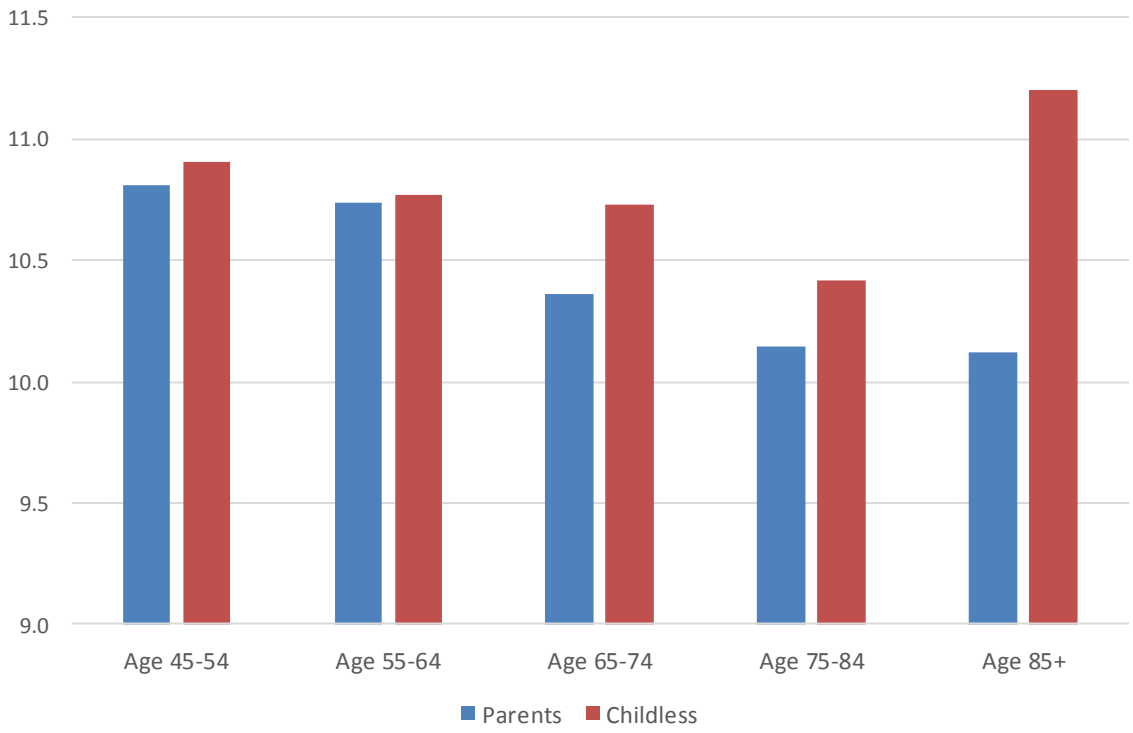
Note: All models include a dummy variable for missing household income.
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)
Source: The 2012 Canadian General Social Survey.

Table 3 OLS Regressions of Loneliness on Childlessness and Interactions with Selected Independent Variables: Canadians (Age 45+), 2012

Variable	Model 1	Model 2	Model 3
Childless (1 = yes)	0.220 *	1.086 **	0.196 *
Female (1 = yes)	-0.105 *		
Age			
45-54		0.695 ***	
55-64		0.622 ***	
65-74		0.239 *	
75-84		0.026	
85 or older (reference)			
Marital status			
Cohabiting			0.186 *
Widowed			0.323 ***
Separated or divorced			0.581 ***
Never married			0.459 ***
Married (reference)			
Interactions			
Female × childless	-0.106		
Age			
45-54 × childless		-0.994 **	
55-64 × childless		-1.056 **	
65-74 × childless		-0.717 *	
75-84 × childless		-0.816 *	
Marital status			
Cohabiting × childless			-0.270
Widowed × childless			0.291
Separated or divorced × childless			0.145
Never married × childless			-0.276
Intercept	10.197 ***	10.118 ***	10.200 ***
R^2	0.158	0.159	0.158
N	14,505	14,505	14,505

Note: All models include independent variables shown in Model 5, Table 2.
*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)
Source: The 2012 Canadian General Social Survey.

Figure 1 OLS Estimates of Interaction Effects of Age and Childlessness on Loneliness, Canadians (Age 45+)



Source: Model 2 in Table 3.

Appendix Stage-One Selection Models of Childlessness: Canadians (Age 45+), 2012

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Female (1 = yes)	-0.099 **	-0.099 **	-0.097 **	-0.097 **	-0.099 **
Age (in years)	-0.005 ***	-0.005 ***	-0.005 **	-0.005 **	-0.006 ***
Marital status					
Cohabiting	0.640 ***	0.640 ***	0.635 ***	0.633 ***	0.642 ***
Widowed	0.051	0.051	0.034	0.026	0.055
Separated or divorced	0.213 ***	0.213 ***	0.186 ***	0.173 **	0.219 ***
Never married	2.024 ***	2.024 ***	2.003 ***	1.993 ***	2.030 ***
Married (reference)					
Education	0.057 ***	0.057 ***	0.060 ***	0.061 ***	0.057 ***
Religion					
Catholic	-0.132 **	-0.132 **	-0.129 **	-0.128 **	-0.132 **
Protestant	-0.161 **	-0.161 **	-0.158 **	-0.157 **	-0.161 **
Other	-0.091	-0.091	-0.092 *	-0.093 *	-0.090
None (reference)					
Immigrant (1 = yes)	-0.064	-0.064	-0.076	-0.082	-0.060
Quebec (1 = yes)	0.038	0.038	0.041	0.042	0.037
Intercept	-1.297 ***	-1.297 ***	-1.505 ***	-1.602 ***	-1.245 ***
Likelihood ratio (chi square)	3293	3293	3296	3298	3294
d.f.	13	13	13	13	13
Pseudo R^2	0.253	0.253	0.254	0.254	0.253
N	14,505	14,505	14,505	14,505	14,505

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)

Source: The 2012 Canadian General Social Survey.