

THE IALH UPDATE

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Detecting Differences Between Healthy Controls and Individuals with Subjective Cognitive Decline

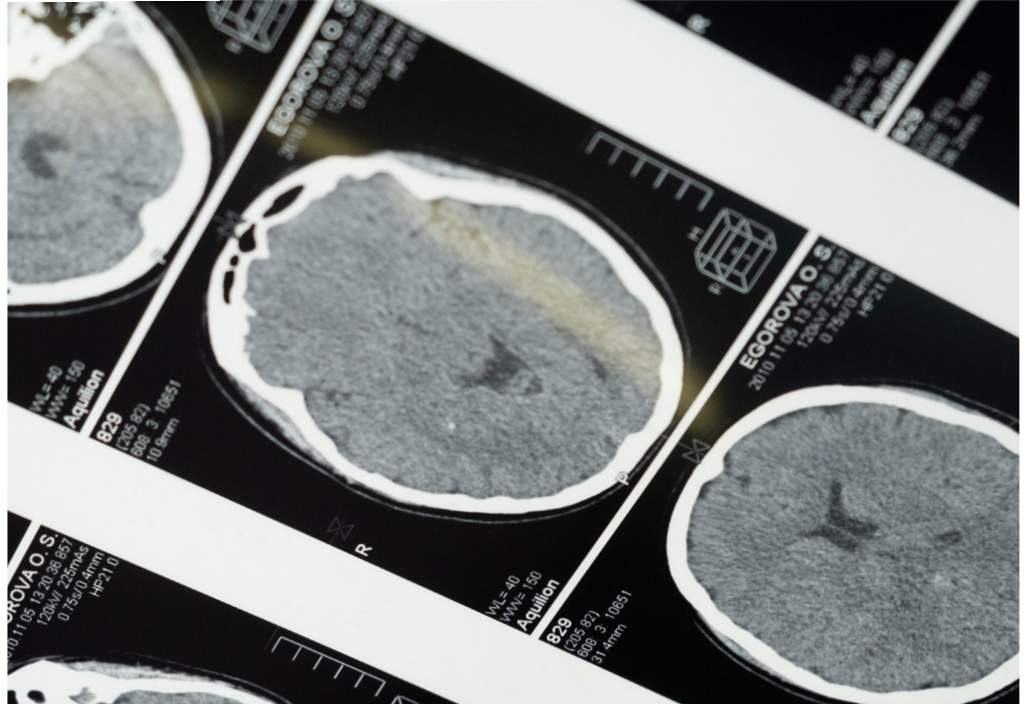


Photo: Cottonbro Studio, Pexels.com

Psychology graduate students and IALH Student Affiliates Ashleigh Parker, Lisa Ohlhauser and Vanessa Scarapicchia were the lead authors on a recent systematic review of neuroimaging studies focusing on healthy individuals and those with subjective cognitive decline. The review was conducted in collaboration with IALH Research Fellow Jodie Gawryluk (Psychology) and colleagues at UVic and the University of Melbourne in Australia.

Subjective cognitive decline has been defined as a self-reported decline in cognitive functioning that is not confirmed by impaired performance on neuropsychological assessment measures. The researchers noted that “Individuals with subjective cognitive decline are hypothesized to be the earliest along the cognitive continuum between healthy aging and Alzheimer’s disease... Given that treatment approaches may be most effective pre-clinically, a primary objective of emerging research is to identify biological markers of [subjective cognitive decline] using neuroimaging methods.”

The review looked at 62 neuroimaging studies which explored differences between healthy controls and individuals with subjective cognitive decline. Over half of the studies used magnetic resonance imaging (MRI); a few used positron emission tomography (PET), electroencephalography (EEG), magnetoencephalography (MEG), or single-photon emission computed tomography (SPECT).

The review addressed four specific questions:

- Can differences be detected between individuals with subjective cognitive decline compared to healthy controls using neuroimaging methods?
- Are the detected differences consistent within each neuroimaging technique?
- Are the regions affected in individuals with subjective cognitive decline consistent with those expected in early-stage Alzheimer’s disease?
- Are there methodological characteristics/differences between the studies that could impact the findings?

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The majority (77%) of the studies included in the review found significant differences in brain structure and/or function between healthy controls and individuals with subjective cognitive decline. Notably, significant differences between the two groups were not detected in about 25% of the studies.

There appeared to be consistency within neuroimaging techniques for both structural and functional approaches. However, most of the studies emphasized structural approaches.

Findings related to whether the regions affected in individuals with subjective cognitive decline were consistent with those expected in early-stage Alzheimer's disease were mixed. The discrepancies were attributed to methodological differences between studies, particularly differences in how subjective cognitive decline was defined as well as differences in participant characteristics (which were not always specified). In the majority (82%) of studies, participants were recruited from memory clinics. The authors noted that "clinic-based recruitment and cross-sectional study design were common and may bias the literature."

The authors concluded that "future neuroimaging investigations of [subjective cognitive decline] should consistently incorporate the standardized research criteria for subjective cognitive decline..., include more details of their sample, and their symptoms, and examine groups longitudinally."

For more information go to <https://pubmed.ncbi.nlm.nih.gov/35253749/>

Making an Impact



Photo: IALH Student Affiliate Cynthia McDowell

IALH Student Affiliate Cynthia McDowell (Psychology) and fellow graduate student Nicole Legg, have recently co-founded a company that aims to increase accessibility to evidence-based mental health and wellness information. *Wellintel Talks* provides evidence-based mental health and wellness talks to companies, organizations, and groups in the community. *Wellintel Talks* is both a collective of speakers who provide talks on a variety of wellness topics as well as a platform that community members can use to find and hire qualified speakers. For more information, go to <https://www.wellinteltalks.com/>

Resources

The Future of Aging in Canada

In June 2021, the Federal/Provincial/Territorial Forum of Ministers Responsible for Seniors hosted a virtual stakeholder symposium on the *Future of Aging in Canada*. Working in collaboration with AGE-WELL NCE, the Canadian Association on Gerontology, the Canadian Network for the Prevention of Elder Abuse and United Way Centraide Canada, the symposium focused on four key areas:

- Technology to support seniors aging in community;
- Research and innovation in healthy aging;
- Addressing and preventing elder abuse; and
- Emerging best practices in supports for seniors and responding to social isolation.

A summary report on the symposium was released earlier this year. Highlights from the symposium included the following:

- About two-thirds of Canadians 55 years of age and older are willing to pay out-of-pocket for technologies that will assist them to age in their communities. However, high-speed internet is not available in every community. In addition, many technologies are not designed with seniors in mind thus making them difficult to use.

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- Research on aging should: a) recognize that Canadian seniors have diverse backgrounds, cultures and lived experiences; b) include seniors as research partners; and c) focus on improving supports for aging in place.
- It is estimated that about 10% of Canadian seniors have experienced physical, psychological, emotional and/or financial abuse. Symposium participants indicated that more information needs to be gathered regarding the prevalence of elder abuse as well as interventions and best practices designed to end it.
- Social isolation has been identified as a key issue affecting seniors in Canada. Senior-serving community organizations (such as Saanich Volunteer Services Society, Seniors Serving Seniors) offer multiple services to ensure that seniors are supported and able to stay connected.

Symposium participants were asked what they believe aging will look like within the next twenty to thirty years. Respondents emphasized a future where aging is supported, inclusive and celebrated:

- “Every senior will be supported to age the way that they want, in the places that they want to be in.”
- “Aging will be understood as a distinct and unique process for every person....Every senior will be supported and respected, regardless of their age, race, ethnicity, culture, gender, sexual orientation, ability or other intersectional identity.”
- “Aging will be an experience that Canadians celebrate...and seniors [will be acknowledged] as valued members of every community.”

To read the full report on the symposium, go to <https://www.canada.ca/en/employment-social-development/corporate/seniors/forum/reports/future-aging-virtual-symposium.html>

Research Opportunities

Evaluating the Utility of a Wearable in MS

Sepideh Heydari is a Postdoctoral Fellow with [Mitacs](#) at the University of Victoria and an IALH Postdoctoral Fellow. She is seeking participants for a research study evaluating the utility of a wearable sensor in diagnosis and monitoring of Multiple Sclerosis (MS). To be eligible, participants must:

- have an official diagnosis of Multiple Sclerosis;
- be able to attend 2 sessions in Victoria, BC;
- be fluent in English (written and oral);
- be mobile (canes and walking sticks are okay);
- be able to wear hypoallergenic adhesive tapes; and
- have the ability to complete study tasks independently.

Participation in this research study will involve walking or standing for 15 minutes, completing neuropsychological assessments and having MRI screens of your brain. Please contact Sepideh Heydari at heydari@uvic.ca for more information.

Cancer and Aging Research Discussion Group

IALH Research Fellow Lorelei Newton (Nursing) is collaborating with colleagues at UBC and BC Cancer on a project exploring the experiences of older adults with cancer. The team is looking for individuals who are willing to participate in a 1-hour discussion via Zoom about treatment experiences of older adults with cancer. Participants will receive a \$25 gift card in recognition of their involvement.

Eligible participants must:

- have been over 65 years of age at the time of their cancer diagnosis OR be a caregiver or spouse of an older adult with cancer; and
- be living in BC.

If you are interested in participating or would like more information, contact Dr. Kristen Haase by phone at 604-827-079 or via e-mail at Kristen.Haase@ubc.ca

Research Opportunities (Cont'd)

Improving Diagram Accessibility for People with Visual impairments

Yichun Zhao is a graduate student working with IALH Research Fellow Sowmya Somanath (Computer Science) and Associate Professor Miguel Nacenta (Computer Science). Together, they are conducting research to help individuals who are blind or have visual impairments. Eligible participants must be:

- blind or visually impaired; and
- willing to participate in a remote interview regarding their experience with accessing diagrammatic information.

For more information go to <https://chunthebear.github.io/diagram-accessibility-research/>

Upcoming Events

Voices in Motion Musical Party

Saturday, December 3, 2022 2:30 PM
Broad View United Church
2625 Arbutus Rd, Victoria BC

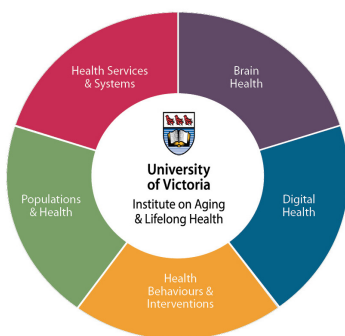
The Voices in Motion Choral Society invites you to a musical party that will be sure to get you humming and leave with a song in your heart, with new conductor Amy Van Wensem and pianist, Jeff Poynter. Admission is by donation.

About Voices in Motion:

In September 2017, four departments at the University of Victoria (Nursing, Psychology, Sociology and Music) joined forces in a study to research the effects of participating in a choir on those with dementia. Researchers in this study included IALH Research Fellows Debra Sheets (Nursing) and Andre Smith (Sociology) and colleague Stuart MacDonald. Voices in Motion is a multigenerational choir that offers an effective non-pharmacological approach with surprising benefits for all who socially sing together.

For more information about Voices in Motion, or the Musical Party, please visit <https://voicesinmotionchoirs.org/>

Welcome to the OAC



Did you know IALH has a blog? IALH's Online Academic Community (OAC) site features up-to-date research by IALH Faculty Fellows, Student Affiliates and Postdoctoral Fellows.

Visit <https://onlineacademiccommunity.uvic.ca/ialh/>

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UVic Institute on Aging and Lifelong Health