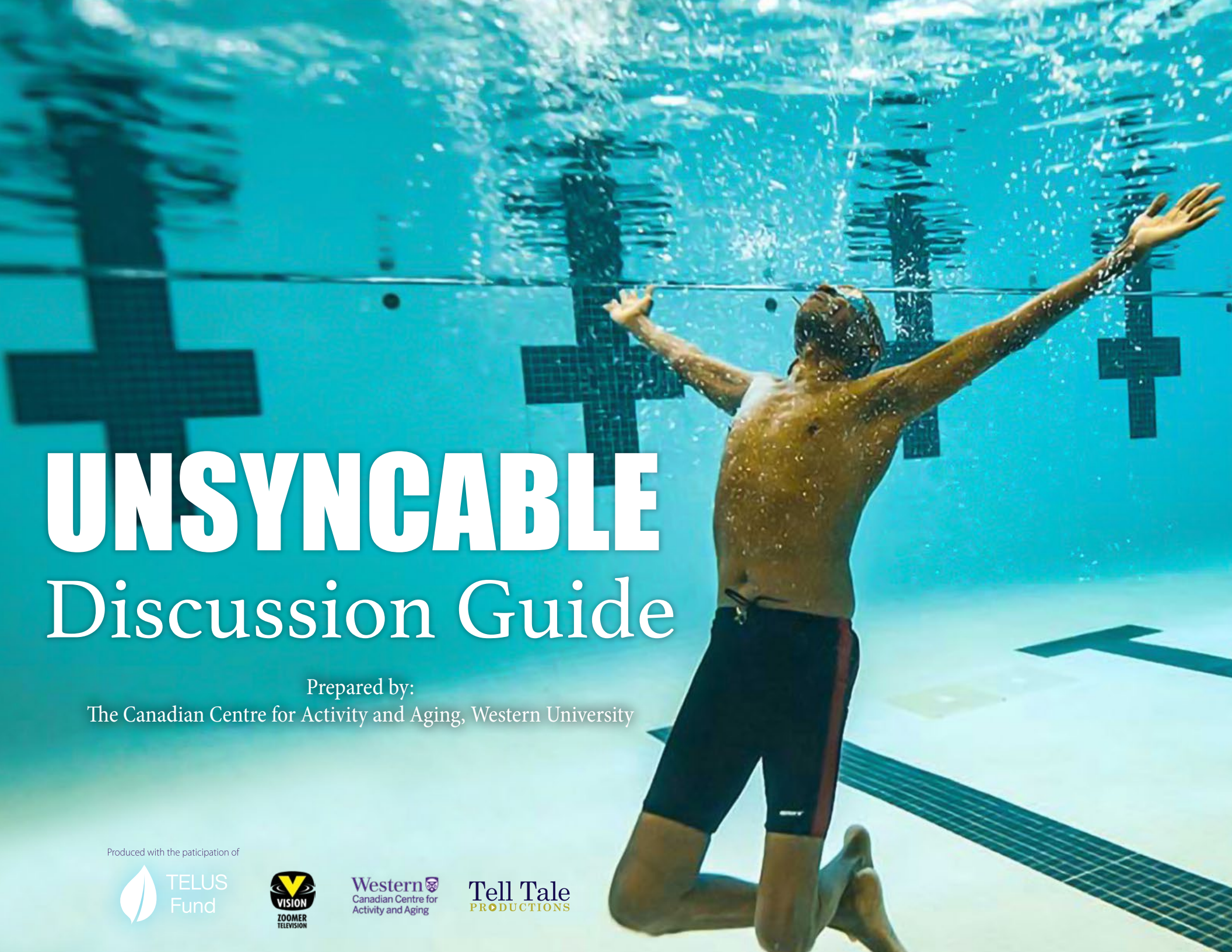

UNSYNCABLE
Discussion Guide

Prepared by:
The Canadian Centre for Activity and Aging, Western University

Produced with the paticipation of

TELUS Fund

VISION ZOOMER TELEVISION

Western Canadian Centre for Activity and Aging

Tell Tale PRODUCTIONS

UNSYNCABLE
Discussion Guide

To accompany UNSYNCABLE the documentary film.
unsyncablefilm.com

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Introduction

In 2021, 40% of Canadian adults 65 years and over self-reported participation in 150 minutes of physical activity per week (Statistics Canada 2022). Regular exercise provides multiple health benefits including improvement in cardiovascular health, increased strength and flexibility, improved sleep quality, chronic disease management, prevention of falls, and increased social participation (Fisken et al. 2015). However, older adults struggle engaging in common forms of exercise such as walking, running, and strength training due to muscle and/or joint pain, mobility challenges, co-morbid health conditions such as heart, lung or muscle diseases, hearing and vision problems, or fear of falling. Water-based (i.e., aquatic) exercises are low-impact and place fewer demands on the bones, joints and muscles than do most land-based exercises. Water offers buoyancy and natural resistance which help relieve strain on muscles, bones and joints while strengthening muscles. Researchers from the Mayo Clinic in the United States outline benefits of aquatic exercise, which include:

1. Versatility - multiple exercise options exist for various levels of ability. Exercises range from walking in the water to exercises requiring a higher level of skill such as deep-water running or swimming laps. All components of fitness can be included in aquatic exercise; that is, cardiovascular endurance, strengthening, flexibility, and balance.

2. Swimming ability is not required – although having a basvic knowledge of swimming or water safety is important for anyone around water, the ability to swim is not required. Exercises can be done in shallow water and as long as you can stand safely on the bottom with your head above the water.

3. **Socialization** – group aquatic activities offer opportunities to socialize with others, to build connections, to find emotional and psychological support, to increase accountability and to stay motivated to continue exercising.

Even those who are not or have ever been regular exercisers can benefit from exercise, especially aquatic exercise. Replacing sedentary behaviours with additional physical activity and trading light physical activity for more moderate-to-vigorous physical exercise while preserving sufficient sleep and optimizing nutrition, can provide greater health benefits (https://csepguidelines.ca/).

Aquatic therapy has been studied for its rehabilitative effects on many conditions including, but not limited to 1) progressive neurodegenerative disorders (e.g., Parkinson's disease, dementia, multiple sclerosis) that can affect voluntary movements, (i.e., limited range of motion, 2) hearing, vision, and tactile sensory losses, 3) stroke, traumatic brain injury, spinal injury, specific musculoskeletal injuries sickle cell anemia, among others.

The risk of injury during aquatic exercises is very low. However, injuries and death can occur. The most common types of injuries are those that result from overuse. Overuse injuries are sports-related microtraumas that result from repetitively using the same parts of the body, usually by overtraining. A microtrauma is a small injury to a bone, muscle, tendon, or ligament. Examples are tiny tears in muscle fibers, stress on a tendon, or bruising of a bone. An overuse injury typically stems from training errors such as taking on too much physical activity too quickly, or repetitively practicing incorrect technique. Deaths in water among older adults are more common than are deaths among adults under the age of 65 years (*Canadian Red Cross, 2020*). Chronic cardiovascular disease as well as sudden acute events occur more frequently among those over 65 years of age. If sudden acute events happen while older adults are in water the chance of death due to drowning increases. Even if not in the water, those near water who suffer loss of consciousness due to, for example, diabetes or other health conditions, are at higher risk of death due to drowning. Chronic disease may not be the primary cause of death but could be among other multifactorial contributors of death in or around water (*Canadian Red Cross, 2020*).

For adults and older adults who are new to participating in regular exercise, it is best to check first with a medical professional about engaging in regular exercise, asking whether you are ready and able to participate. Be sure to check with a doctor, certified kinesiologist or certified exercise physiologist prior to beginning new exercise, or complete the Canadian Society for Exercise Physiology's Get Active Questionnaire at https://csep.ca/2021/01/20/pre-screening-for-physical-activity/.

Thinking about physical exercise and aquatics and its multiple benefits is best conceptualized using The World Health Organization's International Classification of Functioning, Disability and Health (ICF). The WHO's ICF is a classification of health and health-related domains. It includes *a) body functions and structures, b) activities, c) participation, d) environmental factors, and e) personal factors*. Each domain is reviewed below and accompanied by research supporting each domain. Their relevance to reasons why adults and older adults should engage in aquatic-based exercise programs also is made explicit.

A) Body Structures and Functions

Body structures and functions can include motor function, cognitive function and affective behaviour (i.e., emotion, mood, and feeling). Aquatic exercise is a popular type and scientifically-supported form of exercise for adults and older adults living with physical limitation, joint problems and fear of falling. Aging and sedentary behaviour lead to negative changes in the neuromuscular systems of healthy older adults resulting in decreased physical functioning. Exercising in water is effective for improving physical functioning in adults and older adults. A detailed examination of a group of studies (i.e., a meta-analysis) showed that aquatic exercise can improve physical functioning in healthy older people and is at least as effective as land exercise (*Waller et al. 2016*). Evidence also exists showing the positive effects of aquatic exercise on bone health in adults. (*Schinzel et al. 2023*). Authors of a systematic review examining the effects of aquatic exercise on cognitive functions (i.e., memory, judgment, reasoning, visuospatial skills, language, etc.), reported beneficial outcomes on global cognition, executive function (i.e., judgement, reasoning, planning, etc.), attention, learning, and memory. They also found that aquatic exercise produced positive changes in cognitive biomarkers (i.e., give lay public terminology) and cerebral oxygenation levels. The multiple benefits were found across multiple age groups from children to older adults who lived with various conditions such as multiple sclerosis, Alzheimer's dementia and fibromyalgia (*Loprinzi 2019*).

B) Activities

Activities can include actions of self-care, physical mobility and the ability to perform activities of daily living. Research by Sato and colleagues (2009) compared the effects of participation in once or twice per week water exercise sessions over two years on daily living activities of community dwelling frail older adults. They found that at least twice-weekly water exercise was necessary to maintain the ADLs (Activities of Daily Living) of their frail older adults during the one-year water exercise period and for one additional year afterward.

C) Participation

Participation can include the social roles one performs, participation in academia and/or employment. With regard to social roles and age, research by Lee and colleagues (2022) compared functional fitness levels, postural stability, self-efficacy scores (i.e., one's belief or confidence in being able to achieve a specific goal or outcome), and quality of life in older adults who received aquatic exercise instructions from young and older peer instructors. Functional fitness, perceived self-efficacy in exercise, balance, and falls, and quality of life significantly increased over the twice-weekly for eight weeks aquatic exercise classes. The age of the instructor had no effect.

D) Environment

The environment includes one's physical environment as well as social and attitudinal environments. Social support and socialization can act as an incentive to older adults' participation in exercise. Stead and co-investigators (1997) discovered that older adults ranked social interaction ahead of physical benefits as a primary motive for participating. Kang and colleagues (2007) found that older women with arthritis who formed group cohesion in their aquatic exercise programs were more likely to continue with the program. Alternatively, there are several perceived limitations related to one's aging body that can act as a barrier to participation in aquatic exercise programs. Evans and Sleap (2012) discovered that overweight people can feel angst when wearing a bathing suit in the presence of others. Others in their study felt exposed to the judgement of others.

E) Personal Factors (Sex, Age, Health Behaviours)

A person's age, sex and health behaviors are included within the realm of personal factors. The 2021 Canadian Community Health Survey (*Statistics Canada 2021*) reports that physical activity levels among adults decreases with increasing age. Fewer than 40% of older adults aged 65 or older report engaging in 150 minutes of physical activity per week compared to 55% of adults between the ages of 50 and 64, and approximately 60% of adults aged 18 to 49. The same report by Statistics Canada states that between 2019 and 2021, gender differences existed in sport participation. Sport is defined as physical activities that usually involve competition and rules and develop specific skills. More men than women were participating in sport (36% vs. 19% respectively). This gender difference has persisted over time. Historically, gender participation in artistic swimming has been inconsistent. In the late 19th century it was a male-only event (*Kremer 2015*). In the late 20th century it became a women's sport, with men banned in many countries from competing in artistic swimming. In December 2022 the International Olympic Committee made a statement that World Aquatics changed its rules and is allowing men to participate in Artistic Swimming at the Paris 2024 Olympics.

The important take-home messages from the evidence on adults and older adults who engage in aquatic exercise are that these programs produce positive physical, mental, cognitive and social outcomes.

Moreover, the evidence also shows that it is never too late to start being physically active and participating in exercise programs in general and in aquatic exercise programs in particular. As adults and older adults continue to extend their life expectancy, a central concern arises as to whether we merely are adding years to life or adding enhanced quality to life over more years. Regular physical activity is associated with improved mental, emotional, psychological, and physical health, as well as social well-being and cognitive function (Langhammer et al. 2018). Before beginning any exercise program, including aquatic-based exercise programs, be sure to check with a a doctor, certified kinesiologist or certified exercise physiologist prior to beginning an exercise regime, or complete the Canadian Society for Exercise Physiology's Get Active Questionnaire at https://csep.ca/2021/01/20/pre-screening-for-physical-activity/.

Below are some questions based on excerpts from the film that centre around concepts of stereotypes, personal motivators and inhibitors, and general questions intended to spark discussion and personal reflection.

1

Stereotypes about people of African origin (i.e., Black) and swimming (1:13)

Luther says "You don't find a lot of men, especially Black men, who swim. There are a lot of stereotypes about why Black people don't swim such as "their bones are too heavy".

African Americans' antipathy towards swimming is rooted in segregation and racism. Until the U.S. Civil Rights Act of 1964 was signed and with it, the abolition of segregation in "public accommodations", swimming pools in the U.S. were inaccessible to Black people. It would take some time before fears from" interracial bathing" were dispelled. Such fears included the anxieties of Caucasians about the risks of being in close contact with Blacks because of imagined questionable cleanliness and disease. According to Jacqueline L. Scott, PhD student at the Ontario Institute for Studies in Education at the University of Toronto, while the proportion of the number of blacks who can swim is increasing, as well as the number of black Olympic swimmers, swimming is part of the cultural capital of a middle-class lifestyle and the spectre of colonialism lurks (https://www.utoronto.ca/news/u-t-expert-troubled-history-black-people-have-had-swimming).

Question: Have you faced/experienced any societal/personal barriers in sport?

2 Adults and older adults react to health challenges in different ways. Social Learning Theory (*Rotter 1956*) posits that a specific behavior is likely to occur if the individual believes that behaviour is likely to lead to a specific reinforcement, and if that reinforcement is valued. For example, in the film, Joyce is seeking stress relief and believes that swimming will bring her the peace she desires. Sue's goal is to "beat Father Time" and she believes swimming will help her to age with vigor.

Question: Do you view health challenges as a catalyst or as a barrier to making positive change(s) in your lifestyle? Do health challenges make you want to create a 'bucket list' of activities you want to do before your health goes further 'downhill'?

Question: Do you feel you want and/or need help to meet your personal physical exercise goals? If so, what help do you need? From whom might you seek help?

3 (1:33) Sue states that when she is competing she doesn't like to think about what scores she will receive from the judges. She tries to block it out and do the best she can. She says that "nothing is devastating at my age except death".

Question: Are you able to try your best at exercise without thinking of how the result will impact you? How do you react when you do not reach your desired goal or outcome? What do you consider as possible positive outcomes?

4 (1:57) Ellen's (age 63) goal is to "win a world medal". Her best strategy, she feels, is to swim in the category of 80-89 year olds because there are not a lot of [competitors] left in the 80 and over age group. Good goals are SMART (Specific, Measurable, Attainable, Realistic and Time-Sensitive).

Question: What are your goals for physical exercise? How are they SMART? How do you set reasonable goals for physical exercise programs? Why do you set these goals?

5 (2:15) Monica (age 68) says "This world is not as bad as we think it is. You've got to grab a passion, grab something you love, grab it by the tail and hold it. Don't let it go."

Question: What is your passion in physical exercise Why this/these passions? What is it about your passion that makes you hold on and not let go?

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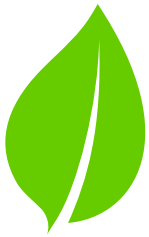

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