

Executive Summary

Our team worked alongside the Canadian Centre for Activity and Aging (CCAA) to improve senior fitness programs and dementia care through volunteering at weekly exercise classes, assisting with fitness assessments, and creating two tangible deliverables.

Our first deliverable was a Wordle; a tool for visualizing the modifiable risk factors of dementia. By consulting existing literature, we concluded that hearing loss, low education status, depression, and smoking were the main modifiable risk factors. This Wordle will be used for future research and educational purposes.

Our next deliverables targeted the fitness aspect of the CCAA. We helped facilitate weekly instructor-led fitness classes and recorded our observations each time. We also conducted a functional fitness assessment to obtain baseline measurements of each participant's functional abilities. Future measurements can then be compared with these values to evaluate the fitness classes' efficacy at reducing or ameliorating declines in physical functioning. Some assessments required more time to complete than others, which reduced testing efficiency. Participants had the most difficulty with the timed up-and-go, 30-second arm curl, 30-second chair stand, and 2-minute step tests. Male participants were less likely to meet established standards compared with their female counterparts. Measurements were recorded using the Healthy Active Living Database (HAroLD) which was straightforward but difficult to use in real-time.

Observations and recommendations were summarized with an infographic that will inform the CCAA's management team about our contributions this term. Future students working with the CCAA can use our deliverables to improve the curriculum. [244]

Course Concept 1 - Biology of Aging and Wordle

In class, we discussed how numerous factors interact to influence the process of aging. This course concept draws on the understanding of intersectionality and recognizes that, like other areas of health, the process of aging also involves multiple potentially confounding variables. In our pre-readings, we learned that individuals vary greatly in terms of aging-related physiological changes. This reinforced that aging is not solely about disease processes and that multiple elements are involved. Overall, this concept informed our group's informal review of the literature about the modifiable risk factors of dementia. While exploring key risk factors of dementia, we realized that these factors do not exist in isolation. Thus, by understanding the intersectional aspects of aging-related dementia, we were able to integrate course concepts and new ideas we learned from our CEL partners into our first deliverable, a Wordle graphic. Furthermore, we recognized the importance of considering both biological and social factors associated with aging and dementia. Therefore, our literature scans for modifiable risk factors were not restricted to physiology alone; we incorporated social and environmental factors as well (ie., education or air pollution). From a visual standpoint, we determined that a Wordle successfully communicates the interrelated yet distinct components of each modifiable risk factor. Additionally, we appreciate that the variation of word size can communicate the relative significance of each risk factor, thereby mirroring what we found throughout the literature and acting as a high-level summary that effectively communicates a complex topic to lay audiences.

[245]

Course Concept 2 - Perspective Taking and Fitness Class Volunteering

The second deliverable was to provide feedback on CCAA's senior fitness classes and assessments, so as to enhance the participant experience. To understand the improvements necessary for our target population, we implemented the course concept of perspective-taking, which is defined as taking into consideration the mental states and subjective experiences of others—the ability to view a situation from another's perspective. This skill was crucial for our final deliverables because senior adults are often marginalized and stigmatized as being fragile and incapable of being independent. Such biases have the potential to negatively influence our perceptions of the fitness classes and assessments. Therefore, perspective-taking allowed us to exhibit more positive explicit evaluations towards stigmatized groups. This strengthened the relationship between an outgroup and self, creating a judgement-free space for seniors to improve their health.

In class, Dan Turner spoke about how we can help individuals experiencing homelessness. Although this was not our project's target population, we still found the message to be applicable. When attempting to help someone, we must maintain an open mind and forgo any pre-existing beliefs or stereotypes because they may prevent us from forming a real connection with the individual. We were able to apply this to our project by taking the time to get to know each participant's name and their story. Once we understood their individual perspectives and needs, we were able to identify ways in which the CCAA's classes and assessments could be tailored or improved so that participants can receive the greatest benefits. [249]

Course Concept 3 - Health Literacy and Fitness Assessment Feedback

The third concept demonstrated by this project is health literacy. Health literacy pertains to one's ability to acquire and understand information to make appropriate medical decisions and improve health outcomes. This ability may be lower among the senior population as the decline of various abilities, such as media literacy, critical thinking, and technical skills can hinder one's capacity to distinguish information relevant to their health and well-being. A major task of ours was to provide recommendations for the senior fitness class curriculum and fitness instructors according to our in-class observations. Keeping health literacy in mind, we provided suggestions aimed to enhance participants' understanding of the various tests being conducted, and the exercises that they perform each week. During the fitness assessments, we informed participants of the purpose of each exercise, which improved their performance and willingness to complete the task. The fitness assessments and fitness classes were evidence-informed, and as such, it was important to translate scientific jargon into a language comprehensible by a diverse population of senior adults.

Health literacy was also an important consideration when we created our Wordle about the modifiable risk factors for dementia. Though it may not directly affect senior citizens, this visual tool can be used by aiding organizations, such as the CCAA and Western University, to produce resources for seniors that provide them with the tools to make informed decisions about their health. [230]

Future Direction and Next Steps

The recommendations for the functional fitness assessment, fitness classes, and the Wordle, serve as a starting point for enhancing the programs offered at the CCAA. The infographic can act as a guide for the CCAA's management team as they plan ahead for future classes and assessments. By simplifying and streamlining the HaROLD interface, the CCAA will have a straightforward tool that will greatly improve productivity. Meanwhile, the Wordle can be used in future research and resources produced by the CCAA to provide a high-level overview of the modifiable risk factors of dementia. Given that our Wordle was only based on limited literature, it would be interesting for future students to compare our Wordle with one created based on participant perspectives. Future student groups or the CCAA itself can also build upon our recommendations for HAroLD by working with software developers to identify and fix specific user interface issues. [148]