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adults' participation in sport, and experiences in senior competitions have also been explored (Dionigi, 2002; Heo et al., 2013; Kelley et al., 2014). In parallel with the work of scholars, governments and related organisations have also assessed engagement, while developing guidelines on the types, intensity and frequency of recommended activities (Active Ageing Canada, 2019; Ministry of Health, 2013; National Seniors Australia, 2015).

Motivations driving older adults towards sport/physical activity is an important component of this wider phenomenon and has been the focus of research. There are some important features of scholarly work in this space to date. In general, studies on this topic have been underpinned by two well-established theories: Self-Determination Theory and Achievement Goal Theory (Nicholls, 1984; Ryan & Deci, 2000). It is also evident that a variety of terminologies have been used by scholars in the context of studies of older adult sport participant motivation. Alongside 'motivation', the words 'reasons', 'determinants', and 'factors' all feature in the literature (Jenkin et al., 2017; Kelley et al., 2014; Stenner et al., 2020b; Yamada & Heo, 2016). Likewise, the terms *sport* and *physical activity* have been at times used interchangeably, despite some important differences in their meanings.

Scholarly studies on this topic rarely narrowly focus on motivation and varyingly identify four related themes: health, socialisation, aging redefinition, and self-fulfilment. The health motive broadly captures sport participation as a means to obtain the associated physiological benefits (Dionigi, 2006). The socialisation motivate relates to the desire to connect with others and experience enjoyment through sports (Dionigi, 2006). The third is grounded in the complex desire to deal with aging given negative stereotypes and perceptions (Kelley et al., 2014). Finally, self-fulfilment encompasses the desire to give life new purpose, self-accomplishment and self-satisfaction (Spiteri et al., 2019). No study yet definitely prioritises these four ahead of others or discusses them in the context of similar concepts found in related industry reports.

The body of literature covering the underlying psychology of sport participation among older adults remains fragmented and not particularly actionable from the perspective of an industry practitioner. Specifically, the scholarly literature still lacks a synthesis that concisely presents a motivational profile of the individuals who currently participate in sport and physical activity. A more holistic perspective of older sport participants as well as a comprehensive presentation of recommendations for industry practitioners is needed. Merging the related work of both academic researchers and government/industry provides a more complete understanding. The insights from these two sources reflect disparate paradigms, lenses and interests related to

then be used for a variety of marketing purposes. Second, this work will contribute to finding and filling gaps in academic literature. Third, this work will also help industry practitioners develop strategies to increase participation. Finally, conclusions drawn here can inform policy development for both governments and sport organisations.

This literature review covers the sport participation motivation of older adults in academic literature. First, the systematic approach utilised is outlined and justified. Second, definitional issues are addressed. Physical activity and sport contexts and how they feature in related literature is then covered. Third, the specific research protocols, search parameters and selection criteria used here are detailed, and the final sample of included material is presented. Fourth, the main themes emerging from the literature related to older sport participants are presented and discussed.

A systematic approach

The present research project aims to establish a motivational profile of older sport participants. No primary data has been collected for this purpose. Rather, a rigorous and systematic review of related literature has been conducted. The systematic nature of this review of related literature on the topic complements the identification and synthesising of government/industry reports which is to follow in Chapter 3. This approach has also been taken by other scholars investigating older sport participants motivations (Gayman et al., 2017; Jenkin et al., 2017; Spiteri et al., 2019; Stenner et al., 2020a; Yarmohammadi et al., 2019). It is, therefore, fundamentally important to adopt a search procedure that ensures the quality and relevance of the sources. In summary, the *rigor, transparency and replicability* involved in a systematic literature review makes it the most appropriate method for the present review (Mallett et al., 2012). The systematic literature review is widely considered by scholars to be a rigorous method to unbiasedly map, assess the quality, and synthesise the evidences found in relevant publications on a certain topic ("*Systematic reviews*," 2011; Mallett et al., 2012). Although most systematic reviews follow a rigid process, the method does allow some flexibility, provided that it complies with core principles (rigor, transparency, replicability) (Mallett et al., 2012). The rigor of these steps is what distinguish a systematic literature review from other traditional methods.

This systematic review includes only the most relevant publications on the topic of older sport participant motivation. This is ensured through the use of search protocols that filter based on key words related to the topic. These protocols offer other benefits compared with

traditional reviews. In a standard review, inclusion is restricted to literature already known to authors or found by conducting shallower searches (Mallett et al., 2012). Conversely, the protocols of the systematic approach help minimise researcher bias by ‘forcing’ a "search for studies beyond their own subject areas or pre-existing knowledge" (Mallett et al., 2012, p. 448). This is particularly important for the present study, as it will prevent missing potentially pertinent studies. Furthermore, it allows for coverage of a wider range of perspectives. This, in turn, will help produce more evidence to construct a motivational profile of older sport participants.

Systematic reviews are also known as a *transparent* form of literature review (Greyson et al., 2019). According to Mallett et al. (2012), transparency is ensured by following a fixed process that distinguishes this method from others. By properly detailing and justifying the key concepts/terms included, the databases accessed, the inclusion and exclusion criteria, the present review ensures transparency. Systematic reviews also allow for future replication (Shokraneh, 2019) because the steps are meticulously detailed (Mallett et al., 2012). Finally, by combining these three core principles of a systematic literature review – *rigor, transparency and replicability* – the study also ensures the validity of the emerging themes in regard to older sport participant motivation.

Motivation and its dimensions

At the outset of this exploration of motivation amongst older sport participants, it is first important to define the terms. This is challenging, because there is a dearth of research explicitly focused on motivation as part of the experience of older adults in sport and physical activity. Also, there is a relatively extensive range of terminology used in this area, as well as multiple theories and dimensions related to motivation and sport participation.

In lieu of the word ‘motivation’ specifically, related research has occasionally used ‘meanings’, ‘reasons’, ‘factors’ or ‘determinants’ (Jenkin et al., 2017; Kelley et al., 2014; Stenner et al., 2020b; Yamada & Heo, 2016). However, some of these terms, such as ‘determinants’ and ‘factors’, do not necessarily carry the same meaning as motivation. Instead, those terms might reflect other factors that influence older adults’ participation, such as previous involvement in sports and the existence of appropriate infrastructures to facilitate participation (Guinn & Vincent, 2002; Owen et al., 2000; Yang et al., 2007). The complexity brought on by these multiple terminologies must be considered within the protocol aspect of this systematic review.

Motivation has been defined as a “hypothetical construct used to describe internal and/or external forces that produce initiation, direction, intensity, and persistence of a behaviour” (Spiteri et al., 2019, p. 930). Within this context, Pero et al. (2009) stated that this construct has a strong influence on other behavioural variables such as learning and performance in sports and exercise. In other words, besides initiation, direction and persistence, motivation positively influences an older adults' ability to learn and perform activities. From another perspective, Plonczynski (2000) summarises motivation as the “intrinsic determination toward goal attainment” (p. 696). The author also stated that motivation is at the crux of an individual's health behaviour which is relevant to the current context. In the sport motivation literature, numerous theories have been used as an underpinning.

Achievement Goal Theory (Nicholls, 1984), and Self-Determination Theory (Ryan & Deci, 2000) appear most often in research related to motivation in sport contexts. Achievement Goal Theory explains how older adults' beliefs and cognitions orient them towards achievement or success, based on task (mastery) and ego (performance) (Kremer et al., 2012). Conversely, Self-Determination Theory proposes that there is a ‘self-determination continuum’ of motives that underlie motivation to participate in sports (Davey et al., 2009). This continuum includes types of motivation differing in their effect on performance and well-being, and also representing the different degrees to which the behaviour has been internalised and integrated (Davey et al., 2009). Through this lens, the three constructs that explain the psychological processes underlying older sport participants are *intrinsic motivation* (IM), *extrinsic motivation* (EM), and *amotivation* (AM) (Pero et al., 2009).

The first type of motivation, *intrinsic*, pertains to satisfaction derived from the activity per se (Davey et al., 2009). In other words, it refers to the participation in sports purely for the pleasure and satisfaction derived from doing it (Pero et al., 2009). Conversely, *extrinsic* motivation characterises activity “performed in order to obtain rewards or outcomes that are separable from the exercise itself” (Davey et al., 2009). That is, a wide variety of behaviours that are engaged in as a means to an end not for their own sake (Pero et al., 2009). This type of motivation is normally associated with participation focused on rewards, medals and recognition. The *amotivation* construct encompasses individuals who “do not perceive contingencies between their action and the outcomes of their actions and they no longer identify any good reason for why they continue to train” (Davey et al., 2009). In the current context, older adults who do not see any benefit in participating in sport could be characterised as amotivated. Despite complexity created by the multiple terminologies used in related literature,

dimension of *physical activity* or even its dominant form. (Kim et al., 2020; Stenner et al., 2020a).

The notion of competition and its many facets also distinguish *physical activity* and *sport*. For example, Stenner et al. (2020a) state that *physical activity* does not necessarily have defined rules, goals and expectations, such as results, prizes and rewards. As a result, the competition aspects of *sport* might create multiple contexts that, in turn, motivate older adults differently than *physical activity*. However, in the Stenner et al. (2020a) study it is also noted that *sport* involves important components of *physical activity* and, therefore, provides a means by which participants can be physically active.

In the present review, distinctions between *sport* and *physical activity* are acknowledged, as well as their potentially varied interpretations within the wider context of older sport participant motivation. However, in line with Stenner et al. (2020b) and Kim et al. (2020), the two terms capture similar contexts with one essentially a subset of the other. Despite the primary focus of the review being sport motivation, physical activity is necessarily included in the search protocols as the two concepts substantially overlap. This reality has been kept front of mind during subsequent phases of the profile conceptualisation.

Research protocol / Search process

As discussed in a previous section, definitional issues plague this broad area of inquiry and that affected the protocols and process by which literature was identified and ultimately included in this review. *Motivation*, for example, is occasionally referred to as *determinants or factors*, in the context of older adults who participate in sports or physical activities. (Jenkin et al., 2017; Stenner et al., 2020b; Yamada & Heo, 2016). These terms do not have the same meanings as *motivation*, and generally reflect the internal and/or external factors that exert a positive influence on sport participation among the aging population. Likewise, the age group 'older adults' is often referred to using other terminology. Among other terms that have been utilised by scholars are *aging population* (Sotiriadou & Wicker, 2014), *later life* (Dionigi, 2002), *baby boomers* (Jae-Eun & Gwang-Uk, 2013), *late adulthood* (Wong et al., 2019), *master or senior athletes* (Reed & Cox, 2007; Yamada & Heo, 2016; Young, 2011), or even *people in their sixties* (Jannique et al., 2017).

Both *sport* and *physical activity*, despite the conceptual distinctions previously discussed, have been used individually and/or complementarily in the literature exploring older sport participant motivation. Therefore, considering the above-mentioned issues on the key

Table 2*Included Publications*

Country	No. of publications	Approach	No. of publications
Australia	8	Quantitative	9
United States	7	Qualitative	9
Canada	3	Systematic Review	5
New Zealand	2	Mixed-Method	3
United Kingdom	2	Book Chapter	1
Finland	1		
Iran	1		
Ireland	1		
Italy	1		
Malaysia	1		
Instrument	No. of publications	Theory/Concept approached	No. of publications
Online Questionnaire	11	Self-Determination Theory	7
Systematic Review	5	Achievement Goal Theory	2
In-depth Interviews	4	Social Motivation Model	2
Semi-structured Interviews	3	Social Cognitive Theory	2
Focus Groups	3	Self-Efficacy Theory	2
Observations	2	Identity Concept	1
Book Chapter	1	Serious Leisure Framework	1
		Socioecological Model	1
		Life Course Perspective	1
		Theory of Planned Behavior	1
		Not reported	8
		Decade of publication	No. of publications
		2011 - 2021	17
		2000 - 2010	9
		1990 - 1999	1

Thematic analysis

A six phase reflexive thematic analysis process (Braun et al., 2019) was used to analyse the 27 publications (Table 3). This involves identifying and "examining codes (and associated data), and combining, clustering, or collapsing them together into bigger or more meaningful patterns" (p. 27) in order to identify, shape and refine the major groups of motives underpinning older sport participant motivation. The process involves familiarisation with the data, generating codes, constructing themes, reviewing potential themes, defining and naming themes, and producing the report.

Phase 5

Defining Themes

This phase seeks to ensure that “themes, and themes names, clearly, comprehensively and concisely capture what is meaningful about the data, related to the research question” (Braun et al., 2019, p. 857)

Activity: in this phase the review has shifted from a summative position to an interpretative orientation. This basically involved summarising the core idea and meanings of each group of motives, besides capturing the richness and multiple facets of each theme.

Phase 6

Producing the report

It represents “the final stage of analysis”, once it is not a purely writing-up step, but also serves as a final test of “how well themes work individually in relation to the dataset, and overall”. (Braun et al., 2019, p. 857)

Activity: the next section presents the interpretations for each of the themes in a narrative that comes back to the bigger picture of the review: the motives of older sport participants. This involved connecting the insights from the selected literature into singular stories that explain the motivations of older sport participants.

Emergent Themes

Fitness / Health

The first theme emerging from the selected literature relates to health benefits associated with sport and physical activity. Two dimensions (or “codes” based on the outline of the process above) of how the literature has captured health/fitness as a motivation for older adults’ participation in sports became evident during the analysis of the publications. The first dimension relates to *prevention* and is normally associated with older adults’ fear of getting injured, becoming ill, or the emergence of any symptoms associated with the aging process (Spiteri et al., 2019; Yarmohammadi et al., 2019). In this sense, sport and physical activities are perceived as a measure to prevent or even delay potential threats to their physical condition. As demonstrated in the Spiteri et al. (2019) study, the motivation arisen from this fear is more common among middle-aged older adults (50-64 years) than older adults (65-70 years). In terms of gender, Jannique et al. (2017) did not identify differences on the relevance of ‘preventing health problems’ as a leading motive for older adults’ sport participation. Likewise, opposite to belief that low socio-economic status groups are less health conscious, Gray et al. (2016) revealed ‘diseases prevention’ as an equally important motive among all socioeconomic groups. Within the prevention dimension of this first theme, avoiding physical decline, prolonging an

(U.S.) and the United Kingdom (U.K.). Websites of entities based in these countries were therefore purposefully sought. These countries also report increasing populations of old adults. Each report that could potentially be included was carefully assessed in terms of its relevance with the topic. Specifically, each report was ultimately included if it specifically addressed older sport participant motivation. Reports were included from organisations such as Sport New Zealand, Sport England, and Sport for Life Canada. With these considerations in mind, thirteen reports were ultimately included in this analysis (Table 4).

- ‘Physical activity’ is used more often than ‘sport’ to characterise the domain.
- There is a prominent physiological dimension within older sport participant motivation.
- Life-changing events and transitions lead to socialisation and relate to motivation for older sport participants.
- A psychological dimension of motivation manifests as a desire to maintain independence.
- Demotivation plays a role for older sport participants.

Terminology

Use of the term ‘physical activity’ within the context of older adults is well-established across government and industry reporting on this topic. Use of ‘physical activity’ as an alternative to ‘sport’ has an impact on the conception of a motivational profile for older sport participants. There is overlap, but ‘sport’ has negative connotations among some in the older adult population. According to the Government of South Australia (2004), the term ‘sport’ generally brings connotations of “competitions and children’s sports” (p. 10), which are not likely to inspire interest. Similar perceptions are also reported in the New Zealand and England material (Sport England, 2006; Sport New Zealand, 2016, p. 6).

Although some older adults might find a program characterised as ‘physical activity’ rather than ‘sports’ more appealing, there may be a misconception among older adults in regard to what actually constitutes a physical activity (National Seniors Australia, 2015). The discrepancy may be that older adults over-estimate how rigorous an activity actually is. Using the term ‘sport’ may discourage some older adults from being active, but there is also an opportunity to reframe rigorousness perceptions of both sport and physical activity. There is an opportunity to reframe sport as an attractive activity option for older adults. Despite overlapping or even confusing use of terminology in reports on older adults participants, the insights from these reports still make an important contribution to the conception of a motivational profile.

The physiological dimension

The most prominent motivational dimension for older sport participants across the government/industry reports is physiological. It is a fundamental dimension of motivation for this group in this context (Dionigi, 2006). Older adults who are motivated by the health benefits can be categorised into two distinct groups. The first group comprises individuals who pursue

the broader health benefits, not directly linked to a health condition. These are older adults who perceive sport and physical activity as a way to maintain health levels, maintain mobility, control weight, prevent injuries, perform daily activities, and prolong their life (Sport England, 2006; Sport New Zealand, 2016; Stathokostas et al., 2020).

The second group is comprised of older adults who seek particular health benefits from their engagement in physical activity. This may be cardiovascular health, obesity, osteoporosis, musculoskeletal disability, blood pressure, functional capacity, cancer, arthritis, diabetes, among other particular needs (Ministry of Health, 2013). It is evident that the second group is older than the first (Active Ageing Canada, 2019).

There is an opportunity for further research to understand how the physiological dimension of motivation develops and is experienced by these groups. A deeper exploration of this may assist industry practitioners in the development of tailored programs reflecting the specific needs of these groups. Figure 2 depicts these two groups based on physiological motivation differences.

Figure 2

Specific Health Issues That Drive Physiological Motivation

BROADER	DESEASE-RELATED
Perform daily activities	Arthritis
Maintain mobility	Obesity
Weight Management	Osteoporosis
Prevent Injuries	Diabetes
Maintain health levels	Cardiovascular health
Prolong life	Musculoskeletal disability

The social dimension

The government/industry reports also indicate that life-changing events or specific transitions in old adults' lives spur socialisation-related motivation in conjunction with physical activity (European Union, 2020; Sport England, 2006; Sport England, 2018; Sport For Life Canada, 2016; Vic Health, 2017). Retirement from full-time work, the arrival of grandchildren, the loss of a partner, or simply moving into a new home might be some of these life events

(Sport England, 2006; Sport For Life Canada, 2016). In fact, retirement from work may be the most radical change for an older adult and has been widely discussed in regard to its influence on perceptions and attitudes toward physical activity (Sport England, 2006).

It came through in the various reports that retirement is viewed in a positive light by most older adults, as it represents freedom, reduced stress, and a sense of being rewarded (Sport England, 2006). However, it might also bring loneliness and a lack of purpose. New responsibilities may emerge, such as providing care for aging partners, commitments to new family roles, and other activities (such as volunteering or gardening) (European Union, 2020; Sport England, 2018; Sport New Zealand, 2016). Importantly, this life stage also brings the desire to keep busy by meeting and engaging with other people. This is a gateway to participation in sport and physical activity (Sport England, 2018; Sport For Life Canada, 2016).

Not being able to find ways to connect with others (through sport or any other activities) can have negative effects for older adults. According to the Sport England (2018) report, “a higher proportion of older adults live alone and are at risk of isolation, compared to the rest of the population” (p. 3). Among potential causes are the lack of mobility and shrinking social networks linked to retirement (Active Ageing Canada, 2019). In Canada, for example, research revealed that one in five adults experience some level of loneliness and isolation, which can contribute to “cognitive decline, depression and social anxiety” (Active Ageing Canada, 2019, p. 11). Therefore, in the face of this social challenge and considering their increasing desire to meet or mix with other people, national governments and organisations encourage social programs as a means of benefiting older adults' wellbeing. The intention is that they feel more socially integrated, less lonely and less depressed, thus improving their overall health levels (Ministry of Health, 2013).

As noted in the Sport For Life report (2016), participating in physical exercise either at home or in a supervised group might improve mood equivalent to a low-dose anti-depressant in patients with depression (Blumenthal et al., 2007). The social dimension of physical activities has been also frequently pointed to as an important motive to older adults' participation (Sport England, 2018; Sport New Zealand, 2016; Stathokostas et al., 2020; Vic Health, 2017). As described by a respondent in the Sport England report (2006), “socialising is a good by-product of taking exercise” (p. 31). In another statement, an active old woman emphasised the social factor as the main reason for her involvement: ‘A keep fit class...in a gentle, nice way, a social thing’ (p. 38).

It is evident that older men and women experience the social dimension of sport participation motivation differently. According to VicHealth's (2017) report, retired Australian men are less likely than women to feel that meeting up with friends or team mates makes exercise more enjoyable. More specifically, less than a half of the study participants (46%) agreed that it is preferable to exercise with someone else, which indicates a potential barrier for men. Conversely, retired women see socialisation as part of physical activity more positively and even find it easier to exercise with someone else. The social dimension of motivation may also differ based on ethnicity and cultural backgrounds.

As outlined in the Sport New Zealand report (2016), although socialisation is widely perceived as a key reason why many older adults enjoy participating in community sport, it might also be a barrier among specific ethnic groups. According to the Sport New Zealand report, Maori, Pacific and Asian populations mention cultural norms, expectations, and socioeconomic considerations as barriers to their participation in community sports (Sport New Zealand, 2016). Based on these contrasting perceptions, some national governments and sport organisations have developed guidelines on how to explore or address the different aspects of the social dimension when developing programs, in order to motivate as many people as possible.

Based on the reports reviewed here, distinct activities for men and women in some cases may be appropriate based on disparate socialisation motivation. For example, some older women may feel embarrassed exercising in public or in front of other men (Vic Health, 2017). It is also important to better balance between the 'competition' and 'socialisation' elements of programs for older sport participants, as some may have a long history in a given activity, which may minimise the socialisation motive (Sport For Life Canada, 2016). In one report (GOSA, 2004), an opportunity to offer separate activities just for socialising such as group lunches, or trips was identified. For events like World Masters Games or other local senior competitions, there is an opportunity to embed socialisation in many aspects of the experience.

The psychological dimension

Negative stereotypes in part fuel the psychological dimension of older sport participant motivation. According to the Government of South Australia (2004), perceptions such as 'aging is a phase of mental and physical decline', 'older people are all the same', and 'older people are frail and dependent' are some of the stereotypes and images of aging that are still perpetuated and that directly affect self-perceptions. Consequently, this creates a risk of some older adults

feeling like a burden to other family members or that they are losing the respect of others and ultimately becoming unimportant, which in turn might lead to loneliness and depression (Sport England, 2006). Many older adults are driven to dispel these notions and it fuels motivation to be physically active and participate in sport.

For older adults, there is also a real risk of falls, which might affect one's ability to perform daily tasks and compromise independence. Many older adults therefore perceive sport and physical activity as a way to minimise these risks and remain self-sufficient (Stathokostas et al., 2020). As demonstrated in the Active Ageing Canada's (2020) report, some older adults mention that 'it is important to be mobile as much as possible, to be independent', while others affirm that it enables to 'keep care of yourself more and be less a burden to others' (p. 8). These fears are prominent and translate into this dimension of older sport participant motivation. There is an opportunity to acknowledge this in program design and promotion, perhaps framing a positive message around images of strength and independence.

In addition to their desire to feel more independent, the government/industry reports also point to other psychological aspects that define the motivational profile of older sport participants. Among British older adults, for example, the simple enjoyment of activity, the opportunity to have their 'own space', and not feeling or appearing lazy to other are some other motives to participate in physical activities (Sport England, 2006). These aspects are underpinned by the continuous and complex process of dealing with aging. So, the psychological dimension of older sport participant motivation includes dispelling aging stereotypes, expressing an independent and vital image to others, accomplishing difficult tasks or learning new ones, and consequently, redefining aging (Buzzelli & Draper, 2020; Dionigi, 2006; Kelley et al., 2014)

Demotivation

Across the reports, another prominent theme came through clearly, which is conceptually opposite to the other three dimensions. In order to fully understand the motivation of older sport participants, demotivation (i.e., being without motivation) must also be considered (GOSA, 2004; Sport New Zealand, 2016). Many recognise the importance of being physically active and all its benefits (physical, social and psychological), but are not motivated enough to take action. In Canada, although 68% of those aged 65 and older intend to be active, only 15% actually reach minimum recommended levels of physical activity (Active Ageing Canada, 2019). Helping older adults overcome challenges and find the motivation to participate

is very important (Sport England, 2018). It is worthwhile to consider barriers in this wider discussion of older sport participant motivation because they can underpin demotivation.

Financial costs associated with sport and physical activity can be demotivating. Among the main expenses identified in the reports are the gym membership, equipment and apparel needed for some specific activities, such as golf, swimming, cycling (GOSA, 2004; Sport England, 2018; Sport New Zealand, 2016). For example, among retired Australians (active and non-active) financial costs are indicated by 67% of people as the main barrier to physical activity (Vic Health, 2017). Budget restrictions also exert an influence on the types of activities that older adults choose to participate in. This is demonstrated by the fact that the most popular physical activity among the countries investigated (except in U.S) was walking, which has the lowest costs associated (Sport New Zealand, 2016; Ministry of Health, 2013; Active Ageing Canada, 2019; Sport England, 2018; National Senior Australia, 2015). As demonstrated in the Sport England report (2006), people from higher socio-economic groups are three times more likely to participate in sport than people in lower groups.

A lack of information on how to get involved in physical activity programs can also be demotivating. Among Canadian older adults, difficulty finding the necessary support services' (31%), and difficulty finding the right coaching/instruction (25%) are linked to non-participation (Active Ageing Canada, 2019, p. 36). In the report from Government of South Australia it was indicated that older adults who have no previous experience with a given activity are less likely to be aware of an ultimately participate in programs (GOSA, 2004). Even when aware of an activity, inexperienced older adults may be unsure as to 'whether it is an appropriate activity for their age and ability level' (p. 9). Doubting oneself can be demotivating.

The lack of motivation as a result of fear is multifaceted and can take many forms. The most common type of fear identified in the reports relates to the risk of injury, which is pointed by both active and non-active older adults as a barrier to physical activities (GOSA, 2004; Sport England, 2006; Sport New Zealand, 2016). There is overlap here in that the psychological dimension of motivation identified earlier may play out positively and drive an older adult to better themselves, while for others it may manifest more negatively and become a demotivator. Such fear may ultimately demotivate older adults who are otherwise interested in physical activity or sport. Injuries can be caused by over-doing exercises, doing exercises unsuitable for the current conditions, joint damage, or the aggravation of an existing condition (Sport England, 2006). Conversely, in some reports the 'injury' factor was framed more positively. According to Sport For Life Canada (2016), facing a major injury or dealing with an specific health

condition can serve as a “wakeup call or turning point that can be framed as a motivation to reassess exercise routine” (p. 22).

A fear of embarrassment might also demotivate older adults from participating in sport or physical activity. This type of fear might be also influenced by gender or ethnicity and is specifically addressed in the Australian and New Zealand-based reports (Ministry of Health, 2013; Sport New Zealand, 2016; Vic Health, 2017). In the VicHealth (2017) report it was observed that retired women generally find sport clubs, gyms and fitness centres intimidating. This negativity may relate to both the way they look to others and their ability when they compare themselves to younger people. Additionally, the report also observed that the majority of retired women also ‘feel embarrassed exercising in public and are uncomfortable in exercise clothes’ (Vic Health, 2017, p. 3). Similarly, among men, almost half also stated that gyms and fitness centres are intimidating. The ‘uninviting environment’ issue was also raised among New Zealanders old adults, where the embarrassment caused by cultural norms or differences also demotivates Maori, Pacific and Asian population to have greater participation in physical activities (Ministry of Health, 2013).

Conclusions

Through the analysis of a range of recent government/industry reports related to older sport participants, it is clear that understanding and reporting on motivation has not been the primary focus. Taken together, the reports indicate that the primary motivation among older adults relates to the physiological benefits associated with sports and physical activities. The socialisation dimensions links primarily to later-life transitions (Sport England, 2006; Sport For Life Canada, 2016). A psychological dimension of older sport participant motivation was also evident across the various reports (GOSA, 2004). Specifically, older adults have a strong desire to achieve independence and combat stereotypes. Some aspects of the psychological dimension also manifest as demotivators including a lack of information or various fears.

The analysis has also revealed that various demographic and behavioural factors interplay with the three older sport participant motivational dimensions so should be considered carefully by practitioners. In this sense, there is an opportunity for future studies to further explore how these other aspects influence the motivational profile. This analysis will benefit industry practitioners in terms of both program design and promotion.

Chapter 4: Findings Synthesis

The aim of this dissertation to conceptualise an understandable and actionable motivational profile of older sport participants, so this chapter brings together the findings of the two previous chapters focused on academic literature and government/industry reports. First, several observations regarding the context of this research are provided which may be useful for both scholars and practitioners to consider. Second, the four emergent dimensions comprising the motivational profile of older sport participants is presented and discussed. Third, each dimension is further examined in relation to a seminal theory of human motivation – *Maslow's (1943) Hierarchy of Needs*.

Observations about the research context

A number of observations have been made throughout the development of this dissertation that relate to the overall research context but not the emergent motivational profile as such. The first is the varied use of the terms *sport* and *physical activity* and how each are used in the context of older adult participants. Each term appeared in the various materials that were analysed sometimes separately and/or complementarily. In some studies, the use of the terminology was explicitly addressed (Kim et al., 2020; Stenner et al., 2020a) but in others, use of the terminology was without accompanying definition or discussion. It is generally agreed that *physical activity* is a broader concept involving “any bodily movement produced by the skeletal muscles that uses energy above resting level” (World Health Organisation, 2020). Conversely, *sport* is generally considered a subset of physical activity that requires physical skills and features competition (Jenkin et al., 2017; Kim et al., 2020). Notably, there is a prevalence of the term *physical activity* within the governments/industry reports. This may be due to the negative connotations of the term *sport* among older adults, as it might be perceived as ‘too competitive or ‘too intense’ (Sport England, 2006; Sport New Zealand, 2016), which could have been captured in reporting more than research. Using the term *sport* in programs focused on older adults might negatively affect their interest. There is therefore an opportunity to explore further and generate evidence related to this. Overall, terminology should be carefully considered for both research and program design in this context.

The majority of the academic research on the motivations of older sport participants has been supported by a handful of well-established theories. Namely, Achievement Goal Theory (Nicholls, 1984), and Self-Determination Theory (Ryan & Deci, 2000). These behavioural theories have underpinned a large number of scientific studies, exploring physical

activity and sport through a psychological lens (Boyle et al., 2021; Kang & Bae, 2020; Kibele et al., 2021; Mollinedo-Cardalda et al., 2021). Conversely, government/industry reports have mainly featured a managerial lens for the discourse. Addressing physical activity levels among older adults have been the primary focus of these reports. Physical activity guidelines and the related effects for the population feature prominently (Active Ageing Canada, 2019; National Seniors Australia, 2015; Sport New Zealand, 2016; United States National Prevention Council, 2016). This focus on activity levels is likely due to low rates of participation and related economic impact that governments must report on (AAC, 2019; EU, 2020; Ministry of Health, 2013; NSA, 2015; SE, 2006). Therein lies the value of the approach encompassing both sources of data in the present dissertation. Consideration of the underlying psychology of older sport participants from the academic literature may help to address low rates of participation outlined in the government/industry reports.

Despite the use of different lenses, both the academic literature and government/industry reports emphasise the importance of analysing older adults as a heterogeneous group in regard to their motivations. This necessitates a more in-depth understanding of the factors related to the motivations of individuals. Scholars and practitioners have suggested gender, marital status, socioeconomic levels, ethnicity and cultural background as some of the factors that may help distinguish groups of older adults with different motivational profiles (Gray et al., 2016; Jannique et al., 2017; Ministry of Health, 2013; Young, 2011). There is an opportunity in future studies to generate more evidence in regard to the influence of these factors on older sport participant motivation. This can help industry practitioners develop programs targeting the needs and motivations of specific groups.

Motivational profile dimensions for older sport participants

Four distinct dimensions related to the motivation of older sport participants have emerged in this study. Use of the word *dimension* to characterise the profile components warrants further discussion. Dimensions have been defined as ‘directions’ or ‘paths’ (Carroll, 2019), which is appropriate in the context of this study. The dimensions that emerged here resemble paths that lead to sport participation. Each of the four dimensions are multifaceted, capturing related drivers (or paths) that manifest in different ways but are respectively underpinned by the same basic need. Bringing together dimensions to form a *profile* is also appropriate in the context of this study. A profile reflects a set of characteristics that identify individuals as belonging to a certain group (Merriam-Webster, 2021). Therefore, framing the

motivation of older sport participants as *dimensions* comprising a *profile* is understandable and hopefully actionable for practitioners.

The four dimensions defined in this chapter are the result of a simultaneous examination of two distinct 'sources' in this dissertation - existing academic literature and the government/industry reports. These two sources are distinct in that they comprise the perspectives of individuals and organisations with different interests, paradigms, and lenses for exploring and understanding older sport participants. If analysed in isolation, insights will be narrower and implications will be less grounded. A robust body of work is evident from both sources and they should be considered complementary in this effort to conceive a multi-dimensional profile. This complementarity facilitates a more holistic construction of an older sport participants motivational profile. The profile presented here is underpinned by well-established motivational theories, is evidence-based and also reflects the more practical and managerial lens of those in industry.

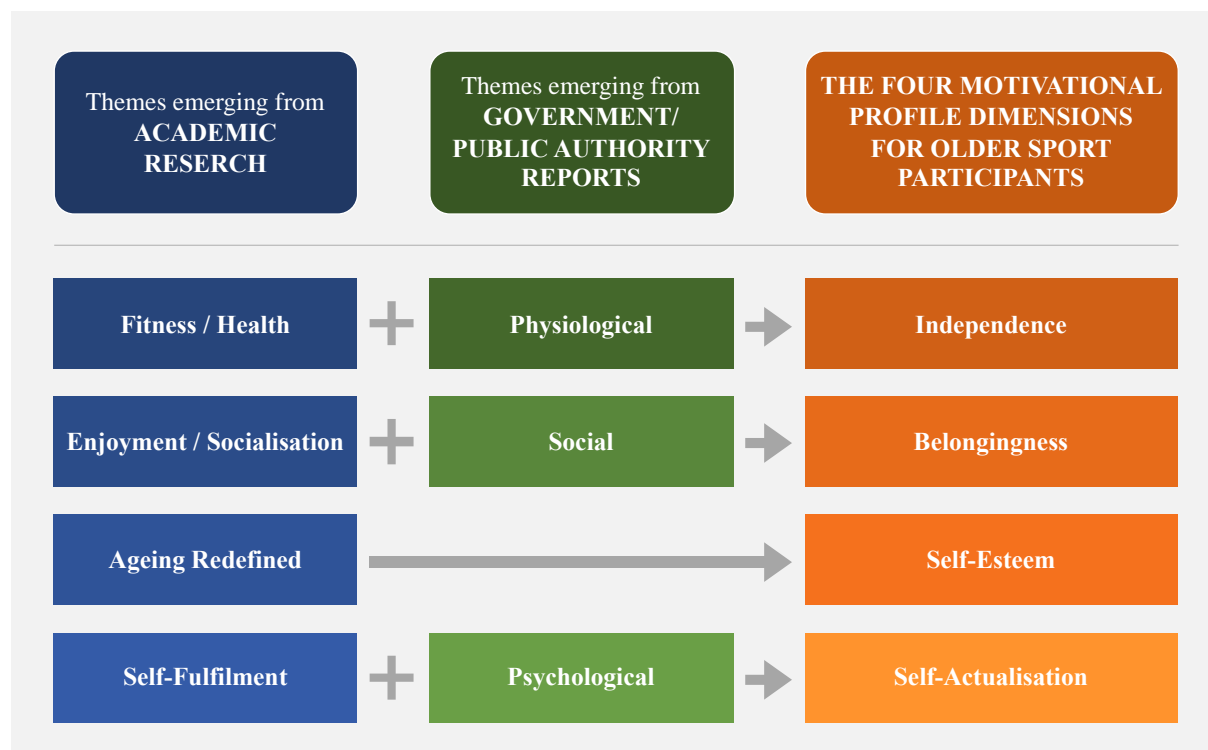
The analysis of academic research and government/industry reports revealed a considerable range of drivers underlying older adults participation in sport. In Chapters 2 and 3, themes were presented related to each source type. Here, those themes are merged to generate the four motivational profile dimensions for older sport participants. The '*Fitness/Health*' theme from Chapter 2 merges with the '*Physiology*' theme from Chapter 3 to become the *Independence* dimension in the profile. Similarly, the '*Enjoyment/Socialisation*' theme from the academic literature merges with the '*Social*' theme from the government/industry reports to produce the second profile dimension, *Belongingness*. The third dimension, *Self-Esteem*, is different in that it is entirely based on the '*Age Redefined*' theme, from the academic literature. The profile dimension label and underpinning evolved nonetheless such that it is presented with terminology to align with the other dimensions. Furthermore, the reframed dimension label makes the insights potentially more understandable and actionable to industry practitioners. Finally, the '*Self-Fulfilment*' theme from the academic research merges with the '*Psychological*' theme from the government/industry reports to produce the fourth dimension, *Self-Actualisation*. The conceptual thinking behind each of these mergers and the final profile dimensions are discussed in depth in the following sections.

This profile and its dimensions are not meant to be completely inclusive of every motivation and related factor that may drive and older sport participant. It is acknowledged that the underlying psychology is complex. Rather the focus here is lifting up the most prominent

drivers that have come through and to capture them with plain and actionable dimension labels. In effect, it is an alternate and simpler way to capture the key aspects of older sport participant motivation based on what we know at the moment from both sources. To this point, no such effort has been undertaken with streamlining such a priority. Figure 3 depicts the merging process that lead to the final motivational profile.

Figure 3

The Motivational Profile Dimensions for Older Sport Participants



First dimension – Independence

The first dimension of a motivational profile for older adults is associated with the health benefits of sport and physical activity but is ultimately best characterised as a quest for independence. The analysis suggests that this desire mainly arises from older adults’ fears of getting injured, becoming ill, or the emergence of any symptoms associated with the ageing process (Spiteri et al., 2019; Yarmohammadi et al., 2019). This prominent aspect of motivation has been extensively discussed and often identified as the primary reason for older adults participation by both scholars and practitioners (Dionigi, 2006). The prominence of this dimension across the two sources is noteworthy. Its importance is often presented alongside discussion of economic factors and strain on health services (Mamun et al., 2020; Nagarajan et

al., 2017; Rosselli & Hernández-Galvis, 2016). Distinct sub-dimensions of physiology-related motivation that link to subset of older sport participants are also evident across the two sources.

Clear from the material that was analysed, is the presence of a subset of older sport participants motivated by broader wellbeing benefits, not necessarily linked to a specific health condition. These individuals are primarily motivated by the general health benefits of sport, normally associated with the prevention/delay of ageing-related physiological issues. Conversely, a second subset is comprised of older adults who seek physiological benefits attainable through sport participation and linked with specific health issues. Those individuals may have experienced issues associated with cardiovascular health, osteoporosis, musculoskeletal disability, blood pressure, functional capacity, cancer, arthritis and diabetes (MH, 2013; RWJF, 2016). Other specific health issues that drive the second subset of older sport participants are obesity (or weight management), stress and injury rehabilitation. It can be argued, that a conscious effort to address a health issue is inextricably linked to independence maintenance or re-establishment.

The subsets based on a physiologically-driven need for independence are linked to demographic characteristics. For example, within the specific-health issue subset, there is a prevalence of women and individuals aged between 50 and 64 (Jannique et al., 2017; Spiteri et al., 2019). That subset is also typically of higher socio-economic status (Gray et al., 2016). More research is needed to further explore demographic and other correlates of physiological need, how this relates to a desire for independence and how this ultimately drives older sport participants. Regardless of the physiological focus (broad or specific) and the potential influence of other factors, it appears that interest in obtaining physiological benefits through sports reflects older adults' deep desire to ensure 'physical' independence. Effectively, this means prolonging the ability to perform daily activities that, otherwise, would require the support of others which, in turn, may foster a sense of dependency.

Second dimension – Belongingness

The second dimension of the older sport participant motivational profile relates to a desire for socialisation but is best labelled as *Belongingness*. Sport generally creates a family-like atmosphere, which provides the ideal context for older adults to establish social networks, as well as to strengthen existing relationships and develop camaraderie (Heo et al., 2013; Jenkin et al., 2018; Stenner et al., 2020a). Furthermore, the analysis suggests these collective experiences contribute to the emergence of social networks of support among these older sport

participants. This, in turn, provides a sense of security that helps them to feel more positive about the ageing process.

From the analysis, it is clear that belongingness flows from fears such as loneliness and isolation (Jenkin et al., 2018; Pike, 2012). Loneliness is a phenomenon directly associated with adverse health outcomes and increased mortality among older adults (Stenner et al., 2020b). In addition to these common fears which often lead one to seek belongingness, specific life-changing events, such as retirement from full-time work, and the loss of partner as some important events also play a role (Kang & Bae, 2020; Pike, 2012; Spiteri et al., 2019).

This dimension of the profile is also well grounded in both the scholarly literature and government/industry reports. The analysed material suggests that older adults seek fun as a strong motive for their participation and that this is fundamentally linked to being with others. Sport and physical activity provide older adults with a sense of excitement and an environment to learn new skills, both of which are inherently social and lead to a feeling of belonging. Inherently social activities improve older adults mood to similar degree as low-doses of antidepressant (AAC, 2016). Many older adults likely sense this and therefore actively seek out environments in which they feel as though they belong.

Sport-based socialisation motives are particularly strong for women and middle-aged older adults (Jannique et al., 2017; Spiteri et al., 2019), but less known about other correlates of this motivational dimension. There is an opportunity to further investigate other factors linked to belongingness and older sport participants. Older adults are driven to share experiences with others and feel supported as a means to feel belongingness.

Third dimension – Self-Esteem

The third dimension of the older sport participant motivational profile, conceptualised and labelled here as *Self-esteem*, is grounded almost entirely in the scholarly literature and not the government/industry reports. Nevertheless, the dimension is both intuitive and foundational, so must be included. Notions of frailty, inactivity and a lack of fitness are referred to in the literature (Dionigi, 2002, 2006; Pike, 2012), but it is argued that these fundamentally relate to a desire to maintain or increase self-esteem and sport is a context in which that can be done for older adults.

Sport is perceived by older adults as a way to challenge these negative stereotypes. Dispelling these often involves projecting youthfulness to onlookers and sometimes the construction of new identities as ‘senior athletes’. The process may involve presenting “oneself

in contrast – or even in opposition of others” (Kleiber, 1999, p. 93). In other words, these new identities are normally constructed based on comparisons with non-active older adults, or the negative stereotypes. Overall, this is really about building self-esteem and comprises an important driver of participation for older adults.

It is clear from the literature and reports that the way an older adult perceives and experiences competition relates to self-esteem and drives participation. There are two different ways in which *competition* links to motivation among older adults. Some strive for success and are primarily motivated by the opportunity to win and potentially be recognised. Others view competitions as an opportunity to socialise, make friends and enjoy the moment. It is evident from the literature that regardless of how competition is perceived, it forms a crucial part of an older sport participant’s identity in the context of sport and when there is alignment between perception and experience, links to self-esteem.

Deconstructing aging stereotype is a powerful motivation for older sport participants and aligns to the maintenance or development of self-esteem. Many older adults seek to serve as role models for others in the context of sport by demonstrating youthfulness to others. This includes family (especially grandchildren), older adult non-exercisers or other less experienced senior athletes. In this sense, sport provides opportunities to project youthfulness to other generations, as well as to be perceived as role models (Jenkin et al., 2018). Therefore, just like how an older adult perceives competition, role modelling and the projection of youthfulness is also an essential part of a sport-based identity. When an older adult is satisfied in this regard, self-esteem follows – which is likely the underlying driver.

Fourth dimension – Self-Actualisation

As a result of the current analysis of literature and government/industry reports, it is evident that the fourth motivational dimension – *Self-actualisation* - is related to but separate from the other three. It is related to the extent that if older adults are meeting independence, belongingness and self-esteem needs in other parts of their lives, those factors may not be prominent drivers of their engagement in sport. It is effectively a higher-level motivational dimension for older sport participants.

Some older adults have a clear sense of their own limitations and capabilities, self-worth, and a positive self-image. For older adults of this ilk, participation in sport may be about seeking/reinforcing purpose or a sense of accomplishment. The literature and reports allude to retirement from full-time work as a significant influence on the prevalence of the Self-

actualisation motive. Studies have explored the role of sport in this specific moment of older adults' lives and its capacity to provide "something new in their lives", and also be an effective means to establish purpose (Dionigi, 2006; Heo et al., 2013; Kelley et al., 2014; Pike, 2012; Spiteri et al., 2019). More specifically, the construction of new life purposes through sport has come through in research in the context of sport competitions for seniors. According to senior athletes in the Kelley et al.'s (2014) study, sport has offered a purpose later in life due to competition preparation phase, as well as the rituals during the events. Such fulfilling moments experienced as part of these events, positively impacts lives even after the competitions, when back to usual routines.

Older sport participants are motivated by a desire for a sense of accomplishment and satisfaction. The synthesis here indicates that such powerful feelings are normally associated with the performance of meaningful activities and the positive feeling arising from them (Heo et al., 2013). A feeling of competence leads to positivity and is therefore an important sport participation motive (Buzzelli & Draper, 2020). It was evident through this analysis that an on-going learning process leads to self-fulfilment and also links to sport participation motivation. This generates the feeling that potential is being developed, despite all limitations. This all relates to an older sport participants' desire to reach their full potential, the essence of self-actualisation. Although the notion of self-actualisation is relatively abstract compared to the other motivational dimensions, it is still very practicable for those designing and promoting programs for older adults to tap into.

Alignment to Maslow's Hierarchy of needs

The analysis of both academic literature and government/industry reports have revealed four distinct dimensions which comprise a motivational profile of older adults: 1. *Independence*; 2. *Belongingness*; 3. *Self-Esteem*; 4. *Self-Actualisation*. These needs motivate or stimulate individuals to participate in sports later in life (Schmutte, 2018). In addition to influencing individuals actions, these needs are also a reflection of what is required from people to survive and live in society (Maslow, 1943; Schmutte, 2018). In fact, it is noteworthy the extent to which the four dimensions of older adults' motivational profile that emerged here align to four needs outlined in *Maslow's Theory of Human Motivation* (Maslow, 1943).

The hierarchy of needs explains human behaviour in relation to the basic requirements for survival and growth. These requisites, or needs, are organised according to their importance for survival and their power to motivate the individual (Maslow, 1943). Within the context of

the present study, these needs align with profile outlining the primer drivers of older adults participation in sports and physical activity. The hierarchical nature of the framework means that more basic needs must be satisfied before other higher-order needs (Maslow, 1943). However, the author also indicates the flexibility of the framework by stating that the process of fulfilling needs do not always necessarily follow this 'rigid' hierarchy. Within sport participation contexts, this is particularly the case. In fact, the 'categorisation' of an individual as particularly motivated by a certain dimension is likely closest linked gender, age, socioeconomic level, cultural background and ethnicity. Moreover, there is always a need (or motivation) with stronger influence than others, but this does not prevent individuals from having secondary motivations. Note that Maslow's "safety" need is left out of this discussion.

The first level of Maslow's hierarchy of needs, physiological, represents fundamental body requirements in order to survive, such as hunger, thirst, sex and sleep (Maslow, 1943). If unmet, individuals will focus on satisfying these needs before any others. Within the context of older sport participants, the needs associated with the physiological benefits of sports reflect primary motivation for their participation. As discussed, this motivation is connected to a very basic necessity of preventing and/or managing health issues that might compromise older adults main 'instrument' of survival, their bodies. In this sense, sport and physical activities provides them with the opportunity to keep their bodies healthy (or as close as), in order to enable them to perform daily basic activities that evidence their 'physical' independency. Although people of other age groups are driven to participate in sport, this seems particularly pronounced with the focal group here – older adults.

The '*love and belonging need*' needs in Maslow's theory represents an individual's desire for affectionate relations with people, the need to belong to a certain group, as well as to feel accepted by others (Maslow, 1943). There is clear alignment here to the belongingness dimension of the older sport participant profile. The collective nature of sports and physical activities generally creates a family-like atmosphere that provides the ideal context to create and strengthen interpersonal relationships. This, in turn, contributes to the establishment of support that generate a strong sense of security and support among older adults. Furthermore, older adults desire to share experiences and fears with others as a means to feel belonging (Jenkin et al., 2018; Kelley et al., 2014).

The '*esteem needs*' level of Maslow's hierarchy encompasses both self-esteem and the esteem of others. The first involves an individual's perception of being capable, competent and confident in the face of the world. The second represents the desire for respect, recognition and

appreciation from other people (Maslow, 1943). Within the context of older sport participants, both needs are intimately related to widespread negative stereotypes of ageing. In this sense, older adults perceive sport as a way to challenge these negative discourses by performing activities that are normally seen as not ‘age-suited’. This, in turn, fosters higher levels of self-esteem, as it helps transform their identities from ‘normal’ older adults to ‘senior athletes’. Furthermore, it also improves their esteem of others by enabling them to project more youthful and stronger images that, in turn, opposes the dominant and less respected discourses of ageing. There is a hierarchical element in here in that a sense of belongingness is likely necessary for an older sport participant to enhance or maintain self-esteem.

The highest level of Maslow’s hierarchy of needs, self-actualisation, refers to an individuals’ desire to become everything that one “is capable of becoming” (Maslow, 1943, p. 383) and directly aligns to one of the profile dimensions. This includes the desire to focus on specific activities that help one find deeper meanings in life. This higher level of need also involves the development of talents and abilities to the fullest extent (Schmutte, 2018). In this sense, contrary to other needs, older adults that are driven in this way accept their physiological limitations, feel good about themselves regardless of others’ opinions and have a self-image similar to their ideal self. As a result, sport is perceived much beyond the physiological, social and esteem needs, but as a way to build a new purpose in their lives. Perceptions of competence to practise sport successfully lead to self-actualisation feelings that, in turn, drive an older adult to continue their participation.

Consideration of the emergent dimensions comprising older adults’ motivational profile alongside Maslow’s Theory of Human Motivation allows for important context. The theory reinforces and underpins each dimension of the profile presented here. In addition, the exercise suggests a continuum or potentially even hierarchy of sport participation motives for older adults. In the context of sport for older adults, motivation likely ranges from quite foundational (i.e., seeking physiological benefits), to more profound or abstract needs like finding new purpose.

Chapter 5: Discussion

The current analysis of literature and government/industry reports has revealed four distinct dimensions which – taken together - comprise a profile of older sport participant motivation: *1. Independence; 2. Belongingness; 3. Self-Esteem; 4. Self-Actualisation*. Important implications for industry practitioners, as well as gaps and opportunities to be addressed in future studies related to this profile are covered in this chapter. The ideas discussed in this chapter are presented in a way intended to be understandable beyond an academic audience and actionable for practitioners.

Practical implications

The motivational profile of older sport participants that has been presented in this dissertation has important practical implications. As outlined in Chapter 4, older sport participants are motivated by four prominent needs, which are *Independence, Belongingness, Self-esteem and Self-actualisation*. Sport managers designing sport programs and events for older adults should carefully consider these needs both in term of how programs are designed but also how they are promoted to this market. There is potential for real impact if consideration of these motivational profile dimensions will ultimately foster sustained participation among older sport participants.

In order to address the *Independence* dimension of the older sport participant motivational profile, industry practitioners should not only develop activities that improve overall health but also communicate clearly and repeatedly that a participant's engagement is likely to foster independence. Designing programs that enhance one's ability to perform daily tasks thereby creating a sense of autonomy is important, but equally, the potential to foster independence should be reflected in program promotion so potential participants are attracted to the program, based on the potential to achieve that result. Likewise, this communication strategy could also be effective for retention by encouraging long-time participants to reflect on the independence that may have been the result of their ongoing participation.

Many sport settings are inherently social, which is ideal considering the belongingness aspect of the older sport participant motivational profile. As outlined in Chapter 4, sport provides the ideal context to build social networking, strengthen existing relationships, and develop camaraderie. This, in turn, helps to foster a sense of belonging among older adults. Furthermore, sport can facilitate 'networks of support', which provides a sense of protection by bringing individuals with similar experiences (and needs) close to each other. Therefore, in

order to integrate the *Belongingness* motivation, industry practitioners should reinforce the ‘family-like’ atmosphere in activities and communication in order to leverage notions of collectivity and support. Moreover, industry practitioners can foster further engagement by offering additional activities such as group trips, dinners, meetings, among others. By leveraging collective aspects of sport and creating 'networks of support', sport managers can facilitate a sense of belongingness, which is crucial to sustain participation. These 'networks of support' can be highlighted in program promotion to potential new participants.

The *Self-esteem* motivation dimension can also be integrated into sport programs and the way that they are promoted to participants. In Chapter 4, sport as a means to challenge the negative stereotypes associated with aging (i.e., frailty, sedentariness, and dependency) was discussed. Older adults, as part of self-esteem development or maintenance, seek to counter and ultimately move past these stereotypes. Sport can also help construct new ‘senior athlete’ identities, along with a projection of a youthful/powerful image to others. In order to “tap into” the *Self-esteem* dimension of older participant motivation, industry practitioners may develop programs that continuously reinforce participants progress, while facilitating interactions between individuals of different generations. The purposeful recognition of skill development is likely to gradually improve the self-esteem of older sport participants. Likewise, interaction with other generations through sport may also reinforce the feeling and projections of a more youthful self which in turn, may also built self-esteem. Program promotion targeted to older sport participants should contain imagery that conveys vigour and youthfulness which will tap into this motivational dimension.

Just as for the *Independence*, *Belongingness*, and *Self-esteem* motivational profile dimensions, the notion of *Self-actualisation* should also be integrated into sport program design and promotion. As outlined in Chapter 4, there is likely a subset of older sport participants who may have fulfilled many needs associated with the other motivational profile dimensions through other means. Hence, these older adults seek meaning from the activities in which they participate more than anything else. Participation in sport allows for the development of one’s full potential, the potential to give one’s life new purpose. Given the complexity of this dimension of the motivational profile, embedding it within program design and promotion is more challenging than for the others. One way is to incorporate/project imagery that goes beyond traditional images and ideas. Sport managers may offer participants the opportunity to either help with program design or to act as advocates for prospective participants and/or

sponsors. This can help not only older adults to reflect on the impact of sport on developing their full potential but also providing a more meaningful role within the sport context.

In addition to the motivational dimensions, there are also important implications in regard to the influence of '*demotivational*' factors on older adult sport participation. Exploring only the motivations of older sport participants may be not sufficient. Although the profile provides a high-level framework that is important and broadly actionable, some individuals may face barriers including budget constraints, lack of information, and the fear of embarrassment/injury that even a highly-motivated individual cannot overcome. Therefore, industry practitioners must develop strategies to not only address older adults needs but also the barriers. Effectively, this means offering more affordable activities for those with low income, establishing partnerships with related organisations in order to generate more awareness about the programs and using 'networks of support' as a means to minimise barriers that may be demotivating. Designing and executing strategies to address these demotivational factors may make sport programs' more accessible and attractive to potential participants.

There are also important implications related to the ongoing terminology issue (i.e., *sport* and *physical activity*) that has been discussed through this dissertation. The term *sport* carries some negative connotations among older adults as being too strenuous and/or not age-suited. Such perceptions may demotivate participation. Therefore, industry practitioners must consider this issue when developing and promoting programs for older participants. Ideas and imagery which may foster negativity (i.e., hyper competitive environment, overly strenuous) should be avoided. As sport is positively perceived among other age groups, industry practitioners should work to reframe sport for older adults as accessible, social and an opportunity to better oneself. This in effect, a rebrand of how sport (and its various associations) is presented to this target market.

It is important to not overstate the practical utility of the older sport participant motivational profile that has been presented in this dissertation as there are other factors to consider in combination. The wider population of older adults consists of many subgroups based on numerous demographic and psychographic characteristics. This includes life stages, such as retirement from full-time work, grandchildren, loss of a partner, among others. Significant life events often lead to unique challenges and needs. Industry practitioners catering for older sport participants must appreciate and strategize around this subgroup heterogeneity alongside the motivational profile dimensions.

Future research

Several recommendations for future research are proposed in this next section which flow on from the present study. These recommendations reflect the primary limitation of this dissertation, which is the fact that no primary data was collected but rather the analyses and discussion entirely relies on the research of others. In this sense, the following recommendations reflect both existing gaps in the extant literature, but also the synthesis that has taken place here. These directions for future research mainly relate to the potential influence of other factors on older adults motivations. These include the opportunity to continue exploring the heterogeneous nature of this phenomenon and the necessity of focusing on distinct cultural contexts. Further research in these areas would result in context-specific priorities of the various motivational profile dimensions, which in turn would facilitate more accurate messaging to attract/retain participants in sport programs. Specific ways in which scholars and practitioners can enhance our collective knowledge on the topic are discussed next.

The basic needs underpinning the four motivational dimensions are also influenced by other factors. Retirement from full-time work is a good example of this phenomenon. As is evident in the literature, this 'life event' is normally accompanied by a desire to connect and interact with other people which, in turn, may lead to sport participation motivated by socialisation (Kelley et al., 2014; Pike, 2012; Sport England, 2006). In future research, it would be helpful to explore major life events and their specific link to older sport participant motivation. The analysis here suggests gender differences, life events, ethnicity, and cultural background as relevant factors that may influence older adults' needs and motivations (Dionigi, 2006; Jannique et al., 2017; Sport England, 2006). Further research on these factors would provide valuable insight on the motivational profile and how it may vary. This, in turn, supports sport managers in the development of segmentation strategies to attract and retain older sport participants.

The lack of coverage related to the '*Age Redefined*' motivational dimension among the government/industry reports is noteworthy. This important dimension was only examined within scholarly publications, which self-esteem and negative stereotypes were the focus (Dionigi, 2002; Kelley et al., 2014; Stenner et al., 2020a). The governments/industry reports were more focused on measuring activity and related economic impact rather than this important aspect of underlying psychology (Active Ageing Canada, 2019; European Union, 2020; National Seniors Australia, 2015; Sport England, 2020). So, the call here is for government and industry to take the lead of scholars and consider this more explicitly by

measuring it and reporting on it. Ultimately, consideration of this motivational dimension may help to improve the effectiveness of related initiatives that are happening in industry.

Another issue that is worthy of attention in future research relates to the location from which most the research and reporting used in this dissertation has come Australia, Canada, New Zealand, United States and United Kingdom. This western and English language bias on research and reporting on older adults in sport and physical activity has been noted elsewhere (Gayman et al., 2017; Jenkin et al., 2017; Spiteri et al., 2019; Stenner et al., 2020a). Considering the global nature of the aging phenomenon and widespread popularity of sports, future studies must explore the sport motivations of older adults within different cultural contexts. Specifically, eastern and non-English speaking countries. This will add meaning and depth to discussions on the topic. The motivational profile developed in this study can serve as one contribution to what should be a much broader conversation.

Further studies must also provide more evidence on the contrasting perceptions involving the term 'sport' and its connotations among older adults. As discussed, in government/industry reports, it is suggested that 'sport' is perceived by older adults as strenuous or overly competitive (Government of South Australia, 2004; Sport England, 2006; Sport New Zealand, 2016). There is a need for studies to better investigate those perceptions, as well as possible alternatives. Experimental or action research could even trial among older adults the pairing of the term sport with ideas and imagery reflecting the motivational profile. Insights related to terminology may provide industry practitioners a means to dispel myths about sport and ultimately more successful market it.

Limitations

Given the nature of this research project, it is important to acknowledge the existence of some limitations. The first major limitation is that materials produced in languages other the English were not included. This may have excluded relevant insights and findings associated with older sport participants among different locations and cultures. Another issues that is worthy of attention relates to the location from which most of the research and reporting used in this dissertation has come: Australia, Canada, New Zealand, the United States and the United Kingdom. Such a pattern may relate to a strong western bias on the way that relationships of older adults with sports is perceived and analysed. Finally, the analysis and discussion included in this dissertation entirely relies on the research of others as no primary data was collected. In

this sense, no empirically new insights have been generated to advance our collective understanding of this phenomenon.

Conclusion

This dissertation aimed to conceptualise an understandable and actionable motivational profile of older sport participants. It is situated among an increasing number of studies that examine sport as a tool for health and well-being among older adults. This relates to growing concerns over the world's aging population and related economic impact. In this dissertation, both published research and governments/industry reports have been sourced and synthesised to establish an evidence-based motivational profile of older sport participants comprising four distinct dimensions: (1) *Independence*, (2) *Belongingness*, (3) *Self-esteem*, (4) *Self-actualisation*. Although not an exhaustive list of factors, these dimensions represent the most prominent paths that lead older adults to sport participation. These dimensions should be “tapped into” within program design and promotion.

This dissertation has helped to evolve the discussions of older sport participant motivation in several ways. To our knowledge, it is the first comprehensive effort to synthesise the findings related to older adult sport participant motivation across academic, government and industry publications. Second, a motivational profile for older sport participants has been conceptualised and presented alongside a series of important implications for sport managers. Third, important gaps to be addressed in future research have been identified. While there is much more to study, it is hoped the ideas here will be considered by other scholars and industry practitioners alike.

Reference

- Active Ageing Canada. (2019). *Better with age: Move more today for a healthier tomorrow*. <https://www.participaction.com/en-ca/about>
- Aigner-Walder, B., & Döring, T. (2012). The effects of population ageing on private consumption - a simulation for Austria based on household data up to 2050. *Eurasian Economic Review*, 2(1), 63–80. <https://doi.org/10.14208/BF03353833>.
- Australian Government. (2018). Older Australia at a glance. <https://www.aihw.gov.au/reports/older-people/older-australia-at-a-glance/contents/demographics-of-older-australians>
- Boyle, S. E., Fothergill, M. A., Metcalfe, J., Docherty, S., & Haskell-Ramsay, C. F. (2021). The effects of low-intensity multimodal proprioceptive exercise on cognitive function in older adults. *Journal of Physical Activity & Health*, 18(1), 2-7. <https://doi.org/10.1123/jpah.2020-0134>
- Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2019). Thematic analysis. In P. Liamputtong (Ed.), *Handbook of research methods in health social sciences* (pp. 843-860). Springer. <https://doi.org/10.1007/978-981-10-5251-4>
- Buzzelli, A. A., & Draper, J. A. (2020). Examining the motivation and perceived benefits of pickleball participation in older adults. *Journal of Aging & Physical Activity*, 28(2), 180-186. <https://doi.org/10.1123/japa.2018-0413>
- Carroll, S. (2019). *Physicist explains one concept in five levels of difficulty*. Wired. <https://www.wired.com/video/watch/physicist-explains-one-concept-in-5-levels-of-difficulty-2019-10-16>
- Casey, M. M., Eime, R. M., Payne, W. R., & Harvey, J. T. (2009). Using a socioecological approach to examine participation in sport and physical activity among rural adolescent girls. *Qualitative Health Research*, 19(7), 881-893. <https://doi.org/10.1177/1049732309338198>
- Chang, A. S. F., & Kalawsky, R. S. (2017). Future configurable transport for the ageing population. *7th International Conference on Power Electronics Systems and Applications - Smart Mobility, Power Transfer & Security (PESA)*, 1-5. <https://doi.org/10.1109/PESA.2017.8277743>
- Dare, J., Wilkinson, C., Marquis, R., & Donovan, R. J. (2018). “The people make it fun, the activities we do just make sure we turn up on time.” Factors influencing older adults’ participation in community-based group programmes in Perth, Western Australia. *Health & Social Care in the Community*, 26(6), 871-881. <https://doi.org/10.1111/hsc.12600>
- Davey, J., Fitzpatrick, M., Garland, R., & Kilgour, M. (2009). Adult participation motives: Empirical evidence from a workplace exercise programme. *European Sport Management Quarterly*, 9(2), 141-162. <https://doi.org/10.1080/16184740802571427>

- Dionigi, R. A. (2002). Leisure and identity management in later life: Understanding competitive sport participation among older adults. *World Leisure Journal*, 44(3), 4-15. <https://doi.org/10.1080/04419057.2002.9674274>
- Dionigi, R. A. (2006). Competitive sport and aging: The need for qualitative sociological research. *Journal of Aging & Physical Activity*, 14(4), 365-379. <https://doi.org/10.1123/japa.14.4.365>
- Dionigi, R. A., Baker, B. J., & Horton, S. (2011). Older athletes' perceived benefits of competition. *The International Journal of Sport and Society: Annual Review*, 2(2), 17-28. <https://doi.org/10.1016/j.jaging.2012.06.006>
- European Union. (2020). *Ageing Europe: Looking at the lives of older people in the EU*. <https://ec.europa.eu/eurostat/documents/3217494/11478057/KS-02-20-655-EN-N.pdf/9b09606c-d4e8-4c33-63d2-3b20d5c19c91?t=1604055531000>
- Feilzer, Y. (2010). Doing mixed methods research pragmatically: Implications for the rediscovery of pragmatism as a research paradigm. *Journal of Mixed Methods Research*, 4(1), 6-16. <https://doi.org/10.1177/1558689809349691>
- Gayman, A. M., Fraser-Thomas, J., Dionigi, R. A., Horton, S., & Baker, J. (2017). Is sport good for older adults? A systematic review of psychosocial outcomes of older adults' sport participation. *International Review of Sport & Exercise Psychology*, 10(1), 164-185. <https://doi.org/10.1080/1750984X.2016.1199046>
- Government of Canada. (2014). Action for seniors report. <https://www.canada.ca/en/employment-social-development/programs/seniors-action-report.html>
- Government of South Australia. (2004). *Targeting mature age participants*. https://www.orsr.sa.gov.au/_data/assets/file/0024/6783/Targeting-mature-age-part.pdf
- Grant, B. (2010). Time for action: Advocacy for physical activity in later life. *Asia-Pacific Journal of Health, Sport and Physical Education*, 1(3), 13-19. <https://doi.org/10.1080/18377122.2010.9730333>
- Grant, B. C. (2001). "You're never too old": Beliefs about physical activity and playing sport in later life. *Ageing & Society*, 21(6), 777-798. <https://doi.org/10.1017/s0144686x01008492>
- Gray, P. M., Murphy, M. H., Gallagher, A. M., & Simpson, E. E. A. (2016). Motives and barriers to physical activity among older adults of different socioeconomic status. *Journal of Aging & Physical Activity*, 24(3), 419-429. <https://doi.org/10.1123/japa.2015-0045>
- Greyson, D., Rafferty, E., Slater, L., MacDonald, N., Bettinger, J. A., Dubé, È., & MacDonald, S. E. (2019). Systematic review searches must be systematic, comprehensive, and transparent: a critique of Perman et al. *BMC Public Health*, 19(1), 1-6. <https://doi.org/10.1186/s12889-018-6275-y>

- Grzenda, W. (2019). Socioeconomic aspects of long-term unemployment in the context of the ageing population of Europe: The case of Poland. *Economic Research-Ekonomska Istrazivanja*, 32(1), 1561-1582. <https://doi.org/10.1080/1331677X.2019.1638289>
- Guinn, B., & Vincent, V. (2002). Select physical activity determinants in independent-living elderly. *Activities, Adaptation & Aging*, 26(4), 17-26. https://doi.org/10.1300/J016v26n04_02
- Henderson, K. A., Casper, J., Wilson, B. E., & Dern, L. (2012). Behaviors, reasons, and outcomes perceived by senior games participants. *Journal of Park & Recreation Administration*, 30(1), 19-35. <https://doi.org/10.1016/j.smr.2008.12.004>
- Heo, J., Culp, B., Yamada, N., & Won, Y. (2013). Promoting successful aging through competitive sports participation: Insights from older adults. *Qualitative Health Research*, 23(1), 105. <https://doi.org/10.1177/1049732312457247>
- Hodge, K., Allen, J. B., & Smellie, L. (2008). Motivation in masters sport: Achievement and social goals. *Psychology of Sport & Exercise*, 9(2), 157-176. <https://doi.org/10.1016/j.psychsport.2007.03.002>
- Holman, B. W. B., Fowler, S. M., & Hopkins, D. L. (2019). Red meat (beef and sheep) products for an ageing population: a review. *International Journal of Food Science and Technology*, 55, 919-934. <https://doi.org/10.1111/ijfs.14443>
- Jae-Eun, K., & Gwang-Uk, L. (2013). The relationship of baby boomers' participation motivation in leisure sports with recovery resilience and life satisfaction. *Journal of Exercise Rehabilitation*, 9(2), 263-270. <https://doi.org/10.12965/jer.130009>
- Jannique, G. Z. v. U., Asaduzzaman, K., & Nicola, W. B. (2017). Gender differences in physical activity motivators and context preferences: a population-based study in people in their sixties. *BMC Public Health*, 17(1), 1-11. <https://doi.org/10.1186/s12889-017-4540-0>
- Jenkin, C. R., Eime, R. M., Westerbeek, H., O'Sullivan, G., & van Uffelen, J. G. Z. (2017). Sport and ageing: A systematic review of the determinants and trends of participation in sport for older adults. *BMC Public Health*, 17, 1. <https://doi.org/10.1186/s12889-017-4970-8>
- Jenkin, C. R., Eime, R. M., Westerbeek, H., O'Sullivan, G., & van Uffelen, J. G. Z. (2016). Are they 'worth their weight in gold'? Sport for older adults: Benefits and barriers of their participation for sporting organisations. *International Journal of Sport Policy*, 8(4), 663. <https://doi.org/10.1080/19406940.2016.1220410>
- Jenkin, C. R., Eime, R. M., Westerbeek, H., & van Uffelen, J. G. Z. (2018). Sport for adults aged 50+ years: Participation benefits and barriers. *Journal of Aging & Physical Activity*, 26(3), 363-371. <https://doi.org/10.1123/japa.2017-0092>
- Jonsson, O., Frögren, J., Haak, M., Slaug, B., & Iwarsson, S. (2021). Understanding the wicked problem of providing accessible housing for the ageing population in Sweden.

- International Journal of Environmental Research and Public Health*, 18(3), 1-21.
<https://doi.org/10.3390/ijerph18031169>
- Kang, H., & Bae, M. (2020). Health benefits of staying active after retirement. *Review of European Studies*, 12(4), 43-48. <https://doi.org/10.5539/res.v12n4p43>
- Kelley, K., Little, S., Jong Seon, L., Birendra, K. C., & Henderson, K. (2014). Articulating meanings of positive adjustment to aging through physical activity participation among older adults. *Journal of Park & Recreation Administration*, 32(1), 63-79. <https://js.sagamorepub.com/jpra/article/view/2880>
- Kibele, A., Claußen, L., & Eckardt, N. (2021). Why resistance training in metastable states of equilibrium could be beneficial for older adults - A narrative review. *German Journal of Sports Medicine*, 72(2), 54-59. <https://doi.org/10.5960/dzsm.2020.442>
- Kim, A. C. H., Park, S. H., Kim, S., & Fontes-Comber, A. (2020). Psychological and social outcomes of sport participation for older adults: a systematic review. *Ageing & Society*, 40(7), 1529. <https://doi.org/10.1017/S0144686X19000175>
- Kleiber, D. A. (1999). *Leisure experience and human development*. Perseus.
- Kolt, G. S., Driver, R. P., & Giles, L. C. (2004). Why older Australians participate in exercise and sport. *Journal of Aging & Physical Activity*, 12(2), 185-198. <https://doi.org/10.1123/japa.12.2.185>
- Kosteli, M.-C., Williams, S. E., & Cumming, J. (2016). Investigating the psychosocial determinants of physical activity in older adults: A qualitative approach. *Psychology & Health*, 31(6), 730-749. <https://doi.org/10.1080/08870446.2016.1143943>
- Kremer, J., Moran, A., Walker, G., & Craig, C. (2012). *Key concepts in sport psychology* (1 ed.). SAGE. <https://doi.org/10.4135/9781446288702>
- Loprinzi, P. D., & Frith, E. (2019). Association between perceived physical activity and cognitive function in older adults. *Psychological Reports*, 122(1), 108-116. <https://doi.org/10.1177/0033294117750632>
- Mallett, R., Hagen-Zanker, J., Slater, R., & Duvendack, M. (2012). The benefits and challenges of using systematic reviews in international development research. *Journal of Development Effectiveness*, 4(3), 445-455. <https://doi.org/10.1080/19439342.2012.711342>
- Mamun, S. A. K., Rahman, M. M., & Khanam, R. (2020). The relation between an ageing population and economic growth in Bangladesh: Evidence from an endogenous growth model. *Economic Analysis & Policy*, 66, 14-25. <https://doi.org/10.1016/j.eap.2020.02.001>
- Manoochehry, S., & Reza Rasouli, H. (2017). Iranian population policy and aging: New health concerns. *International Journal of Travel Medicine and Global Health*, 5(2), 70-71. <https://doi.org/10.15171/IJTMGH.2017.14>

- Marques, A., de Matos, M. G., Bordado, J., Gouveia, E. R., Peralta, M., & Gomez-Baya, D. (2020). Different levels of physical activity and depression symptoms among older adults from 18 countries: A population-based study from the survey of health, ageing and retirement in Europe *European Journal of Sport Science*, 8.
<https://doi.org/10.1080/17461391.2020.1795273>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.
<https://doi.org/10.1.1.318.2317>
- Merriam-Webster. (2021). *Definition of profile*. <https://www.merriam-webster.com/dictionary/profile>
- Milanović, Z., Pantelić, S., Trajković, N., Sporiš, G., Kostić, R., & James, N. (2013). Age-related decrease in physical activity and functional fitness among elderly men and women. *Clinical Interventions in Aging*, 8, 549-556.
<https://doi.org/10.2147/CIA.S44112>
- Ministry of Health. (2013). *Guidelines on Physical Activity for Older People (aged 65 years and over)*. <https://www.health.govt.nz/system/files/documents/publications/guidelines-on-physical-activity-older-people-jan13-v3.pdf>
- Mollinedo-Cardalda, I., Rodríguez, A. L., Ferreira, M., & Cancela-Carral, J. M. (2021). Benefits of strenold program on health-related quality of life in adults aged 60 years or older. *International Journal of Environmental Research and Public Health*, 18(6), 3253-3253. <https://doi.org/10.3390/ijerph18063253>
- Nagarajan, R., Teixeira, A. A. C., & Silva, S. (2017). The impact of population ageing on economic growth: A bibliometric survey. *Singapore Economic Review*, 62(2), 275-296. <https://doi.org/10.1142/S021759081550068X>
- National Seniors Australia. (2015). *How physically active are senior Australians? Evidence from national data*.
https://nationalseniors.com.au/uploads/07151252PAC_PhysicalActivity_Report_FN_Web.pdf
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 91(3), 328-346.
<https://doi.org/10.1037/0033-295X.91.3.328>
- Office for National Statistics. (2019). *Overview of the UK population: August 2019*.
<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/overviewoftheukpopulation/august2019#the-uks-population-is-ageing>
- Ong, A. D., Uchino, B. N., & Wethington, E. (2016). Loneliness and health in older adults: A mini-review and synthesis. *Gerontology*, 62(4), 443-449.
<https://doi.org/10.1159/000441651>
- Opdal, I. M., Lorem, G. F., Larsen, L. S., Hopstock, L. A., & Schirmer, H. (2020). A prospective study on the effect of self-reported health and leisure time physical

- activity on mortality among an ageing population: Results from the Tromsø study. *BMC Public Health*, 20(1), 15. <https://doi.org/10.1186/s12889-020-08681-x>
- Orla, C., & Joe, B. (2015). Designing health promoting foods for the ageing population: A qualitative approach. *British Food Journal*, 117(12), 3003-3023. <https://doi.org/10.1108/BFJ-04-2015-0158>
- Owen, N., Leslie, E., Salmon, J., & Fotheringham, M. J. (2000). Environmental determinants of physical activity and sedentary behavior. *Exercise and Sport Sciences Reviews*, 28(4), 153-158. <https://pubmed.ncbi.nlm.nih.gov/11064848/>
- Patel, A., Schofield, G. M., Kolt, G. S., & Keogh, J. W. L. (2013). Perceived barriers, benefits, and motives for physical activity: Two primary-care physical activity prescription programs. *Journal of Aging & Physical Activity*, 21(1), 85-99. <https://doi.org/10.1123/japa.21.1.85>
- Pedersen, M. T., Vorup, J., Nistrup, A., Wikman, J. M., Alstrøm, J. M., Melcher, P. S., Pfister, G. U., & Bangsbo, J. (2017). Effect of team sports and resistance training on physical function, quality of life, and motivation in older adults. *Scandinavian Journal of Medicine & Science in Sports*, 27(8), 852-864. <https://doi.org/10.1111/sms.12823>
- Pero, R. D., Amici, S., Benvenuti, C., Capranica, L., Minganti, C., & Pesce, C. (2009). Motivation for sport participation in older Italian athletes: The role of age, gender and competition level. *Sport Sciences for Health*, 5(2), 61-69. <https://doi.org/10.1007/s11332-009-0078-6>
- Pike, E. C. J. (2012). Aquatic antiques: Swimming off this mortal coil? *International Review for the Sociology of Sport*, 47(4), 492-510. <https://doi.org/10.1177/1012690211399222>
- Plonczynski, D. J. (2000). Measurement of motivation for exercise. *Health Education Research*, 15(6), 695-705. <https://doi.org/10.1093/her/15.6.695>
- Reed, C. E., & Cox, R. H. (2007). Motives and regulatory style underlying senior athletes' participation in sport. *Journal of Sport Behavior*, 30(3), 307-329. <https://ezproxy.aut.ac.nz/login?url=https://search.ebscohost.com/login.aspx?direct=true&site=eds-live&db=s3h&AN=26266571>
- Richard, A., Rohrmann, S., Vandeleur, C. L., Schmid, M., Barth, J., & Eichholzer, M. (2017). Loneliness is adversely associated with physical and mental health and lifestyle factors: Results from a Swiss national survey. *PLoS ONE*, 12(7). <https://doi.org/10.1371/journal.pone.0181442>
- Robert Wood Johnson Foundation. (2016). *Increasing physical activity among adults age 50 and older*. https://www.ncoa.org/wp-content/uploads/IssueBrief_KeepCurrentPA.pdf
- Roper, E. A., Molnar, D. J., & Wrisberg, C. A. (2003). No "Old Fool": 88 years old and still running. *Journal of Aging & Physical Activity*, 11(3), 370-387. <https://doi.org/10.1123/japa.11.3.370>

- Rosselli, D., & Hernández-Galvis, J. (2016). The impact of ageing on the Colombian health system. *Salud Publica de Mexico*, 58(6), 595-596.
<https://doi.org/10.21149/spm.v58i6.7880>
- Ryan, R. M., & Deci, E. L. (2000). Self-Determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
<https://doi.org/10.1037/0003-066X.55.1.68>
- Rybova, K., & Slavik, J. (2016). Smart cities and ageing population: Implications for waste management in the Czech Republic. *2016 Smart Cities Symposium Prague (SCSP)*, 1-6. <https://doi.org/10.1109/SCSP.2016.7501025>
- Schmutte, D. L. (2018). Maslow's hierarchy of needs. In J. L. Longe (Ed.), *The Gale encyclopedia of nursing and allied health* (4 ed.). Gale. https://search-credoreference-com.ezproxy.aut.ac.nz/content/entry/galegnaah/maslow_s_hierarchy_of_needs/0
- Shokraneh, F. (2019). Reproducibility and replicability of systematic reviews. *World Journal of Meta-Analysis*, 7(3), 66-71. <https://doi.org/10.13105/wjma.v7.i3.66>
- Smith, C., & Storandt, M. (1997). Physical activity participation in older adults: A comparison of competitors, noncompetitors, and nonexercisers. *Journal of Aging and Physical Activity*, 5(2), 98-110. <https://doi.org/10.1123/japa.5.2.98>
- Sninate, I., & Bennana, A. (2020). Impact of population ageing on medical consumption: Compulsory health insurance in Morocco. *Pan African Medical Journal*, 35, 9. <https://doi.org/10.11604/pamj.2020.35.93.20716>
- Sotiriadou, P., & Wicker, P. (2014). Examining the participation patterns of an ageing population with disabilities in Australia. *Sport Management Review*, 17(2), 35-48. <https://doi.org/10.1016/j.smr.2013.04.004>
- Spiteri, K., Broom, D., Bekhet, A. H., de Caro, J. X., Laventure, B., & Grafton, K. (2019). Barriers and motivators of physical activity participation in middle-aged and older adults - A systematic review. *Journal of Aging and Physical Activity*, 27(6), 929-944. <https://doi.org/10.1123/japa.2018-0343>
- Sport England. (2006). *Understanding participation in sport: What determines sports participation among recently retired people?* <https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/understanding-participation-among-recently-retired-people.pdf?3msCZjLWdK5sRs0IabipqKICAWLQZ.LF>
- Sport England. (2018). *Spotlight on older adults and their relationship with sport and physical activity.* <https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/spotlightonolderadults.pdf?kMw6QRsy66qBrmNUpWtbK59LjWWb1WF>
- Sport England. (2020). *Active lives adult survey.* <https://www.sportengland.org/know-your-audience/data/active-lives/active-lives-data-tables>

- Sport for Life Canada. (2016). *Durable by design: Active for life*.
<https://sportforlife.ca/portfolio-view/active-for-life-durable-by-design/>
- Sport New Zealand. (2016). *Active Older People*.
<https://www.health.govt.nz/system/files/documents/publications/guidelines-on-physical-activity-older-people-jan13-v3.pdf>
- Stathokostas, L., Gotz, A., & Clark, P. (2020). *What is physical literacy? Perspectives from older adults and those who work with older adults*.
<https://www.activeagingcanada.ca/assets/pdf/practitioners/physical-activity-literacy/Physical-Literacy-and-Older-Adults.pdf>
- Stenner, B. J., Buckley, J. D., & Mosewich, A. D. (2020a). Reasons why older adults play sport: A systematic review. *Journal of Sport & Health Science*, 9(6), 530-541.
<https://doi.org/10.1016/j.jshs.2019.11.003>
- Stenner, B. J., Mosewich, A. D., & Buckley, J. D. (2020b). Why do older adults play golf? An evaluation of factors related to golf participation by older adults. *Journal of Aging & Physical Activity*, 28(3), 399-405. <https://doi.org/10.1123/japa.2018-0448>
- Stone, R. C., Rakhamilova, Z., Gage, W. H., & Baker, J. (2018). Curling for confidence: Psychophysical benefits of curling for older adults. *Journal of Aging & Physical Activity*, 26(2), 267-275. <https://doi.org/10.1123/japa.2016-0279>
- Systematic reviews in international development: An initiative to strengthen evidence-informed policy making*. (2011). Department for International Development.
<https://webarchive.nationalarchives.gov.uk/20130227110339/http://www.dfid.gov.uk/What-we-do/Research-and-evidence/case-studies/research-case-studies/2011/Systematic-Reviews-Background/>
- Troutman-Jordan, M., O'Brien, T., Blair, C., & Pena, T. (2020). Physical activity, cardiovascular health and mood state in older adults. *Geriatric Nursing* 41(6), 846-851. <https://doi.org/10.1016/j.gerinurse.2020.05.010>
- Tunzi, Z., & Simo-Kengne, B. D. (2020). Estimating the future health care cost of population aging in South Africa. *Development Southern Africa*, 37(2), 259-275.
<https://doi.org/10.1080/0376835X.2019.1629878>
- United Nations. (2017). *World Population Ageing Highlights*. United Nations.
https://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2017_Highlights.pdf
- United Nations. (2019a). *Ageing*. <https://www.un.org/en/sections/issues-depth/ageing/>
- United Nations. (2019b). *World Population Ageing 2019*. Department of Economic and Social Affairs.
https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/files/documents/2020/Jan/un_2019_worldpopulationageing_report.pdf

- United States Census. (2018). *An ageing nation: Projected number of children and older adults*. <https://www.census.gov/library/visualizations/2018/comm/historic-first.html>
- United States National Prevention Council. (2016). *Healthy ageing in action: Advancing the national prevention strategy*. <https://www.hhs.gov/sites/default/files/healthy-aging-in-action-final.pdf>
- Vic Health. (2017). *Retirees: Physical activity insights*. https://www.vichealth.vic.gov.au/-/media/ResourceCentre/PublicationsandResources/Life-Stages/VH-Life-Stages_retirees.pdf?la=en&hash=8ECDBED183C5473FB56593CE99E4B1D192EAB281
- Wong, J. D., Son, J. S., West, S. T., Naar, J. J., & Liechty, T. (2019). A life course examination of women's team sport participation in late adulthood. *Journal of Aging & Physical Activity*, 27(1), 73-82. <https://doi.org/doi.org/10.1123/japa.2017-0193>
- World Health Organisation. (2020). *Physical activity*. <https://www.who.int/news-room/fact-sheets/detail/physical-activity>
- Yamada, N., & Heo, J. (2016). Determinants of engagement in leisure-time physical activity – dialogue with senior athletes. *Canadian Journal on Aging*, 35(4), 513-525. <https://doi.org/10.1017/S071498081600057X>
- Yang, X., Telama, R., Laakso, L., Keltikangas-Järvinen, L., & Pulkki, L. (2007). Determinants of adult physical activity: Relative importance of youth physical activity and demographic, psychological, behavioral, and environmental factors in adulthood. *Acta Kinesiologiae Universitatis Tartuensis*, 12, 129-146. <https://www.researchgate.net/publication/259460394>
- Yarmohammadi, S., Saadati, H. M., Ghaffari, M., & Ramezankhani, A. (2019). A systematic review of barriers and motivators to physical activity in elderly adults in Iran and worldwide. *Epidemiology and Health*, 41, 1-11. <https://doi.org/10.4178/epih.e2019049>
- Young, B. W. (2011). Psycho-social perspectives on the motivation and commitment of Masters athletes. In N. Holt & M. Talbot (Eds.), *Lifelong engagement in sport and physical activity* (pp. 125-138). Routledge. https://www.researchgate.net/publication/236136320_Young_BW_2011_Psycho-social_perspectives_on_the_motivation_and_commitment_of_Masters_athletes_In_N_Holt_M_Talbot_Eds_Lifelong_engagement_in_sport_and_physical_activity_pp125-138_Appears_in_Perspective