



SUCCESSFUL AGING IN CANADA

FINDINGS FROM THE CANADIAN LONGITUDINAL
STUDY ON AGING (CLSA)

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BACKGROUND

- Successful aging is generally understood as aging well (Jopp *et al.*, 2015).
- It is a “worldwide aim” for many people and one of the ultimate goals of gerontology (von Faber *et al.*, 2001, p. 2694).
- Stringent researcher-derived definitions of successful aging classified 1/3 of older adults as successful agers (Depp & Jeste, 2006) vs. 92-94% of middle-aged and older adults considered themselves as aging successfully (Bowling, 2006; Montross *et al.*, 2006).
- Most older Canadians are living with chronic conditions and/or disabilities (Canadian Institute for Health Information, 2011; Statistics Canada, 2013).
- There are few studies on the topic in Canada (for important exceptions, please see Meng & D’Arcy, 2014; Tate *et al.*, 2003).

WHY STUDY SUCCESSFUL AGING?

The concept of successful aging is chosen for this study for three reasons:

1. It has a relatively long history (Pruchno, 2015).
2. It is still the dominant and most frequently referred concept of aging well (Liang & Luo, 2012).
3. It provides a broader understanding of aging by covering the physiological, psychological, and social aspects of aging (Fernández-Ballesteros, 2019).

CONCEPTUAL FRAMEWORK

This study is guided by a synthesized conceptual framework composed of three theoretical perspectives:

- **Ecological systems theory**
(Bronfenbrenner, 1979; McLeroy, Bibeau, Steckler & Glanz, 1988)
- **A multidimensional model of successful aging**
(Young, Frick & Phelan, 2009)
- **The concept of complete mental health**
(Keyes, 2002)



EXPANDED DEFINITION OF SUCCESSFUL AGING

The expanded definition of successful aging is built on both objective and subjective measures (Ho *et al.*, 2022; Ho *et al.*, 2023):

- No limitations in activities of daily living and instrumental activities of daily living, regardless of the number of chronic illnesses present;
- Freedom from any serious mental illness, memory problems and disabling chronic pain;
- Presence of adequate social support; and
- Older adults' self-reported happiness, and subjective perception of their physical health, mental health and aging process as good.

MEASURES OF SUCCESSFUL AGING

- Limitations in Activity of Daily Living (ADL)
- Limitations in Instrumental Activity of Daily Living (IADL)
- Disabling pain or discomfort
- Mental disorders – Anxiety, Depression, Posttraumatic Stress Disorder (PTSD)
- Memory problems
- Low mood – Felt depressed, did not feel happy, did not feel satisfied with life
- Lack of social support
- Lack of self-rated wellness

Categorized as “successful agers” if the respondents answered “no” to all of these questions.

BASELINE FACTORS

- Main factors
- Demographic factors
- Education factors
- Lifestyle factors and BMI
- Physical diseases
- Financial well-being

PREVALENCE OF SUCCESSFUL AGING AT TIME 2 AMONG THOSE WHO WERE AGING SUCCESSFULLY AT BASELINE

- Using the expanded definition of successful aging, the prevalence of successful aging at time 2 was 70.5% (95% CI: 0.70, 0.72), and more than seven in 10 (72.3%) of those who rated their aging process as good to excellent were identified as successful agers.
- The new definition has brought the gap between researcher-derived definitions of successful aging and lay perspectives of successful ager closer.
- It provided a more balanced definition of successful aging.

STUDY POPULATION

- Participants in this study were drawn from the baseline (gathered 2011–2015) and follow-up 1 data (gathered 2015–2018) from the CLSA Comprehensive Cohort (Canadian Longitudinal Study on Aging, 2022; Raina *et al.*, 2009).
- The CLSA Comprehensive Cohort at baseline consisted of 30,097 Canadian men and women aged 45 and 85 years.
- The final samples included 7,600+ respondents defined as “aging successfully” at baseline and were 60 years or older at time 2.

METHODOLOGY

- SPSS Version 28 was used to conduct all analyses.
- Bivariate and multivariable binary logistic regression analyses were conducted.

This study involving secondary data analysis of CLSA data was approved by the Health Sciences Research Ethics Board of the University of Toronto (protocol number: 38284).

3-PAPER DISSERTATION

- **Paper 1:** Successful aging among immigrant and Canadian-born older adults: Findings from the Canadian Longitudinal Study on Aging (CLSA)

(Published on October 13, 2022, in the *International Journal of Environmental Research and Public Health*)

- **Paper 2:** The association between trajectories of marital status and successful aging varies by sex: Findings from the Canadian Longitudinal Study on Aging (CLSA)

(Currently under review)

- **Paper 3:** Is social participation associated with successful aging among older Canadians? Findings from the Canadian Longitudinal Study on Aging (CLSA)

(Published on June 6, 2023, in the *International Journal of Environmental Research and Public Health*)

- Papers 1 and 3 were part of a special issue on “A Transdisciplinary Approach to Healthy Aging” in the *International Journal of Environmental Research and Public Health*.

PAPER 1: IMMIGRANT STATUS & SUCCESSFUL AGING

This study examined the relationship between immigrant status and successful aging among older Canadians using the first two waves of data from the Canadian Longitudinal Study on Aging (CLSA).



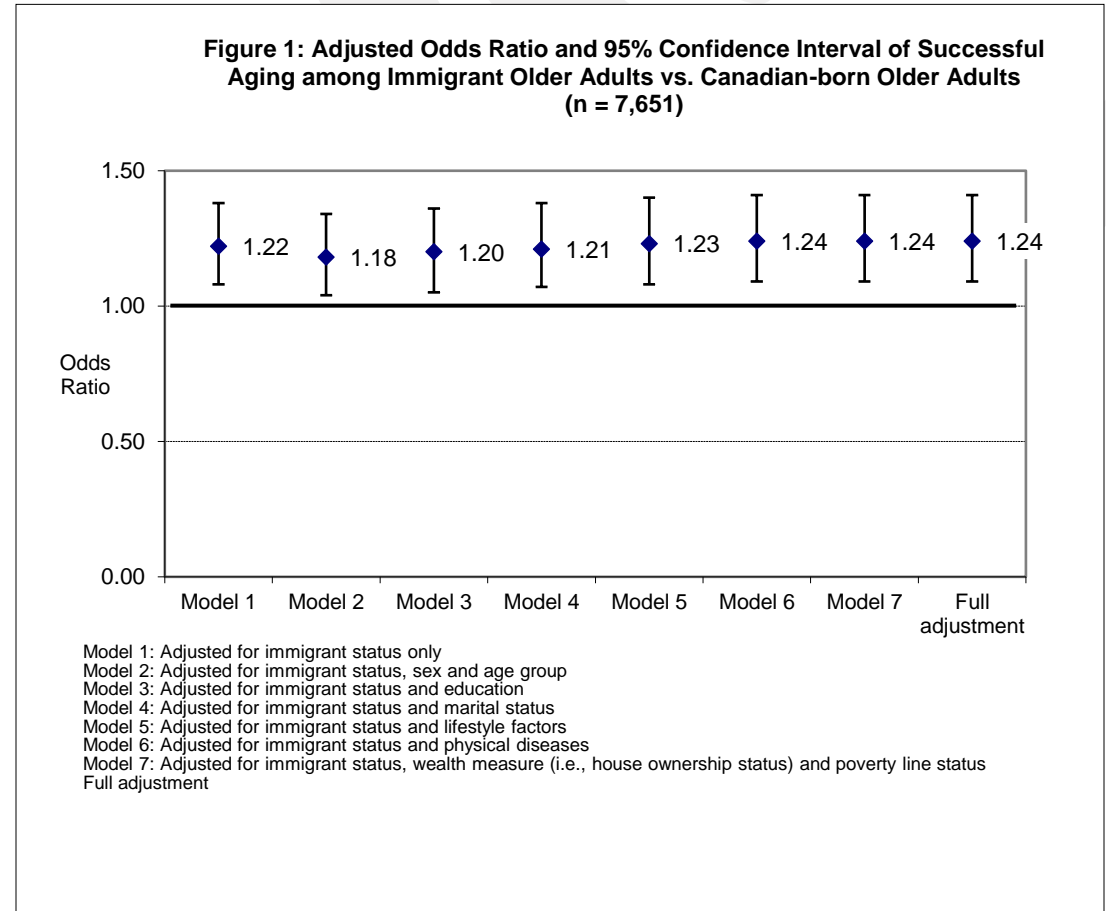
(Photograph by iStock)

RESEARCH QUESTIONS

1. Do immigrants have (a) a greater prevalence and (b) higher age-sex adjusted odds of successful aging than their Canadian-born peers in the 2015–2018 wave of the Canadian Longitudinal Study on Aging (CLSA) comprehensive cohort?
2. What baseline factors, if any, attenuate the association between immigrant status and subsequent successful aging?
3. Among immigrants, what baseline characteristics predict successful aging during the follow-up wave?

RESULTS OF IMMIGRANT ANALYSES

- Canadian-born older adults had a slightly higher prevalence of aging successfully at time 2 (71.6% vs. 65.6%; $\chi^2(1) = 20.6, p < .001$) than their immigrant counterparts .
- Canadian-born older adults had approximately 24% higher odds compared to immigrants of aging successfully after adjustment for 20 additional factors (aOR = 1.24, 95% CI: 1.09, 1.41, $p < .001$).



DISCUSSION

- Immigrant older adults had a lower prevalence of successful aging than their Canadian-born peers.
- Future research is needed to investigate whether policies and interventions supporting older immigrants and promoting a healthy lifestyle enhance older adults achieve successful aging in later life.

IMPLICATION

- Culturally and linguistically appropriate programs and services (e.g., acculturation programs, financial aids, language programs, information and referral services) may support immigrant older adults to age well.

PAPER 2: MARITAL TRAJECTORIES & SUCCESSFUL AGING

The present study examined the association between marital status, including trajectories of marital status, on successful aging among older men and women.



(Photograph by iStock)

RESEARCH QUESTIONS

1. Are trajectories of marital status associated with successful aging at time 2?
2. Does adjusting for 21 baseline characteristics attenuate the association between trajectories of marital status and successful aging?
3. Are there sex differences in the relationship between marital trajectories and successful aging at time 2?
4. Which trajectories of marital status are associated with successful aging at time 2 for males and females?

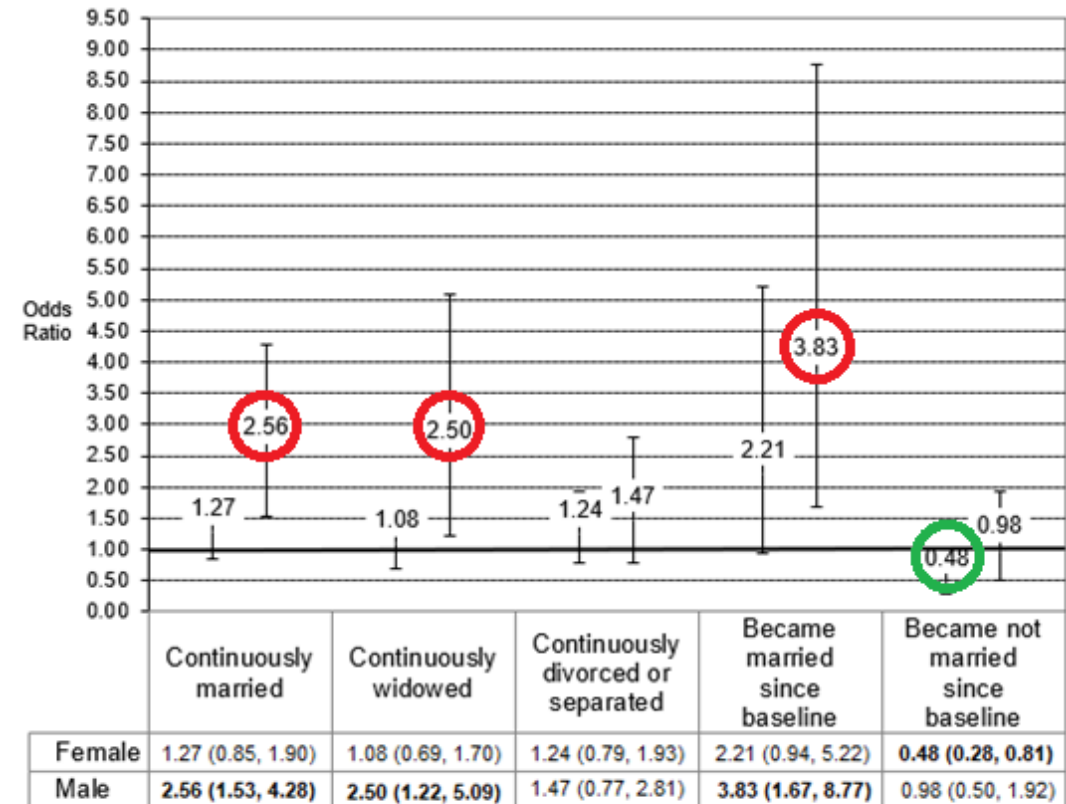
RESULTS OF MARITAL TRAJECTORIES ANALYSES

- The prevalence of successful aging at time 2 among males (70.5%, 95% CI: 0.69, 0.72) and females (70.4%, 95% CI: 0.69, 0.72) was similar.
- The adjusted odds of successful aging were significantly higher among those who were continuously married (aOR = 1.60, 95% CI: 1.17, 2.18, $p < .005$) or became married between two waves (aOR = 2.51, 95% CI: 1.40, 4.48, $p < .005$).
- The adjusted odds of successful aging were significantly higher in females than in males (aOR = 1.21, 95% CI: 1.08, 1.36, $p < .001$).

RESULTS

- **For the male respondents**, significant positive associations between marital status and successful aging were observed in respondents who were continuously married (aOR = 2.56, 95% CI: 1.53, 4.28, $p < .001$), continuously widowed (aOR = 2.50, 95% CI: 1.22, 5.09, $p < .05$), or became married since baseline (aOR = 3.83, 95% CI: 1.67, 8.77, $p < .005$) when compared to their never married peers.
- **For the female respondents**, there were no significant differences with respect to successful aging between never married individuals and any of the other marital categories with the one exception being that those females who transitioned from married to not married between the waves had significantly lower odds of successful aging (aOR = 0.48, 95% CI: 0.28, 0.81, $p < .01$).

Figure 2: Sex-specific Adjusted Odds Ratio and 95% Confidence Interval of Successful Aging among Respondents who Experienced Various Trajectories of Marital Status vs. Respondents who were Continuously Never Married (Male Respondents, n = 3,926. Female Respondents, n = 3,715)



Reference category = Never married in either wave
 Source: Baseline and follow-up 1 data of Canadian Longitudinal Study on Aging

DISCUSSION

- In comparison to never married older adults, the odds of successful aging were higher for respondents who were
 - Continuously married or
 - Became married after the baseline interview
- The association between trajectories of marital status and successful aging differed significantly by sex.

IMPLICATION

- Support older adults, especially those who have experienced widowhood, divorce, or separation in later life, in connecting with others, and developing a social support network.
- Future research to understand the rationales behind the observed associations is needed.

PAPER 3: SOCIAL PARTICIPATION & SUCCESSFUL AGING

The present study examined the relationship between social participation and successful aging.

Six social activities were examined:

- Church or religious activities
- Educational or cultural activities
- Service club or fraternal organization activities
- Neighbourhood, community, or professional association activities
- Volunteer or charity work
- Recreational activities



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RESEARCH QUESTIONS

1. Do those who participate in social activities at baseline have a higher prevalence of successful aging at Time 2?
2. Do those who participate in social activities at baseline have higher age-sex adjusted odds of successful aging at Time 2?
3. Does adjusting for 22 baseline characteristics attenuate the association between social participation and successful aging?

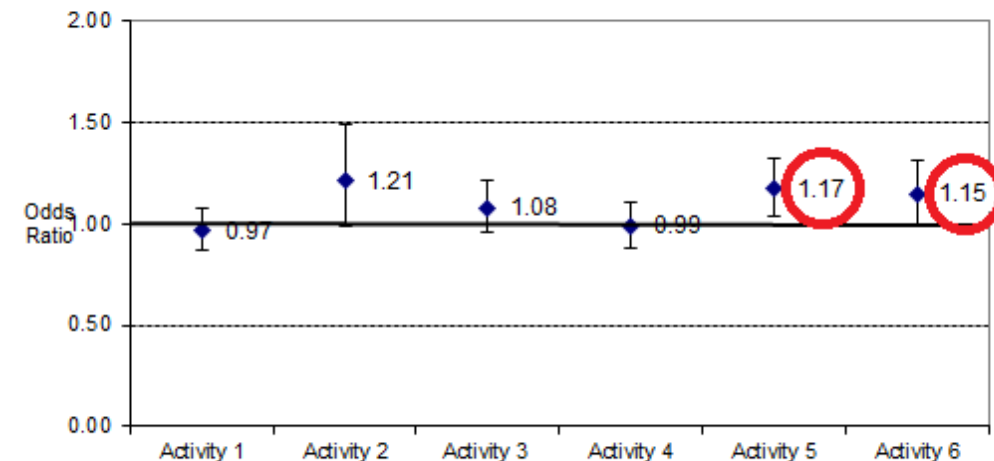
RESULTS OF SOCIAL PARTICIPATION ANALYSES (PREVALENCE)

- The prevalence of successful aging at time 2 was significantly higher in respondents who, at baseline, participated in:
 - Educational or cultural activities (71.4% vs. 58.8%; $\chi^2(1) = 37.7, p < 0.001$),
 - Neighbourhood, community, or professional association activities (72.2% vs. 67.5%; $\chi^2(1) = 18.7, p < 0.001$)
 - Volunteer or charity work (72.3% vs. 65.9%; $\chi^2(1) = 30.1, p < 0.001$), and
 - Recreational activities involving other people (71.3% vs. 66.3%; $\chi^2(1) = 12.6, p < 0.001$).

RESULTS OF SOCIAL PARTICIPATION LOGISTIC REGRESSION ANALYSES

- In comparison to those who did not participate in these activities, the odds of successful aging were significantly higher among older adults who, at baseline, participated in:
 - Volunteer or charity work (aOR = 1.17, 95% CI: 1.04, 1.33, $p < .01$) and
 - Recreational activities (aOR = 1.15, 95% CI: 1.00, 1.32, $p < .05$)

Figure 3: Adjusted Odds Ratio and 95% Confidence Interval of Successful Aging among Participants who Engaged in Different Social Activities ($n = 7,623$)



Activity 1: Church or religious activities
 Activity 2: Educational or cultural activities
 Activity 3: Service club or fraternal organization activities
 Activity 4: Neighbourhood, community or professional association
 Activity 5: Volunteer
 Activity 6: Other recreational activities involving other people

All analyses were adjusted for age, sex, education, marital status, lifestyle factors and BMI, physical diseases, wealth measure (i.e., house ownership status) and poverty line status

DISCUSSION

- Older adults who participated in volunteer or charity work and recreational activities were more likely to achieve successful aging than their counterparts who did not engage in these activities.

IMPLICATION

- Social prescribing in volunteer opportunities and recreational programs may help support older adults' health and well-being.
- Future research is needed to ascertain whether interventions in these areas result in increased odds of successful aging.

SUMMARY

The present study found that respondents had higher odds of successful aging if they were

- (1) Canadian-born vs an immigrant
- (2) Continuously married or newly married (i.e., getting married between the two waves) vs never married; and
- (3) Engaging in volunteer or charity work, and recreational activities vs not engaging in these activities.

OTHER SIGNIFICANT BASELINE FACTORS

Demographic and socioeconomic factors associated with successful aging included:

- Being younger
- Female sex (Papers 2 & 3)
- Having higher income
- Being married

OTHER SIGNIFICANT BASELINE FACTORS

Modifiable lifestyle and health-related factors associated with successful aging included:

- Not being obese
- Engaging in moderate or strenuous physical activities
- Not having sleeping problems
- Being free of heart disease or arthritis
- Never smoking (Paper 1 only) or not currently smoking (Papers 2 & 3)
- Not being socially isolated (Paper 2 only)

LIMITATIONS

- Constrained by the variables available in the data set
- Disproportionally postsecondary-educated respondents
 - (i.e., 79.5% in the data set vs. 45% in the population)
- Interviews in the CLSA only conducted in English and French so samples restricted to immigrants with official language skills
- Few visible minority members in sample
 - (i.e., 3.6% in the data set vs. 8.1% in the population)

LIMITATIONS

- Could not examine the cohort effects as only 2 waves of data were available at the beginning of this study
- Short span from baseline to time 2 (i.e., 3-4 years) restricted changes in the marital trajectories used to explain successful aging
- Observational nature of the study prohibited the determination of causality
- Cases with missing entries in analyzed variables were excluded ($n = 900+$)

IMPLICATIONS

- Culturally and linguistically appropriate programs and services
- Active and healthy lifestyle
- Prevention of chronic diseases and physical disabilities
- Promotion of positive mentality and social connection
- Related research, policies and interventions

FUTURE RESEARCH DIRECTIONS

1. Older visible minority immigrants
2. Older adults who are never married, and those who are widowed, divorced, or separated
3. Long-term benefits of social prescribing
4. The resilient older adults
5. Modifiable lifestyle and health-related factors

CONCLUDING WORDS

- An expanded definition of successful aging
- More understanding of successful aging
- Policies and interventions to support older adults
- Future research directions



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THANK YOU!



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