



EVIDENCE SYNTHESIS

**BARRIERS TO THE ADOPTION OF TECHNOLOGIES
BY OLDER POPULATIONS**

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EVIDENCE BRIEF

Barriers to the Adoption of Technologies by Older Populations

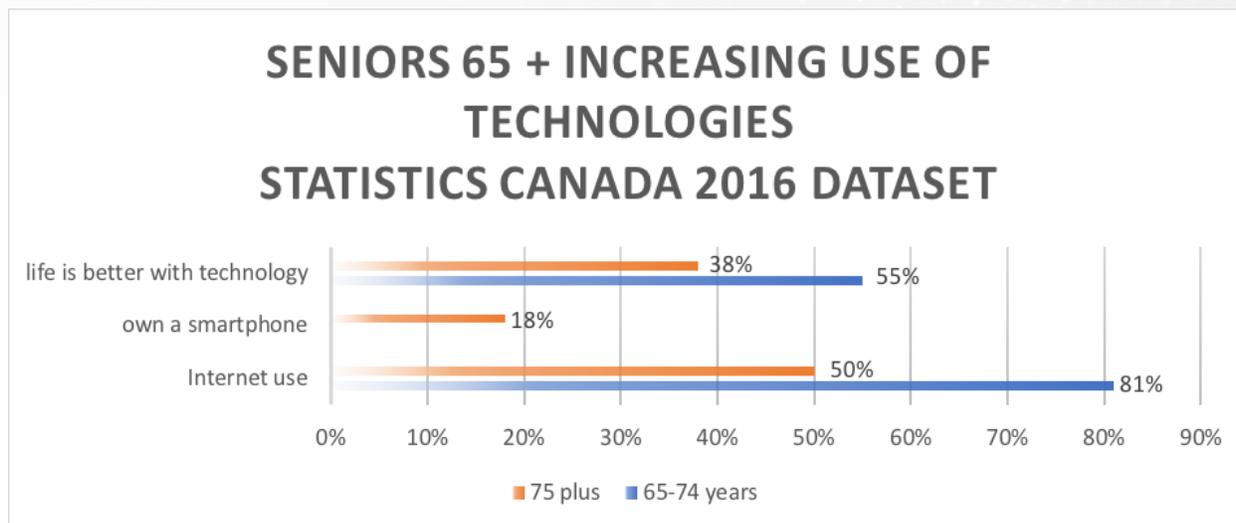
Background:

As a part of the APPTA hub solution for social isolation, a review was conducted to better understand what barriers older adults experience when trying to use technologies that could enhance or maintain their social connectedness. Social isolation is a prominent and complex issue, and older adults are often at higher risk due, in part, to an increasing number of health conditions that limit their ability to fully participate in their community. As highlighted in our previous brief, technologies can play a significant role in helping seniors remain socially connected and maintain an overall good quality of life. While there are a number of barriers that deter older adults from using technologies, seniors have reported an inherent interest in adopting technologies that can help them maintain their independence and remain socially connected (Botner, 2018; Czaja, Boot, Charness, Rogers & Sharit, 2018; revera report on ageism, 2016;

*“Without the mobile phone, I’d
be really cut off”*

– Participant, Tomsic et al. (2018)

Tomsic, Domajnko & Zajc, 2018; Varportzis, Clausen & Gow, 2017; Vassli & Farschian, 2018).



Barriers:

In our review, we identified three main themes of barriers experienced by older adults: literacy, affordability, and appropriateness. Within these three themes, sub-themes of barriers have been found in the literature in terms of shaping perceptions for individuals. For instance, when there is no proper avenue for seniors to learn how to use a technology, and the devices intended for use are too expensive, it could promote feelings of anxiety or stress and lower adherence. This brief will discuss the three main barriers, as well as their sub-themes (depicted in Appendix A), and highlight how these may be mitigated with proper programming.

1) Literacy

A major recurring barrier in the literature is around the theme of digital, or technological, literacy. Older adults have limited opportunities to learn how to use and navigate new devices or platforms and often do not receive the proper support to maintain uptake. This exacerbates feelings of frustration and anxiety when attempting to use technologies, and results in lower adherence, and

"I first thought it was scary, but then I just went for a course once and I learnt it."

– Participant, Tomsic et al. (2018)

discontinued use (Varportzis, Clausen & Gow, 2017). Providing education and training programs at the community level is imperative to the uptake of technologies that enhance connectedness and improve the quality of lives of seniors. Leveraging community centres, churches, libraries or other public and accessible facilities is an affordable and accessible way to implement education and training programs within communities (Satariano, Scharlach, & Lindeman, 2014). By implementing these programs, older adults will feel more confident and adept at using technologies that can help them remain socially connected (Varportzis, Clausen, & Gow, 2017;

2) Affordability

Oftentimes, internet services and the technologies or applications that enable social connection come at too high of a cost, especially for older adults living on a fixed or lower income (Varportzis, Clausen, & Gow, 2017; Jung et al. 2010). This poses a need for innovative funding and reimbursement programs to support the financial aspect of technology adoption. One such opportunity may be to leverage the common use of mobile devices among older adults; by using technologies that seniors may already possess, programs can be viewed as more appealing, as they do not involve additional costs (Satariano, Scharlach, & Lindeman, 2014; Tsai, Shillair, Cotten, 2015).

3) Appropriateness

The design and navigation of some technologies could impact usability, as they were not designed or tested with older adults in mind. Vision, hand and/or wrist mobility and coordination, cognitive function and other areas of potential limitation are all important considerations for the design of technological devices that could host effective communication platforms for seniors to remain connected. While the versatility of tablets, specifically, is viewed as an asset, devices, apps, websites, etc. should seek older adults' input in what their needs are, so as to develop and maintain appropriate platforms seniors can use with ease (Satariano, Scharlach, & Lindeman, 2014; Varportzis, Clausen, & Gow, 2017; Vassli & Farschian, 2018).

Conclusion:

There is a paradigm shift in how we access the goods and services that suit our everyday needs; this is no different for seniors. Bridging the digital divide is an essential step to help seniors maintain their independence, access information they need, and access opportunities to remain connected. There are many ways to leverage technologies to support an individual in remaining socially connected with their family, friends, and community. Understanding and addressing the challenges related to literacy, affordability, and technology appropriateness are vital components to alleviating social isolation among older adults.

APPENDIX A: Summary of findings for barriers to adoption of technology

BARRIER THEME	Subtheme
Education	<ul style="list-style-type: none"> • Anxiety and/or stress when trying to use devices • Frustration in trying to learn to use devices • Navigation • Lack of instruction or guidance • Lack of knowledge and confidence
Affordability	<ul style="list-style-type: none"> • Cost of device • Cost of internet access • Cost of monthly subscriptions to online programs
Appropriateness	<ul style="list-style-type: none"> • Complex or inadequate interface • Lack of adaptability • Heavy or difficult to handle • Perceived lack of relevance



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