

Active and Healthy Ageing through Sport

Claire Rhiann Jenkin

BA (Hons) English and Physical Education and Sports Science
MSc Sociology of Sport

Submitted in fulfilment of the requirements of the degree of
Doctor of Philosophy

College of Sport and Exercise Science
Institute of Sport, Exercise and Active Living (ISEAL)

December 2017

Victoria University

Melbourne, Australia

Abstract

Global populations are ageing, and people need to be physically active for good health. Research about physical activity for older adults has focused on general physical activity rather than community sport. This research investigated the benefits of, and barriers to, community sport participation for older adults and for sporting organisations trying to engage older adults. Reasons for older adult drop out and re-engagement in sport, and potential modifications to attract and/or retain older adults were also investigated.

This research utilised the Socio-Ecological model, Capacity Building strategies, Leisure Constraints and Organisational Change theories. An exploratory sequential mixed method approach was utilised, comprising of two studies. Study 1 involved eight focus groups (n=49) with representatives from two Australian National Sporting Organisations (NSOs), older adult sport club members and non-members. Study 2 was an online survey to Australian NSOs and State Sporting Organisations (n=171).

The prominent benefit for older adults participating in sport were health and the most discussed barrier to participation was lack of appropriate playing opportunities. The main organisational benefits were to increase participation numbers and volunteering capacity, whilst the main organisational barrier was a focus on youth. The main reason for drop out was a lack of age appropriate opportunities, whilst older adults can re-engage with sport when their families played. Modifications to attract and/or retain older adults included changing the way sport was advertised and partnering with external organisations.

There is a clear nexus between the main results and sport policy, with a lack of priority for older adults and therefore low sport participation. A re-orientation of sport policy is required to allow sporting organisations to focus strategically on older adults.

With an ageing population and the pressure for sport to increase their participation numbers, older adults are an ideal market. There is also an opportunity to further highlight the social, mental and physical health opportunities that sport offers, especially for older adults.

DECLARATION

I, CLAIRE JENKIN, declare that the PhD thesis entitled “Active and Healthy Ageing through Sport” is not more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated in the Preface, this thesis is my own work.

Signed:

A solid black rectangular box redacting the signature of Claire Jenkin.

Date: 8.12.17

Details of Included Papers: Thesis by Publication

There are four original journal articles included in this thesis.

Chapter No.	Paper Title	Publication Status	Publication Details	Nature and Extent of Candidate's Contribution
2	Sport and Ageing: a systematic review of the determinants and trends of participation in sport for older adults	Accepted for publication	BMC Public Health Q1 journal, H index 93 Accepted: October 2017	Research design, data collection and analysis, first author of paper
4	Sporting organisations' perspectives on sport for older adults: Priority, perceived benefits and barriers, and potential modifications to attract and/or retain participants	Under journal review	Sport Management Review Q1 journal, H index 34 Submitted: October 2017	Research design, data collection and analysis, first author of paper
5	Are they 'worth their weight in gold'? Sport for older adults: benefits and barriers of their participation for sporting organisations	Published	International Journal of Sport Policy and Politics Q1 journal, H index 14 Published: November 2016	Research design, data collection and analysis, first author of paper
6	Sport for adults aged 50+ years: participation benefits and barriers	In press	Journal of Aging and Physical Activity Q1 journal, H index 46 In press: October 2017	Research design, data collection and analysis, first author of paper

Declaration by [candidate name]:

Signature:



Date: 8.12.17

CLAIRE JENKIN

Table of Contents

Abstract	i
Declaration	iii
Details of Included Papers: Thesis by Publication	iv
List of Tables	vii
List of Figures	viii
Acknowledgements	ix
List of Definitions	xi
Age	xi
Older Adults	xi
Healthy Ageing	xii
Leisure-Time Physical Activity	xii
Sport	xii
Drop Out of Sport	xiii
List Of Abbreviations	xiv
Chapter 1: Introduction	1
Rationale of this Thesis	1
Significance of Exploring Sport and Ageing	9
Thesis' Aims/Research Questions	11
Structure of Thesis	12
Chapter 2: Literature Review	15
Leisure-Time Physical Activity And Older Adults	15
Sport And Ageing: A Systematic Review Of The Determinants And Trends Of Participation In Sport For Older Adults	20
Chapter 3: Methodology	61
Epistemology	61
Research Design	63
Theoretical Perspective	66
Methods	70
Dissemination	80

Trustworthiness/Validity	81
Reflexivity	83
Ethics	83
Limitations	83
Chapter 4: Sport For Older Adults: Sporting Organisations' Priority, Perceived Benefits And Barriers Of Their Participation And Potential Modifications To Attract And/Or Retain Participants	85
Chapter 5: Are They 'Worth Their Weight In Gold'? Sport For Older Adults: Benefits And Barriers Of Their Participation For Sporting Organisations	126
Chapter 6: Sport For Adults Aged 50+ Years: Participation Benefits And Barriers	154
Chapter 7: Why Older Adults May Drop Out Of Sport And Why Might They Re-engage In Sport At An Older Age	186
Chapter 8: Thesis' Discussion, Conclusions and Recommendations	195
Research Background Summary	195
Benefits Of Sport Participation For Older Adults	199
Barriers To Older Adults Participating In Sport	201
Benefits Of Sporting Organisations Engaging Older Adults In Sport	203
Barriers To Sporting Organisations Engaging Older Adults In Sport	205
Reasons For Drop Out And Re-Engagement In Sport By Older Adults	207
Potential Modifications To Attract And/Or Retain Older Adults In Sport	209
Contribution To Knowledge	210
Strengths And Limitations Of Thesis	211
Conclusion	212
Recommendations	214
References	218
Appendices	238

Please note the numbering system. Figures and Tables are numbered first with reference to the Chapter, and then the Figure or Table number within the specific Chapter in these lists. In each Chapter, only the figure/table number is presented.

List of Tables

Table 1.1	Chronological chapter structure of thesis	13
Table 2.1	Studies investigating the determinants of sport participation for community dwelling older adults	52
Table 2.2	Summary of themes for the determinants of sport participation for community dwelling older adults	31
Table 2.3	Studies investigating the trends of sport participation for community dwelling older adults	59
Table 2.4	Summary of themes for trends of sport participation for community dwelling older adults	37
Table 3.1	Overview of thesis' studies	64
Table 4.1	Respondent demographics for the low, medium and high older adult participation sports	103
Table 4.2	Sporting organisations' level of priority on a three point Likert scale for different population groups	120
Table 4.3	Specific strategies and/or specific programs for older adults	121
Table 4.4	Potential organisational barriers on a three point Likert scale for older adults' sport participation	122
Table 4.5	Potential organisational benefits on a three point Likert scale for older adults' sport participation	123
Table 4.6	Potential organisational modification on a six point Likert scale to retain/attract older adults to sport	124

List of Figures

Figure 2.1	Search process: What are the determinants of sport participation for community older adults?	27
Figure 2.2	Search process: What are the trends of sport participation for community dwelling older adults?	28
Figure 3.1	Flow chart detailing the recruitment process for the study	77
Figure 4.1	Flow chart detailing the recruitment process for the study	99
Figure 5.1	Linked themes of the socio-ecological model: benefits for sporting organisations of engaging older adults	141
Figure 5.2	Linked themes of the socio-ecological model: barriers to sporting organisations of engaging older adults	143
Figure 6.1	Linked themes of the socio-ecological model for health: benefits of sport participation for older adults	184
Figure 6.2	Linked themes of the socio-ecological model for health: barriers of sport participation for older adults	185
Figure 8.1	Sport participation for older adults: the benefits and barriers. Linking/influencing nature of the key themes across study results	198

Acknowledgements

This PhD journey to completion would not have been possible without a number of people.

Firstly, I would like to thank my supervisors Professor Hans Westerbeek, Associate Professor Rochelle Eime and Associate Professor Jannique van Uffelen.

Jannique, thank you for giving me the opportunity to undertake a PhD and also for your guidance, particularly in that first year, when everything in academia was completely new and sometimes overwhelming. Rochelle, I really appreciated you stepping in to provide the support when I needed it, in addition to your limitless knowledge, enthusiasm and insights on sport. No acknowledgement would be complete without mentioning your humour too, I have really enjoyed working closely together over the past two years and hope we can continue working together in the future. Hans, your ability to see the 'bigger picture' has been invaluable during this PhD and I have appreciated your ongoing support and time for my research despite your wider university responsibilities.

I would also like to thank Dr. Grant O'Sullivan. Your patience and expertise in numerous aspects of the PhD journey has been priceless and my completion would not have been possible without you. Additionally, I would like to thank my fellow PhD colleagues, in particular Andrew Hibbert, Caitlin Honey, Jarrod Kerris and Jonathan Robertson. Your daily presence, support, advice and humour definitely made this journey bearable and even enjoyable!

Thank you to the Australian Sports Commission for providing the funding and research recruitment support to undertake this research project. I hope the results are useful and can support your future work in this area. A final thank you to the National and State Sporting Organisations, in addition to the older adults, who participated in these studies.

Finally, I would like to thank my family: Mum, Dad, David and Suzanne. You have all sat on the phone on the other side of the world and listened patiently to the many highs and lows of this PhD process, whilst always giving unconditional support and love. You will be glad to know this PhD is finally finished and I am sure you cannot wait to read this thesis...!

List of Definitions

Age

Age is traditionally measured in the amount of years a person has been on the earth according to the Gregorian calendar (Hamilton, 2012). However, there have been movements away from this chronological interpretation of age. For example, the concept of social age, which suggests that people should behave in a socially acceptable manner for their chronological age (Hamilton, 2012). The World Health Organisation (2015) in particular, argue that a shift away from chronological age is needed, as this does not accurately reflect different perceptions of ageing in different parts of the world. However, as Australian sport participation categories relate to chronological ageing, this research uses this definition.

Older adults

Similarly, the age at which adults become ‘older adults’ is conflicted. Historically in Western societies, ‘older adults’ reflected the retirement age and when citizens received their state pension (Gorman, 1999). With a blurring of retirement and the rise in the age of state pension entitlement, there is no set international standard of ‘older adults’.

In government population statistics in most developed Western countries, it is largely accepted that older adults or elderly adults are defined as 65 years or older (Australian Bureau of Statistics, 2015a; World Health Organisation, 2002). However in sport, there is no defined ‘older age’ category. For example, in Masters sport competitions, participants can be as young as 20 years in gymnastics (Gymnastics Australia, 2017) through to athletics participants competing in the over 100 year old age category (International Masters Games Association, 2016). In Australian community sport, there is no definition of older adults. In New Zealand, older adults

in sport are classified as 65 years and older, although at the same time, Sport New Zealand assert they are reluctant to promote the use of chronological age (Sport New Zealand, 2016). In the U.K., Sport England now target people over the age of 55 years for their Active Ageing project, whereas previously, older adults were defined as 50 years and over (Sport England, 2017a). Due to the lack of a universally accepted definition of ‘older adults’ in the sporting context, this thesis has defined older adults as 50 years and over.

Healthy ageing

Similarly, there is no common consensus on the concept of healthy ageing. Firstly, ageing can be described as the “gradual accumulation of a wide variety of molecular and cellular damage” (World Health Organisation, 2015, p. 25; Steves, Spector, & Jackson, 2012). However as there is no common definition of healthy ageing, the World Health Organisation’s (2015, p. 28) definition “the process of developing and maintaining the functional ability that enables well-being in older age” will be used for this thesis.

Leisure-time physical activity (LTPA)

LTPA has been defined as “the physical activity that is carried outside of the time of work (school) and essential domestic activity” (Mota, Barros, Ribeiro, & Santos, 2013, p. 162).

Sport

In this thesis, sport has been defined as “a human activity capable of achieving a result requiring physical exertion and/or physical skill which, by its nature and organisation, is competitive and is generally accepted as being a sport” (Australian Sports Commission, 2009).

Drop out of sport

For this study, drop out of sport, which is explored in Chapter 7, was defined by Cervelló (2002, p. 177), who describes it as “the situation in which the person stops their sports commitment explicitly”.

List of Abbreviations

AIS	Australian Institute of Sport
ASC	Australian Sports Commission
ERASS	Exercise, Recreation and Sport Survey
LTPA	Leisure Time Physical Activity
NSO	National Sporting Organisation
SSO	State Sporting Organisation
VicHealth	Victorian Health Promotion Foundation
UK	United Kingdom

Chapter 1: Introduction

This chapter will provide an introduction to the program of research conducted and presented in this thesis. It will firstly provide the rationale and then details of the significance of this research. The research aims and questions are then presented, before the structure of this thesis is defined.

Rationale of this thesis

Populations throughout the world are ageing (Australian Bureau of Statistics, 2015c; World Health Organisation, 2015) and there are numerous societal concerns with ageing. The most prominent concern is poor health. Ageing is typically associated with a decline in physical (Haskell, et al., 2007; Rydwik, et al., 2012), mental/psychological (Chodzko-Zajko et al., 2009) and social (Toepoel, 2013; Sirven & Debrand, 2008) health. This has raised fears about the potential of increased health care costs (Rechel, Doyle, Grundy, & McKee, 2009) as a result of an ageing population. Furthermore, it has also been argued that an ageing population may result in a perceived increased societal burden (Wiener & Tilly, 2002). However, other researchers argue that this fear about potential health costs can promote age discrimination and negative stereotypes (Abrams, Vauclair, & Swift, 2011; Rippon, Kneale, de Oliveira, Demakakos, & Steptoe, 2013) and ignore the considerable and positive contributions that older adults can make to society, such as to the economy (Abrams et al., 2011), social care and volunteering (Cook, 2011). However, despite these positive contributions to society, the inevitability of increased health care and associated costs in an ageing population, particularly in regard to chronic diseases, is a challenge for governments worldwide. Physical activity can prevent or delay the onset of a number of chronic diseases, such as cardiovascular disease or diabetes (Haskell et al.,

2007). Conversely, in Australia, 66% of the direct public sector healthcare costs can be attributed to physical inactivity (Ding, Lawson, Kolbe-Alexander, Finkelstein, Katzmarzyk, van Mechelen, & Pratt, 2016). As such, physical activity should be an important component within preventative health policy.

Preventative health policies are designed to improve health and subsequently reduce costs and pressure on health services (Jackson & Shiell, 2017; Moodie, Tolhurst, & Martin, 2016). To improve the international response to preventative health, the World Health Organisation encouraged countries to develop multi-sectoral policies and set targets to reduce premature mortality from non-communicable diseases, through their Global Action Plan for Prevention and Control of Non-communicable Diseases 2013-2020 (World Health Organisation, 2013).

To consider preventative health policy within the Australian context, it has been noted that Australia currently (as of 2013 figures) allocates a much smaller per cent share of health spending to preventative health care (1.75%) than other comparable countries such as Canada (6.06%) and the U.K. (3.21%). Additionally, Australia also spends a lower per cent share of gross domestic product on preventative health (0.15%) than these nations (Canada = 0.62% and U.K. = 0.32%) (Jackson & Shiell, 2017; Organisation for Economic Co-operation and Development, 2016). Whilst direct international budgetary comparisons are complex, it could be argued that Australia operates below comparable international standards with regards to their preventative health investments.

The Australian National Preventative Health Agency was established in 2009, which enabled a structured federal approach and specific funding for preventative health. This Agency developed

strategies, such as the ‘Australia: the healthiest nation by 2020’ in 2009, and the ‘Taking preventative action’ in 2010, to provide a national focus on preventative health. However this agency was closed in 2014. Since 2014, national preventative health has been promoted in some parts of the country at state level, through more general public health and wellbeing plans (New South Wales Ministry of Health, 2014; Victorian Department of Health and Human Services, 2015) or via the national Physical Activity and Sedentary Behaviour Guidelines (Australian Department of Health, 2014). Similarly to the former federal strategies, both these State plans and the National Guidelines promote physical activity as a preventative health measure, for example, to combat obesity and for disease prevention. For older adults specifically, the main physical activity component recommended in the Victorian Public Health and Wellbeing Plan is low intensity exercise (Victorian Department of Health & Human Services, 2015), whilst the National Physical Activity and Sedentary Behaviour Guidelines state that older adults should undertake at least 30 minutes of moderate intensity physical activity on most, if not all days (Australian Department of Health, 2017). Despite the presence of these plans/guidelines, it can be argued that the lack of a national agency/federal government preventative health initiative, has contributed to a lack of a national approach to, and a reduced emphasis on, preventative health and physical activity.

Within preventative health, physical activity is largely considered to be leisure-time physical activity (LTPA). One form of LTPA is sport. Whilst traditionally the link between preventative health and physical activity has focused on generic LTPA, the concept of sport for health is gaining further traction in government policy, for example with the Australian Sports Commission’s recent International Review of Australian Sport (Australian Sports Commission, 2017).

Existing research on sport for older adults have documented numerous health benefits of sport participation. These include beneficial effects on physical health (Dionigi, 2006; Henderson, 2012; Heo, Culp, Yamada, & Won, 2013; Kim, Yamada, Heo, & Han, 2014; Siegenthaler & O'Dell, 2003); social health through decreasing social isolation (Leipert et al., 2011), increasing social support (Henderson, 2012; Heo et al., 2013; Kim et al., 2014; Leipert et al., 2011; Lyons & Dionigi, 2007), and reinforcing social identity (Heo et al., 2013; Lyons & Dionigi, 2007); in addition to improving mental or psychological health (Dionigi, 2006; Heo et al., 2013; Kim et al., 2014; Leipert et al., 2011). This concept of using sport to improve health has also been advocated in government policy in Australia (Australian Sports Commission, 2017; Victorian Health Promotion Foundation (VicHealth), 2010), and other comparable countries such as the U.K. (Coalter, 2007), Germany (Petry & Schulze, 2010) and Norway (Bergsgard & Tangen, 2010). The use of sport to improve health can be linked to the wider association of sport as a vehicle to improve societal issues, such as enabling social cohesion (United Nations, 2003) or reducing antisocial behaviour (Sandford, Duncombe, & Armour, 2008).

In the recent Australian Sports Commission's International Review of Australian Sport, the Commission encouraged both Federal and State Health Departments to establish a centralised group to coordinate relationships between health and other departments such as sport and recreation (Australian Sports Commission, 2017), to promote initiatives for preventative health action through sport. In the Federal government, sport was transferred to the Department of Health and Ageing in 2007 (Hoye & Nicholson, 2010), and this same structure is reflected in the state government of Victoria, which strongly implies that a nexus between health, ageing and sport should have already been established. However, there is no evidence of a current policy

covering sport and health for adults or indeed older adults. Despite the evidence of health benefits older adults can derive from participating in sport, the concept of sport for health is mainly being advocated for other population groups, such as children. Indeed, in the International Review of Australian Sport, it is encouraged that sport initiatives for preventative health for children should be developed, whereas for adults, generic physical activity for preventative health initiatives are advocated (Australian Sports Commission, 2017). This reinforces the stereotype that despite the preventative health opportunities that sport can provide to people of all ages, sport is seen as the domain for young people and not a ‘socially acceptable’ physical activity option for older adults (Jenkin, Eime, Westerbeek, & van Uffelen, 2017a). This stereotype is further perpetuated by sport policy.

In Australia, similarly to other comparable countries, government interest in sport policy was minimal before the 1970s (Green, 2007a; Green & Collins, 2008; McDonald, 2005; Stewart, 2004). The incoming Labour Federal government under Gough Whitlam in 1972 were the first to show an interest in mass sport participation, by creating a Ministry of Tourism and Recreation to promote participation (Nicholson, Hoye & Houlihan, 2010). However, this interest was short lived. The change of sport policy direction towards favouring elite sport was enacted by the Liberal led coalition in 1975 (Green, 2007a). Although this change of direction started with the new Federal government in 1975, the failure of medal success at the 1976 Montreal Olympic Games is undoubtedly the main influence for this policy change. This lack of success on the elite international stage was the primary catalyst for the development of the Australian Institute of Sport (AIS) in 1981 and its state based academies of sport (Stewart, 2004) to focus on elite sport. It had become clear that the Federal Government “regarded the AIS as the primary responsibility

of its sports policy” (Armstrong, 1997, p. 189), and that “the establishment of the AIS and the ASC [Australian Sports Commission, the government body responsible for sport participation] in the 1980s was a clear indication of the federal government’s primary concern and of its determination that Australia would ‘return to glory’” (Green, 2007a, p. 926; (Magdalinski, 2000, p. 317). The Crawford Report, published in 2009, advocated for a change in federal policy to focus more on grassroots participation than elite sport. Whilst some short term changes, such as improving female participation and supporting volunteers (Jolly, 2013), were implemented, federal policy focus reverted to elite sport with the introduction of the Winning Edge policy in 2012 (Australian Sports Commission, 2012).

This emphasis on elite sport rather than mass participation has continued to the present day and is, for example, illustrated by the allocated funding of federal sport. In the 2015-16 financial year, elite sport was allocated 84% of the federal sport budget, with only 16% for community sport (Jenkin, Eime, Westerbeek, O’Sullivan, & van Uffelen, 2016a). Internationally, different countries focus on either elite sport or community sport. For example, countries such as Australia and Canada have historically focused on elite sport (Green & Houlihan, 2005; Green, 2007a), whereas other countries such as Finland and the U.K. have largely targeted mass community sport participation (Vuori, Paronen, & Oja, 1998; Green & Collins, 2008). Conversely, more recently, countries, such as Canada that previously focused on elite sport are not abandoning elite sport, but are starting to realign their priorities to give a stronger emphasis to community sport (Green, 2007b). Potential reasons for this realignment have included the increasing focus on using sport to improve health. However as previously noted, the promotion of sport to improve health has focused on younger people.

Sport policy can impact who participates in community sport (Eime & Harvey, 2018).

Internationally, sport is predominately participated in by children and adolescents, with few adults and very few older adults participating in sport. Data from Germany (Breuer & Wicker, 2009) and Spain (Palacios-Cena et al., 2012), in addition to Australia (Eime et al., 2016a) confirms this. There may be numerous reasons for this. For elite sport, the focus is to identify talented athletes (Green & Collins, 2008), and in community sport, it is to encourage youth participation in physical activity/sport (McDonald, 2005; Eime et al., 2016a). As a result of this, it is not surprising that policy makers, and subsequently, the majority of National and State Sporting Organisations, in addition to community organisations, offer sporting opportunities that prioritise youth participation. However, a consequence of this is that underrepresented groups, such as older adults, are often not prioritised by policy or sport-related organisations. Subsequently, it would suggest that this lack of priority contributes towards low sport participation rates for adults in general and older adults in particular.

A recent study of 520,102 sport participants in the state of Victoria in Australia demonstrates the low sport participation rate of older adults (Eime, Harvey, Charity, Casey, Westerbeek, & Payne, 2016). It reported that nearly 80% of participants were aged 10-14 years old, whilst less than 10% of sport club participants (age range 4-100 years) were over 50 years old. Of those older adults participating in sport, most are participating in sports such as bowls, walking, cycling, golf and swimming; all of which would be deemed 'traditionally' older adult sports, as they are low impact.

Whilst sport policy can contribute to the trends in participation, there are a range of other determinants or influences on participation. People's LTPA often change across their lifespan (Engel & Nagel, 2011). For example, more children may play sport, however as people age, they

may diversify their physical activity, finding non-sport physical activities, such as running or going to the gym (Australian Sports Commission, 2016). Some people who enjoy sports can play different sports or engage in sport in different ways as they age. Therefore it is important to explore the determinants of sport participation in different life stages.

For older adults, the most prominent determinant is health. Specifically, using sport to improve health, but also that poor health can be a limitation on participation (Heo, Culp, Yamada, & Won, 2013; Leipert et al., 2011). Other determinants can include using sport to negotiate the ageing process (Dionigi, 2006; Kelley, Little, Jong Seon, Birendra, & Henderson, 2014), in addition to enjoyment (Casey, Eime, Payne, & Harvey, 2009a), friends or family support (Scheerder, Vanreusel, Taks, & Renson, 2005a) and access to programs and facilities (Sawrikar & Muir, 2010). Thus to understand older adult participation in sport more broadly, a multi-faceted approach is needed.

In trying to understand the determinants of physical activity behaviours, and sport more specifically, the Socio-Ecological model is often used in research (Cleland, Ball, Hume, Timperio, King, & Crawford, 2010; Casey et al, 2009a; Eime et al, 2010; Cleland et al., 2010; Toftegaard-Støckel, Nielsen, Ibsen, & Andersen, 2011; Naar, Wong, West, Son, & Liechty, 2017). The Socio-Ecological model is a descriptive model that suggests four key domains can explain behaviour, such as sport participation, and that these domains are often interconnected. These domains are intrapersonal, such as enjoyment or health; interpersonal, for example family or friends; organisational, including institutions or the environment; and policy factors, such as national sport policy (Sallis Owen & Fisher, 2008). This model was used to frame this thesis and will be described in greater detail in the Methodology Chapter.

Significance of exploring sport and ageing

To understand how to attract more and/or retain adults in sport as they reach older age, the Socio-Ecological model was used to frame this program of research to explore the potential benefits of, and barriers to, older adult participation in sport, in addition to investigating their reasons for drop out and re-engagement in sport. Other theories were also utilised where appropriate for each study, as explained in the Methodology Chapter. In light of the ageing population and the associated societal and health concerns, this thesis will investigate if and how older adults could be prioritised more in sport policy.

From an older adult perspective, sport can diversify the physical activity options available to this age group to encourage more physical activity participation. As previously explained, most physical activity options for older adults are low intensity, class based activities. There has been a recent provision of modified sport programs for older adults, specifically walking sports, such as walking football and walking basketball. Whilst no research has been conducted to determine older adults' motivations to engage in modified sports, preliminary research into these sports have suggested they can provide physiological health benefits (Arnold, Bruce-Low, & Sammut, 2015) and that older adults enjoy participating in these programs (Reddy et al., 2017). Therefore there needs to be more opportunities for these types of programs. This will help to diversify physical activity options for some older adults, however there needs to be a greater understanding of older adults' current relationship with sport more broadly. From an organisational perspective, sporting organisations are under pressure to increase overall participation rates. Older adults are a growing demographic and a largely untapped market, therefore this is a great opportunity for sport and health organisations to work together to target this age group. However, before organisations can target older adults, suitable products that

provide appropriate sporting opportunities for this specific group need to be provided. Some organisations are starting to create appropriate opportunities, such as walking versions of football, basketball, netball and rugby. Whilst these initiatives are positive, more evidence is needed to understand older adults' relationship with sport and vice versa to encourage sustained increased participation.

Most research for older adults and physical activity has typically, and with much critical mass, focused on physical activity in general, with a research literature gap specifically on sport for older adults. As described in the systematic literature review in Chapter 2, the current research on sport for older adults has tended to focus on individual benefits of, and barriers to, high level or elite Masters sport (Dionigi, 2006; Dionigi, 2002; Pike, 2012). Whereas older adult research in community sport has tended to focus only on specific sports, such as golf (Siegenthaler & O'Dell, 2003), curling (Liepert, 2011), bowls (Heuser, 2005), softball (Naar et al., 2017) or lifeball (Green et al., 2009). Thus there is a lack of research on sport participation in this population group across the wider community sport context. Furthermore, current research considers the older adult perspective, but not the organisational perspective on older adult sport participation. Organisations are vital stakeholders in this field, therefore their viewpoint is an important consideration to provide a more comprehensive understanding of this research area.

There is a need to increase the physical activity levels of older adults, to enable healthier individuals and communities, in an effort to prevent the occurrence and help with the management of the range of chronic diseases that are often associated with ageing. This also has

the potential to reduce the financial burden on healthcare systems. The role of community based sport as a leisure-time physical activity for older adults has been under researched. Secondly, we do not know how the current sport policy and associated system of sport delivery (for example, through National Sporting Organisations and/or State Sporting Organisations) perceives participation amongst the broader older adult population.

Through a better understanding of sport for older adults, we can make recommendations of how sport can become a more appropriate physical activity option for older adults. This has the potential to create healthier individuals and communities, in addition to helping to reduce the cost burden of care for a range of chronic diseases associated with ageing. Furthermore, it can also assist sporting organisations to increase participation and potentially increase sport club volunteers.

Thesis' aims and research questions

This thesis explores the benefits of, and barriers to, older adult community sport participation, in addition to reasons for drop out and re-engagement in sport at an older age, from the perspective of both older adults and National, State and local Sporting Organisations. Furthermore, it identifies ways in which organisations can attract and/or retain older adults in their respective sports. This will enable a holistic understanding of sport participation amongst older adults at both the individual, older adult level, but also the policy levers and implementation of strategies from sporting organisations.

The overarching research question for this thesis is: *What influences older adults to participate in sport?* To explore this question, five sub-questions were investigated:

1. How do National and State Sporting Organisations perceive sport for older adults?
2. What are the benefits of, and barriers to, trying to engage older adults for sporting organisations?
3. What are the benefits of, and barriers to, community sport participation for older adults?
4. Why do older adults drop out of sport?
5. Why might older adults re-engage in sport at an older age?

Structure of thesis

This thesis has eight chapters, as detailed in Table 1 on the next page. The results exploring the organisational perspective of sport for older adults will be presented first in this thesis, before the results of sport for older adults are presented.

The American Psychological Association (APA) referencing style will be used throughout this thesis, except for the systematic literature review paper in Chapter 2. The journal at which this paper has been accepted, uses the Vancouver referencing style. Specific journal stylistic features for each paper, such as numbering each section in Chapter 4 and American English spelling in Chapter 6, have also been included in these respective chapters.

Table 1: Chapter structure of thesis

Chapter Number	Chapter	Research Question	Publications	Chapter Description
1	Introduction			Introduces the concepts of sport for older adults, providing the historical context of preventative health and sport.
2	Literature Review		Sport and Ageing: A systematic review of the determinants and trends of participation in sport for older adults <i>(Accepted in October 2017: BMC Public Health)</i>	A literature overview of leisure-time physical activity and older adults, in addition to a systematic review of the peer reviewed, academic literature to identify existing knowledge of the determinants and trends of sport and ageing.
3	Methodology			This chapter presents the epistemological perspective of this research, in addition to the theory and methods used in this thesis.
4	Results	1. How do National and State Sporting Organisations perceive sport for older adults?	Sporting organisations' perspectives on sport for older adults: priority, perceived benefits and barriers and potential modifications to attract/retain participants <i>(Under peer review in Sport Management Review, submitted in October 2017)</i>	A quantitative study of how National and State Sporting Organisations perceive sport and ageing.
5	Results	2. What are the benefits of, and barriers to, trying	Are they 'worth their weight in gold'? Sport for older adults: benefits and	Qualitative investigation into the benefits of, and barriers to, sporting organisations engaging with older adults.

		to engage older adults for sporting organisations?	barriers of their participation for sporting organisations <i>(Published: International Journal of Sport Policy and Politics. (2016). 8(4), 663-680)</i>	
6	Results	3. What are the benefits of, and barriers to, community sport participation for older adults?	Sport for Adults aged 50+ Years: Participation Benefits and Barriers <i>(In press: Journal of Physical Activity and Aging (2017))</i>	A qualitative study exploring the benefits of and barriers to older adults participating in sport.
7	Results	4. Why do older adults drop out of sport? 5. Why might older adults re-engage in sport at an older age?		Qualitative study examining the reasons why older adults may drop out of sport, in addition to why older adults may re-engage in sport, at an older age.
8	Discussion, Conclusions and Recommendations			This chapter summarises the main results from the thesis, suggests potential implications for sport for older adults practice, and proposes recommended future research in this field.

Chapter 2: Literature Review

This literature review begins with a critical reflection of research that investigates leisure-time physical activity and older adults. It then proceeds to investigate the literature relating more specifically to sport, as a form of leisure-time physical activity (LTPA), and older adults, through a systematic literature review on the determinants and trends of participation in sport for older adults.

LTPA and older adults

Physical activity can be defined as “any bodily movement produced by skeletal muscles that require energy expenditure” (World Health Organisation, 2017; Caspersen, Powell, & Christenson, 1985, p. 126). This includes unstructured physical activity, such as domestic physical activity, like housework or gardening; workplace physical activity; active transport, for example cycling or walking to work and/or social activities; and leisure-time activities such as walking or jogging. Physical activity can also include structured activity, such as organised exercise classes or participating in sport, such as tennis or cricket.

All forms of physical activity have been identified as providing potential health benefits for older adults (Australian Department of Health, 2017). There is growing evidence that physical activity can contribute towards mental/psychological, social and physical health benefits, especially in the ageing process. This includes, for example, reducing the risk of obesity (Rydwik et al., 2012) and slowing the development of cognitive decline, including dementia (Chodzko-Zajko et al.,

2009). Regular physical activity can also prevent or delay many chronic conditions such as cardiovascular disease or diabetes (Chodzko-Zajko et al., 2009; Haskell et al., 2007), further demonstrating the importance of undertaking sufficient levels of physical activity as people age. Despite this evidence, 54% of Australian adults do not engage in sufficient physical activity for health benefits (Australia Bureau of Statistics, 2015a). As physical inactivity is the second most important contributor, after tobacco use, to morbidity and mortality in Australia (Bauman, Bellew, Vita, Brown, & Owen, 2002), it is important to provide opportunities for older adults to include more physical activity in their lives.

As discussed in Chapter 1, LTPA has been identified as the main type of physical activity for health promotion/prevention (Annear, Cushman, & Gidlow, 2009; Booth, Owen, Bauman, Clavisi, & Leslie, 2000), and it has been argued that some, especially retired, older adults are likely to have more leisure time than other younger population groups (Leitner & Leitner, 2004; Robinson & Godbey, 2010). LTPA refers to physical activity that is not undertaken in conjunction with employment/domestic duties, and can include both unstructured physical activity, such as walking or jogging, and structured activity, such as exercise classes and sport (Mota et al., 2013). Existing research on LTPA for older adults suggests that in addition to the physical and psychological benefits previously discussed (Rydwik et al., 2012; Chodzko-Zajko et al., 2009; Haskell et al., 2007), it can also positively influence social health, such as reducing social isolation (Toepoel, 2012) and providing social catalysts to increase social networks (Eime, Harvey, Brown, & Payne, 2010). Most of the current research for structured physical activity for older adults tends to focus on activities such as older adult specific exercise classes, for example chair-based exercise (Anthony et al., 2013; Bergamin et al., 2013; Robinson et al., 2014); water-

based exercise (Oh et al., 2015; Sato, Seko, Hashitomi, Sengoku, & Nomura, 2015; Bergamin et al., 2013); and walking groups (Fantin et al., 2012; Gusi, Reyes, Gonzalez-Guerrero, Herrera, & Garcia, 2008; Song, Yoo, Choi, & Kim, 2013).

Sport, as a form of LTPA, provides options for moderate and vigorous intensity activity, but sport specific participation declines considerably with age (Breuer & Wicker, 2009; Eime, Payne, & Harvey, 2009; Palacios-Ceña et al., 2012). Despite the decrease in sport participation with age, most research on LTPA and ageing has focused on physical activity rather than sport. With an ageing population, there is a need to explore different types of LTPA to ensure that all older adults are given the opportunity to partake in a type of physical activity they enjoy. Whilst sport is currently not a frequently participated form of LTPA for older adults, it may have the potential to play a larger role for this population.

To explore the existing research in sport for older adults, a systematic literature review was undertaken to answer the following questions:

- What are the determinants of sport participation for community dwelling older adults?
and;
- What are the trends of sport participation for community dwelling older adults?

GRADUATE RESEARCH CENTRE

DECLARATION OF CO-AUTHORSHIP AND CO-CONTRIBUTION: PAPERS INCORPORATED IN THESIS BY PUBLICATION

This declaration is to be completed for each conjointly authored publication and placed at the beginning of the thesis chapter in which the publication appears.

1. PUBLICATION DETAILS (to be completed by the candidate)

Title of Paper/Journal/Book:	Sport and Ageing: a systematic review of the determinants and trends of participation in sport for older adults		
Surname:	Jenkin	First name:	Claire
College:	College of Sport and Exercise Science	Candidate's Contribution (%):	72.5
Status:			
Accepted and in press:	<input checked="" type="checkbox"/>	Date:	October 2017
Published:	<input type="checkbox"/>	Date:	

2. CANDIDATE DECLARATION

I declare that the publication above meets the requirements to be included in the thesis as outlined in the HDR Policy and related Procedures – policy.vu.edu.au.

[Redacted Signature]	25.10.17
Signature	Date

3. CO-AUTHOR(S) DECLARATION

In the case of the above publication, the following authors contributed to the work as follows:

The undersigned certify that:

1. They meet criteria for authorship in that they have participated in the conception, execution or interpretation of at least that part of the publication in their field of expertise;
2. They take public responsibility for their part of the publication, except for the responsible author who accepts overall responsibility for the publication;
3. There are no other authors of the publication according to these criteria;
4. Potential conflicts of interest have been disclosed to a) granting bodies, b) the editor or publisher of journals or other publications, and c) the head of the responsible academic unit; and

5. The original data will be held for at least five years from the date indicated below and is stored at the following location(s):

N/A

Name(s) of Co-Author(s)	Contribution (%)	Nature of Contribution	Signature	Date
Rochelle Elme	7.5	Study design, manuscript conceptualisation and preparation	[Redacted Signature]	19/10/17
Hans Westerbeek	5	Study design and manuscript preparation	[Redacted Signature]	25/10/17
Grant O'Sullivan	7.5	Review of literature, analysis of literature and manuscript preparation	[Redacted Signature]	25/10/17
Jannique van Uffelen	7.5	Study design and manuscript preparation	[Redacted Signature]	25/10/17

Sport and Ageing: A systematic review of the determinants and trends of participation in sport for older adults

Claire R Jenkin ^{a *} claire.jenkin@vu.edu.au
Rochelle M Eime ^{ab} r.eime@federation.edu.au
Hans Westerbeek ^a hans.westerbeek@vu.edu.au
Grant O'Sullivan ^a grant.osullivan@vu.edu.au
Jannique GZ van Uffelen ^{ac} jannique.vanuffelen@kuleuven.be

^a Institute of Sport, Exercise and Active Living (ISEAL), Victoria University, Melbourne, Victoria, 8001, Australia

^b Faculty of Health, Federation University, PO Box 663, Ballarat, 3353, Victoria, Australia

^c KU Leuven - University of Leuven, Department of Movement Sciences, Physical Activity, Sports and Health Research Group, B-3000 Leuven, Belgium

* corresponding author

Address for correspondence:

Claire Jenkin

Address: Victoria University, Institute of Sport, Exercise and Active Living, PO Box 14428, Melbourne Victoria, 8001, Australia

E-mail: claire.jenkin@vu.edu.au

Word count abstract: 339

Word count main text: 5,657

Number of tables: 4

Number of figures: 2

Abstract

Background: The global population is ageing. As ageing is often associated with a decline in health, there is a need to further develop preventative health measures. Physical activity can positively influence older adults' (aged 50 years and older) health. Previous research on the relationship between physical activity and health for older adults has mainly focused on physical activity in general, and not specific types of exercise. Due to the social nature of sport, it may assist in improving physical, mental and social health for older adults. Sport, as a form of physical activity, has not been widely explored as a physical activity opportunity for older adults. This review concurrently explored two research questions: the determinants and the trends of sport participation for community dwelling older adults.

Methods: Two parallel systematic searches of nine electronic databases were conducted in December 2015 for the two research questions. English language quantitative and qualitative studies that provided specific results for community dwelling older adults' sport participation were included and a quality ratings assessment was undertaken.

Results: There were 10,171 studies initially identified for the first research question and 1992 studies for the second research question. This culminated in 18 and 8 studies respectively that met the inclusion criteria. The most frequently mentioned determinants of participation were health and using sport to negotiate the ageing process. The most frequently mentioned trends of sport participation were the effect of historical sport participation on current participation, and sport participation across the lifespan. The main themes for both research questions had contrasting results, for example, participation in sport could improve health, but poor health was also a limitation of sport participation.

Conclusions: This review demonstrates that older adults are a heterogeneous age group, and therefore require different strategies than other age groups to successfully participate in sport. It is recommended that the main findings from this review are incorporated into specific strategies to develop age

appropriate sporting opportunities for older adults, so that sport can be presented as a viable physical activity option for this age group.

Keywords: older adults; sport participation; determinants; trends

1 Introduction

2 Populations throughout the world are ageing, and the amount of people aged over 65 years is shortly
3 expected to outnumber children under five years old. [1] As people age, they are more likely to suffer
4 from ill health, including chronic disease. [2] Physical inactivity is a significant contributor to the
5 development of chronic diseases, [3] therefore regular physical activity is important for older adults'
6 health and quality of life.

7 The health benefits of physical activity, specifically for older adults, have been comprehensively
8 researched. For older adults, physical activity can be beneficial for physical, [4] mental [5] and social [6]
9 health. Besides the health benefits of regular participation, other aspects of participation among older
10 adults have also been reviewed. Previous systematic reviews on physical activity in this population
11 group have for example focused on: the physical health risks involved in participation, [7] the
12 differences between determinants of physical activity and exercise, [8] whether older adults are meeting
13 the recommended physical activity participation levels, [9] the health benefits, [10] strong social
14 networks [11] and the effect of physical activity in alleviating depression in older adults. [12] Although
15 the health benefits of generic physical activity have been extensively researched for older adults, there
16 is little research on sport as a form of leisure-time physical activity for this population group. This limited
17 research has largely focused on Masters/Senior Games sport participation [13, 14, 15, 16, 17, 18, 19] or
18 on specific sports, such as bowls, [20] golf, [21] curling [22] or lifeball [23] rather than general
19 community sport. As the determinants of participation may vary for different forms of exercise, [24]
20 specific research for older adults and general community sport participation is required. In this review,
21 community sport is defined as “a human activity capable of achieving a result requiring physical exertion
22 and/or physical skill which, by its nature and organisation, is competitive and is generally accepted as
23 being a sport”. [25]

1 Deriving benefits of physical activity can influence continuation of participation. In sport, there have
2 been a number of systematic reviews examining the concept of sport being beneficial for health for
3 younger age groups, [26,27,28] but not specifically for older adults, who may have different health
4 outcomes. Therefore, with the expected declining health of an ageing population, it is important to
5 investigate the determinants of initiating and continuing sport participation for older adults, to diversify
6 the physical activity options available to this age group.

7 It is noteworthy that a recent narrative literature review [29] identified that whilst there can be
8 numerous psycho-social benefits for some older adults who play sport, sport is a multi-faceted concept
9 and as such, the socio-cultural contexts of older adults' participation in sport needs to be considered.

10 This current systematic review aims to build on the knowledge collated from this narrative review [29] in
11 several ways. Firstly, to broaden the scope to review studies that also examine older adults'
12 participation in community-based sport clubs, as the majority of the literature in this narrative review
13 related to large scale competitive events, like the Masters Games. Secondly, to look beyond solely
14 subjective meaning found in participation to any influence that may determine sport involvement, such
15 as demographics and also overall trends in participation.

16 Sport, as a type of leisure-time physical activity, is receiving increasing academic interest in ageing
17 research. [29,30,31] Sport is often undertaken at community sport clubs in Australia, [32, 33] and given
18 the social nature of club-based sport, engaging older adults in sport may positively contribute to their
19 physical, mental and social health. However, few older adults participate regularly in organised sport,
20 [34] therefore a review of the literature specific to older adults' community sport participation is needed
21 to identify potential determinants and trends of their participation.

22 This systematic review had two research questions: 'What are the determinants of sport participation
23 for community dwelling older adults?' and 'What are the trends of sport participation for community

1 dwelling older adults?’ The decision to include both of these research areas in this review was based on
2 the premise that determinants can influence patterns of sport participation either positively or
3 negatively over the lifespan.

4 **Methods**

5 *Search strategy*

6 The two research questions led to two literature searches that were conducted in parallel, to identify
7 research articles meeting the inclusion criteria for each of these questions.

8 Seven categories of determinants (biological, psychological, behavioural, physical, socio-cultural, socio-
9 economic and policy) [36] that can influence participation or non-participation have been previously
10 identified and were used in the inclusion criteria. The term ‘trends of participation’ was not specifically
11 defined in the reviewed articles, so for the purpose of this review, trends were defined as participation
12 levels or lifecourse participation. As Eime, Sawyer, Harvey, Casey, Westerbeek and Payne [37] state, the
13 measure of sport participation trends is important for a range of sectors including sport, recreation and
14 health. Other studies [38] have also investigated the determinants of participation in sport, but not for
15 older adults.

16 The search terms for first research question were: [Sport* OR “sport* participation”] AND [Adult* OR
17 “older adult*] AND [Determinant* OR reason* OR benefit* OR barrier* OR value]. For the second
18 research question, the search terms were: Sport* OR “sport* participation” AND Adult* OR “older
19 adult* AND Trend* OR lifecourse. The truncation symbol (*) was used to ensure all relevant uses of
20 these search terms were included in the search.

21 Full database searches were conducted on 17th December 2015 across nine electronic databases:
22 PubMed, Scopus, Cochrane, Cumulative Index to Nursing and Allied Health Literature (Cinahl),

1 SPORTDiscus, AusSportMed, EBSCOHost (including Health Business Elite, Health Source-Consumer
2 Edition, Humanities International Complete, MEDLINE with full text, PsycARTICLES and PsycINFO,
3 Informit), Psychology and Behavioural Sciences, and Health Collection. The searches were also limited to
4 full English language peer reviewed articles.

5 *Selection criteria*

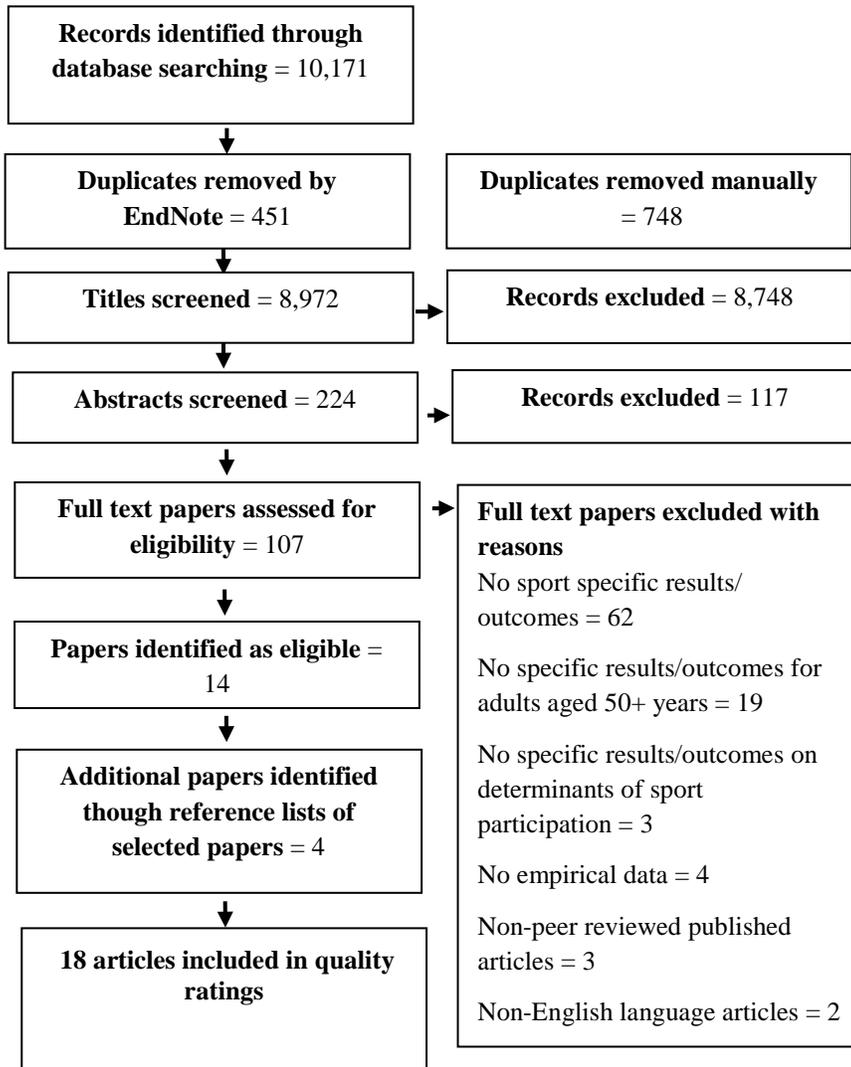
6 In line with other recent research in older adults and sport, [31] articles were included if there was
7 specific data on sport participation in community dwelling adults aged 50 years or older (classified as
8 older adults in this study). Sport participation was defined using the Australian Sports Commission's
9 definition. [25] Included studies also had to be restricted to older community-dwelling adults (for
10 example, not in institutions such as hospitals). Furthermore, included studies were those that were
11 empirically based (quantitative or qualitative) and published in peer reviewed journals. Articles were
12 excluded if they were specific clinical or disability population studies and/or impairment or injury
13 studies. If studies presented clear sport results in the abstract, they were included. However, as sport
14 can be often defined in different ways and can be included as a type of physical activity or exercise,
15 studies where it was unclear if there were specific sport results at the abstract stage were escalated to
16 the full paper stage for review.

17 *Search Process*

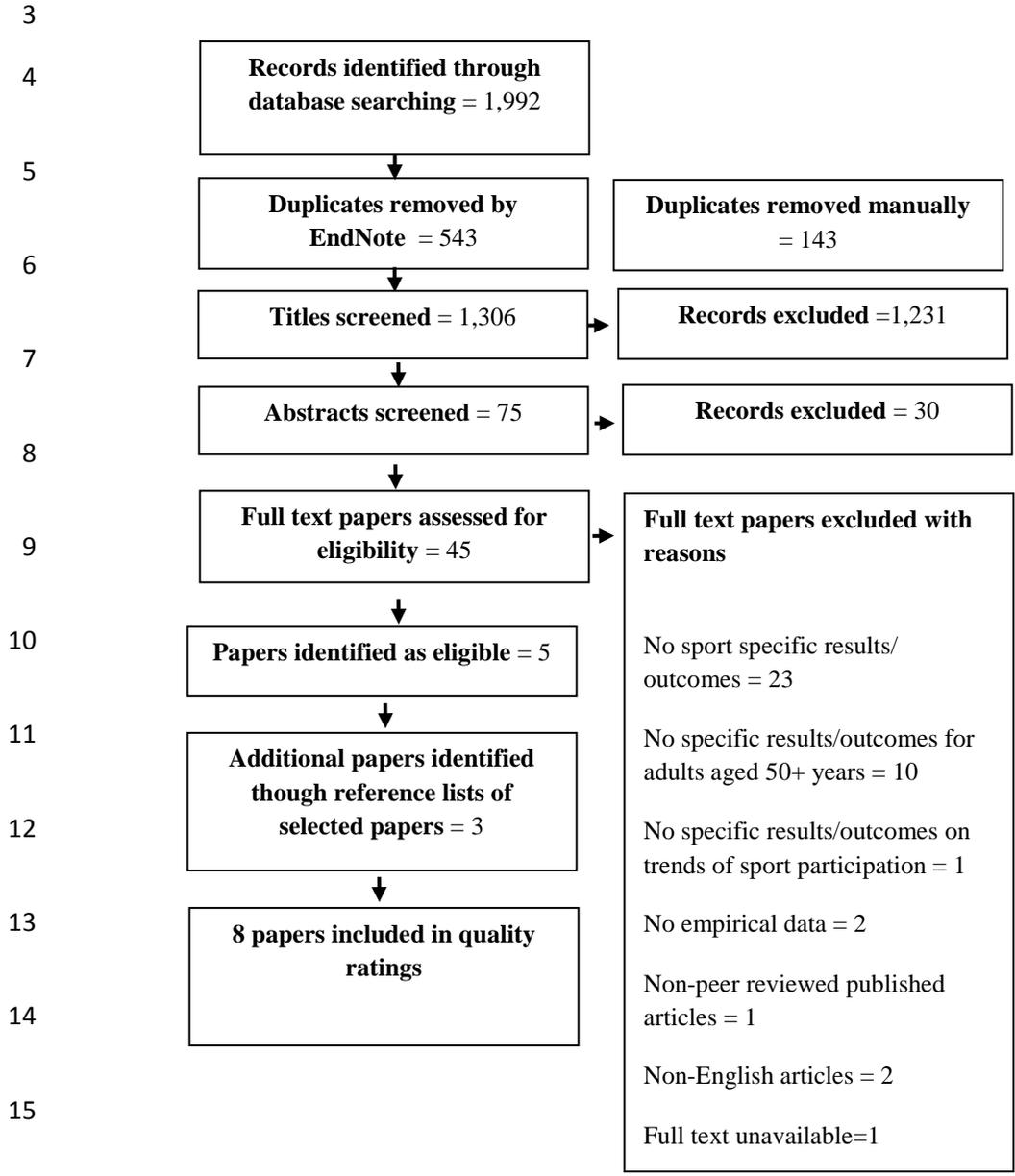
18 The titles of studies were screened by one researcher. Abstracts were then screened by two researchers
19 to ensure they met the inclusion criteria. The next stage involved two researchers screening the full text
20 of articles to determine if they met the inclusion criteria. The reference lists of included full-text articles
21 were then checked for additional relevant articles, which were also screened by two researchers for
22 inclusion. Disagreements with regards to the inclusion of articles were discussed and resolved between
23 these two researchers. See Figures 1 and 2 for full details of this process.

1 **Figure 1. Search process: What are the determinants of sport participation for community**
 2 **dwelling older adults?**

3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24



1 **Figure 2. Search process: What are the trends of sport participation for community dwelling older**
 2 **adults?**



1 *Study Analysis*

2 Once included, the articles were analysed thematically to report the main findings from each article that
3 were relevant to the research question.

4 *Quality rating*

5 The quality rating list developed by Kmet, Lee and Cook [39] was selected for the quality rating process,
6 as it suitable for both quantitative and qualitative studies. This list has been cited extensively and used
7 in numerous mixed methods systematic reviews. [40-42]

8 The quality ratings system [39] involved 14 quality assessment items for quantitative studies and 10
9 items for qualitative studies. Items for quantitative studies covered appropriate research design and
10 methodology, sufficiently appropriate data analysis and control for confounders. Items for qualitative
11 studies covered a clear research question and context, use of theoretical framework, systematic data
12 collection and analysis and consideration of reflexivity.

13 Response options (and score) for each quality rating item for both research designs were 'yes' (2),
14 'partial' (1), or 'no' (0). [39] For the quantitative studies, a 'not applicable' (N/A) score was also used.
15 There were three stages to calculate the overall score. Firstly, the total possible score was 28 minus
16 (number of N/A's x2). Then the total score was (number of 'yes' x2) plus (number of 'partial' x1). The not
17 applicable sections were excluded from the total score. Therefore the summary score was calculated by
18 the total score divided by the total possible score. The final score for each qualitative study was
19 calculated by: Total sum equalled (number of 'yes' x2) plus (number of 'partial' x1) divided by the total
20 possible sum of 20. The not applicable option was not available for the qualitative score. [39]

21 Two researchers independently undertook quality ratings in a pilot of four studies (two quantitative and
22 two qualitative) for rigour. These researchers then discussed and resolved any discrepancies before

1 independently undertaking quality ratings for the remaining studies. A Kappa score was calculated as an
2 indication of agreement between reviewers and then any differences in ratings for the remaining studies
3 were then discussed and resolved. Articles were classified out of a maximum of 1.0, with strong articles
4 categorised as >0.8, moderate (0.61-0.8) or weak (<0.6), based on the categories used by Henry, Kyle,
5 Bhandari, Chisholm, Griffiths and Bundy. [43] Although Henry et al. [43] used an amended version of
6 Kmet et al.'s [39] quality rating system, these categories were used as they most accurately reflected the
7 authors' opinion on the quality of the articles. The rating for each article is provided in Tables 1 (for
8 search 1) and 3 (for search 2) in the Results section.

9 **Results**

10 In total, 10,171 studies were initially identified for the first research question and 1,992 studies for the
11 second research question. There were 18 studies regarding the first research question and eight studies
12 regarding the second research question that were included in the final review. These low inclusion rates
13 were due to a number of studies either not clearly defining sport or not providing specific results for
14 sport participation. Details of this process can be found in Figures 1 and 2 respectively. The themes that
15 emerged from the quantitative and qualitative studies are presented concurrently in a convergent style
16 [44] throughout this review.

17 Determinants of sport participation for community dwelling older adults

18 There were more qualitative studies (n=10) than quantitative (n=8) studies. The majority of the
19 quantitative studies were cross-sectional (n=5), with three longitudinal studies. Most of qualitative
20 studies were interviews (n=6), plus two studies utilising both ethnographic and interviews, one using
21 photo elicitation and interviews and one study using photovoice and interview research methodology.
22 The range of participants across included studies was six to 22,050. The majority of the studies were
23 undertaken in Australia (n=5) [13, 14, 20, 23, 45] and the USA (n=5), [15-18, 21] with one study

1 undertaken respectively in Canada, [22] England, [46] Germany, [47] The Netherlands, [48] New
 2 Zealand, [19] Scotland, [49] South Korea [50] and Sweden. [51] There were 13 studies that focused on
 3 the older adult age group, whilst three studies were non-specific to older adults, but reported age
 4 specific data. Details of the studies included in this section can be found in Table 1.

5 The quality ratings ranged from 0.55 to 1. Most articles were rated as strong articles (n=10), with six as
 6 moderate and two as weak. The inter-rater reliability Kappa score was 0.66 (p < 0.001) 95% CI (0.38,
 7 0.94), which is classified as a substantial agreement [52] between the two reviewers. Seven main
 8 themes emerged from these 18 articles, as did several sub-themes, as shown below. These themes are
 9 presented in the order of most to least frequently mentioned in the included articles with an overview
 10 provided in Table 2.

11 **Table 2: Summary of themes for the determinants of sport participation for community dwelling older**
 12 **adults**

Theme	Sub-theme	Study
Health determinants	Health as a positive outcome of sport participation	13,15,16,21,22,49
	Health as a limitation of sport participation	16,23,45
Negotiating the ageing process through sport	Positive ageing discourse	13,14,16,17,21,50
	Negotiating the negative stereotypes of ageing	13,17
Social/community connection	Using sport to create/maintain a community	14,17,22
	Using sport to foster social connections	14,22
Influence of prior sports history on current sport participation	Positive influence of prior sports history	16,18,23
	Prior sports history may not always be important for current participation	20,21
Socio-demographic determinants	Employment/retirement	45,46,47
	Ethnic background	46
	Gender	50
	Occupation	46

	Parity	46
	Socio-economic status	48
	Marital status	46,47
Competition	To value sport	15, 19,20
	To distinguish participating from non-participating older adults	17
	Ensure financial stability	16
Sport type	Preference for individual sports	19,48
	Preference for organised activity	44

1

2

3 *Health determinants*

4 Health was the most frequently reported determinant for older adults’ participation in sport, and there
5 were two contrasting sub-themes: health as a positive outcome of sport participation; and physical health
6 as a limitation to participation in sport.

7 There were six studies (one quantitative and five qualitative) which found that improved health was a
8 positive outcome of sport participation. These articles reported that participants in Masters/Senior Games
9 sport competitions [13, 15] and also in community sport clubs [16, 21, 22, 50] felt that participating in
10 sport had assisted their physical [13, 15, 16, 21, 22, 50], mental or psychological [13, 16, 21, 22, 50] and/or
11 social [13, 15, 16, 21, 50] health. However, there were three studies (two quantitative and one qualitative)
12 that reported that poor physical health limited the ability of older adults to participate in sport. [16, 23,
13 46]

14

15

1 *Negotiating the ageing process through sport*

2 Negotiating the ageing process through sport was the next most frequently mentioned theme, which was
3 highlighted in the qualitative studies only. This theme also had two sub-themes: positive ageing discourse;
4 and negotiating negative stereotypes of ageing.

5 Developing a positive ageing discourse through sport was discussed by participants across many different
6 studies. [13, 14, 16, 17, 21, 51] For example, older adults reinforced their social identity through
7 participating in sport, [16] used sport to differentiate themselves from non-active older adults [17] or used
8 sport as a mechanism to transform their identity from an ageing older adult to a competitive athlete. [17]

9 Two studies reported that participants used sport to negotiate the negative stereotypes of ageing. [13,
10 17] In one study, participants celebrated that their behaviour challenged age-appropriate norms and
11 disassociated themselves from the aged stereotype. [13] Furthermore, several studies reported that sport
12 was a purposeful and meaningful activity for older adults, [14, 21, 51] whilst one study suggested that
13 although their participants did not deny they were ageing, sport enabled them to resist their ageing body,
14 which empowered them to enjoy playing sport for as long as they physically could. [13]

15 *Social/community connection*

16 Using sport as a tool to develop a social/community connection for older adults was a common theme
17 amongst three of the qualitative studies, with two sub-themes emerging: using sport for the development
18 and maintenance of community engagement for older adults; and using sport to foster social connections.

19 Two studies reported participant discussions of volunteering through sport or 'giving back' to the
20 community. For example, one study suggested that supporting local sport clubs was seen as a way for
21 older adults to support rural life/their local community, [22] whilst another study reported that
22 volunteering or coaching enabled participants to feel they had some influence or purpose in their sport.

1 [14] For others, participating in a mega event provided an opportunity to develop a sense of collective
2 community through competition and friendship. [17]

3 The concept that sport can be used to foster social connections was discussed in two articles, one at a
4 community sport club and one at a large sporting event. A study conducted in rural Canada suggested that
5 playing curling could foster social connections and decrease social loneliness, [22] whilst a study in
6 Australia proposed that participants developed feelings of belonging and membership with other
7 participants through having a common interest in a particular sport. [14]

8 *Influence of prior sport history on current sport participation*

9 The influence of prior sport history emerged in five articles (two quantitative and three qualitative), with
10 contrasting sub-themes: positive influence of past sport history; and that prior sport history may not
11 always be important for current participation.

12 Three studies reported that prior sport history had a positive effect on current older adult sport
13 participation. [16, 18, 23] For example, these positive influences could be having prior competency, skills
14 and knowledge to participate in sport, [16, 18] or that sport was attractive to those already active. [23]
15 Specifically for Masters sport participation, prior sport participation was important for some but not all
16 participants. [18] Conversely, two qualitative studies suggested that prior sport history may not always be
17 important for current participation, as different determinants influenced their participation. [20, 21]

18 *Socio-demographic determinants*

19 There were seven sub-themed socio-demographic determinants for sport participation that emerged
20 from the quantitative (n=6) and qualitative (n=1) studies: employment and retirement, occupation, socio-
21 economic status, ethnicity, gender, parity and marital status.

1 The influence of employment and retirement on sport participation was discussed in three studies. [46-
2 48] One study found that retirement was not an important determinant of participation, [48] whilst
3 another study reported that employment was a perceived barrier. [46] A study from Germany reported
4 that sport participation was significantly associated with occupation, [47] with civil servants more likely
5 to be engaged in sports compared to other types of workers, and another study suggested that a more
6 favourable socio-economic status was a positive determinant in late middle age participation. [49]

7 There was limited research that reported the influence of gender, ethnicity and parity on older adult sport
8 participation. These studies reported that the ethnic background of participants was an important factor
9 in one study. Being a non-indigenous female in Germany was strongly associated with low sport
10 participation compared with indigenous females. [47] Gender differences in participation also emerged
11 as a determinant from the one qualitative study. It was reported that men used their sport participation
12 to measure their capability age, essentially assessing how their physical capabilities were decreasing,
13 more quantitatively than women, largely through results in competition. Whilst the older women in this
14 study accepted their physical decline, they saw ageing as a more positive process, where they could feel
15 empowered and would become inspirational to other older women by participating in sport. [51] Parity
16 was another socio-demographic sub-theme to emerge, with one study suggesting that women who had
17 children at a younger age were less likely to participate in sport than older mothers. [47]

18 Two studies assessed marriage, with one study suggesting that there was no association between marital
19 status and sport participation, [47] whilst another study showed no association between widowhood and
20 sport participation. [48]

21 *Competition*

22 The importance, and enjoyment, of competition was reported in five studies (four qualitative and one
23 quantitative). [15-17, 19, 20] The role of competition was found to enable older adults to enjoy and value

1 sport participation [19] or also to distinguish participants from older adults who did not play competitive
2 sport. [17]

3 *Type of sport structure*

4 This theme included two sub-themes: preference for individual sports and preference for organised
5 activity. Two studies (one quantitative and one qualitative) suggested that specifically middle aged men
6 [49] and older adults in general, [19] preferred participation in individual rather than team sports, whilst
7 another quantitative study proposed that the 'older old' were more likely to engage with organised
8 activity rather than unorganised activity. [45]

9 Trends in sport participation for community dwelling older adults

10 Relating to trends in sport participation, the majority of studies were quantitative (7), with one
11 qualitative study. Most quantitative studies were cross-sectional (n=5), one utilised both cross-sectional
12 and longitudinal methods, and one was a cohort cross sectional study. The single qualitative study was
13 an individual case study. A number of included studies did not provide overall sample size, [53-56]
14 however the number of participants across the quantitative studies that did report overall sample sizes
15 ranged from 439 to 4,199. The majority of the studies were located in Germany (n=2), [53, 57] and
16 Belgium (n=2), [54, 55] with other studies undertaken in Japan (n=1), [58] The Netherlands (n=1), [59]
17 Spain (n=1), [54] and the USA (n=1) [60] respectively. Four studies were non-specific to older adults, but
18 reported age specific data, whilst four studies focused solely on the older adult age group. Details of the
19 eight studies examining trends in sport participation for older adults can be found in Table 3.

20 Quality ratings for these studies ranged from 0.59 to 0.90. Most studies were rated as moderate (n=4),
21 with two strong studies and two weak studies. The inter-rater reliability Kappa score was 0.46 (p <
22 0.004) 95% CI (0.030, 0.88), which is classified as a moderate agreement between the reviewers. [52]

1 Three main themes and several subthemes emerged from the study review, as detailed in Table 4
 2 below.

3 **Table 4: Summary of themes for the trends of sport participation for community dwelling older adults**

Theme	Sub-theme	Study
Effect of historical sport participation on trends	Continuity theory	57,59
	Engagement in sport	55,56,57
Sport participation across the lifespan	Sport participation decreases with age	52,53,54
	Sport participation does not always decrease with age	52,58
Demographic impacts on sport trends	Policy/programming	54,56
	Education	58
	Health	58
	Gender	56
	Type of sport	55

4

5 *Effect of historical sport participation on trends*

6 There were four studies (three quantitative and one qualitative) that reported the effect of previous sport
 7 participation, such as in childhood, adolescence or early adulthood, on current participation. [56-58, 60]

8 Two sub-themes emerged from this theme: Continuity theory and engagement in sport.

9 Continuity theory, which states that adults use strategies linked to their past experiences (for example,
 10 sport participation) to adapt to the ageing process, [61] was a key theme found in several studies. Two
 11 studies found the role of participation in sport specifically, or physical activity more generally, as a child
 12 or adolescent influenced participation in sport as an older adult. [58, 60]

1 Trends in sport engagement were found to be more diverse in three other quantitative studies. For
2 example, participation for some older adults was more varied. [58] One study found that the influence of
3 adolescent participation decreased over time, [56] whilst another study suggested that those who started
4 playing sport at an older age were less likely to drop out than participants who had started playing at a
5 younger age, for example, during adolescence. [57]

6 *Sport participation across the lifespan*

7 Four quantitative studies examined whether sport participation decreased with age, finding contrasting
8 results. In the cross-sectional studies, it was reported that sport participation was lower in people with
9 higher age. [53-55] However, one longitudinal study found that whilst sport participation decreased with
10 age for men, it did not necessarily decrease for women. [53] Conversely, one study found that successive
11 cohorts of retirees are increasingly likely to participate in sport. [59]

12 *Demographic impacts on sport trends*

13 There were five quantitative studies that observed demographic impacts on sport trends, with sub-
14 themes of policy/programming, education, health, gender and type of sport structure. Two studies
15 focused on sport policy, with both studies suggesting that the 'Sport for All' policies established in the
16 1960s, which have promoted sport participation for health and social benefits, had a strong effect on sport
17 participation levels. [55, 57] Other studies stated that level of education can positively affect sport
18 participation in later life, [59] physical limitations can negatively affect sport participation in later life [59]
19 and older adults were less likely to participate in club-organised sport than younger people. [56] One study
20 also suggested that women were more likely to start playing sport in later life than men. [57]

21

22

1 **Discussion**

2 This is the first systematic literature review to explore the determinants and trends regarding older
3 adults' sport participation. Given the increasing ageing population of Western nations and the
4 anticipated associated decline in health, it is important to investigate the potential of diverse forms of
5 physical activity to enable age appropriate opportunities for older adults to undertake enjoyable
6 exercise as they age.

7 *Determinants of sport participation for community dwelling older adults*

8 There was a variety of common factors associated with sport participation in older adults, including
9 health determinants, negotiating the ageing process through sport, social/community connection, the
10 influence of prior sport history on current sport participation, socio-demographic determinants,
11 competition and sport type. The most frequently reported themes were health determinants and
12 negotiating the ageing process through sport.

13 It is not surprising that health was the most frequently mentioned determinant. An increasing ageing
14 population is likely to increase the risk of chronic disease for the individual, and is also predicted to
15 result in higher public health expenditure, [1, 62] thus becoming a priority action area for governments.

16 This review has shown that sport can provide positive health benefits for older adults, but also that
17 sport participation may be more difficult for older adults as they age, because ageing is typically
18 associated with a decline in health. This is especially prevalent for certain sports, such as contact or
19 physically demanding sports. This concept is similarly reflected in studies on generic physical activity and
20 older adults. [63-65] In this review, it is interesting to note that health as a motivation to exercise was
21 mostly supported by data of older adults who played sport either in a community sport club or at
22 Masters/Senior Games competitions. [13, 15, 16, 21, 22, 50]

1 Poor health as a limitation to participation is a unique determinant for this age group and needs to be
2 taken into consideration. As such, to enable older adults to derive the health benefits sport can provide,
3 age appropriate playing opportunities are required, especially in more exertive sports, to accommodate
4 for older adults who may have age related reduced physical capabilities. However, previous research has
5 highlighted that many sports do not prioritise older adults specifically, [31] but there is an opportunity
6 for sport to be promoted as a novel intervention for health promotion in older adults.

7 Similarly to health determinants, this study also highlights another unique concept for older adults; that
8 is, the role of negotiating the ageing process through sport. Studies in this review suggest older adults
9 use sport to distance themselves from the older adult societal stereotype and/or reinforced their social
10 identity through sport. For example, some older adults used sport to differentiate themselves from non-
11 active older adults or used sport as a mechanism to transform their identity from an ageing older adult
12 to a competitive athlete. [17] This concept has been previously identified by Dionigi's [29] narrative
13 literature review on the psychosocial and sociological issues of sport and ageing. The relevant studies on
14 this theme in both Dionigi's [29] review and this systematic review were all qualitative, as the data was
15 mainly explorative and this concept may be difficult to measure quantitatively. However, it could be
16 interesting to further develop this and to explore if quantitative evidence can reinforce this concept on a
17 wider scale. Also, most of the current data on this determinant were for Masters or Senior Games sport
18 participation, meaning older adults playing competitive sport at large scale events, but not in
19 community level sport. Therefore further research should be conducted in community sport to
20 investigate if similar concepts emerge in an informal and more social sport setting. This could enable
21 sporting organisations to further promote sport as an attractive option for older adults to be physically
22 active.

1 There were only a small number of studies examining socio-demographic factors associated with
2 participation. Previously it has been found that socio-demographic determinants, such as gender, socio-
3 economic status and ethnicity, are major factors associated with sport participation in other age groups,
4 such as children/adolescents [66] and adults. [67] Conversely, from this review, it would appear that
5 health as a determinant of older adult participation has more traction because it has public health and
6 economic value. However, if organisations want to increase the proportion of older adults' participating
7 in sport to improve their health, then more knowledge on other potential determinants is needed,
8 starting with socio-demographic determinants such as gender and education. In addition, as older adults
9 have different life priorities and different impacts on their time than younger adults, it should be
10 examined which age specific socio-demographic factors are associated with participation. For example,
11 the unique impact of work/retirement as a determinant was only researched in three studies. More
12 research on this is needed to further understand its potential influence on older adult sport participation
13 and to be able to use this to identify subgroups of older people who may be interested in participating in
14 sport.

15 *Trends of sport participation for community dwelling older adults*

16 Overall there were fewer studies that investigated participation trends than participation determinants.
17 From those participation trend studies, three main themes emerged. These related to the effect of
18 historical sport participation on trends, sport participation across the lifespan and demographic impacts
19 on trends.

20 This review found that in general, participation in sport declines with age. This is a similar finding to
21 some generic physical activity research. [68, 69] Furthermore, historical/past participation in sport was
22 found to be a determinant of current participation, which is also in line with determinants reported in
23 previous physical activity [70] and sport research. [71] However some themes from this review

1 suggested that participation did not always decrease with age, which is also reflected in some adult
2 leisure-time physical activity studies. These studies have reported that leisure-time physical activity for
3 both men and women was actually increasing over time. [72, 73] This demonstrates the heterogeneity
4 of this age group and can encourage sporting organisations to promote sport participation to older
5 adults, regardless of their prior sport history. [19, 74]

6 *Correlation between the research questions*

7 The two research questions were amalgamated in this one systematic review because determinants can
8 influence patterns of sport participation either positively or negatively over the lifespan. Additionally,
9 some of the reviewed trend studies sought to identify factors, for example, demographics, that
10 influenced patterns or trends over time. Overall, there were a number of findings that linked the two
11 research areas.

12 Conflicting data on the influence of prior sport participation emerged for both research questions. As
13 proposed earlier in this discussion, this suggests that older adults are a diverse age group who can be
14 attracted to sport for the first time at an older age, if appropriate participation opportunities are
15 provided.

16 Socio-demographic factors also emerged in both research areas, though the number of studies was
17 relatively small. As these influences, such as gender, socio-economic status, physical environment and
18 family background, have been shown to be influential for other age groups, [75-77] it is recommended
19 that more research on these influences is undertaken to further investigate these findings and
20 understand their importance (or lack of) for this age group. Furthermore, the influence of retirement, a
21 unique theme for older members of this age group, was inconclusive. This influence reported conflicting
22 results between the one determinant study and one trends study that reported on this, thus further
23 research is recommended for this theme to resolve this conflict. It is recommended that sporting

1 organisations consider these socio-demographic influences when developing appropriate playing
2 opportunities for this age group.

3 Health was a well-researched area for determinants, but there was only one trends study that included
4 health. This trends study focused on how physical limitations can negatively affect sport participation in
5 later life, which corresponded with some of reviewed determinant studies. These results reflect that
6 older adults, as a group, are more likely to experience various health conditions that may affect their
7 participation in some sports, such as those requiring high exertion or physical contact. There are unique
8 determinants across different times within the lifespan, for example a study on sport participation for
9 adolescents [78] have shown that having fun with friends and having role models were important
10 determinants of sport participation. Whilst some of these determinants are the same for older adults,
11 the results in this review suggest that appropriate opportunities should be developed in some sports for
12 those with health limitations (such as adapted sport and/or social sport). This is in addition to age
13 appropriate opportunities for those without debilitating health conditions, to also enable these older
14 adults to continue playing either competitive or social sport with their peers.

15

16 *Methodological recommendations*

17 According to Kmet et al.'s guidelines, [39] the majority of the studies across both research areas were
18 identified as high quality, however this research area could benefit from a number of methodological
19 improvements. Qualitative research needs to better acknowledge the importance and potential impact
20 of reflexivity, and quantitative research would benefit from more longitudinal designs to expand on the
21 current, largely cross sectional, findings.

1 Many of the studies included in this systematic review were on Masters/Senior Games sport. That is, a
2 competitive form of sport, rather than community-based recreational forms such as club sport. In the
3 interest of population health strategies, the role of sport in the general community for older adults is
4 important to understand. Whilst there were some studies on community sport, these tended to be sport
5 specific and focused on traditional older adults' sport, such as golf and bowls. Community sporting
6 organisations can benefit from understanding the trends and determinants of participation, to better
7 cater specific products/programmes to the needs of older adults. Community sport in recent years has
8 developed and implemented specific modified sport products for very young children, to meet their
9 developmental needs. [79] Given the different potential health limitations of some older adults, partial
10 modifications of sports for older adults is a potential strategy to encourage their increased participation,
11 at least for sports with high exertion or physical contact.

12 *Strengths and limitations of this review*

13 This review presented two research questions to provide context and enable direct comparison
14 between two important influences for older adults' sport participation. It also comprised of both
15 qualitative and quantitative studies to ensure a breadth of research was included. However, it also had a
16 number of limitations. Whilst the search strategy was comprehensive, it did not include grey literature
17 or non-English language articles. Also, whilst the quality rating system used enabled both types of
18 studies to be assessed, the assessment criteria for the quantitative studies were not as rigorous as other
19 quantitative rating systems, which may have impacted the assessment scores.

20 **Conclusion**

21 This study brought together a range of diverse research investigating the factors associated with sport
22 participation in older adults. As the populations of Western nations continue to age, it is important to
23 explore different ways that older adults can be physically active in their leisure-time. In conclusion, this

1 review highlights that older adults do use sport to improve their health, but at the same time, due to
2 decreased health in general with ageing, poor health can equally be a barrier to participation. It is
3 recommended that sporting organisations use this review to understand the determinants and trends of
4 older adult participation, by providing both social play and competitive appropriate opportunities.
5 However, it is essential that organisations ensure that these opportunities also cater for older adults
6 who may have potential health limitations, to ensure older adults who enjoy sport can continue to
7 participate as they age.

8 **Declarations**

9 *Ethics approval and consent to participate*

10 Not applicable.

11 *Consent for publication*

12 Not applicable.

13 *Availability of data and materials*

14 Not applicable.

15 *Competing interests*

16 The authors declare that they have no competing interests.

17 *Funding*

18 CRJ is supported by an Australian Sports Commission-ISEAL Victoria University PhD Scholarship. JvU was
19 supported by an Australian Sports Commission-ISEAL Victoria University Senior Research Fellowship.

20 *Authors' contributions*

1 CRJ contributed to the study design, the review of literature, analysis of literature, manuscript
2 conceptualisation and preparation. RME contributed to the study design, manuscript conceptualisation
3 and preparation. HW contributed to the study design and manuscript preparation. GO contributed to
4 the review of literature, analysis of literature and manuscript preparation. JGZU contributed to the study
5 design and manuscript preparation. All authors read and approved the final manuscript.

6 *Acknowledgements*

7 Not applicable.

8

1 References

- 2 1. World Health Organisation, *Global health and ageing*. 2011, US National Institute on Ageing
3 Bethesda.
- 4 2. Vogeli, C., Shields, A.E., Lee, T.A., Gibson, T.B., Marder, W.D., Weiss, K.B. and Blumenthal, D.,
5 *Multiple chronic conditions: prevalence, health consequences, and implications for quality, care*
6 *management, and costs*. Journal of General Internal Medicine, 2007. **22**(3): p. 391-395.
- 7 3. Booth, F.W., C.K. Roberts, and M.J. Laye, *Lack of exercise is a major cause of chronic diseases*.
8 Comprehensive Physiology, 2012.
- 9 4. Paterson, D.H., Jones G.R., and Rice C.L., *Ageing and physical activity: evidence to develop*
10 *exercise recommendations for older adults*. This article is part of a supplement entitled
11 'Advancing physical activity measurement and guidelines in Canada: a scientific review and
12 evidence-based foundation for the future of Canadian physical activity guidelines', co-published
13 by Applied Physiology, Nutrition, and Metabolism and the Canadian Journal of Public Health.
- 14 5. Bishop, N.A., Lu T., and Yankner B.A., *Neural mechanisms of ageing and cognitive decline*.
15 Nature, 2010. **464**(7288): p. 529-535.
- 16 6. Sirven, N. and T. Debrand, *Social participation and healthy ageing: An international comparison*
17 *using SHARE data*. Social Science & Medicine, 2008. **67**(12): p. 2017-2026.
- 18 7. Dunsky, A. and Netz Y., *Physical Activity and Sport in Advanced Age: Is it Risky?-A Summary of*
19 *Data from Articles Published Between 2000-2009*. Current Aging Science, 2012. **5**(1): p. 66-71.
- 20 8. Koeneman, M.A., Verheijden, M.W., Chinapaw, M.J.M. and Hopman-Rock, M., *Determinants of*
21 *physical activity and exercise in healthy older adults: a systematic review*. International Journal
22 of Behavioral Nutrition and Physical Activity, 2011. **8**(1): p. 1.
- 23 9. Sun, F., Norman, I.J. and While, A.E., *Physical activity in older people: a systematic review*. BMC
24 Public Health, 2013. **13**.
- 25 10. Taylor, A.H., Cable, N. T., Faulkner, G., Hillsdon, M., Narici, M., Van Der Bij, A. K., *Physical activity*
26 *and older adults: a review of health benefits and the effectiveness of interventions*. Journal of
27 Sports Sciences, 2004. **22**(8): p. 703-725.
- 28 11. Allender, S., G. Cowburn, and C. Foster, *Understanding participation in sport and physical*
29 *activity among children and adults: a review of qualitative studies*. Health Education Research,
30 2006. **21**(6): p. 826-835.
- 31 12. Blake, H., Mo, P., Malik, S., Thomas, S., *How effective are physical activity interventions for*
32 *alleviating depressive symptoms in older people? A systematic review*. Clinical Rehabilitation,
33 2009. **23**(10): p. 873-887.
- 34 13. Dionigi, R., *Competitive sport as leisure in later life: Negotiations, discourse, and aging*. Leisure
35 Sciences, 2006. **28**(2): p. 181-196.
- 36 14. Lyons, K. and R. Dionigi, *Transcending emotional community: A qualitative examination of older*
37 *adults and masters' sports participation*. Leisure Sciences, 2007. **29**(4): p. 375-389.
- 38 15. Henderson, K.A., Casper, J., Wilson, B.E. and Dern L., *Behaviors, Reason, and Outcomes*
39 *Perceived by Senior Games Participants*. Journal of Park & Recreation Administration, 2012.
40 **30**(1): p. 19-35.
- 41 16. Heo, J., Culp, B., Yamada, N. and Won, Y., *Promoting successful aging through competitive sports*
42 *participation: Insights from older adults*. Qualitative Health Research, 2013. **23**(1): p. 105-113.
- 43 17. Kelley, K., Little, S., Jong Seon, L., Birendra, K. C. and Henderson, K., *Articulating Meanings of*
44 *Positive Adjustment to Aging through Physical Activity Participation among Older Adults*. Journal
45 of Park & Recreation Administration, 2014. **32**(1): p. 63-79.

- 1 18. Smith, C.L. and M. Storandt, *Physical Activity Participation in Older Adults: A Comparison of*
2 *Competitors, Noncompetitors, and Nonexercisers*. Journal of Aging & Physical Activity, 1997.
3 **5**(2): p. 98.
- 4 19. Grant, B.C., *'You're never too old': beliefs about physical activity and playing sport in later life*.
5 *Ageing and Society*, 2001. **21**(06): p. 777-798.
- 6 20. Heuser, L., *We're not too old to play sports: the career of women lawn bowlers*. Leisure Studies,
7 2005. **24**(1): p. 45-60.
- 8 21. Siegenthaler, K.L. and O'Dell I., *Older golfers: Serious leisure and successful aging*. World Leisure
9 Journal, 2003. **45**(1): p. 45-52.
- 10 22. Leipert, B.D., Plunkett, R., Meagher-Stewart, D., Scruby, L., Mair, H., and Wamsley, K., *I can't*
11 *imagine my life without it!" Curling and health promotion: A photovoice study*. Canadian Journal
12 of Nursing Research, 2011. **43**(1): p. 60-78.
- 13 23. Green, S., Campbell, E., Barnett, L., Mitchell, R., Radvan, D., Van Beurden, E., *Promoting a team*
14 *ball game (lifeball) to older people: Who does this game attract and who continues?* Health
15 Promotion Journal of Australia, 2009. **20**(2): p. 120-126.
- 16 24. Martin, K.A. and Sinden A.R., *Who will stay and who will go? A review of older adults' adherence*
17 *to randomized controlled trials of exercise*. Journal of Aging and Physical Activity, 2001. **9**(2): p.
18 91-114.
- 19 25. Australian Sports Commission, *ASC recognition. What is defined as a sport?* [online] Available
20 from http://www.ausport.gov.au/supporting/nso/asc_recognition [Accessed 10 August 2015].
21 2009.
- 22 26. Eime, R.M., Young, J.A., Harvey, J.T., Charity, M.J. and Payne, W.R., *A systematic review of the*
23 *psychological and social benefits of participation in sport for children and adolescents: informing*
24 *development of a conceptual model of health through sport*. International Journal of Behavioral
25 Nutrition and Physical Activity, 2013. **10**(1): p. 1.
- 26 27. Eime, R.M., Young, J.A., Harvey, J.T., Charity, M.J. and Payne, W.R., *A systematic review of the*
27 *psychological and social benefits of participation in sport for adults: informing development of a*
28 *conceptual model of health through sport*. International Journal of Behavioral Nutrition and
29 Physical Activity, 2013. **10**(135): p. 14.
- 30 28. Oja, P., Titze, S., Bauman, A., De Geus, B., Krenn, P., Reger-Nash, B. and Kohlberger, T., *Health*
31 *benefits of cycling: a systematic review*. Scandinavian Journal of Medicine & Science in Sports,
32 2011. **21**(4): p. 496-509.
- 33 29. Dionigi, R.A., *The competitive older athlete: a review of psychosocial and sociological issues*.
34 *Topics in Geriatric Rehabilitation*, 2016. **32**(1): p. 55-62.
- 35 30. Pike, E.C.J., *Assessing the sociology of sport: On age and ability*. International Review for the
36 *Sociology of Sport*, 2015. **50**(4-5): p. 570-574.
- 37 31. Jenkin, C.R., Eime, R.M., Westerbeek, H., O'Sullivan, G. and van Uffelen, J.G. Z., *Are they 'worth*
38 *their weight in gold'? Sport for older adults: benefits and barriers of their participation for*
39 *sporting organisations*. International Journal of Sport Policy and Politics, 2016: p. 1-18.
- 40 32. Eime, R., Payne W., and Harvey J., *Trends in organised sport membership: impact on*
41 *sustainability*. Journal Of Science And Medicine In Sport/Sports Medicine Australia, 2009. **12**(1):
42 p. 123-129.
- 43 33. Gray, S., *Team club sports clubs for adults: A model*. American Association of Behavioral Social
44 Science Online Journal, 2004. **7**: p. 44-48.
- 45 34. Eime, R.M., Harvey, J.T., Charity, M.J., Casey, M.M., Westerbeek, H. and Payne, W.R., *Age*
46 *profiles of sport participants*. BMC Sports Science, Medicine and Rehabilitation, 2016. **8**(1): p. 1.

- 1 35. Trost, S.G., Owen, N., Bauman, A.E., Sallis, J.F. and Brown, W., *Correlates of adults' participation*
2 *in physical activity: review and update*. *Medicine and Science in Sports and Exercise*, 2002.
3 **34**(12): p. 1996-2001.
- 4 36. Condello, G., Puggina, A., Aleksovska, K., Buck, C., Burns, C., Cardon, G., Carlin, A., Simon, C.,
5 Ciarapica, D. and Coppinger, T., *Behavioral determinants of physical activity across the life*
6 *course: a "DEterminants of Diet and Physical ACTivity"(DEDIPAC) umbrella systematic literature*
7 *review*. *International Journal of Behavioral Nutrition and Physical Activity*, 2017. **14**(1): p. 58.
- 8 37. Eime, R.M., Sawyer, N., Harvey, J. T., Casey, M. M., Westerbeek, H. and Payne, W.R., *Integrating*
9 *public health and sport management: sport participation trends 2001–2010*. *Sport Management*
10 *Review*, 2015. **18**(2): p. 207-217.
- 11 38. Eime, R.M., Harvey, J.T., Sawyer, N.A., Craike, M.J., Symons, C.M. and Payne, W.R., *Changes in*
12 *sport and physical activity participation for adolescent females: a longitudinal study*. *BMC Public*
13 *Health*, 2016. **16**(1): p. 533.
- 14 39. Kmet, L.M., R.C. Lee, and L.S. Cook, *Standard quality assessment criteria for evaluating primary*
15 *research papers from a variety of fields*. 2004, Alberta Heritage Foundation for Medical Research
16 Edmonton.
- 17 40. Légaré, F., Ratté, S., Gravel, K., and Graham, I.D., *Barriers and facilitators to implementing*
18 *shared decision-making in clinical practice: update of a systematic review of health*
19 *professionals' perceptions*. *Patient Education and Counseling*, 2008. **73**(3): p. 526-535.
- 20 41. Wu, O., Bayoumi, N., Vickers, M. A. and Clark, P., *ABO (H) blood groups and vascular disease: a*
21 *systematic review and meta-analysis*. *Journal of Thrombosis and Haemostasis*, 2008. **6**(1): p. 62-
22 69.
- 23 42. Squires, J.E., Estabrooks, C.A., Gustavsson, P. and Wallin, L., *Individual determinants of research*
24 *utilization by nurses: a systematic review update*. *Implementation Science*, 2011. **6**(1): p. 1.
- 25 43. Henry, A.L., Kyle, S.D., Bhandari, S., Chisholm, A., Griffiths, C.E.M. and Bundy, C., *Measurement,*
26 *Classification and Evaluation of Sleep Disturbance in Psoriasis: A Systematic Review*. *PloS One*,
27 2016. **11**(6): p. e0157843.
- 28 44. Pluye, P. and Q.N. Hong, *Combining the power of stories and the power of numbers: mixed*
29 *methods research and mixed studies reviews*. *Public Health*, 2014. **35**(1): p. 29.
- 30 45. Merom, D., Carmen, C., Kamalesh, V. and Adrian, B., *How diverse was the leisure time physical*
31 *activity of older Australians over the past decade?* *Journal of Science and Medicine in Sport*,
32 2012. **15**(3): p. 213-219.
- 33 46. Chaudhury, M. and N. Shelton, *Physical activity among 60-69-year-olds in England: Knowledge,*
34 *perception, behaviour and risk factors*. *Ageing & Society*, 2010. **30**(8): p. 1343-1355.
- 35 47. Steindorf, K., Chang-Claude, J., Flesch-Janys, D., Schmidt, M.E., *Determinants of sports, cycling,*
36 *walking and overall leisure-time physical activity among postmenopausal women in Germany*.
37 *Public Health Nutrition*, 2010. **13**(11): p. 1905-1914.
- 38 48. Koeneman, M.A., Chinapaw, M.J.M., Verheijden, M.W., van Tilburg, T.G., Visser, M., Deeg, D.J.H.
39 and Hopman-Rock, M., *Do major life events influence physical activity among older adults: The*
40 *Longitudinal Aging Study Amsterdam*. *International Journal of Behavioral Nutrition and Physical*
41 *Activity*, 2012. **9**.
- 42 49. Hunt, K., Ford G., and Mutrie N., *Is sport for all? Exercise and physical activity patterns in early*
43 *and late middle age in the West of Scotland*. *Health Education*, 2001. **101**(4): p. 151-158.
- 44 50. Kim, J., Yamada, N., Heo, J. and Han, A., *Health benefits of serious involvement in leisure*
45 *activities among older Korean adults*. *International Journal of Qualitative Studies on Health and*
46 *Well-being*, 2014. **9**.
- 47 51. Eman, J., *The role of sports in making sense of the process of growing old*. *Journal of Aging*
48 *Studies*, 2012. **26**(4): p. 467-475.

- 1 52. Landis, J.R. and Koch G.G., *The measurement of observer agreement for categorical data*.
2 Biometrics, 1977: p. 159-174.
- 3 53. Breuer, C. and Wicker P., *Decreasing sports activity with increasing age? Findings from a 20-year*
4 *longitudinal and cohort sequence analysis*. Research Quarterly for Exercise and Sport, 2009.
5 **80**(1): p. 22-31.
- 6 54. Palacios-Ceña, D., Fernandez-de-Las-Peñas, C., Hernández-Barrera, V., Jiménez-García, R.,
7 Alonso-Blanco, C. and Carrasco-Garrido, P., *Sports participation increased in Spain: a population-*
8 *based time trend study of 21 381 adults in the years 2000, 2005 and 2010*. British Journal Of
9 Sports Medicine, 2012. **46**(16): p. 1137-1139.
- 10 55. Scheerder, J., B. Vanreusel, and Taks M., *Stratification patterns of active sport involvement*
11 *among adults: social change and persistence*. International Review for the Sociology of Sport,
12 2005. **40**(2): p. 139-162;273;375;277-278.
- 13 56. Scheerder, J. and Vos S., *Social stratification in adults' sports participation from a time-trend*
14 *perspective. Results from a 40-year household study*. European Journal for Sport and Society,
15 2011. **8**(1-2): p. 31-44.
- 16 57. Engel, C. and Nagel S., *Sports participation during the life course*. European Journal for Sport and
17 Society, 2011. **8**(1-2): p. 45-63.
- 18 58. Harada, M., *Early and later life sport participation patterns among the active elderly in Japan*.
19 Journal of Aging and Physical Activity, 1994. **2**(2): p. 105-114.
- 20 59. Cozijnsen, R., Stevens N.L., and Van Tilburg T.G., *The trend in sport participation among Dutch*
21 *retirees, 1983–2007*. Ageing and Society, 2013. **33**(04): p. 698-719.
- 22 60. Langley, D.J. and Knight S.M., *Continuity in Sport Participation as an Adaptive Strategy in the*
23 *Aging Process: A Lifespan Narrative*. Journal of Aging & Physical Activity, 1999. **7**(1): p. 32.
- 24 61. Atchley, R.C., *A continuity theory of normal aging*. The Gerontologist, 1989. **29**(2): p. 183-190.
- 25 62. Australian Department of Treasury & Finance, *Australia to 2050: Future Challenges*.
26 *Intergenerational report series no. 3*. 2010, Canberra: Treasury.
- 27 63. Juarbe, T., X.P. Turok, and Pérez-Stable E.J., *Perceived benefits and barriers to physical activity*
28 *among older Latina women*. Western Journal of Nursing Research, 2002. **24**(8): p. 868-886.
- 29 64. Bethancourt, H.J., Rosenberg, D.E., Beatty, T. and Arterburn, D.E., *Barriers to and facilitators of*
30 *physical activity program use among older adults*. Clinical Medicine & Research, 2014. **12**(1-2):
31 p. 10-20.
- 32 65. Patel, A., Schofield, G.M., Kolt, G.S. and Keogh, J., *Perceived barriers, benefits and motives for*
33 *physical activity: two primary-care physical activity prescription programs*. Journal of Aging and
34 Physical Activity, 2013. **21**(1): p. 85.
- 35 66. Seabra, A.F., Mendonça, D.M., Thomis, M.A., Peters, T.J. and Maia, J.A., *Associations between*
36 *sport participation, demographic and socio-cultural factors in Portuguese children and*
37 *adolescents*. The European Journal of Public Health, 2008. **18**(1): p. 25-30.
- 38 67. Farrell, L. and Shields M.A., *Investigating the economic and demographic determinants of*
39 *sporting participation in England*. Journal of the Royal Statistical Society: Series A (Statistics in
40 Society), 2002. **165**(2): p. 335-348.
- 41 68. Caspersen, C.J., M.A. Pereira, and Curran K.M., *Changes in physical activity patterns in the*
42 *United States, by sex and cross-sectional age*. Medicine and Science in Sports and Exercise, 2000.
43 **32**(9): p. 1601-1609.
- 44 69. Telama, R., Yang, X., Viikari, J., Välimäki, I., Wanne, O. and Raitakari, O., *Physical activity from*
45 *childhood to adulthood: a 21-year tracking study*. American Journal of Preventive Medicine,
46 2005. **28**(3): p. 267-273.
- 47 70. Cousins, S.O., *Social support for exercise among elderly women in Canada*. Health Promotion
48 International, 1995. **10**(4): p. 273-282 10p.

- 1 71. Scheerder, J., Thomis, M., Vanreusel, B., Lefevre, J., Renson, R., Eynde, B.V. and Beunen, G.P.,
2 *Sports participation among females from adolescence to adulthood a longitudinal study.*
3 *International Review for the Sociology of Sport*, 2006. **41**(3-4): p. 413-430.
- 4 72. Knuth, A.G. and Hallal P.C., *Temporal trends in physical activity: a systematic review.* *Journal of*
5 *Physical Activity & Health*, 2009. **6**(5): p. 548.
- 6 73. Stamatakis, E. and Chaudhury M., *Temporal trends in adults' sports participation patterns in*
7 *England between 1997 and 2006: the Health Survey for England.* *British Journal of Sports*
8 *Medicine*, 2008. **42**(11): p. 901-908.
- 9 74. Jenkin CR, Eime, R., Westerbeek, H.M. and van Uffelen, J.G.Z., *Why don't older adults participate*
10 *in sport? Reported prepared for the Australian Sports Commission.* 2016, Victoria University,
11 Institute of Sport, Exercise and Active Living (ISEAL): Australia.
- 12 75. Fairclough, S.J., Boddy, L.M., Hackett, A.F. and Stratton, G., *Associations between children's*
13 *socioeconomic status, weight status, and sex, with screen-based sedentary behaviours and sport*
14 *participation.* *International Journal of Pediatric Obesity*, 2009. **4**(4): p. 299-305.
- 15 76. Gracia-Marco, L., Tomàs, C., Vicente-Rodríguez, G., Jiménez-Pavón, D., Rey-López, J.P., Ortega,
16 F.B., Lanza-Saiz, R. and Moreno, L.A., *Extra-curricular participation in sports and socio-*
17 *demographic factors in Spanish adolescents: the AVENA study.* *Journal of Sports Sciences*, 2010.
18 **28**(13): p. 1383-1389.
- 19 77. Downward, P. and Rasciute S., *Exploring the covariates of sport participation for health: an*
20 *analysis of males and females in England.* *Journal of Sports Sciences*, 2015. **33**(1): p. 67-76.
- 21 78. Casey, M.M., Eime, R.M., Payne, W.R. and Harvey, J.T., *Using a socioecological approach to*
22 *examine participation in sport and physical activity among rural adolescent girls.* *Qualitative*
23 *Health Research*, 2009. **19**(7): p. 881-893.
- 24 79. Eime, R.M., Casey, M.M., Harvey, J.T., Charity, M.J., Young, J.A. and Payne, W.R., *Participation in*
25 *modified sports programs: a longitudinal study of children's transition to club sport competition.*
26 *BMC Public Health*, 2015. **15**(1): p. 649.

1 **Table 1: Studies investigating the determinants of sport participation for community dwelling older adults**

Ref & Year	Design	Method	Sample (n)	Country	Age (yrs)	Cohort	Sex	Aim (as reported by the author)	Sport and/or PA	Sport	Theory	Key finding(s)	Quality Score (out of 1.0)
[46] (2010)	Quant	Cross-sectional	2,111	England	60-69	Community dwelling adults	M&F	Examine the reasons for the decline in physical activity	PA & sport	General sports		-Barriers included employment, lack of leisure time, physical limitations and poor health - There were few sport participation differences between employed and retired older adults, thus suggesting employment and lack of leisure time may not be a determinant of participation.	0.85
[45] (2011)	Quant	Cross-sectional	22,050	Australia	>65	Community dwelling adults	M&F	Characterise the types of leisure time physical activity in older Australians	PA & sport	General sports		- Older adults are more likely to engage with organised activity rather than unorganised activity, such as physical activity classes, rather than sport) - Most activities undertaken were aerobic types of activities, such as swimming, golf, cycling, racquet ball and rowing	1
[13] (2006)	Qual	Interviews	28	Australia	60-89	Masters athletes	M&F	Explore the motives and experiences of Australian Masters Games' athletes	Sport	General sports	Post-structural	- Participants believed that their involvement in competitive sport prolonged their physical fitness, social health and psychological health. - Participants celebrated that their behaviour challenged age-appropriate norms and disassociated themselves from the aged stereotype - Resistance to the ageing body was associated with feelings of personal empowerment. However participants did not deny they were	0.75

												ageing, but wanted to enjoy playing sport for as long as they could	
[23] (2009)	Quant	Longitudinal	284	Australia	40-96	Lifeball members/ ex-members	M&F	Describe and examine the demographic and health related characteristics of Lifeball players and how these affect continuation in the sport	Sport	Lifeball		Lifeball appealed to those who were already active, however poor health was the main reason for discontinuing playing Lifeball. Participants who had continued to play Lifeball 12 months after starting were more likely to report higher perceived socialisation benefits, but the quantitative data did not show any changes to level of physical activity, self-reported health status and quality of life	0.8
[51] (2012)	Qual	Interviews	22	Sweden	66-90	Active sports people	M&F	How sports can affect old adults' processes of sense-making about old age	Sport	General sports	Grounded theory	- Participants used sport to maintain their 'look age', that is to maintain their weight, as a way to control the ageing process - Participants used sport as a way of evaluating and understanding old age, that is understanding how their physical capabilities were decreasing through participating in sport. Known as 'capability age'. - Men measured capability age more quantitatively than women (through results of competition), and perceived ageing as a negative concept - Women accepted their physical decline but saw ageing as a more positive process, where they could feel empowered and would become inspirational to other women	0.75
[19] (2001)	Qual	Interviews	15	New Zealand	71-78	Masters' Games participants	M&F	Examine the beliefs about the role and	PA & sport	General sports		- An appropriate level of competition and fairness was deemed important in order to value and enjoy involvement	0.5

								meaning of physical activity in later life				<ul style="list-style-type: none"> - Whilst participants dropped out of sport within a few years of leaving school, they started played again, either informally or in organised competition, in their mid-50s or early 60s - Participants largely participated in team sports in their youth, but now participated in individual sports 	
[15] (2012)	Quant	Cross-sectional	408	USA	55-94	Senior Games' participants	M&F	Describe the behaviours, importance of the reasons for participation and perceived outcomes associated with the North Carolina Senior Games	PA & sport	General sports		<ul style="list-style-type: none"> - Participating in the North Carolina Senior Games made a contribution to participants' physical and social engagement, for example being physically active and socially interacting with their peers - Competition was important to participants but not as important as social reasons - As the Games was a structured year round programme, this enabled participants to be more active throughout the year. Also less educated participants (high school or lower) saw the social determinants of participation as more important than higher educated participants 	0.9
[16] (2013)	Qual	Interviews	10	USA	52-71	Senior Games' participants	M&F	Examine the experience of older adults participating in serious leisure to determine how this experience contributes to successful ageing	Sport	General sports	Serious leisure perspective	<ul style="list-style-type: none"> - Participants expressed the need to persevere through injury and illness, as they expected positive outcomes, such as training success or to ensure financial stability (through winning races) - Benefits of participation reported included physical and social benefits, such as social networking/developing friendships, physical fitness, enhanced self-image and fun, from their participation. 	0.65

												<ul style="list-style-type: none"> - Participants have developed a specialised knowledge base of how to play a sport and this previous investment encourages them to continue participating as they age. - Participants reinforced their social identities through their sport participation 	
[20] (2005)	Qual	Ethnography & interviews	18	Australia	64-88	Bowls participants	F	Identify the objective career of lawn bowlers and the subjective interpretations the participants assign to the sport	Sport	Bowls	Serious leisure perspective	<ul style="list-style-type: none"> -Women can engage with a sport via various pathways, such as friends, family or life circumstances and for different reasons, therefore previous history is not always the main determinant - Some women thrived on the competition, whereas other participants enjoyed informal participation 	0.8
[49] (2001)	Quant	Longitudinal	1,710	Scotland	39-60	Community dwelling adults	M&F	Examine physical activity participation data for early and late middle age in the West of Scotland	PA & sport	General sports		Individual sports are undertaken more by men than women in late middle age and more differentiation by socio-economic status is seen in late middle age than early middle age	0.55
[17] (2014)	Qual	Photo elicitation & interviews	6	USA	56-70	North Carolina Senior Games' participants	M&F	Use photo elicitation to examine the meanings associated with physical activity participation	PA & sport	General sports	Grounded theory	<ul style="list-style-type: none"> - Participants indicated that they were resisting the stereotypes of ageing imposed upon them by society and were defining what successful ageing meant - Participating in a mega event provided an opportunity to develop a sense of collective community through competition and friendship. - Participants distinguished themselves from other older adults through competition. 	0.85

												- Participants used sport as a mechanism to transform their identity from ageing older adults to competitive athletes	
[50] (2014)	Qual	Interviews	10	South Korea	66-83	Sport club members	M&F	Examine the benefits of serious involvement in leisure activities among older Korean sport club members	PA & sport	General sports	Serious leisure perspective	Serious involvement in sports club activities provided the participants with psychological, social and physical health benefits	0.65
[48] (2012)	Quant	Longitudinal	1,460	The Netherlands	55+	Retired or widowed participants	M&F	Examine widowhood and retirement as determinants of moderate to vigorous physical activity and sports participation	PA & sport	General sports		No association between retirement or widowhood on sports participation, therefore not a determinant of participation	0.91
[22] (2011)	Qual	Photovoice & focus groups	15	Canada	12-72	Curling participants	F	Examine the influence of curling on the health of women in rural Canada	Sport	Curling		<ul style="list-style-type: none"> - Curling was vital to participants' mental and physical health in winter - Playing curling can foster social connections and decrease social loneliness - Curling was seen as a way to support rural life. Participants volunteered and supported the club as an extension of supporting their community 	0.8
[14] (2007)	Qual	Ethnography & interviews	110	Australia	55-94	Masters Games' participants	M&F	How older adult Masters sport participants interpreted the concept of community	Sport	General sports	Grounded theory	<ul style="list-style-type: none"> - Participants developed feelings of belonging and membership with other participants through having a common interest in a particular sport - Being identified as a sports person whose very participation in sport was seen as an achievement, reinforced a feeling of relevance and life purpose. 	0.9

												<ul style="list-style-type: none"> - Participants had shared desires to remain competitive, healthy and active in order to positively age - Older adults felt they had some influence and control in the sport they were playing by being able to “give back”, either through coaching or volunteering 	
[21] (2003)	Qual	Interviews	19	USA	67-87	Golf participants	M&F	Investigate the premise that serious leisure supports successful ageing	Sport	Golf	Serious leisure perspective	<ul style="list-style-type: none"> - Golf has different types of participants (core, moderate, social or therapeutic devotees) and therefore each group had different determinants to participation. - Participants enjoyed social health (social interaction and friends they had developed), Psych health (intellectual challenge, self-improvement, enjoyment, stress relief relaxation, pure fun) and PH (prevention of disability, as it kept them active and moving). - Golf was perceived to help some participants’ age well. It was a purposeful, meaningful activity and provided significant social relationships 	0.65
[18] (1997)	Quant	Cross-sectional	246	USA	55+	Senior Olympics participants	M&F	Explore the influence of histories of competitive sports involvement, health beliefs, reasons for exercising and personality on physical activity participation	PA & sport	General sports	Health belief model	<ul style="list-style-type: none"> - Childhood and adolescent participation are not significant on Masters’ sport participation. However more than half of Masters’ participants still played sport in their 20s and 30s and others returned to sport during middle age rather than retirement. Suggests that some prior sport history is important but not all prior participation Competitors believed exercise was more important than non-exercisers, however they had more varied motivation to participate 	0.73

												(improved health, in addition to socialisation and competency) than non-sports exercisers and non-exercisers	
[47] (2010)	Quant	Cross-sectional	6,569	Germany	50-67	Post-menopausal women	F	Examine the subject-related determinants of physical activity for post-menopausal women	PA & sport	General sports		- Sport participation was significantly associated with occupation (civil servants most popular), so job type can be a determinant for some participants - Also, later in life nulliparous women were less physically active than parous women, and women who had children at a younger age are less likely to participate in sport than older mothers, - Non-indigenous women was strongly associated with low sport participation	0.86

1 * Research design: Quant= quantitative research methods, Qual=qualitative methods. ** Sex: F=female, m=Male, M&F=both male and female. *** Sport: General sports= not one specific sport. A mix of different
2 sports. **** Sport and/or PA: Sport = articles that only report on sport, PA & Sport = articles that report on both types of exercise but provide sport specific results. ***** Quality ratings: 0.8-1 = good, 0.61-.079 =
3 moderate, 0.0-0.6 = poor. ***** Lifeball is a team sport that is particularly suitable for older adults. It is a light intensity game that involves walking, passing and throwing a medium sized ball.

1 **Table 3: Studies investigating the trends of sport participation for community dwelling older adults**

Ref & Year	Design	Method	Sample (n)	Country	Age (yrs)	Cohort	Sex	Aim	Sport and/or PA	Sport	Theory	Key finding(s)	Score (out of 1.0)
[53] (2009)	Quant	Cross & Long	3,012-31,915	Germany	16->64	Community dwelling adults?	M&F	Determine whether the traditional assumption of decreasing sports activity with increasing age is still appropriate	PA & sport	General sport activities		In cross sectional analyses, sport participation was lower in older age groups. However longitudinally participation decreases with age for men but not women	0.65
[59] (2013)	Quant	Cross	4,199	The Netherlands	58-67	Retired older adults	M&F	Investigate the trend in sport participation among retirees between 1983 and 2007	PA & sport	General sports		Successive cohorts of retirees are increasingly likely to participate in sport compared to pre-1983 Level of education can positively affect sport participation in later life, however physical limitations can negatively affect sport participation in later life	0.9
[57] (2011)	Quant	Cross	1,739	Germany	50+	Community dwelling adults	M&F	Describe sport participation across the life course, and to what extent people's previous experience of sport influences the decision to enter, return or exit participation in sport	Sport	General sports	Lifecourse approach	The longer a participant engaged in sport, the less likely drop out occurred. If participants started sport before the age of 30, they were more likely to leave it in the following 10-15 years than those who began playing sport at an older age. Women are more likely to start playing sport in later life than men. The timing of the introduction of sport policy seems to have a stronger effect on participation for those who had reached no older than middle adulthood at the time	0.77

												it was introduced than prior history in sport	
[58] (1994)	Quant	Cross	439	Japan	60+	Masters & non-Masters participants	M&F	Compare two very different elderly populations to examine the diversity or heterogeneity in sport participation over time	PA & sport	General sports	Continuity	Masters sport participants played sport over the lifespan and reflect concepts in continuity theory. However, lifelong sport participation for non-Masters participants is more varied than Masters participants	0.59
[60] (1999)	Qual	Case study	1	USA	68	Retired older adults	M	Explore through narrative inquiry the events that characterised the life story of a senior-aged competitive sport participation	Sport	Baseball & Tennis	Continuity	Participant intimates that he was engaged in sport as a child and has continued his engagement in sports, albeit different sports dependent on life stage, into older age	0.85
[54] (2012)	Quant	Cross	5,160-22,255	Spain	15-74	Community dwelling adults	M&F	Assess the trend in prevalence of Spanish adults who engaged in sports activities from 2000 to 2010	PA & sport	General sports		Sport participation from 2000-2010 showed a decrease in participation for older adults	0.7
[55] (2005)	Quant	Cross	8,624-38,376	Belgium	19-77	Community dwelling adults	M&F	Examine stratification patterns with regard to different modes of sport participation	PA & sport	General sports		Sport participation decreases with age. A change in sport policy has ensured active involvement in sport is now socially acceptable for whole population	0.6
[56] (2011)	Quant	Cohort cross	5,851-51,808	Belgium	19-90	Community dwelling adults	M&F	Analyse social stratification patterns in adults' sports participation	PA & sport	General sports in sport clubs		Influence of adolescent sport participation decreases over time. Older adults less likely to participate in club-organised sport than younger people	0.65

1 * Research design: quant= quantitative research methods, qual=qualitative methods. ** Sex: F=female, M=male, M&F=both male and female. *** General sports= not one specific sport. A mix of
2 different sports. **** Sport and/or PA: Sport = articles that only report on sport, PA & Sport = articles that report on both types of exercise but provide sport specific results. ***** Quality ratings:
3 08.-1 = good, 0.61-.079 = moderate, 0.0-0.6 = poor.

Chapter 3: Methodology

The aim of this PhD program of research was to understand what influences community sport participation for older adults (adults aged 50 years and older). This chapter provides an overview of the methodology and research design that underpins this thesis. The methods used for the studies within the PhD are presented here, in addition to in their respective chapters where they are embedded within standalone papers.

This thesis used a mixed methods approach. It comprised of one qualitative study: a focus group interview study, which is presented across three chapters; and one quantitative study: a survey study.

Epistemology

Epistemology is concerned with “the nature of knowledge, its possibility, scope and general basis” (Hamlyn, 1995, p. 242). This PhD utilised a mixed-methods approach, which is explained in detail below. It has been recognised that identifying an epistemological approach to mixed methods research is a challenge (McEvoy & Richards, 2006; Teddlie & Tashakkori, 2003), as qualitative and quantitative research often take opposing stances on what can be classified as ‘truth’ in research. For quantitative research, the most common approach to epistemology is positivism and can be defined as “objects in the world have meaning prior to, and independently of, any consciousness of them” (Crotty, 1998, p. 27). For qualitative research, a constructivist approach is often used and refers to “the understanding or meaning of phenomena, formed through participants and their subjective views” (Creswell & Clark, 2011, p. 40), thus reality is socially constructed and can change. It is understandable then that identifying an epistemological

approach for mixed methods research is a challenge. Despite this challenge, this thesis has taken a constructivist approach.

By using a constructivist approach, it is acknowledged that “different people may construct meaning in different ways” (Crotty, 1998, p. 9). Thus older adults’ opinions based on their lived experiences or sporting organisation employees’ opinions that may have been learnt from their workplace, may not be applicable to all of their peers, but their views do impact on their own behaviour. This approach can be argued to be more realistic than other epistemological perspectives of the societal influences that positively and negatively affect sport participation. Thus this approach provides an accurate understanding of older adult sport participation.

Although this approach is usually associated with qualitative research (Creswell & Plano Clark, 2011), quantitative research also exists in, and is influenced by, the social world and is therefore compatible with this approach (Cupchik, 2001). Therefore the data collected from the survey study of this thesis also corresponds with a constructivist approach.

A constructivist epistemology tends to follow a ‘bottom up’ approach, in that research is conducted from an individual/small group perspective, before developing into broader understandings (Creswell & Plano Clark, 2011). The research in this thesis reflects this epistemology, as the qualitative study of focus group interviews was initially undertaken to gain small group perspectives. These perspectives were then used to develop a survey to enable a broader understanding of the sport and ageing landscape.

Research design

This research was designed in collaboration with the Australian Sports Commission. The Commission reviewed the research questions in each study before data collection commenced.

An exploratory sequential research design using a mixed method approach was developed for this thesis. In this design, qualitative data are collected and analysed before quantitative research is undertaken to generalise the findings (Creswell & Clark, 2011). As limited research on older adult community sport participation existed, this research sought to explore concepts rather than rely solely on previous literature to underpin the research design. In this thesis, the focus group interviews were initially undertaken to explore the research area of sport and ageing. The results from the data was then used, in collaboration with the limited relevant literature, to design and conduct the survey for wider elaboration. This approach, which uses qualitative research to inform quantitative research, has been endorsed by previous researchers (Greene, 2006; Mason, 2006), especially where no quantitative measures are available to design a quantitative survey. When structuring this thesis, it was decided to present the chapter with the quantitative results first, before the three qualitative results chapters. The quantitative study includes a broad range of respondents and questions, providing the reader with a good introduction to the area of sport and older adults, before introducing the results from the more in depth qualitative chapters.

To holistically understand sport for older adults, this thesis sought opinions from four different types of stakeholders across the two research studies. Older adults who were engaged in sport, and also those who were not engaged in sport, in addition to National and State Sporting Organisations, were also consulted for this research. Table 1 on the next page provides an overview of the two data collection studies within this PhD.

Table 1: Overview of thesis studies

Study details	Study 1	Study 2
Method	Qualitative (focus group interview study)	Quantitative (survey study)
Research aim	<p><u>Chapter 5:</u> To investigate the organisational benefits of, and barriers to, engaging older adults for sporting organisations.</p> <p><u>Chapter 6:</u> To explore the benefits of, and barriers to, community sport club participation for older adults.</p> <p><u>Chapter 7:</u> The reasons why older adults may drop out of sport and also why they may re-engage with sport at an older age.</p>	<p><u>Chapter 4:</u> To understand how National and State Sporting Organisations perceive sport for older adults</p>
Participants	<p>n=49</p> <p>2x National Sporting Organisations’ representatives (n=14)</p> <p>Older adult sport club members (n=22)</p> <p>Older adult non-sport club members (n=13)</p>	<p>n=171</p> <p>National Sporting Organisations (n=38)</p> <p>State Sporting Organisations (n=133)</p>

Theory	<u>Chapter 5: Capacity Building strategies and the Socio-Ecological model</u>	Socio-Ecological model and Organisational Change theory
	<u>Chapter 6: Socio-Ecological model</u>	
	<u>Chapter 7: Leisure Constraints theory</u>	
Outcomes	To develop an evidence based resource that could be used by sporting organisations to engage older adults in active participation	

To gain different perspectives of older adult sport participation in the qualitative study, data were collected from representatives of two National Sporting Organisations, older adults who were involved in community sport and older adults who were not involved in community sport, as described in further detail in the forthcoming methods section. Subsequently, National and State Sporting Organisations were surveyed to further explore an organisational perspective of older adult sport participation. This program of research was undertaken to enhance the understanding of the benefits of, and barriers to, older adult sport participation. This knowledge was then used to develop an evidence based resource that could be used by sporting organisations to engage older adults in active participation.

Theoretical perspective

The thesis utilised the Socio-Ecological model to underpin the research. However, additional theories were utilised within each research study, to best understand and explain the respective results. These additional theoretical constructs were Organisational Change theory, Capacity Building strategies and Leisure Constraints theory.

Socio-Ecological Model.

The Socio-Ecological model was used in the four chapters (Chapters 4-7) that contain the research results.

The Socio-Ecological model is derived from the Ecological Systems model in human development research (Bronfenbrenner, 1979), and assists in understanding 'behaviours' and the determinants of behaviours. The model has since been adapted across a number of different fields, such as health promotion (Green, Richard, & Potvin, 1996; Stokols, 1992); and physical

activity and health (Addy et al., 2004; Fleury & Lee, 2006; Giles-Corti & Donovan, 2002; Sallis, Bauman, & Pratt, 1998). More recently, it has been used to understand sport participation behaviour and trends, for example for socio-economically deprived neighbourhoods (Cleland et al., 2010); for adolescents (Casey et al, 2009a; Eime et al, 2010; Cleland et al., 2010; Toftegaard-Støckel, Nielsen, Ibsen, & Andersen, 2011); and more recently for older adults (Naar et al., 2017). It has also been used in ageing research to understand factors associate with mobility limitation (Yeom, Fleury & Keller, 2008) and health behaviours, including exercising regularly and eating well (Marquez, Bustamante, Blissmer, & Prohaska, 2009). The model considers that four interrelated domains can influence behaviour, for example in this case, sport participation. These domains are intrapersonal, interpersonal, organisational and policy influences (Sallis et al., 2008). Examples of these influences in the aforementioned studies using the model to explain the factors influencing sport, include friends and enjoyment. This model was deemed appropriate for this thesis because all of these domains can influence whether older adults may or may not participate in sport.

For Chapter 4, it was used to structure the survey questions; for Chapter 5, it was used to frame the focus group interview questions, and then to organise the results and frame the discussion structure. For Chapter 6, the model framed the focus group interview questions, in addition to organising and analysing the results. In Chapter 7, it was used to frame the interview questions.

Organisational Change Theory.

For Chapter 4, which focuses on how National and State Sporting Organisations perceive sport for older adults, Organisational Change theory was utilised. The Socio-Ecological model is appropriate for understanding individual behaviours, however when accessing in more detail the organisational factors that influence sport policy and strategies, an organisational theoretical

perspective is more relevant. Therefore a different theoretical approach was undertaken because the aim of this chapter was to understand how to encourage organisational change in an effort to attract more older adults into active sport participation. Organisational change can be described as “the process of continually renewing an organisation's direction, structure, and capabilities to serve the ever-changing needs of external and internal customers” (Moran & Brightman, 2000, p. 66). As such, organisational change is an integral part of sport management research. Previous examples of the theory being used in sport participation research include organisational change in national sport systems and sport clubs (Thibault & Babiak, 2005, Amis, Slack, & Hinings, 2004; Kikulis, Slack, & Hinings, 1992; Skinner, Stewart, & Edwards, 1999), and the implementation of sport specific health promotion initiatives (Casey et al., 2009b; Casey, Payne, & Eime, 2012). In this chapter, this theory was used to understand how responses from the participating National and State Sporting Organisations could encourage policy makers to realign their policies to encourage sporting organisations to engage more with older adults, and ultimately aim to increase older adult active sport participation.

Capacity Building Strategies.

For Chapter 5, which focused on the organisational benefits of, and barriers to, engaging older adults in sport, Capacity Building theories were also utilised. For this study, Capacity Building strategies were utilised to provide an appropriate platform to discuss and interpret the results, as it related to the sporting organisations’ capacity to prioritise engaging older adults in sport.

Whilst Capacity Building concepts have been used in multiple ways across different types of organisations, it can be described as tapping “into existing abilities of individuals, communities, organisations or systems to increase involvement, decision-making and ownership of issues” (Victorian Health Promotion Foundation, 2012). Furthermore, it has been deemed important for

policymakers and practitioners in sport to support decision making processes (Oakland and Tanner, 2007; Casey et al., 2012). It has been previously used in sport participation research through volunteer capacity (Cuskelly, 2004; Shibli, 1999) and in health promotion initiatives including the community sport setting (Cairns, Harris, & Young, 2005; Casey et al., 2009c; Joffres, Heath, Farquharson, Barkhouse, Latter, & Maclean, 2004). As building the capacity of National Sporting Organisations was stated as a national sport policy priority in Australia (Australian Sports Commission, 2015a), this concept was used to understand how sporting organisations can develop their capacity at an organisational level, to positively affect sport participation for older adults.

Leisure Constraints Theory.

Leisure Constraints theory was utilised for Chapter 7, when examining drop out and re-engagement in sport for older adults. This theory was first developed by Crawford & Godbey (1987) to understand the barriers people face to undertake leisure activities. The theory proposes that human behaviour is complex, and that there are three types of constraints that can prevent participation in leisure activities, for example sport participation. These three constraints are intrapersonal, interpersonal and structural. Intrapersonal constraints can include suitability of an activity, personal motivation and perceptions of ability. Interpersonal relate to social factors that prevent participation, for example, not having any friends to participate with or family commitments. Whilst structural constraints refer to external factors that interfere between wanting to participate and not being able to participate, such as cost, inadequate facilities or time (Crawford & Godbey, 1987).

Leisure Constraints theory was expanded in 1993 by Jackson, Crawford, & Godbey to also consider the negotiation proposition. This concept suggests that leisure participation is dependent on the negotiation of overcoming these constraints and that rather than passively accepting these constraints, some people negotiate through them and therefore succeed in participating. This theory has been widely used to explore participation in leisure activities (Badia, Orgaz, Verdugo, Ullán, & Martínez, 2011; Dong & Chick, 2012; Son, Kerstetter, & Mowen, 2008). In sport, it has also been used to understand why people drop out from sport and why they may engage in sport (Alexandris, Tsorbatzoudis, & Grouios, 2002; Crane & Temple, 2015; Wood & Danylchuk, 2012). Consequently, as the theory provided a framework for understanding potential reasons for drop out, in addition to investigating potential negotiation strategies that older adults may have employed to re-engage in sport at an older age, it was deemed appropriate to analyse these results.

Methods

This program of research utilised a mixed method approach with both qualitative and quantitative studies. Mixed method research has been described as “research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry” (Tashakkori & Creswell, 2007, p. 4). It has also been argued to be the third research paradigm, alongside quantitative and qualitative research paradigms (Johnson, Onwuegbuzie, & Turner, 2007).

This thesis used a cross-paradigm approach, as it comprised of a qualitative core component with a quantitative complementary component to the research question (Morse, Niehaus, Wolfe, &

Wilkins, 2006). It can be argued that a mixed method approach can be seen as stronger than using a single method approach, as it balances the strengths and limitations of each method, and can enhance validity by expanding understanding for this research area (Johnson, Onwuegbuzie, & Turner 2007). Thus this approach was utilised to “provide a more complex understanding of a phenomenon that would otherwise not have been accessible by using one approach alone” (Shannon-Baker, 2015, p. 321) to answer/address the overall research question.

The data for the research chapters (Chapters 4-7) were largely analysed using an abductive approach. It has been suggested that an abductive research approach is largely inductive but takes aspects of a deductive approach, for example using pre-existing theory. It has also been argued to be a useful approach to discover new concepts (Dubois & Gadde, 2002). As there was limited existing research in the older adult sport participation field, especially from the organisational perspective, this approach was deemed most appropriate, especially in relation to applying theoretical perspectives.

The abductive approach also enabled flexibility. Rather than the data analysis being pre-determined by the theoretical perspective, the concepts that emerged from the data determined the appropriate theoretical approach. Whilst the Socio-Ecological model was pre-determined to frame the focus group interview structure, the use of this model to frame and analyse the results, was only deemed appropriate once the results emerged from this qualitative study. As part of the analysis process, it was determined that some results across the studies were similar, however there was some divergence, which will be explored in the Discussion Chapter of this thesis.

Qualitative data collection and analysis methods.

Data for Chapters 5, 6 and 7, which focused on the benefits of, and the barriers to, older adult sport participation for older adults and sporting organisations, in addition to reasons for sport drop out and re-engagement at an older age, were collected via eight focus group interviews with 49 participants. Due to the quantity and diversity of data, it was decided to split the results of Study 1 across three chapters. The data collection methods for this study are described jointly here, and then separately in the journal articles that comprise Chapters 5 and 6.

These focus group interviews were used to gain the perspectives of representatives of National Sporting Organisations (NSOs), older adults who were involved in a sport club, and older adults who were not involved in a sport club. Due to a lack of research within this specific area, focus group interviews were used to provide breadth of data, as the inclusion of diverse points of view were deemed important to understand the context more broadly. Focus group interviews enable participants to discuss and challenge their own, and their peers' views, in a social situation (Patton, 2002). We also wanted to explore potential differences in gender; different sports; and with those involved or not involved in sport clubs. As such, two of these focus group interviews were with representatives of NSOs (Tennis Australia and Cricket Australia); four with sport club members (female tennis club members, male tennis club members, female cricket club members, and male cricket club members); and two with non-sport club members (female non-sport club members and male non-sport club members). For this study, sport was defined as “a human activity capable of achieving a result requiring physical exertion and/or physical skill which, by its nature and organisation, is competitive and is generally accepted as being a sport” (Australian Sports Commission, 2009).

Sport selection.

To gain a broader understanding of how sporting organisations can engage with older adults, representatives of one sport with a high proportion of older adults' participation, and another sport with a low proportion of older adults' participation, were interviewed for this study. These sports were identified using the Australian national Exercise, Recreation and Sport Survey (ERASS) 2010 data. ERASS was a joint initiative between the Australian Sports Commission (ASC) and State/Territory Departments of Sport and Recreation in Australia, to determine the proportion of adults aged 15 years and older who participated in sport (Australian Sports Commission, 2010). This survey was used in this study to identify participation of people aged 50+ years in a range of sports in Australia.

The ten most frequently played sports and the ten least frequently played sports for adults aged 50 years and older were ranked according to participation rates in this age group. The sports were also considered in the context of existing relations with NSOs, and each sport's appropriateness for older adults. The research team defined a sport's appropriateness as one that could be realistically played by older adults with a range of physical abilities. From this analysis, tennis was selected from the ten most frequently played sports, and cricket was selected from the ten least frequently played sports for both genders.

Participant recruitment.

NSOs were recruited with the support of the ASC. The ASC was consulted for appropriate contacts within the two NSOs, who then recruited colleagues for the NSO focus group interviews. Paid employees of Tennis Australia and Cricket Australia with an interest in community-based sport participation were eligible to participate. Sport club members were recruited with the support of the two NSOs, who recommended sport clubs to contact for focus

group interview participation. Additional sport clubs were also contacted independently by the research team for participation. Sport club Presidents or Secretaries were initially contacted, and they recruited eligible participants from their respective clubs. Eligible participants were aged 50 years or over, and either actively played the sport in the club, or were involved in the coaching or administrative aspect of the club. Two interviews were held with tennis club members and two interviews with cricket club members. Each sport club member interview was stratified for gender. For the remaining two interviews, non-sport club members were invited to participate. These participants were recruited through public advertisements or community groups. Eligible participants for the non-sport club member interviews were aged 50 years or over and did not belong to a sport club. These two interviews were also stratified for gender.

Data collection procedures.

The focus group interviews were semi structured interviews, and the Socio-Ecological model was used as a framework to develop the interview schedule. Potential participants received an information sheet, an informed consent form and a demographic questionnaire before their interviews. The interviews were held in a variety of settings, including the respective NSO offices; sport clubs; and in a university setting. Two academic facilitators attended each interview, with one leading the discussions and the other taking notes of any non-verbal communication. Discussions about benefits and barriers for sporting organisations lasted for 20-30 minutes, another 20-30 minutes was spent exploring the benefits and barriers for older adults, whilst drop out and re-engagement in sport was also discussed for 20-30 minutes. The interviews were recorded using voice recorders.

Data analysis.

After each focus group interview, the two facilitators undertook a debriefing meeting to discuss the issues that arose in each interview. These discussions influenced the initial coding of the data. The interview recordings were transcribed by a professional transcription service. The transcriptions were then reviewed by the lead author/focus group facilitator for accuracy of the transcription and this process provided initial emersion in the data. The authors decided to analyse the data using a mixture of realist and constructionist epistemological approaches, with a greater emphasis on the realist approach.

The transcripts were analysed using a hybrid approach of content and thematic analyses (Patton, 2002) by the lead author. Content analysis for the data in Chapters 5 and 6 utilised the Socio-Ecological model as the analysis framework to determine the main themes within each of the socio-ecological domains (Sallis et al., 2008). As the Socio-Ecological model did not offer the best framework to interpret the data in Chapter 7, Leisure Constraints theory was used instead. The transcripts were all coded using NVIVO 10, a software program to aid in the analysis of qualitative data, and thematic analysis with a mix of latent and semantic coding was then used to develop respective emerging themes within the Socio-Ecological and the Leisure Constraints model/theory domains.

Semantic coding involved analysis of what the participant had said, whereas latent coding involved analysis of the reasoning why a statement was made (Braun and Clarke, 2006).

Semantic coding was mostly used, but where body language and group dynamics or tensions impacted verbal responses, latent coding was used. Data for the latent coding were derived from non-verbal communication, such as group agreement or raised eyebrows, noted by the secondary academic facilitator during the interviews. The themes and subthemes of the coding tree were

discussed throughout the coding process by the wider research team as a form of peer debriefing and to increase analytical rigour (Lincoln and Guba, 1985).

Quantitative data collection and analysis methods.

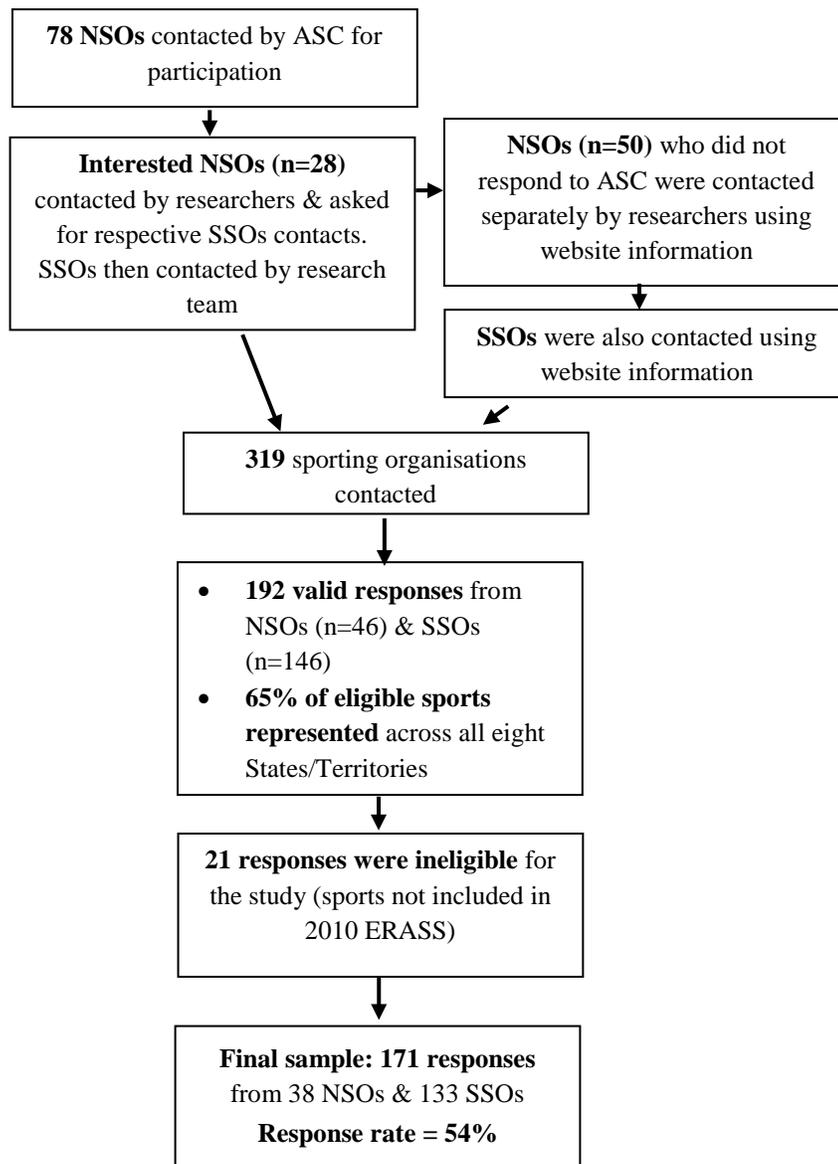
Study design.

The study in Chapter 4, was a cross sectional study, using an online survey of National and State Sporting Organisations, regarding sport participation for older adults.

Study sample.

The National Sporting Organisations (NSOs) that were recognised by the Australian Sports Commission (ASC) in 2012, and their affiliated State Sporting Organisations (SSOs), were included in this study. Of the total number of 93 NSOs, 78 NSOs and their affiliated SSOs were invited to complete the online survey. The remaining 15 NSOs were not invited to participate, as these were umbrella organisations that did not deliver community club-based specific sports, such as Australian University Sport and the Australian Paralympic Committee. The recruitment process is described in Figure 1 on the following page.

Figure 1: Flow chart detailing the recruitment process for the study



The invited sporting organisations were recruited with support of the ASC. The ASC emailed relevant employees within each selected NSO to ask permission for the researchers to contact them.

There were 192 valid responses across 46 NSOs and 146 SSOs received. Responses were valid if all the questions were completed. There were 65% of eligible sports across all eight Australian States/Territories represented. Twenty one of these respondents were then classified as ineligible for this study, as they were from sports that were not included in the 2010 Australian Exercise, Recreation and Sport Survey (ERASS) (Australian Sports Commission, 2010), which was used to classify the sports into three participation groups. As they could not be classified as high, medium or low participation sports for older adults, these responses were deemed incompatible for this study. Thus, 171 responses from 38 NSOs and 133 SSOs were analysed.

Data measures.

Data were collected using an online survey hosted by the survey software platform Qualtrics.

The survey questions were developed in collaboration with experts from the ASC, and then piloted with ASC employees for expert critical feedback, before being amended accordingly. The survey started with demographic questions related to the respondents' age, gender, job title, main role responsibilities, their type of organisation (National or State) and the length of time they had worked/volunteered in their respective sporting organisations.

This section was followed by six specific questions on sport participation and older adults.

Firstly, respondents were asked to rate their organisation's level of priority across a five point

Likert scale (very low to very high) for a range of population groups, including older adults. Respondents were next asked to reply 'yes' or 'no' to two items asking if their organisations had any specific strategies or programs for older adults. For this study, strategies were defined as 'a long term plan to attract older adults into your sport, and/or retain players as they age, which is not part of a specific older adults' program'. A program was defined as 'a formal program(s)/series of activities that are specifically designed for older adults'.

The next survey section asked for respondents' level of agreement across a five point Likert scale (strongly disagree to strongly agree) on potential organisational barriers for older adults participating in their sport. This was followed by a section that similarly asked respondents for their level of agreement of potential benefits their organisations could derive from engaging older adults across a five point Likert scale (strongly disagree to strongly agree). The final section asked respondents to indicate their level of agreement on a six point Likert scale (strongly disagree to strongly agree and not applicable) with potential modifications to their sport that could attract and/or retain older adults.

Data analysis.

To compare sports that had varying rates of older adults' participation, sports were classified as having a low, medium or high older adult participation rate. This was determined using the sport participation data (participation in the previous 12 months) from the 2010 Australian Exercise, Recreation and Sport Survey (ERASS). Using the ERASS 2010 participation rates in people aged 50+ years who participated in ASC recognised sporting organisations (Australian Sports Commission, 2012), three classifications of sports were created: high (>0.5% of Australian older

adult population), medium (<0.5 – >0.05% of Australian older adult population) or low (<0.05% of Australian older adult population) rate of active sport participation amongst older adults.

Data were analysed using SPSS version 22. Percentages across response categories for the demographic survey items were reported. Due to some low cell counts amongst Likert responses, five-point response scales were collapsed into three-point response scales. Responses were compared for sports with low, medium and high older adult participation rates using Chi-square tests across all non-demographic survey items. For ordinal data, Kruskal-Wallis tests were used to compare response distributions across the full five response options between the three participation categories of older adult participation. Due to the sample size and distributions, the Monte Carlo method was used to calculate accurate significance values. For significant Kruskal-Wallis results, post-hoc Mann-Whitney U tests were used to compare each of the three participation category pairs. To reduce the risk of type 1 error for the three Mann-Whitney U tests, significance was set at $p < 0.017$. For significant results, an effect size was calculated using Pearson r . For the nominal data, Chi square tests, and Fisher's exact test when more than 20% of expected cell counts were below five or any cells were below one, were used to compare frequencies between the three participation categories. Significance was set at < 0.05 for the nominal data, and effect size was calculated using Cramer's V .

Dissemination of research results to industry stakeholders

This research was undertaken in partnership with the Australian Sports Commission and as such, was designed as translational research. The results have been disseminated through two reports and one factsheet via the Commission. The 'Active and Healthy Ageing through Sport' report and the 'Why don't older adults participate in sport?' report and factsheet can be found in

Appendices 3.1 (p. 272), 3.2 (p. 359) and 3.3 (p. 386) respectively. Additionally, research summaries for the two National Sporting Organisations that participated in the qualitative study were also produced. Furthermore, the industry resource, which contains a summary of both reports, is currently being tested by National Sporting Organisations. This resource will enable further dissemination and will test the translational success of this research.

Trustworthiness/validity

The concepts of trustworthiness in qualitative, and validity in quantitative, research are fundamental to ensure rigor and high quality research has been produced.

For focus group interviews, establishing trustworthiness can be problematic as participants may endure social pressure to conform to the wider group's perspective. However, peer interaction can also enhance trustworthiness if the focus group interviews are conducted appropriately (Kidd & Parshall, 2000). There are four concepts that qualitative research needs to consider for trustworthiness: credibility, transferability, dependability and confirmability (Guba, 1981; Shenton, 2004).

The qualitative methods used within this thesis embedded these four concepts to ensure trustworthiness. For example, focus group interviews are deemed an appropriate and well recognised qualitative research method and the sampling size used in this study was appropriate (Morgan, 1995, 1996; Peek & Fothergill, 2009). Additionally, the interviews were audio recorded to ensure the conversations were accurately noted and two members of the research team were present in each focus group (Kidd & Parshall, 2000). One of these researchers led the discussions, whilst the other observed the non-verbal communication and took notes when

applicable. Furthermore, a debriefing session between the two researchers was undertaken immediately following each interview, to discuss initial thoughts and if the data would be influenced by dominant or quiet members of the group. Additionally, during the data analysis stage, further triangulation was undertaken during the data coding process. This latter process also contributed to the confirmability criteria. The recognition of limitations and reflexivity presented in this chapter also contribute to confirmability.

To address the transferability criteria, each participant was required to provide limited demographic data to give some understanding whether the participant responses could have been replicated with peers of similar demographics. Finally, the detailed methods section provided in this chapter and also in Chapters 5 and 6 contribute to the dependability criteria.

For the survey study, validity was tested in different ways. Validity is a term that is engrained in positivist research (Golafshani, 2003) and “determines whether the research truly measures that which it was intended to measure or how truthful the research results are” (Joppe, 2000, p. 1).

Content and face validity were considered when developing and conducting the survey used in this thesis. Content validity can be described as “the extent to which items represent the construct they are purported to measure” (Terry, Lane, Lane, & Keohane, 1999, p. 863). The survey underwent two processes to develop content validity. The five research questions and their respective variables that underpinned the survey were determined by existing literature and by the results that emerged from the focus group interview study. These questions and variables were then developed, discussed and amended across the research team as a form of peer review.

The survey was then piloted by experts when the content was reviewed by the Australian Sports Commission, as a form of face validity. This refers to “whether the measure seems to be getting

at the concept that is the focus of attention” (Bryman, 2012, p. 171). Their feedback resulted in further amendments to the survey before it was distributed to National and State Sporting Organisation respondents.

Reflexivity

Reflexivity is a recognised methodological consideration within qualitative research (Alvesson & Skoldberg, 2009). It suggests that a researcher needs to examine their own assumptions and preconceptions and reflect on how these influence any aspect of a research project, for example, how it could affect the methodology, data collection and/or data analysis (Mauthner & Doucet, 2003). Whilst this research was undertaken ethically and using trustworthiness protocols, my, or my supervisors’, unconscious bias may have impacted any stage of this research design, data collection and analysis (Krueger & Casey, 2014). For example, I am not in the 50 year and older age group, which may have resulted in interpreting the older adult focus group interview responses differently than the participants meant to express it.

Ethics

Ethics approval for both studies was granted by the Victoria University Human Ethics Committee in 2014, which can be seen in Appendices 1D and 2I on pages 254 and 271 respectively.

Limitations

Although each stage of the methodological process was carefully considered for the best approach, there were limitations to using an exploratory sequential design. For example, this

process can be time consuming and can result in discrepancies in the data collected (Creswell & Plano Clark, 2011).

With regards to the data collection methods, qualitative research can be limited as the results cannot be generalised and are a reflection of the participants involved. However, as these were undertaken as an explorative study, the strengths of this type of research could be argued to outweigh the limitations. The quantitative study involved a survey with non-validated scales, which some quantitative researchers may criticise. However, as previous research in this field is limited, the research team could not access a validated survey to use or adapt to appropriately answer the research questions. Furthermore, the questions were based on the findings of the qualitative study and input from sport participation experts within the ASC.

Chapter 4: Sport for older adults: Sporting organisations' priority, perceived benefits and barriers of their participation and potential modifications to attract and/or retain participants

The first research question will be explored for Chapter 4. It seeks to understand National and State Sporting Organisations' priority for older adults, in addition to their perceptions of the benefits and barriers to sport participation for this age group. Furthermore, it aims to understand the potential modifications that organisations identified that could help to attract and/or retain more older adults in their respective sports. Populations are ageing, however current levels of older adult participation in sport are very low (Eime et al., 2016a). Therefore a better understanding of the reasons behind this are needed to ensure that older adults who want to participate in sport, are given the options to do so.

To date, the research on sport and older adults has been undertaken from an older adult perspective. However to fully understand why older adults do or do not participate in sport, and how to increase this participation, the perspectives of sporting organisations need to be considered. Therefore this chapter presents:

Research question 1: How do National and State Sporting Organisations perceive sport for older adults?

The following paper: *Sport for Older Adults: sporting organisations' priority, perceived benefits and barriers of their participation and potential modifications to attract and/or retain participants* by C.R. Jenkin, J.G.Z. van Uffelen, G. O'Sullivan, J. Harvey, H. Westerbeek & R.M. Eime is currently under peer review at Sport Management Review (Submitted October 2017).

GRADUATE RESEARCH CENTRE

**DECLARATION OF CO-AUTHORSHIP AND CO-CONTRIBUTION:
PAPERS INCORPORATED IN THESIS BY PUBLICATION**

This declaration is to be completed for each conjointly authored publication and placed at the beginning of the thesis chapter in which the publication appears.

1. PUBLICATION DETAILS (to be completed by the candidate)

Title of Paper/Journal/Book:

Surname: First name:

College: Candidate's Contribution (%):

Status:
Accepted and in press: Date:
Published: Date:

2. CANDIDATE DECLARATION

I declare that the publication above meets the requirements to be included in the thesis as outlined in the HDR Policy and related Procedures – policy.vu.edu.au.

Signature Date

3. CO-AUTHOR(S) DECLARATION

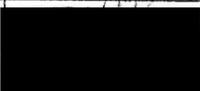
In the case of the above publication, the following authors contributed to the work as follows:

The undersigned certify that:

1. They meet criteria for authorship in that they have participated in the conception, execution or interpretation of at least that part of the publication in their field of expertise;
2. They take public responsibility for their part of the publication, except for the responsible author who accepts overall responsibility for the publication;
3. There are no other authors of the publication according to these criteria;
4. Potential conflicts of interest have been disclosed to a) granting bodies, b) the editor or publisher of journals or other publications, and c) the head of the responsible academic unit; and

5. The original data will be held for at least five years from the date indicated below and is stored at the following location(s):

February 2015. Electronically stored on VU R drive.

Name(s) of Co-Author(s)	Contribution (%)	Nature of Contribution	Signature	Date
Jannique van Uffelen	10	Study design, data analysis and manuscript preparation		25/10/17
Grant O'Sullivan	7.5	Data analysis and manuscript preparation		25/10/17
Jack Harvey	5	Data analysis and manuscript preparation		19/10/17
Hans Westerbeek	5	Study design and manuscript preparation		25/10/17
Rochelle Eime	7.5	Study design and manuscript preparation		19/10/17

Sporting organisations' perspectives on sport for older adults:

Priority, perceived benefits and barriers, and potential

modifications to attract and/or retain participants

C.R. Jenkin^{a*}, J.G.Z. van Uffelen^{ac}, G. O'Sullivan^a, J. Harvey^b, H. Westerbeek^a & R.M. Eime^{ab}

^a Institute of Sport, Exercise and Active Living (ISEAL), Victoria University, Melbourne, Victoria, 8001, Australia

^b Faculty of Health, Federation University, PO Box 663, Ballarat, 3353, Victoria, Australia

^c KU Leuven - University of Leuven, Department of Movement Sciences, Physical Activity, Sports and Health Research Group, B-3000 Leuven, Belgium

* corresponding author

Email addresses for all authors

Claire Jenkin: claire.jenkin@vu.edu.au (t: +61 3 9919 5795)

Jannique van Uffelen: jannique.vanuffelen@kuleuven.be

Grant O'Sullivan: Grant.OSullivan@vu.edu.au

Jack Harvey: j.harvey@federation.edu.au

Hans Westerbeek: hans.westerbeek@vu.edu.au

Rochelle Eime: r.eime@federation.edu.au

Abstract

Community sport has been identified as a suitable setting to promote physical activity and health promotion initiatives for a range of population groups. Older adults (50+ years) are a rapidly growing population group for which being physically active is critical for healthy ageing, but sport participation rates for older adults are currently very low. This study aimed to investigate how sporting organisations perceive sport for older adults. This cross-sectional study surveyed 171 representatives from Australian National and State Sporting Organisations. Descriptive statistics were used to summarise the results and the three sporting organisation categories' responses were compared using non-parametric statistics. Organisational change theory was utilised to interpret the results. Older adults were not a high priority group for most sporting organisations, however sporting organisations recognised that there were a number of benefits of engaging older adults, particularly increasing their membership numbers. A major barrier to engaging older adults across all sports was a lack of appropriate programs. Modifications that sports could make to attract and/or retain older adults included changing the way their sport was marketed and collaborations with relevant external organisations. There was widespread consensus across the sporting organisations, suggesting that perceptions of older adult participation in sport is comparable across the sector. With federal sport policy encouraging organisations to grow their participation numbers, an untapped market, such as older adults, presents an attractive target population group. However, appropriate participation opportunities need to be available. With the current main policy and organisational focus on young people, appropriate playing opportunities are unlikely to be developed, unless there is a change in federal sport policy to prioritise older adult participation.

Key Words

Older adults; sport participation; cross-sectional survey; Australian sport policy

1. Introduction

From national to local community contexts, sporting organisations are positioned to deliver sporting opportunities across the lifespan. One main focus is to get more people active through sport to increase overall participation levels in community sport.

In Australia, there are several levels of sport administration for community sport. At a federal level, the Australian Sports Commission (ASC) is the national government agency responsible for setting the national sport policy agenda, by administering both elite and community level sport. National Sporting Organisations for individual sports are registered with the Commission, who provides organisational structure and often funding to these organisations. The majority of these National Sporting Organisations have state counterparts in the eight States/Territories of Australia, with whom local community sport clubs are registered. Therefore, in Australia, most participants of community sport are engaged through local community sport clubs.

There is consistent evidence that the majority of people who participate in sport at community sport clubs are young people (Eime, Payne, & Harvey, 2009; Maher, Olds, & Dollman, 2009). A recent study of 520,102 sport participants within the Australian state of Victoria, reported that nearly 80% of sport participants were under 30 years old, and nearly a third (27.6%) of all participants were aged 10-14 years old (Eime, Harvey, Charity, Casey, Westerbeek, & Payne, 2016). However, participation rates showed a sharp decline in the 15-19 year age range, with only 15.3% of participants within in this age group. Throughout adulthood, there are further declines in participation rates, and in the study by Eime et al. (2016), less than 10% of sport club participants (age range 4-100 years) were 50 years or over (hereafter categorised as older adults).

This trend of decreasing sport participation with increasing age is replicated in other countries, for example Germany (Breuer & Wicker, 2009) and Spain (Palacios-Ceña, Fernandez-de-Las-Peñas, Hernández-Barrera, Jiménez-García, Alonso-Blanco, & Carrasco-Garrido, 2012).

The sporting focus on young people in Australia, as in other comparable nations, is largely influenced by national sport policy. Both elite and community sport has an emphasis on youth participation. For elite sport, this is to identify talented athletes (Green & Collins, 2008) and for community sport, to encourage lifelong participation in physical activity, and to have a larger pool from which to develop the talented few (Eime et al., 2016; McDonald, 2005). Community sport has also become an increasingly important public policy area across the globe over the last twenty years (Green & Collins, 2008; McDonald, 2005). This is largely due to the perception that sport positively contributes to a range of societal issues, such as improving health (Khan, Thompson, Blair, Sallis, Powell, Bull, & Bauman, 2012), reducing antisocial behaviour (Sandford, Duncombe, & Armour, 2008), enabling social cohesion (United Nations, 2003) and also as a setting for health promotion activities (Casey, Payne, & Eime, 2012). The most recent national community sport policy in Australia is the Play.Sport.Australia policy (Australian Sports Commission, 2015a). This policy promotes community sport participation to improve Australians' health. Whilst it promotes community sport participation for Australians of all ages, at the grassroots community level, there is a distinct focus on school-aged children and associated programs. For example, a major program investment in this policy is the Sporting Schools program. This focus on young people is not isolated to the ASC. Numerous National Sporting Organisations in Australia similarly focus on young people.

Although sport is largely targeted at children and is popular in this age group (Casey et al., 2012) (Khan et al., 2012), sporting organisations are under increasing pressure from sport policymakers to increase their overall participation rates. Therefore, it would be advisable for these organisations to start considering products or strategies that may attract other population groups, such as older adults, to enable business growth. Older adults are a rapidly growing population group. The proportion of people aged 50+ years in Australia is currently 30% and is predicted to increase to approximately 39% by the year 2060 (Australian Bureau of Statistics, 2015b). As it is critical for older adults to engage in physical activity for healthy ageing (World Health Organisation, 2015), there is an opportunity for more sporting organisations to leverage the health benefits of physical activity, to promote sport as a physical activity option for older adults. One way of doing this could be to encourage older adults to use existing sport clubs (Brown, & van Uffelen, 2014). Sport clubs could also benefit from this engagement, for example, to diversify and grow their membership base (Australian Sports Commission, 2017) and also increase club capacity through volunteering (Jenkin, Eime, Westerbeek, O'Sullivan, & van Uffelen, 2016). However, as older adults have not been major consumers of community sport, it may be difficult for sporting organisations to encourage their active participation of sport in its current, traditional format.

A useful strategy to encourage older adults to play sport, would be to ensure there are suitable products/programs and market these appropriately. One suggestion has been modified sports products, such as rule changes that take into account the physical capabilities of older adults (Eime et al., 2015; van Uffelen, Jenkin, Westerbeek, Biddle, & Eime, 2015). Modified sport products were initially created to make sport more accessible to young children through changes

such as adapted equipment and/or modified rules, from the adult formats (Eime et al., 2015). These products give a major emphasis on enjoyment and inclusivity (Eime et al., 2015), whilst also enabling young children to develop fundamental motor skills (Côté, Lidor, & Hackfort, 2009). These changes have been largely successful, with an increased number of young children now participating in sport (Eime et al., 2016). The concept of modifying sport has only recently been extended to older adults. Modified versions of traditional sport have taken into consideration reduced physical capabilities, for example there are now walking versions of football, basketball, netball and rugby. Whilst these are relatively new initiatives, preliminary research into, for example walking football, has suggested that modified sport products could be an appropriate type of physical activity for older adults (Aiello, Canalella, & Altieri, 2016; Arnold, Bruce-Low, & Sammut, 2015; Reddy, Dias, Holland, Campbell, Nagar, Connolly, Krustrup & Hubball, 2017).

Although some sporting organisations have started to sporadically target the older adult market through these aforementioned initiatives, this age group does not form a core participation market for these organisations. For a longer term, more targeted approach to increase sport participation, organisations will need to go through a process of organisational change, for example, a policy change. The development of some modified products suggests that some organisations have considered their own readiness to change, but other sporting organisations will need to ensure their organisational processes, structures and resources are well planned to achieve long term success to increase older adult sport participation (Casey, Payne, Eime, & Brown, 2009c; Kotter, 1995). To develop and implement modified products to successfully engage this new market in the long term, organisations are likely to face a change in their

organisational practices, in particular changing their organisational focus away from youth sport participation. Understanding the concepts behind organisational change is vital for any organisation wanting to change their strategic outlook (Todnem By, 2005), and organisational change theories can assist with this strategic change of direction.

Existing sport management research on organisational change theory has mainly focused on planned or paradoxical changes (Amis, Slack, & Hinings, 2004; Kikulis, Slack, & Hinings, 1992; Slack & Hinings, 1992; Thibault & Babiak, 2005). Planned change refers to a change that an organisation creates and implements to gain a competitive advantage over their rivals (Slack & Parent, 2006), whilst an organisation that must change to remain competitive engages in paradoxical change (Slack & Parent, 2006). Planned change is usually influenced by both external and internal forces for change. For example, when reviewing organisational changes in Canada's sport system, Thibault & Babiak (2005) argued that external pressures from the national government and the media, coupled with the internal desire to change, resulted in a successful shift to an athlete centred operational approach.

Paradoxical change can be seen where external parties have forced sporting organisations to change their organisational policies (Slack & Hinings, 1992). This can include a change in government policy (Kikulis et al., 1992) and/or changes in organisational priority (Skinner, Stewart, & Edwards, 1999). Furthermore, Amis et al. (2004) argued that forced change can work in non for profit organisations if there is effective transformative leadership to manage this change, whilst it is unlikely to be successful where this transformative leadership is ineffective. Thus for either a planned or paradoxical organisational change to be successful, an organisation

needs first to ensure they are prepared for that change and then they must have the relevant processes in place to successfully implement this change (Casey et al., 2012; Oakland & Tanner, 2007). For both types of change, external forces have been the primary, or at least a strong contributing driver to organisational change, particularly from national governments. Therefore the concepts of planned and paradoxical change, particularly the influence of external forces, will be used in this study to explore the meanings of the results. They will be used to understand how National and State Sporting Organisations perceive sport for older adults and explore how these organisations can engage with this growing and relatively untapped market.

As previously detailed, older adults are not a priority market for sporting organisations. Similarly, there has been limited research on older adults and sport. The limited research in the field of sport and ageing has mostly explored the benefits of and barriers to sport participation for older adults from an older adult perspective. For example, at an elite, competitive level (Dionigi, 2006; Dionigi, 2002; Pike, 2012), or for specific community sports, such as bowls (Heuser, 2005), golf (Siegenthaler & O'Dell, 2003), softball (Naar, Wong, West, Son, & Liechty, 2017), curling (Leipert, Plunkett, Meagher-Stewart, Scruby, Mair, & Wamsley, 2011) or Lifeball (Green, Campbell, Barnett, Mitchell, Radvan, & Van Beurden, 2009). These studies can provide sporting organisations and policy makers with useful insights into the benefits of and barriers to older adult sport participation, to enable them to create appropriate products. However, there is limited research on older adult sport participation from the organisational perspective. Some research on the organisational perspective of sport and ageing is starting to emerge (Jenkin, Eime, Westerbeek, O'Sullivan, & van Uffelen, 2016), with volunteering emerging as a primary benefit to organisations that engage older adults. However, this latter study was an exploratory

study that engaged two National Sporting Organisations on the organisational benefits of and barriers to engaging older adults in sport. Therefore a more comprehensive investigation across a more broadly representative sample into the organisational benefits of and barriers to engaging older adults is needed, in addition to ideas of how to attract older adults into sport. This will enable a better understanding of how sporting organisations can engage this relatively untapped market.

This study explored six areas of sport for older adults, from a sporting organisational perspective, by canvassing the opinions of representative employees of Australian National and State Sporting Organisations. Firstly, to elicit the level of priority sporting organisations have for engaging older adults and compare this to other population groups (1), before exploring if sports currently have specific strategies or programs that target older adults (2&3). Then to ascertain the organisational perceptions of the benefits of and barriers to older adult active sport participation (4&5), before finally determining the sporting organisations' perceptions of potential sporting modifications that could attract and/or retain older adults to participate in sport (6).

Furthermore, results for each of the above research aims will be compared across sports that typically have high, medium and low levels of older adult sport participation. This is to investigate whether sports with varying levels of older adult participation differ on their perceptions of, and efforts towards, older adult participation in their sport.

2. Methods

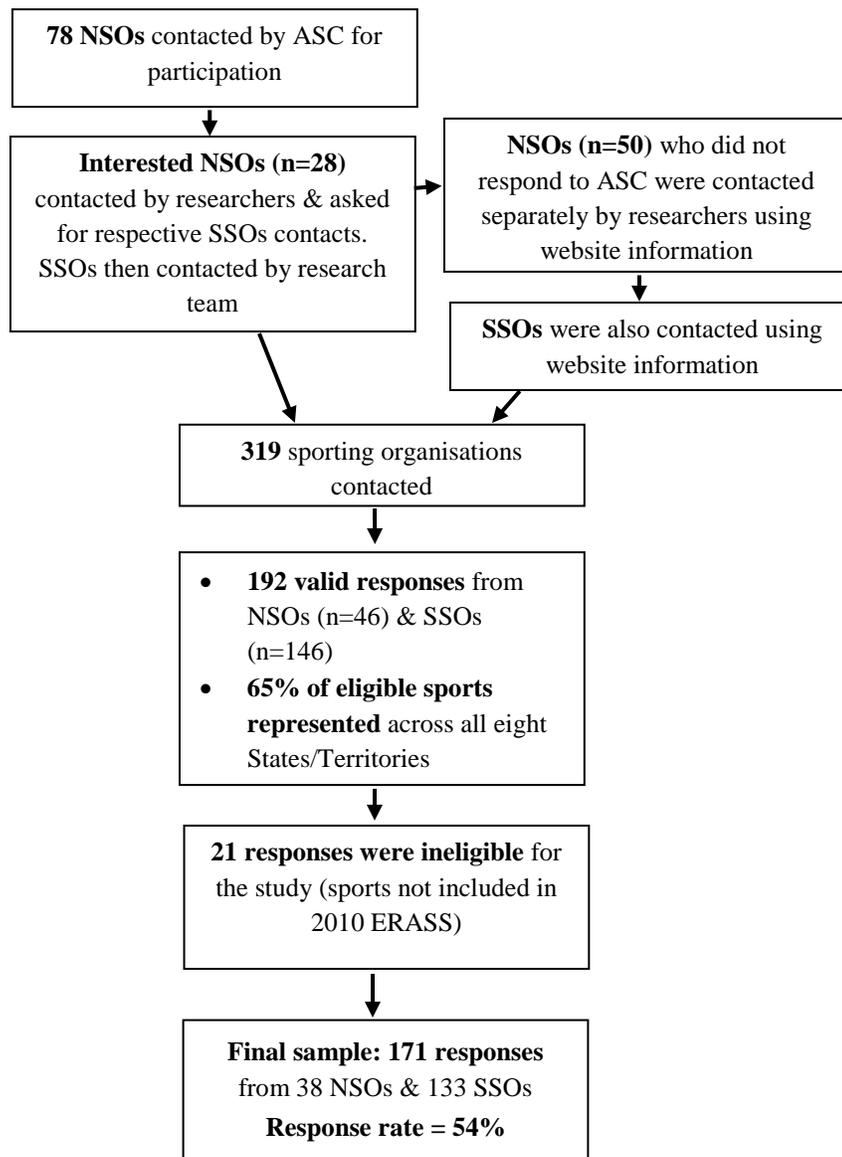
2.1 Study Design

This was a cross sectional study, using an online survey of sporting organisations, regarding sport participation for older adults.

2.2 Sample

In Australia, National Sporting Organisations (NSOs) manage the strategic development of their respective sports at both elite and community club-based level, and they have respective State Sporting Organisations (SSOs) within the State and Territories of Australia. The NSOs that were recognised by the Australian Sports Commission (ASC) in 2012, and their affiliated SSOs, were included in this study. Of the total number of 93 NSOs, 78 NSOs and their affiliated SSOs were invited to complete the online survey. The remaining 15 NSOs were not invited to participate, as these were umbrella organisations that did not deliver community club-based specific sports, such as Australian University Sport and the Australian Paralympic Committee. The recruitment process is described in Figure A1 on the following page.

Figure A1: Flow chart detailing the recruitment process for the study



The invited sporting organisations were recruited with support of the ASC. The ASC emailed relevant employees within each selected NSO to ask permission for the researchers to contact them.

There were 192 valid responses across 46 NSOs and 146 SSOs received. Responses were valid if all the questions were completed. There were 65% of eligible sports across all eight Australian States/Territories represented. Twenty one of these respondents were then classified as ineligible for this study, as they were from sports that were not included in the 2010 Australian Exercise, Recreation and Sport Survey (ERASS) (Australian Sports Commission, 2010), which was used to classify the three participation groups. As they could not be classified as high, medium or low participation sports, these responses were deemed incompatible for this study. Thus, 171 responses from 38 NSOs and 133 SSOs were analysed. Ethics approval for this study was obtained from the Victoria University University Human Ethics Committee.

2.3 Measures

Data were collected using an online survey hosted by the survey software platform Qualtrics. The survey questions were developed in collaboration with experts from the Australian Sports Commission, and then piloted with Australian Sports Commission (ASC) employees for expert critical feedback, before being amended accordingly. The survey started with demographic questions related to the respondents' age, gender, job title, main role responsibilities, their type of organisation (National or State) and the length of time they had worked/volunteered in their respective sporting organisations.

This section was followed by six specific questions on sport participation and older adults, see complete questions in Tables A2-6. Firstly, respondents were asked to rate their organisation's level of priority across a five point Likert scale (very low to very high) for a range of population groups, including older adults, as seen in Table A2. Respondents were next asked to reply 'yes'

or 'no' to two items asking if their organisations had any specific strategies or programs for older adults, shown in Table A3. For this study, strategies were defined as “a long term plan to attract older adults into your sport, and/or retain players as they age, which is not part of a specific older adults' program”. A program was defined as “a formal program(s)/series of activities that are specifically designed for older adults”.

The next survey section asked for respondents' level of agreement across a five point Likert scale (strongly disagree to strongly agree) on potential organisational barriers for older adults participating in their sport (Table A4). This was followed by a section that similarly asked respondents for their level of agreement of potential benefits their organisations could derive from engaging older adults across a five point Likert scale (strongly disagree to strongly agree) (Table A5). The final section asked respondents to indicate their level of agreement on a six point Likert scale (strongly disagree to strongly agree and not applicable) with potential modifications to their sport that could attract and/or retain older adults (Table A6).

2.4 Data Analysis

To compare sports that have varying rates of older adults' participation, sports were classified as having a low, medium or high older adult participation rate. This was determined using the sport participation data (participation in the previous 12 months) from the 2010 Australian Exercise, Recreation and Sport Survey (ERASS), an Australian Sports Commission and the State/Territory Departments of Sport and Recreation initiative. Using the ERASS 2010 participation rates in people aged 50+ years who participated in ASC recognised sporting organisations (Australian Sports Commission, 2012), three classifications of sports were created: high (>0.5% of

Australian older adult population), medium (<0.5 – >0.05% of Australian older adult population) or low rate (<0.05% of Australian older adult population) of active sport participation amongst older adults.

Data were analysed using SPSS version 22. Percentages across response categories for the demographic survey items are reported. Due to some low cell counts amongst Likert responses, five-point response scales were collapsed into three-point response scales. Responses were compared for sports with low, medium and high older adult participation rates using chi-square tests across all non-demographic survey items. For ordinal data, Kruskal-Wallis tests were used to compare response distributions across the full five response options between the three participation categories of older adult participation. Due to the sample size and distributions, the Monte Carlo method was used to calculate accurate significance values. For significant Kruskal-Wallis results, post-hoc Mann-Whitney U tests were used to compare each of the three participation category pairs. To reduce the risk of type 1 error for the three Mann-Whitney U tests, significance was set at $p < 0.017$. For significant results, an effect size was calculated using Pearson r . For the nominal data, Chi square tests, and Fisher's exact test when more than 20% of expected cell counts were below five or any cells were below one, were used to compare frequencies between the three participation categories. Significance was set at < 0.05 for the nominal data, and effect size was calculated using Cramer's V .

3. Results

The majority of the respondents were male (64%), with a mean age of 44 years ($SD=12.92$) and worked in a variety of roles, including Chief Executive Officers, Participation Managers and

Association Secretaries. The majority of respondents (76%) had a focus on both strategic development and program delivery, whilst 12% were responsible for strategic delivery only. Additionally, 6% of respondents were responsible for program delivery only and 6% had a focus on other responsibilities. Forty-five per cent of respondents had worked in their respective organisations for one to five years. Table A1 presents demographic information for respondents in each of the three groups based on proportion of older adult participation.

Table A1: Respondent demographics for the low, medium and high older adult participation sports

Sporting organisations older adult participation rate category	% of study respondents in each category	Gender of respondents in each participation category	Mean age of respondents in each participation category
Low	10.5%	Male = 83% Female = 17%	41 yrs
Medium	58.5%	Male = 60% Female = 40%	44 yrs
High	31%	Male = 64% Female = 36%	41 yrs

Tables A2-6 compare the survey item responses across the three groups of sporting organisations, for each of the six main survey sections. Tables A2-6 also display sample size for each item, plus the relevant statistics for each type of data.

3.1 Sporting Organisations' Prioritising of Older Adult Participation

Older adults were predominantly not considered a high priority population group for increasing sport participation (see Table A2), with less than half of sports across all participation groups classifying older adults as a high priority group. In particular, considerably fewer low older adult participation sports classified older adults as a high priority group compared to medium and high older adult participation groups.

The most selected 'high priority' population groups for increasing participation for high and medium older adult sports were early to mid-teenagers, primary school children and women, whilst older adults were the eighth highest priority group for high participation sports and the lowest priority group for medium participation sports. For low older adult participation sports, the most selected 'high priority' population groups were older teenagers and early to mid-teenagers, followed by adults, with older adults appearing joint last alongside people with a disability. Thus, regardless of number of older adults participating in each sport, the prioritising of youth was consistent across all sporting organisations.

Between group priority differences for five population groups were statistically significant. Low older adult participation sports significantly prioritised both older teenagers and adults more than high older adult participation sports. Medium older adult participation sports significantly prioritised culturally and linguistically diverse communities more than the high older adult

participation sports, and people with a disability compared to high and low older adult participation sports. This could suggest that medium older adult participation sports look more broadly across several population groups when seeking to increase participant numbers.

3.2 Older Adult Focused Sport Strategies and Programs

Most sporting organisations did not report to have specific strategies for older adult active participation (see Table A3). However, descriptively more high and medium participation sports have specific strategies than low participation sports. Considerably more sporting organisations had specific participation programs for older adults than strategies, although generally less than half of organisations had programs. Whilst there were no statistically significant differences between the participation categories, slightly more low participation sports had specific programs compared to medium and high participation sports.

3.3 Sporting Organisations' Perceptions of Barriers to Engaging Older Adults

There was widespread agreement across the three participation groups on the main organisational barriers for participation (Table A4). The most prominent barriers were lack of appropriate programs for older players, and insufficient resources to manage and develop older adult programs. Descriptively, the main barrier for high participation sports was appropriate programs, whilst sufficient resources to manage programs was the foremost barrier for medium participation sports. For low participation sports, the primary barrier was that their main focus was on other target groups and significantly more medium than high participation sports stated their main focus was on other target groups. There were no statistical differences between high, medium, and low participation sports on perceptions of barriers. There was also consensus across

the participation groups regarding barriers they disagreed with. For example, most respondents disagreed that suitable equipment or facilities for older adults were a barrier to participation.

3.4 Sporting Organisations' Perceptions of Benefits to Engaging Older Adults

The majority of all sporting organisations in this study agreed with all of the provided organisational benefits of engaging older adults in sport (see Table A5). Particularly prominent was the opportunity to increase their overall participation numbers, whilst over three-quarters of respondents across the three participation categories agreed that organisations could engage with their older fan base. Furthermore, more low than high participation sports agreed that increasing their older fan base and developing role models for younger players were potential organisational benefits.

3.5 Sporting Organisations' Perceptions of Potential Modifications to Sport to Attract and/or Retain Older Adults

Twenty-one potential sporting modifications to attract and/or retain older adults into sport were suggested to respondents (Table A6). Descriptively, there were a number of modifications with agreement reported across the three older adult participation categories. The most popular modifications across the three participation categories were changing the way their sport is advertised and collaboration with community/ageing organisations. Introducing age specific social play opportunities was also a popular modification for high participation sports. For medium participation sports, introducing social play rather than competition was widely agreed upon, whilst providing a shorter playing time was a popular modification for low participation sports.

There were statistically significant differences between the older adult participation groups for four potential modifications. Significantly more high than low participation sports responded that more accessible locations, improving accessibility and changes in equipment, could be possible modifications for their respective sports. Furthermore, significantly more medium than high participation sports agreed that lowering the cost of participating and more accessible locations could attract and/or retain older adults into their sport.

4. Discussion

This study investigated the perceptions of Australian National Sporting Organisations (NSOs) and State Sporting Organisations (SSOs) on six different areas that related to older adult sport participation: (1) level of priority for different population groups; (2&3) sport specific participation strategies or programs for older adults; (4&5) organisational benefits of and barriers to older adult sport participation; and (6) potential modifications that could attract and/or retain older adults in their respective sports. Potential differences between sports that had high, medium or low levels of older adult participation were examined. Overall, there was broad agreement across most of the variables, but there were some differences, that will be discussed below in more detail.

Overall, older adults were not considered a high priority group compared to other population groups for all sports, regardless of participation rate. The results show that children were the overall highest priority group. This finding corresponds with previous research that participation for other population groups, such as children and young people (Eime et al., 2016; Green, 2007;

Österlind, 2016), are given high/greater priority by organisations involved in community sport. Therefore this result is not surprising. The development of modified sport products for older adults implies some consideration from organisations for this population group, but delivery of these appear to be ad hoc and often heavily dependent on external funding. A change in organisational priority to increase priority for older adults may result in greater sustainability and availability of these programs, which may subsequently result in increased participation. Thus in line with organisational change theory, a paradoxical change (Slack & Hinings, 1992) in sport policy, such as linking funding to improved older adult active participation, is recommended to enact this change in sporting organisational priority.

It was identified that few sporting organisations have specific strategies to increase older adult participation, but considerably more organisations have specific programs for this age group. It is unsurprising that slightly more low participation sports than high participation sports have specific programs for older adults, as it can be suggested that these types of sports are likely to be inappropriate for older adults in their traditional format, so require specific programs to enable and encourage older adult participation.

Similarly, it is to be expected that more high and medium participation sports have specific strategies for older adults than low participation sports, as formal strategies usually highlight key organisational priorities (Thibault, Slack, & Hinings, 1993) and underpin an organisation's priorities, which are largely influenced by external sport policy priorities (Eime et al., 2016; McDonald, 2005). Whilst providing specific programs for different population groups, regardless of their priority level, is often easier than embedding these population groups into formal

strategies. This may explain why fewer sporting organisations have specific older adult participation strategies than programs. However if older adults are to become a higher priority group for sporting organisations, this priority needs to be enacted by more specific strategies.

An example of how developing specific strategies for underrepresented groups in sport can lead to a change in participation, is the targeted increase of female representation on sporting organisational boards. This increase had been an aspirational target in countries such as Australia and the U.K. since 2012. Whilst this resulted in a slightly increased female board representation (Victorian State Government, 2015), regulatory organisations in these countries have now made some funding income dependent on achieving minimum female board representation (UK Sport & Sport England, 2016; VicSport, 2017). It is expected that this paradoxical change (Slack & Hinnings, 1994), will result in increased female representation now being achieved, as this correlates to previous research on paradoxical organisational change in sport (Amis et al., 2004; Skinner et al., 1999). Therefore it can be expected that if older adults were prioritised in national sport policy, and if organisations concurrently strategically target older adults through a paradoxical organisational change of policy priority, sporting organisations would subsequently change their organisational priorities to try to increase sport participation in this age group.

There was widespread agreement amongst respondent groups on the organisational barriers of engaging older adults in sport. The lack of appropriate older adult programs was a key barrier in our study that has been previously identified as a barrier for both older adults (Jenkin et al., 2016) and another underrepresented group, disabled children (Shields, Synnot, & Barr, 2011), as sport in its current traditional form is often not appropriate for some underrepresented population

groups. Furthermore, the suggestion that organisations do not have sufficient resources to accommodate older adults, is likely to be influenced by organisations prioritising their resources to cater for other population groups. Thus unless there is a paradoxical organisational change (Slack & Hinnings, 1994) to give greater priority to older adults, these barriers are unlikely to be mitigated.

There was also agreement between the three participation groups on barriers that they did not consider a deterrent to older adult participation, such as suitable equipment or facilities. Some of these barriers, such as suitable facilities, have been previously identified by older adults as obstacles to their participation (Jenkin, Eime, Westerbeek, & van Uffelen, 2017), which suggests there may be a potential discord between the organisational and older adult perspective on what may deter some older adults from participating in sport.

Despite the lack of appropriate programs and insufficient resources to cater for older adults, most sporting organisations recognised organisational benefits of engaging older adults, especially the opportunity/chance to increase their overall participation numbers. As all sporting organisations with a grassroots participation focus are targeting increased participation (Eime et al., 2015), it would seem logical for sporting organisations to diversify their membership, which could include targeting older adults, to achieve this increase.

The two modifications that received widespread agreement across the three participation groups were changes to the way sports are advertised and collaborations with other relevant organisations. Appropriate marketing has been highlighted as a strength for modified sport for

children (Eime et al., 2009), reinforcing the importance of suitable marketing to target specific population groups. However the lack of diversity in sport marketing has been raised by research into other underrepresented population groups, such as culturally and linguistically diverse communities (Sawrikar & Muir, 2010). Therefore this research has reinforced that sporting organisations understand that if specific population groups, such as older adults, are to be targeted, participation opportunities need to be appropriately promoted and communicated to attract that specific group. By recognising marketing as a barrier to older adult participation, it indicates that organisations understand why more older adults are not participating in sport, but strategies to mitigate these barriers are not being enacted.

Some marketing campaigns are starting to engage older adults in sport, for example, the most recent ‘This girl can’ campaign from Sport England, included pictures and stories of older women playing sport (Sport England, 2017) and on the ASC ‘Play.Sport.Australia’ webpage, there is a video of older adults participating in different sports at the bottom of the webpage (Australian Sports Commission, 2015). Whilst this is a positive start, more sporting organisations themselves need to start including older adults in their strategic marketing campaigns, to help change the societal perception that sport is the domain of younger people (Jenkin et al., 2017).

Collaborations with community and/or ageing organisations was another commonly agreed potential modification. Previous research has emphasised the need for collaboration with health organisations, in particular, to increase grassroots sport participation (Eime et al., 2015; Nicholson, Hoye, & Houlihan, 2010; Rowe, Shilbury, Ferkins, & Hinckson, 2013). Some collaborations between community and sporting organisations that promote participation in

underrepresented population groups, such as Basketball Victoria and Disability Sport and Recreation, are in place. For older adults, the Walking Basketball program between Basketball Victoria and VicHealth, provide appropriate participation opportunities and demonstrate successful partnerships to engage underrepresented groups (Basketball Victoria, 2017). These organisations have demonstrated a readiness to change (Oakland & Tanner, 2007) to actively engage older adults in their respective sports. More long term collaborations of this kind are needed to provide further appropriate opportunities for older adults to participate in sport. Such collaborations could also help mitigate the lack of resources barrier that was also identified in this study.

Modified sport products for children were largely created as a pathway into organised sport (Eime et al., 2015), and modified to suit young children's needs and capabilities. The research from this study, in addition to other studies on the older adult perspective of sport participation, can provide overarching guidance, such as marketing changes and community collaborations, in addition to developing appropriate modified sport products that could help to attract older adults to participate in sport.

This study surprisingly finds that there were few statistically significant differences in responses between sports with high, medium and low levels of older adult sport participation. That is the majority of sporting organisations in this study reported that older adults were not a high priority population group and that the organisations faced similar barriers, identified similar benefits and believed similar modifications could attract and/or retain older adults across different types of sports. Whilst some modifications, such as reduced physical contact, may need to be sport

specific to increase overall older adult sport participation, similar overarching strategies may be required across the sector. However, as the organisational priority level for older adults is currently low, it is unlikely older adult sport participation will increase unless there is a significant organisational change in the participation priorities set by the leaders of sporting organisations. This is unlikely to happen unless there is a paradoxical change (Slack & Hinnings, 1994) at national sport policy level. Despite there being other aspects within an organisation that could enable opportunities for older adults, policy could be argued to be the biggest organisational change lever. Policy usually directs organisational focus and priority, which permeates all levels of an organisation and an organisation's readiness/willingness to provide appropriate opportunities. The participating organisations' reported lack of resources and low priority for older adults, which suggests that the majority of sporting organisations are not at a readiness to change state (Oakland & Tanner, 2007) to proactively engage older adults, despite organisations recognising the potential benefits of older adult active participation. Therefore it is unlikely there will be a planned change to increase older adult sport participation in the near future, resulting in the need to enact paradoxical change through changing national sport policy, to increase appropriate opportunities for older adults to participate in sport.

5. Strengths and Limitations

This study sought the perspectives of representatives from National and State Sporting Organisations across Australia on sport for older adults. Although the response rate was considerably high and a wide variety of sports and States/Territories were represented, there may

be some self-selection response bias. Therefore the current study cannot reflect the opinions of all National and State Sporting Organisations in Australia.

Australia's population is ageing rapidly, which is why older Australians are an important and viable population group for sporting organisations to target to increase their participation rates. Organisations currently prioritise younger age groups, resulting in few appropriate participation opportunities for older adults. With an ageing population and the emergence of the sport for health concept, there is a great opportunity for sporting organisations to take advantage of the growing older adult market. This research is the first to gain input from a wide representation of sporting organisations on older adult sport participation, and therefore is an importance source of evidence in the sport and ageing field. Furthermore, it provides an evidence base for further developing the emerging modified sport products. These results show that sporting organisations can identify the benefits of this engagement, but currently few are prioritising this age group, which serves as an encouragement for the paradoxical organisational policy change (Slack & Hinnings, 1994) of priority to occur, to increase older adult participation. Future research should examine how and what drives national policy change to encourage a higher policy priority for older adults. Additionally, the current modified products for older adults should be assessed and evaluated, to explore whether these products have altered the organisation's priorities and have attracted and/or retained more older adults into sport.

6. Conclusion

In line with organisational change theory, to increase older adult participation in sport, a paradoxical sport policy change to increase the priority given to older adults, needs to occur.

This change in priority would allow sporting organisations to focus their capacity on this age group to develop and deliver appropriate opportunities for their active participation. Most sporting organisations recognised a number of benefits they could derive from engaging older adults in sport, but to reap these benefits, strategies must be developed and implemented, whilst more appropriate playing opportunities must be provided. Increasing older adults' active participation in sport, will not only benefit the sport sector, but also the health of individuals and communities.

7. Funding

Claire Jenkin was supported by an Australian Sports Commission–Victoria University PhD scholarship. Jannique van Uffelen was supported by an Australian Sports Commission–Victoria University Senior Research Fellowship.

8. Competing Interests

The authors have no competing interests to declare.

References

- Aiello, C. R., Canalella, A., & Altieri, D. (2016). Sport as a strategy for preventing physical inactivity: walking football. *Euromediterranean Biomedical Journal*, 11.
- Amis, J., Slack, T., & Hinings, C. R. (2004). Strategic change and the role of interests, power, and organizational capacity. *Journal of Sport Management*, 18(2), 158-198.
- Arnold, J. T., Bruce-Low, S., & Sammut, L. (2015). The impact of 12 weeks walking football on health and fitness in males over 50 years of age. *BMJ Open Sport & Exercise Medicine*, 1(1).
- Australian Bureau of Statistics. (2015). Animated population pyramids [online] Retrieved from <http://www.abs.gov.au/websitedbs/d3310114.nsf/home/Population%20Pyramid%20-%20Australia>
- Australian Sports Commission. (2010). Exercise, Recreation and Sport Survey. Retrieved from <http://www.ausport.gov.au/information/casro/ERASS>
- Australian Sports Commission. (2012). ASC recognition. What is defined as a sport? Retrieved from http://www.ausport.gov.au/supporting/nso/asc_recognition
- Australian Sports Commission. (2015). Play.Sport.Australia. Retrieved from https://secure.ausport.gov.au/clearinghouse/knowledge_base/organised_sport/sport_and_government_policy_objectives/australian_sport_policy_documents
- Australian Sports Commission. (2017). Mature-aged Sport and Physical Activity. Retrieved from https://www.clearinghouseforsport.gov.au/knowledge_base/sport_participation/community_participation/mature-aged_sport_and_physical_activity
- Basketball Victoria. (2017). Walking Basketball Program. Retrieved from <http://basketballvictoria.com.au/walking-basketball/>
- Breuer, C., & Wicker, P. (2009). Decreasing sports activity with increasing age? Findings from a 20-year longitudinal and cohort sequence analysis. *Research Quarterly for Exercise and Sport*, 80(1), 22-31.
- Brown, W. J., van Uffelen, JGZ. (2014). Action area 10: Older people. In: Blueprint for an active Australia. *National Heart Foundation of Australia*.
- Casey, M. M., Payne, W. R., & Eime, R. M. (2012). Organisational readiness and capacity building strategies of sporting organisations to promote health. *Sport Management Review*, 15(1), 109-124.
- Casey, M. M., Payne, W. R., Eime, R. M., & Brown, S. J. (2009). Sustaining health promotion programs within sport and recreation organisations. *Journal of Science and Medicine in Sport*, 12(1), 113-118.
- Côté, J., Lidor, R., & Hackfort, D. (2009). ISSP position stand: To sample or to specialize? Seven postulates about youth sport activities that lead to continued participation and elite performance. *International Journal of Sport and Exercise Psychology*, 7(1), 7-17.
- Dionigi, R. (2006). Competitive sport as leisure in later life: Negotiations, discourse, and aging. *Leisure Sciences*, 28(2), 181-196.
- Dionigi, R. A. (2002). Resistance and empowerment through leisure: The meaning of competitive sport participation to older adults. *Society and Leisure*, 25(2), 303-328.
- Eime, R., Payne, W., & Harvey, J. (2009). Trends in organised sport membership: Impact on sustainability. *Journal of Science and Medicine in Sport*, 12(1), 123-129.

- Eime, R. M., Casey, M. M., Harvey, J. T., Charity, M. J., Young, J. A., & Payne, W. R. (2015). Participation in modified sports programs: a longitudinal study of children's transition to club sport competition. *BMC Public Health, 15*(1), 649.
- Eime, R. M., Harvey, J. T., Charity, M. J., Casey, M. M., Westerbeek, H., & Payne, W. R. (2016). Age profiles of sport participants. *BMC Sports Science, Medicine and Rehabilitation, 8*(1), 6.
- Eime, R. M., Sawyer, N., Harvey, J. T., Casey, M. M., Westerbeek, H., & Payne, W. R. (2015). Integrating public health and sport management: sport participation trends 2001–2010. *Sport Management Review, 18*(2), 207-217.
- Green, M. (2007). Governing under advanced liberalism: sport policy and the social investment state. *Policy Sciences, 40*(1), 55-71.
- Green, M., & Collins, S. (2008). Policy, politics and path dependency: Sport development in Australia and Finland. *Sport Management Review, 11*(3), 225-251.
- Green, S., Campbell, E., Barnett, L., Mitchell, R., Radvan, D., & Van Beurden, E. (2009). Promoting a team ball game (lifeball) to older people: Who does this game attract and who continues? *Health Promotion Journal of Australia, 20*(2), 120-126.
- Heuser, L. (2005). We're not too old to play sports: the career of women lawn bowlers. *Leisure Studies, 24*(1), 45-60.
- 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 and Politics, 1*-18.
- Jenkin, C.R., Eime, R.M., Westerbeek, H., & van Uffelen, J.G.Z. (2017). Sport for Adults Aged 50+ Years: Participation Benefits and Barriers. *Journal of Aging and Physical Activity*, (in press).
- Khan, K. M., Thompson, A. M., Blair, S. N., Sallis, J. F., Powell, K. E., Bull, F. C., & Bauman, A. E. (2012). Sport and exercise as contributors to the health of nations. *The Lancet, 380*(9836), 59-64.
- Kikulis, L. M., Slack, T., & Hinings, B. (1992). Institutionally specific design archetypes: A framework for understanding change in national sport organizations. *International Review for the Sociology of Sport, 27*(4), 343-368.
- Kotter, J. P. (1995). Leading change: Why transformation efforts fail. *Canada Communication Group*.
- Leipert, B. D., Plunkett, R., Meagher-Stewart, D., Scruby, L., Mair, H., & Wamsley, K. B. (2011). "I Can't Imagine My Life Without It!" Curling and Health Promotion: A Photovoice Study. *Canadian Journal of Nursing Research, 43*(1), 60-78.
- Maher, C., Olds, T., & Dollman, J. (2009). Adolescent sport in Australia: who, when, where and what? *ACHPER Australia Healthy Lifestyles Journal, 56*(1), 11.
- McDonald, I. (2005). Theorising partnerships: Governance, communicative action and sport policy. *Journal of Social Policy, 34*(04), 579-600.
- Naar, J. J., Wong, J. D., West, S. T., Son, J. S., & Liechty, T. (2017). A Socioecological Approach to Women's Participation in Competitive Softball During Middle and Late Adulthood: Implications for the Future. *Topics in Geriatric Rehabilitation, 33*(3), 170-181.
- Nicholson, M., Hoye, R., & Houlihan, B. (2010). *Participation in sport: international policy perspectives*: Routledge: London.

- Oakland, J. S., & Tanner, S. (2007). Successful change management. *Total Quality Management & Business Excellence*, 18(1-2), 1-19.
- Österlind, M. (2016). Sport policy evaluation and governing participation in sport: governmental problematics of democracy and health. *International Journal of Sport Policy and Politics*, 8(3), 347-362.
- Palacios-Ceña, D., Fernandez-de-Las-Peñas, C., Hernández-Barrera, V., Jiménez-García, R., Alonso-Blanco, C., & Carrasco-Garrido, P. (2012). Sports participation increased in Spain: a population-based time trend study of 21 381 adults in the years 2000, 2005 and 2010. *British Journal of Sports Medicine*, bjsports-2012.
- Pike, E. C. J. (2012). Aquatic antiquies: Swimming off this mortal coil? *International Review for the Sociology of Sport*, 47(4), 492-510.
- Reddy, P., Dias, I., Holland, C., Campbell, N., Nagar, I., Connolly, L., Krstrup, P., & Hubball, H. (2017). Walking football as sustainable exercise for older adults—A pilot investigation. *European Journal of Sport Science*, 17(5), 638-645.
- Rowe, K., Shilbury, D., Ferkins, L., & Hinckson, E. (2013). Sport development and physical activity promotion: An integrated model to enhance collaboration and understanding. *Sport Management Review*, 16(3), 364-377.
- Sandford, R. A., Duncombe, R., & Armour, K. M. (2008). The role of physical activity/sport in tackling youth disaffection and anti-social behaviour. *Educational Review*, 60(4), 419-435.
- Sawrikar, P., & Muir, K. (2010). The myth of a 'fair go': Barriers to sport and recreational participation among Indian and other ethnic minority women in Australia. *Sport Management Review*, 13(4), 355-367.
- Shields, N., Synnot, A. J., & Barr, M. (2011). Perceived barriers and facilitators to physical activity for children with disability: a systematic review. *British Journal of Sports Medicine*.
- Siegenthaler, K. L., & O'Dell, I. (2003). Older golfers: Serious leisure and successful aging. *World Leisure Journal*, 45(1), 45-52.
- Skinner, J., Stewart, B., & Edwards, A. (1999). Amateurism to professionalism: Modelling organisational change in sporting organisations. *Sport Management Review*, 2(2), 173-192.
- Slack, T., & Hinings, B. (1992). Understanding change in national sport organizations: An integration of theoretical perspectives. *Journal of Sport Management*, 6(2), 114-132.
- Slack, T., & Parent, M. M. (2006). *Understanding sport organizations: The application of organization theory*: Human Kinetics.
- Sport England. (2017). This Girl Can. Retrieved from <https://www.sportengland.org/our-work/women/this-girl-can/>
- Thibault, L., & Babiak, K. (2005). Organizational Changes in Canada's Sport System: Toward an Athlete-Centred Approach 1. *European Sport Management Quarterly*, 5(2), 105-132.
- Thibault, L., Slack, T., & Hinings, B. (1993). A framework for the analysis of strategy in nonprofit sport organizations. *Journal of Sport Management*, 7(1), 25-43.
- Todnem By, R. (2005). Organisational change management: A critical review. *Journal of Change Management*, 5(4), 369-380.
- UK Sport & Sport England. (2016). *A Code for Sports Governance*. Retrieved from https://www.sportengland.org/media/11193/a_code_for_sports_governance.pdf

- United Nations. (2003). *Sport for Development and Peace: Towards Achieving the Millennium Development Goals. Report from the United Nations Inter-Agency Task Force on Sport for Development and Peace.*
- van Uffelen, J. G. Z. Jenkin, C.R., Westerbeek, H.M. Biddle, S.J.H., & Eime, R. M. (2015). *Active and Healthy Ageing through Sport. Report prepared for the Australian Sports Commission.* Retrieved from https://www.clearinghouseforsport.gov.au/__data/assets/pdf_file/0010/650737/Active_and_healthy_ageing_through_sport_2015_Final.pdf
- VicSport. (2017). *Transition to Mandatory Board Quotas.* Retrieved from <https://memberhq.s3.amazonaws.com/vicsport/uploads/About.Quotas-Project.-March-2017.FINAL.pdf>
- Victorian State Government. (2015). *Inquiry into Women and Girls in Sport and Active Recreation: A Five Year Game Plan for Victoria.* Retrieved from <http://www.sport.vic.gov.au/sites/default/files/documents/201704/Inquiry%20into%20women%20and%20girls%20in%20sport.pdf>
- World Health Organisation. (2015). *World Report on Ageing and Health.* Retrieved from http://apps.who.int/iris/bitstream/10665/186468/1/WHO_FWC_ALC_15.01_eng.pdf?ua=1

Table A2: Sporting organisations' level of priority on a three point Likert scale for different population groups

Survey item		High ^d participation rate (%)			Medium ^e participation rate (%)			Low ^f participation rate (%)			Sample size (n)	Statistical analysis		
		Low ^a	Neither ^b	High ^c	Low	Neither	High	Low	Neither	High		Kruskal-Wallis	Mann-Whitney U (p < 0.017)	Effect size <i>r</i>
What is your sporting organisation's level of priority to increase sport participation for each of the following groups?	Primary school children (5-10 yrs)	7.5	15.1	77.4	9.1	3.0	87.9	11.1	22.2	66.7	170	*		
	Early to mid-teenagers (11-15 yrs)	5.7	11.3	83.0	4.0	8.0	88.0	0.0	5.6	94.4	171			
	Older teenagers (16-19 yrs)	7.5	24.5	67.9	5.1	18.2	76.8	0.0	5.6	94.4	170	*	Lo > Hi (participation rate)	0.36
	Adults (20-49 yrs)	7.5	30.2	62.3	10.0	30.0	60.0	0.0	11.1	88.9	171	*	Lo > Hi	0.31
	Older adults (50+ yrs)	13.2	43.4	43.4	21.2	37.4	41.4	38.9	38.9	22.2	170			
	Culturally and linguistically diverse communities (CALD)	20.8	49.1	30.2	13.1	31.3	55.6	11.1	50.0	38.9	170	*	Med > Hi	0.27
	Aboriginal and Torres Strait Islanders (ATSI)	20.8	43.4	35.8	17.0	39.0	44.0	5.6	38.9	55.6	171			
	People with a disability	13.5	42.3	44.2	11.0	26.0	63.0	38.9	38.9	22.2	170	*	Med > Hi Med > Low	0.21
	Women	0.0	28.3	71.7	3.0	16.0	81.0	0.0	22.2	77.8	171			
Men	3.8	49.1	47.2	5.0	32.0	63.0	0.0	38.9	61.1	171				

^a Low = low or very low priority, ^b Neither = neither high nor low priority, ^c High = high or very high priority. ^d High participation rate = >0.5%, ^e medium participation rate = >0.05-<0.5%, ^f low participation rate = <0.05%. These rates are the number of adults aged 50+ actively participating in sport and were devised using the Exercise Recreation and Sport Survey (ERASS) 2010 dataset.

Percentages highlighted in bold represent the most agreed variable answer for that participation category. * represents statistical significance (p < 0.05). Only significant Mann-Whitney U paired comparisons are listed. Due to there being three pairs of response rates to compare, the statistical significance for the Mann-Whitney U test was set at p < 0.017.

Table A3: Specific strategies and/or specific programs for older adults

Survey item	High participation rate ^a (%)		Medium participation rate ^b (%)		Low participation rate ^c (%)		Sample size (n)	Statistical analysis		
	Yes	No	Yes	No	Yes	No		Fisher exact (f)/ Chi square	p value	Cramer's V effect size
Does your organisation currently have any specific sport participation strategies, which are not a component of a specific programme, for older adults?	30.2	69.8	28.0	72.0	16.7	83.3	171	1.27	0.57	0.09
Does your organisation currently have any specific sport participation programmes for older adults?	41.5	58.5	45.0	55.0	50.0	50.0	171	0.42	0.79	0.05

^aHigh participation rate = >0.5%, ^bmedium participation rate = >0.05-<0.5%, ^clow participation rate = <0.05%. These rates are the number of adults aged 50+ actively participating in sport and were devised using the Exercise Recreation and Sport Survey (ERASS) 2010 dataset.

Percentages highlighted in bold represent the most agreed variable answer for that participation category. Statistical significance was set at minimum p <0.05.

Table A4: Potential organisational barriers on a three point Likert scale for older adults' sport participation

Survey item	High ^d participation rate (%)			Medium ^e participation rate (%)			Low ^f participation rate (%)			Sample size (n)	Statistical analysis			
	Disagree ^a	Neither ^b	Agree ^c	Disagree	Neither	Agree	Disagree	Neither	Agree		Kruskal-Wallis	Mann-Whitney U (p < 0.017)	Effect size <i>r</i>	
To what extent do you agree that the following issues could be barriers to increase participation in older people for your sport	Barriers with agreement across all three participation groups													
	Appropriate programs for older players	19.2	17.3	63.5	25.0	14.0	61.0	16.7	11.1	72.2	170			
	Sufficient resources to manage programs for this specific group	15.1	22.6	62.3	8.0	13.0	79.0	16.7	16.7	66.7	171			
	Sufficient resources to develop programs for this specific group	17.0	20.8	62.3	8.1	15.2	76.8	11.1	22.2	66.7	170			
	Main focus is on other target groups	17.0	26.4	56.6	10.0	17.0	73.0	16.7	5.6	77.8	171	*	Med > Hi (participation rate)	0.20
	Specific competitions for older players	37.7	18.9	43.4	31.0	14.0	55.0	22.2	5.6	72.2	171			
	Barriers with agreement across two participation groups													
	Designated staff to manage programs for this specific group	17.0	24.5	58.5	18.0	21.0	61.0	11.1	50.0	38.9	171			
	Designated staff to develop programs for this specific group	20.8	24.5	54.7	19.0	24.0	57.0	11.1	50.0	38.9	171			
	Lack of demand from older adults to justify specific programs for this group	41.5	30.2	28.3	33.0	23.0	44.0	27.8	22.2	50.0	171			
	Barriers with disagreement/neither agree nor disagree across all three participation groups													
	Suitable equipment for older players	58.5	22.6	18.9	55.0	27.0	18.0	38.9	27.8	33.3	171			
	Suitable facilities for older players	60.4	18.9	20.8	54.0	19.0	27.0	44.4	27.8	27.8	171			
	Concerns/difficulties about insuring older players	69.8	20.8	9.4	56.0	31.0	13.0	55.6	27.8	16.7	171			
Main focus is on other age groups	39.6	60.4	0.0	26.0	74.0	0.0	22.2	77.8	0.0	171				

^aDisagree = strongly disagree/disagree, ^bNeither = neither agree or disagree, ^cAgree = agree/strongly agree. ^dHigh participation rate = >0.5%, ^emedium participation rate = >0.05-<0.5%, ^flow participation rate = <0.05%. These rates are the number of adults aged 50+ actively participating in sport and were devised using the Exercise Recreation and Sport Survey (ERASS) 2010 dataset.

Percentages highlighted in bold represent the most agreed variable answer for that participation category. * represents statistical significance of at least p < 0.05. Only significant Mann-Whitney U paired comparisons are listed. Due to there being three pairs of response rates to compare, the statistical significance for the Mann-Whitney U test was set at p < 0.017.

Table A5: Potential organisational benefits on a three point Likert scale for older adults' sport participation

Survey item	High ^d participation rate (%)			Medium ^e participation rate (%)			Low ^f participation rate (%)			Sample size (n)	Statistical analysis	
	Disagree ^a	Neither ^b	Agree ^c	Disagree	Neither	Agree	Disagree	Neither	Agree			
To what extent do you agree that the following outcomes of increasing participation for older adults could be beneficial for your sport	Increase overall participation numbers	1.9	5.7	92.5	3.0	6.0	91.0	0.0	5.6	94.4	171	Kruskal-Wallis
	Engage with your older fan base	7.5	13.2	79.2	6.0	14.0	80.0	0.0	16.7	83.3	171	
	Be socially responsible and as such accommodate a growing older demographic in our society	3.8	22.6	73.6	2.0	19.0	79.0	0.0	27.8	72.2	171	
	Increase your older fan base	7.5	24.5	67.9	6.0	19.0	75.0	5.6	16.7	77.8	171	
	Develop positive role models for your younger players	11.3	34.0	54.7	9.0	26.0	65.0	0.0	22.2	77.8	171	

^aDisagree = strongly disagree/disagree, ^bNeither = neither agree or disagree, ^cAgree = agree/strongly agree. ^dHigh participation rate = >0.5%, ^emedium participation rate = >0.05-<0.5%, ^flow participation rate = <0.05%. These rates are the number of adults aged 50+ actively participating in sport and were devised using the Exercise Recreation and Sport Survey (ERASS) 2010 dataset.

Percentages highlighted in bold represent the most agreed variable answer for that participation category. * represents statistical significance of at least p <0.05. Only significant Mann-Whitney U paired comparisons are listed. Due to there being three pairs of response rates to compare, the statistical significance for the Mann-Whitney U test was set at p < 0.017.

Table A6: Potential organisational modifications on a six point Likert scale to retain/attract older adults to sport

Survey item	High ^d participation rate (%)			Medium ^e participation rate (%)			Low ^f participation rate (%)			Sample size (n)	Statistical analysis			
	Disagree ^a	Neither ^b	Agree ^c	Disagree	Neither	Agree	Disagree	Neither	Agree		Kruskal-Wallis	Mann-Whitney U (p < 0.017)	Effect size <i>r</i>	
Barriers with agreement across all three participation groups														
To what extent do you agree that the following potential modifications could help to retain current older players and/or attract new older players in your sport	Change the way your sport is advertised to older adults	2.0	8.2	89.8	4.2	18.8	77.1	5.9	23.5	70.6	162			
	Collaborate with community organisations	2.1	17.0	80.9	1.1	16.8	82.1	5.9	17.6	76.5	159			
	Collaborate with ageing/ senior programs	0.0	16.7	83.3	2.1	16.0	81.9	5.9	29.4	64.7	159			
	Increase flexibility of membership options	8.3	12.5	79.2	12.9	16.1	71.0	5.9	29.4	64.7	158			
	Introduce social play rather than competition	4.3	19.6	76.1	4.5	20.2	75.3	5.9	23.5	70.6	152			
	Introduce age specific social play categories (i.e. over 50 years)	6.5	13.0	80.4	6.6	19.8	73.6	12.5	25.0	62.5	153			
	Introduce age specific competition categories (i.e. over 50 years)	8.5	17.0	74.5	5.6	21.3	73.0	25.0	18.8	56.3	152			
	Shorter playing time	19.0	19.0	61.9	22.4	15.3	62.4	14.3	14.3	71.4	141			
	Introduce gender specific strategies or programmes	17.4	34.8	47.8	19.6	32.6	47.8	11.8	23.5	64.7	155			
	Lower the cost of participating	20.4	16.3	63.3	20.8	15.6	63.5	29.4	35.3	35.3	162	*	Med > Hi (participation rate)	0.22
Shorter training sessions	12.5	42.5	45.0	12.0	25.3	62.7	0.0	42.9	57.1	137				
Barriers with agreement across two participation groups														
Decrease in level of physical contact	36.1	44.4	19.4	34.2	21.9	43.8	0.0	30.8	69.2	122				

Lower frequency of training sessions	27.8	47.2	25.0	15.7	32.5	51.4	14.3	42.9	42.9	133			
Lower frequency of matches	37.5	40.0	22.5	20.7	31.7	47.6	14.3	35.7	50.0	136			
More accessible locations (i.e. near retirement villages)	15.9	34.1	50.0	19.3	34.1	46.6	50.0	31.3	18.8	148	*	Hi > Lo Med > Hi	0.33, 0.24
Smaller playing size (i.e. court/pitch/oval)	25.8	45.2	29.0	35.6	21.9	42.5	23.1	23.1	53.8	117			
Changes in equipment	27.5	40.0	32.5	47.1	28.7	24.1	58.8	35.3	5.9	144	*	Hi > Lo	0.36
Increase in team size	36.4	63.6	0.0	45.3	30.7	24.0	30.8	53.8	15.4	121			
Decrease in team size	33.3	60.6	6.1	42.7	32.0	25.3	30.8	53.8	15.4	121			
Introduce a stronger focus on specific strength and conditioning programs	18.2	43.2	38.6	15.6	43.3	41.1	17.6	41.2	41.2	151			
Barriers with no agreement across all three participation groups													
Improve accessibility (i.e. introduce ramps/handrails)	19.5	43.9	36.6	35.6	27.6	36.8	41.2	47.1	11.8	145	*	Hi > Lo	0.36

^a Disagree = strongly disagree/disagree, ^b Neither = neither agree or disagree, ^c Agree = agree/strongly agree. ^d High participation rate = >0.5%, ^e medium participation rate = >0.05-<0.5%, ^f low participation rate = <0.05%. These rates are the number of adults aged 50+ actively participating in sport and were devised using the Exercise Recreation and Sport Survey (ERASS) 2010 dataset.

Percentages highlighted in bold represent the most agreed variable answer for that participation category. * represents statistical significance of at least $p < 0.05$. Only significant Mann-Whitney U paired comparisons are listed. Due to there being three pairs of response rates to compare, the statistical significance for the Mann-Whitney U test was set at $p < 0.017$.

Chapter 5: Are they ‘worth their weight in gold’? Sport for older adults: benefits and barriers of their participation for sporting organisations

This qualitative study consulted with representatives from two National Sporting Organisations, Tennis Australia and Cricket Australia, older adults who were members of a tennis or cricket club, and older adults who were not members of a sport club. It sought to understand the organisational benefits of and barriers to engaging older adults in sport. Existing research has primarily focused on the benefits of and barriers to sport participation from the perspective of older adults. However, it is also important to consider the organisational perspective. Chapter 4 requested sporting organisations to state their level of agreement for a range of organisational benefits and barriers. The research within Chapter 5 enabled the representatives from the two participating National Sporting Organisations to discuss more broadly, the benefits and barriers they consider paramount for their respective organisations. Furthermore, this research asked older adults their perception of what benefits and barriers organisations may encounter when engaging with their age group. This perspective can provide context and enable a more comprehensive understanding of the organisational benefits of, and barriers to, engaging older adults, than information from sporting organisations only.

This chapter presents research question 2: What are the benefits of, and barriers to, trying to engage older adults for sporting organisations?

The following paper: *Are they ‘worth their weight in gold’? Sport for older adults: benefits and barriers of their participation for sporting organisations* by C.R. Jenkin, R.M. Eime, H.

Westerbeek, G. O’Sullivan & J.G.Z. van Uffelen was published in the *International Journal of Sport Policy and Politics*. (2016). 8(4), 663-680.

GRADUATE RESEARCH CENTRE

DECLARATION OF CO-AUTHORSHIP AND CO-CONTRIBUTION: PAPERS INCORPORATED IN THESIS BY PUBLICATION

This declaration is to be completed for each conjointly authored publication and placed at the beginning of the thesis chapter in which the publication appears.

1. PUBLICATION DETAILS (to be completed by the candidate)

Title of Paper/Journal/Book:	Are they 'worth their weight in gold'? Sport for older adults: benefits and barriers of their participation for sporting organisations		
Surname:	Jenkin	First name:	Claire
College:	College of Sport and Exercise Science	Candidate's Contribution (%):	75
Status:		Date:	
Accepted and in press:	<input type="checkbox"/>	Date:	
Published:	<input checked="" type="checkbox"/>	Date:	Nov. 2016

2. CANDIDATE DECLARATION

I declare that the publication above meets the requirements to be included in the thesis as outlined in the HDR Policy and related Procedures – policy.vu.edu.au.

	23.10.17
Signature	Date

3. CO-AUTHOR(S) DECLARATION

In the case of the above publication, the following authors contributed to the work as follows:

The undersigned certify that:

1. They meet criteria for authorship in that they have participated in the conception, execution or interpretation of at least that part of the publication in their field of expertise;
2. They take public responsibility for their part of the publication, except for the responsible author who accepts overall responsibility for the publication;
3. There are no other authors of the publication according to these criteria;
4. Potential conflicts of interest have been disclosed to a) granting bodies, b) the editor or publisher of journals or other publications, and c) the head of the responsible academic unit; and

5. The original data will be held for at least five years from the date indicated below and is stored at the following location(s):

December 2014. Electronically stored on VU R drive and hard copies of data are stored in a locked filing cabinet in office L125 on VU Footscray Park campus.

Name(s) of Co-Author(s)	Contribution (%)	Nature of Contribution	Signature	Date
Rochelle Eime	5	Study design and manuscript preparation		19/10/17
Hans Westerbeek	5	Study design and manuscript preparation		25/10/17
Grant O'Sullivan	5	Manuscript preparation		25/10/17
Jannique van Uffelen	10	Study design, data collection, data analysis and manuscript preparation		25/10/17

Jenkin, C., Eime, R., Westerbeek, H., O'Sullivan, G., van Uffelen, J. (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 and Politics*, 8(4). 663 - 680.

The full-text of this article is subject to copyright restrictions, and cannot be included in the online version of the thesis. It is available at <https://doi.org/10.1080/19406940.2016.1220410>

Chapter 6: Sport for Adults aged 50+ Years: Participation Benefits and Barriers

Using the same participants as Chapter 5, this study sought the opinions of two National Sporting Organisations, older adults who were members of tennis or cricket clubs and older adults who were not members of a sport club, on the benefits of, and barriers to, participation for older adults.

Previous research for older adults in sport has largely focused on older adult active participants in elite, Masters competitions, such as the Senior Games (Dionigi, 2006; Dionigi, 2002; Pike, 2012) or in studies on community sport, have investigated specific sports, such as softball (Naar et al., 2017), bowls (Heuser, 2005) or golf (Siegenthaler & O'Dell, 2003) that are often popular sports for this age group. Chapter 6 aims to supplement this research by engaging with both administrators and older adult active and non-active participants. Furthermore, this study addressed two different sports, one that had a relatively high participation rate (tennis) and also one that had a relatively low participation rate for older adults (cricket). This can enhance the current research by not only considering the organisational perspective on the benefits and barriers of older adults participating in sport, but also the older adult opinions from a wider community sport context.

Therefore this chapter presents:

Research question 3: What are the benefits of and barriers to community sport participation for older adults?

The following paper: *Sport for Adults Aged 50+ Years: Participation Benefits and Barriers* by C. R. Jenkin, R. M. Eime, H. Westerbeek, & J. G. Z. van Uffelen, is in press in the *Journal of Aging and Physical Activity*. (2017) (in press).

GRADUATE RESEARCH CENTRE

DECLARATION OF CO-AUTHORSHIP AND CO-CONTRIBUTION: PAPERS INCORPORATED IN THESIS BY PUBLICATION

This declaration is to be completed for each conjointly authored publication and placed at the beginning of the thesis chapter in which the publication appears.

1. PUBLICATION DETAILS (to be completed by the candidate)

Title of Paper/Journal/Book:

Surname: First name:

College: Candidate's Contribution (%):

Status:
 Accepted and in press: Date:
 Published: Date:

2. CANDIDATE DECLARATION

I declare that the publication above meets the requirements to be included in the thesis as outlined in the HDR Policy and related Procedures – policy.vu.edu.au.

Signature Date

3. CO-AUTHOR(S) DECLARATION

In the case of the above publication, the following authors contributed to the work as follows:

The undersigned certify that:

1. They meet criteria for authorship in that they have participated in the conception, execution or interpretation of at least that part of the publication in their field of expertise;
2. They take public responsibility for their part of the publication, except for the responsible author who accepts overall responsibility for the publication;
3. There are no other authors of the publication according to these criteria;
4. Potential conflicts of interest have been disclosed to a) granting bodies, b) the editor or publisher of journals or other publications, and c) the head of the responsible academic unit; and

5. The original data will be held for at least five years from the date indicated below and is stored at the following location(s):

December 2014. Electronically stored on VU R drive and hard copies of data are stored in a locked filing cabinet in office L125 on VU Footscray Park campus.

Name(s) of Co-Author(s)	Contribution (%)	Nature of Contribution	Signature	Date
Rochelle Eime	10	Study design and manuscript preparation	[Redacted Signature]	19/10/17
Hans Westerbeek	5	Study design and manuscript preparation	[Redacted Signature]	25/10/17
Jannique van Uffelen	10	Study design, data collection, data analysis and manuscript preparation	[Redacted Signature]	25/10/17

Note: This article will be published in a forthcoming issue of the *Journal of Aging and Physical Activity*. This article appears here in its accepted, peer-reviewed form; it has not been copy edited, proofed, or formatted by the publisher.

Section: Original Research

Article Title: Sport for Adults Aged 50+ Years: Participation Benefits and Barriers

Authors: Claire R. Jenkin^a, Rochelle M. Eime^{ab}, Hans Westerbeek^a and Jannique GZ van Uffelen^{ac}

Affiliations: ^a Institute of Sport, Exercise and Active Living (ISEAL), Victoria University, Melbourne, Victoria, Australia. ^b Faculty of Health, Federation University, Ballarat, Victoria, Australia. ^c KU Leuven - University of Leuven, Department of Movement Sciences, Physical Activity, Sports and Health Research Group, Leuven, Belgium.

Running Head: Sport for older adults

Journal: *Journal of Aging and Physical Activity*

Acceptance Date: August 25, 2017

©2017 Human Kinetics, Inc.

DOI: <https://doi.org/10.1123/japa.2017-0092>

Sport for Adults Aged 50+ Years: Participation Benefits and Barriers

Claire R. Jenkin^a, Rochelle M. Eime^{ab}, Hans Westerbeek^a and Jannique GZ van Uffelen^{ac}

^a Institute of Sport, Exercise and Active Living (ISEAL), Victoria University, Melbourne, Victoria, 8001, Australia

^b Faculty of Health, Federation University, PO Box 663, Ballarat, 3353, Victoria, Australia

^c KU Leuven - University of Leuven, Department of Kinesiology, Physical Activity, Sports and Health Research Group, B-3000 Leuven, Belgium

* corresponding author

Address for correspondence:

Claire Jenkin

Address: Victoria University, Institute of Sport, Exercise and Active Living, PO Box 14428, Melbourne, Victoria, 8001, Australia

E-mail: claire.jenkin@vu.edu.au

Telephone: +61 3 9919 5795

Abstract

Despite the health benefits of sport, the proportion of people participating in sport decreases with age. This qualitative study explored the benefits and barriers regarding older adult community sport participation, from the perspective of National Sporting Organizations, in addition to older adult sport club and non-sport club members, across eight focus group interviews (n=49). Seven benefits were discussed, primarily social and physical health and intergenerational opportunities. Ten barriers were also discussed, including physical health, time constraints and lack of appropriate playing opportunities.

Ensuring access to activities that can benefit social health is of great importance to older adults. As sport can provide participation opportunities across generations, it can be an ideal physical activity option for this age group. However, a major barrier is that sport policy often prioritizes participation for younger age groups. Policymakers should include a focus on older adults, in order to derive social health benefits.

Keywords: Sport participation, socio-ecological model, social health, active aging, qualitative study

Word Count 6117

Figures 2

Introduction

Worldwide populations are aging (World Health Organization, 2015), and aging often correlates with a decline in health. Being physically active is important for good health. Therefore it is prudent to support older adults (referring to people aged 50 years and older) to continue being physically active. In order to develop effective physical activity strategies, the barriers to, as well as the benefits of, physical activity participation for older adults need to be better understood. The majority of the research investigating the benefits of, and the barriers to, physical activity participation for older adults has been based upon general recreational forms of leisure-time physical activity. These studies have largely reported on broad health outcomes, such as improved self-esteem and mood (Dergance et al., 2003), physical health (Buman et al., 2010; Juarbe, Turok & Pérez-Stable, 2002) and cognition (Lautenschlager et al., 2008) as a benefit of physical activity. While poor health (Dergance et al., 2003; Mathews et al., 2010; Moschny, Platen, Klaaßen-Mielke, Trampisch & Hinrichs, 2011; Rasinaho, Hirvensalo, Leinonen, Lintunen & Rantanen, 2007), lack of company (Moschny et al., 2011), time (Bopp et al., 2007; Chao, Foy & Farmer, 2000; Juarbe et al., 2002) and the physical environment, such as safety and accessibility (Mathews et al., 2010; Rasinaho et al., 2007), have been reported as barriers to leisure-time physical activity.

People can be physically active through many different ways in their leisure-time. There has been research on the participation of older adults in recreation based leisure-time physical activity, however there is only limited research that specifically relates to their participation in sport. Although sport, as a form of leisure-time physical activity, is most recognized as an activity for children and youth, it can also be beneficial for older adults. The benefits and barriers of general community sport club participation for children (Casey, Eime, Payne & Harvey, 2009; Eime, Young, Harvey, Charity & Payne, 2013; Holt, Kingsley, Tink & Scherer, 2011) and adults (Eime, Young, Harvey, Charity & Payne, 2013; Marlier et al., 2015) has been

extensively researched. For older adults, there has only been some research on the benefits and barriers of sport participation. Conversely this research knowledge has been mostly limited to studies of high level competitive Masters sport (Dionigi, 2006; Dionigi, 2002; Pike, 2012) or in specific sports at community level (Heuser, 2005; Litchfield & Dionigi, 2011; Siegenthaler & O'Dell, 2003), rather than more general population based studies of community club sport participation.

Sport participation declines considerably with age, with a recent Australian survey reporting that fewer than 10% of sport club participants were older adults (Eime et al., 2016). Thus more knowledge on older adult community sport participation is needed. Previous studies with older adults have mainly focused on intrapersonal and interpersonal benefits, including physical health (Dionigi, 2006; Henderson, 2012; Heo, Culp, Yamada, & Won, 2013; Kim, Yamada, Heo & Han, 2014; Siegenthaler & O'Dell, 2003), decreasing social isolation (Leipert et al., 2011) and increasing social support (Henderson, 2012; Heo et al., 2013; Kim et al., 2014; Leipert et al., 2011; Lyons & Dionigi, 2007), reinforcing social identity (Heo et al., 2013; Lyons & Dionigi, 2007), and improving mental or psychological health (Dionigi, 2006; Heo et al., 2013; Kim et al., 2014; Leipert et al., 2011). Barriers to sport participation in older adults include physical health as a limitation (Chaudhury & Shelton, 2010; Green et al., 2009; Heo et al., 2013).

However this existing research was predominantly from the perspective of older adults and not from sporting organizations. This is a gap in the literature, as knowledge from both older adults (consumers) as well as sporting organizations (providers of sport) is essential to understand different influences on sport participation for this population group. Thus this study will incorporate the perspectives of both types of stakeholders to enable a more holistic understanding of this research area.

The research focus of the older adult perspective in sport and ageing has also resulted in limited investigation of the organizational and policy influences on the intrapersonal and interpersonal determinants of participation. Recent research on sport participation trends has highlighted that sport policy is likely to influence participation, with one study highlighting the impact of sport policy on young children and adolescent participation (Eime et al., 2016). Therefore the influence of sport policy is worth exploring for other population groups, such as older adults.

The socio-ecological model can provide a framework to explore how these different factors can influence older adult sport participation. The model outlines that behaviors are influenced by a range of intrapersonal, interpersonal, organizational and policy factors (Sallis, Owen & Fisher, 2008). The model has been used previously within the sport participation field, for example, with adolescents (Eime et al., 2013; Toftegaard-Støckel, Nielsen, Ibsen & Andersen, 2011) and the relationship between sport participation and aging (Jenkin, Eime, Westerbeek, O'Sullivan & van Uffelen, 2016).

Therefore, the aim of this study is to investigate the benefits of, and barriers to community sport club participation for older adults, from the perspective of older adults and National Sporting Organizations. We use the socio-ecological model as the conceptual model to the study.

Methods

A constructivist approach to this research was utilised, which suggests that knowledge is constructed through lived personal experiences (Cresswell & Plano Clark, 2011). As this was exploratory research to understand the benefits of and barriers to older adult sport participation, this approach was deemed most appropriate. We chose to address this research question using qualitative methodology, and more specifically, focus group interviews, as they enable an in

depth understanding of participants' beliefs and feelings on a topic (Morgan, 1997). Due to limited research on the role of sport policy and the perspectives of sporting organizations on older adult sport participation, focus group interviews provided an appropriate forum to gain in depth knowledge for this research area from different homogeneous groups. Data were collected through eight focus group interviews, with 49 participants in total. Overall the study included older adults who were sport club members and older adults who were not sport club members, in addition to key informants from National Sporting Organizations (NSOs).

To gain a broader understanding of the benefits of and barriers to sport participation for older adults, participants from two sports that differed in terms of participation rates for older adults were involved in this study. Participation data from the Australian national Exercise, Recreation and Sport Survey (ERASS) 2010 data (Australian Sports Commission, 2010) were used to identify ten sports with the highest and the ten sports with the lowest levels of participation for older adults for both genders. These sports were also considered concerning their appropriateness for older adults to participate in. The research team's existing relations with NSOs to maximise the access to relevant respondents was also taken into account. From the various sports, tennis was chosen from the ten most frequently played sports and cricket from the ten least frequently played sports.

For this study, sport has been defined as "a human activity capable of achieving a result requiring physical exertion and/or physical skill which, by its nature and organization, is competitive and is generally accepted as being a sport" (Australian Sports Commission, 2009). To gain a breadth of information, two interviews were conducted with employees of NSOs (Tennis Australia and Cricket Australia); four with older adult sport club members (one male and female interview from each sport); and two with older adult non-sport club members (one female and one male interview).

The Australian Sports Commission (ASC) provided suitable contacts for the two NSOs, who then enlisted appropriate colleagues (employees with an interest in community sport participation) for the NSO interviews. These NSO contacts also suggested community sport clubs for the researchers to contact for the sport club member interviews. Committee members at additional sport clubs were also contacted by the research team. Sport club members who were aged 50 years and older, who were actively participating in the sport and/or involved in the coaching or administration of the club, were eligible for participation. Non-sport club members were recruited through public advertisements or community groups. Adults aged 50 years and older and who were not members of a sport club were eligible to participate in these interviews.

The focus group interviews were run as semi-structured interviews, which used the socio-ecological model as a framework for the interview schedule. Interview questions were developed by the research team, with input from the Australian Sports Commission. Examples of interview questions were: *Can you tell us about sport participation in this age group within your organization?* and *What do you think are positive and negative aspects of sport participation for people your age?*. Each participant received an information sheet, an informed consent form and a demographic questionnaire to complete before the interview. Interviews were undertaken at university, sport clubs and NSO office settings. Each interview included two academic researchers, one who led the conversation and the other who observed the group dynamics and produced written notes. Discussions relating to the benefits and barriers of sport participation for older adults lasted for 20-30 minutes in each focus group interview. The interviews were recorded using voice recorders and transcribed by a professional transcription company. Ethics approval was obtained from the Victoria University Human Ethics Committee.

The two researchers held a debriefing meeting immediately after each focus group interview, which led to the initial coding of the data. The transcriptions were then studied by

the lead author/focus group interview researcher for accuracy, which enabled initial immersion in the data. The data were analysed using an abductive approach, which enables the researcher to use a theoretical perspective to ground participants' viewpoints (Bryman, 2012). Content and thematic analyses using the NVIVO 10 software program were used to code the transcriptions by the lead author. Responses on similar topics were grouped together in NVIVO, and then the themes that arose from this analysis were categorised within the socio-ecological model domains (intrapersonal; interpersonal; organizational) (Sallis et al., 2008) to determine the key concepts for each research question. The wider research team discussed the development of the themes and sub-themes throughout the coding process as a form of peer debriefing, to provide analytical rigor (Lincoln & Guba, 1985). While data from each focus group interview were analysed individually, common themes emerged across the interviews. In this article, the most prominent themes are presented under each of the socio-ecological model domain headings, and themes that influenced other themes are discussed at the end of the results section. The results of the study are representative of the study participants. As such, the opinions and quotes presented may not be reflective of all older adults or all NSOs (Anderson, 2010).

Results

The eight focus group interviews comprised of 49 participants. The group size ranged from four to nine participants, with an average of six per group. Participants in the National Sporting Organization (NSO) focus group interviews had a mean age of 41 years (range of 23-67 years) and were mainly male (85%). Their positions within their respective organizations ranged from Community Sport Officers to Senior Development Managers. The mean age of participants in the tennis and cricket sport club member focus group interviews was 62 years (range of 50-85 years), with an equal number of male and female participants. Furthermore,

the mean age of participants in the non-sport club member interviews was 57 years (range of 51-65 years), with an even gender spread of male and female participants.

Benefits of Sport Participation for Older Adults

Across all focus group interviews, there were seven major themes that emerged as benefits that older adults could derive from participating in community club sport. Three were intrapersonal themes (social, physical and mental health), two were interpersonal themes (intergenerational opportunities and role modelling) and two were organizational themes (personal safety and flexibility of playing options). The most prominent themes were social health, physical health and intergenerational opportunities.

Intrapersonal Benefits.

The most prominent benefits of participation in sport for older adults, discussed by participants in all focus group interviews, were social health and physical health, followed by mental health which was discussed by participants in three interviews.

All interview groups felt that playing community sport could positively influence older adults' social health, for example reducing loneliness or engaging with friends. They stated that participation in sport through local community clubs was an important social element in their lives: *"It's the social aspect that keeps me going"* (53 year old male cricket club member). Participants felt that sport clubs also had a positive family-like atmosphere: *"I think the club sort of becomes your extended family"* (51 year old male cricket club member) and *"After tennis sometimes on a Saturday, we'd got around here and had a few drinks together. It's not only us, there are other people who play as well and a family-type atmosphere"* (69 year old male tennis club member).

Participants also expressed that sport clubs can provide opportunities for social interaction: *"In the world of cricket...you always have a friend"* (69 year old female cricket

club member) and *“We come together for the socialisation, don’t we?”* (70 year old female tennis club member). Furthermore, it was suggested that sport could reduce social isolation: *“If you join a [sport] club...you lose your loneliness, because you’ve met thirty, forty, fifty, a hundred different people. It might take a little bit of time, but I think a lot of people might want to join clubs for that reason rather than just physicality or getting fitter”* (53 year old male non-sport club member).

In addition to the role that participation in sport can play for social interaction and health, all of the groups also discussed the role that sport can play to improve health in general, particularly physical health: *“It’s helped my health. I mean I don’t know where I’d be if I wasn’t playing tennis”* (69 year old male tennis club member). It was also felt that sport could provide an avenue to minimise the effects of aging: *“At my age, at least it is a way of keeping everything moving. I’m 81, you see. I’m the oldest member, playing member, in the club. If I didn’t have tennis, I don’t know, I could be sitting in a wheelchair by now”* (81 year old male tennis club member).

Numerous participants stated that they enjoyed the training aspect of sport, getting or keeping fit or even the role sport played in injury rehabilitation: *“I love training too. We train twice a week and that is so much fun. You have to be reasonably fit as well. Really enjoy that”* (51 year old female cricket club member) and *“For me, it was getting on the tennis court, doing exercise in a way that I really enjoy and then the socialisation with people”* (64 year old female tennis club member) and *“So the [benefits can be an] opportunity to rehabilitate yourself in the sport if you’re getting over an injury”* (64 year old female tennis club member).

Further to the social and physical health aspects, some participants specifically mentioned the role that sport can play in assisting older adults’ mental health, as it can enable players to relax: *“You’re among people. You’re not talking about work stuff. Yes, the brain’s*

switching off. You go home at the end of the day and you just feel relaxed before your real job starts again” (53 year old male cricket club member) and can help older adults feel good about themselves as they age.

Interpersonal Benefits.

Sport can provide a unique leisure-time physical activity that older adults can play with other generations in their families. All interview groups discussed the benefit of having intergenerational opportunities to play or be involved in sport together as a family. Furthermore, some groups discussed role modelling.

Providing intergenerational opportunities to play sport with other members/generations of their family was another contributor to positive social health, and was described as a prominent and unique benefit of participation in sport for older adults. It was felt that both tennis and cricket were sports that could be played across the lifespan: *“From six to 86 you can play and everyone’s involved... [there are] very few sports where that is the case”* (62 year old male tennis club member). Therefore older adults could play these particular sports in the same club setting as their children or grandchildren, which could provide an opportunity for family bonding: *“There’s nothing better than playing with your kids”* (62 year old male tennis club member).

A few participants stated that older adults can provide guidance to younger players and be a role model to less experienced players: *“You feel pretty good about yourself if you’re involved in a [sport] club and you can see some kids who are a little bit wayward or what have you, if you can advise them or be a bit of a role model or something”* (53 year old male non-sport club member).

Organizational Benefits.

Given that the aim of this study was to discuss the benefits of and barriers to sport participation for older adults, not surprisingly few organizational benefits were discussed. The benefits discussed related to personal safety and flexibility of playing options.

One female non-sport club participant felt playing sport, in a club, could provide increased safety. For example, when kayaking, participants may feel safer exploring new areas as part of a group rather than individually. While the female tennis club members said that being a member of a sport club provided flexible playing options, with opportunities to play informal, social sport and/or structured competitions.

Barriers to Older Adult Sport Participation

There were ten themes that emerged for the barriers older adults may encounter to participate in sport. These aligned with the intrapersonal (physical health and lack of sport skills), interpersonal (time constraints, societal factors and perceived concerns) and organizational (lack of appropriate playing opportunities, cost, lack of knowledge, inappropriate facilities and location) domains of the socio-ecological model. The most prominent themes discussed were lack of appropriate playing opportunities and time constraints.

Intrapersonal Barriers.

Physical health as a limitation of participating in sport for older adults was discussed across the majority of the focus group interviews.

It was suggested that playing sport can increase the risk of injury and that it is harder to recover from injuries as people age: "*It's easier to break bones when you're over 50*" (51 year old male non-sport club member). It was also suggested that former club members had left these sports due to their physical health limitations.

Interpersonal Barriers.

Time constraints for older adults to participate in sport was a prominent theme mentioned by all groups, with societal factors and perceived concerns discussed by two different groups.

It was felt that older adults were often responsible for caring for their children, grandchildren or elderly parents, so may not have the time to participate in sport: *“I’ve found that before I had my three children, I was actively involved with sport; then I had my three kids and full-time work... I found that I couldn’t manage it”* (60 year old female non-sport club member). It was also suggested that life schedules, particularly employment structure, had changed. Therefore traditional sport formats, such as Saturday competitions, were becoming less popular or difficult to fit into people’s lives.

Societal factors, specifically perceived societal expectations, were mentioned by the female tennis club member group and one NSO as a specific barrier for older adults. For example it was mentioned that members of the public sometimes expressed surprise that these older adults were still playing sport: *“I’ll say I’m going to play tennis. ‘Oh you still play tennis?’ Like hell, once you get over fifty, you shouldn’t be playing”* (70 year old female tennis club member). Several groups also felt that it could be quite daunting for a new player to walk into an unfamiliar club environment, which may deter some older adults from playing community sport.

One NSO and the female non-sport club member groups stated that older adults may have perceived concerns about participating in sport. It was felt that most beginner programs were aimed at younger people, thus older adults may feel sport is not appropriate for them.

Organizational Barriers.

A general lack of appropriate playing opportunities were discussed by all groups as a barrier to older adults playing sport. Cost and lack of knowledge were also discussed by three groups and inappropriate facilities and location were briefly mentioned by two groups and one group respectively.

It was a common thought that there was a general lack of senior aged club teams or competitions across sports, limited facilities and that not all sport clubs made older adults feel welcome. These barriers were often compounded by the (limited) proximity of opportunities to play sport: *“When I looked at the activities for retired people in my country town, there wasn’t any. The tennis club’s gone. There weren’t enough people to keep it going, so very few people used those tennis courts anymore”* (60 year old female non-sport club participant) and *“there’s probably much more clubs all around that area...They talk to each other quite frequently and they organise these competitions between clubs, whereas out here we have to battle to get a team together”* (69 year old male tennis club member). Therefore participants reported a lack of peers to play sport with or against *“I reckon it’s very hard to get other people playing tennis. We’ve found it very hard, haven’t we, to try and fill in blokes with us?”* (69 year old male tennis club member).

The cost of playing sport was commonly mentioned as a barrier to participation for older adults. It was perceived that sporting equipment in some sports can be expensive, which may deter some older adults from participating. Cost of membership, particularly having a joining fee or replacing a joining fee with an increased membership cost, was also debated in the sport club member groups without conclusive agreement, while introducing reduced older adult memberships was also discussed: *“You can actually set up a seniors membership, you can set up a part-time membership, you can set up a 5 dollar Wednesday afternoon membership if you want... long term I believe it will actually keep people in the sport, because instead of*

paying 150 bucks and you're playing 5 times a year and saying that's not value, you'll be out of there and go along and just pay maybe 20 dollars and play 5 times a year" (31 year old NSO participant).

A general lack of awareness among older adults about the available sport programs and events was also briefly discussed: *"We have a lot of programs, a lot of events, a lot of tournaments, a lot of social opportunities around the states in seniors' tennis that so many, many senior people are simply not aware of"* (67 year old NSO participant). Several club member groups discussed the issue of inappropriate facilities specifically for older adults. They felt that some playing surfaces may not be suitable for older adults to play on, as they can cause more injury. They believed this may deter some older adults from playing these sports.

The female non-sport club members felt that location of sporting opportunities was important, as older adults may not want to travel long distances to play sport.

Linked Themes of the Socio-Ecological Model

In line with four domains of the socio-ecological model, a number of key themes influenced behavior across or within the domains. Figures 1 and 2 show the links between the major themes within the socio-ecological model.

Benefits of Sport Participation for Older Adults.

Figure 1 shows that participation in sport for older adults can be intertwined between social health benefits of participation, playing and having fun, mental health, and the social nature of being involved with clubs and their family through intergenerational participation.

The physical health benefits of playing sport were linked to flexible playing options, as older adults can engage in sport at different levels of intensity, depending on their physical abilities.

Barriers of Sport Participation for Older Adults.

Five of the barriers that were noted related to a lack of appropriate playing opportunities. This included a range of factors such as a lack of knowledge of playing opportunities available, a lack of locations available for older adults to participate in sport or perceived low skill levels. Additionally, limited opportunities meant it may be more time consuming to find a club or travel to play sport. Lack of appropriate playing opportunities can also be linked to societal factors, as there is sometimes a perception that sport is not for older adults, resulting in fewer opportunities to play.

Discussion

This study adds to the body of knowledge regarding the benefits of, and barriers to, participation in community sport for adults aged 50 years and older. This study triangulated the perspectives of people representing National Sporting Organizations (NSOs), older sport club members and older non-sport club members. A number of common key interpersonal, intrapersonal and organizational benefits and barriers were discussed. Furthermore, 13 themes that linked between the different domains of the socio-ecological model emerged.

Benefits of Older Adult Sport Participation

This study reported that the most prominent benefits that older adults could derive from participating in sport were social health, physical health and intergenerational opportunities. Social health, for example providing a sense of belonging and socialising through sport, was identified as a key benefit of older adult sport participation. Previous research has highlighted the value of sport for social health in community sport above and beyond other types of physical activity for other demographic groups, such as children (Eime et al., 2013; Howie, Lukacs, Pastor, Reuben & Mendola, 2010), adults (Lechner, 2009) or Cultural and Linguistically Diverse (CALD) communities (Sawrikar & Muir, 2010). Where there has been previous

research within sport and aging, this has been for competitive Masters sport participation (Dionigi, 2006; Henderson, 2012) or in specific sports, such as curling (Leipert et al., 2011), golf (Siegenthaler & O'Dell, 2003) or bowls (Heuser, 2005). This current study has shown that sport can provide social health benefits for older adults in a wider community sport context. Social health is especially important for this age group, due to an increased risk of social isolation as people age (Grenade & Boldy, 2008).

Another aspect of physical health was the 'appropriateness' of playing sport for older adults' physical health, in that it was felt that in general, playing sport was not perceived to be socially appropriate for older adults. This societal perception that sport is an activity for children and youth and not an appropriate activity for older adults, is a common expressed barrier. However, the sports in this study (tennis and cricket) were perceived to be more appropriate than some other sports, due to the non-contact nature and that they generally required less physical exertion than some other sports. This supports previous research which stated that less than a third of non-contact sports felt there was a lack of demand for their respective sports from older adults, in comparison to two thirds of contact sports (van Uffelen, Jenkin, Westerbeek, Biddle & Eime, 2015). Therefore, contact sports, often deemed to be inappropriate for older adult participation, could be specifically modified for older adults, for example, developing a non-contact version of the sport and/or requiring lower physical exertion (van Uffelen et al., 2015). This could enable more older adults to play a greater variety of sport to derive the potential health benefits of participation, which could be beneficial for both the individual and society in general.

In addition to the health benefits described in this study, intergenerational opportunities was another key theme. This research suggests that sport can provide an opportunity for intergenerational bonding for families, as older adults can benefit as a player, and also a spectator and volunteer. As children have the highest levels of sport participation compared to

other age groups (Eime, Harvey, Charity & Casey, 2014), the majority of active sport opportunities are generally focused on children and adolescents. However, our results suggest that sport clubs are ideal locations for families to connect socially and physically, and that children's participation can enhance connecting older generations with sport. This reflects one study's (Farrell & Shields, 2002) suggestion that having children may lead to higher adult participation in child-oriented sports, such as swimming, cycling or football. Additionally, previous studies have shown that leisure can provide positive family bonding opportunities (Orthner & Mancini, 1991) and satisfaction with family life (Agate, Zabriskie, Agate, & Poff, 2009), which in turn can provide health benefits. While bonding between parents and children through sport (Harrington, 2006) and physical activity (Bronikowski et al., 2016) has been explored, this has not been previously researched specifically for older adults.

Although all of the study participants identified the potential benefits of sport participation, some participants did not play sport themselves. A study by Eime et al (2016) suggest that less than 10% of older adults currently play sport and thus derive these potential benefits of participation. This low number could be attributed to numerous factors, but is likely to be influenced by all of the socio-ecological model behaviors as demonstrated in the subsequent barriers discussion.

Barriers of Older Adult Sport Participation

The most prominently mentioned barriers were a lack of appropriate playing opportunities, time constraints and physical health.

In this study, it was widely stated that there was a lack of appropriate opportunities to play community sport, either a lack of senior teams/competitions, inappropriate facilities or negligible opportunities in close proximity. The concept of lack of appropriate playing opportunities has been reflected in other low priority demographic groups, for example CALD

communities (Hanlon & Coleman, 2006) or for disabled people (Field & Oates, 2001), as they too are often not prioritized by organizational or policy domains. As sport policy prioritizes participation for children and youth, it is understandable that sporting organizations often do not prioritize other demographic groups. However, if participation in sport for older adults and other non-prioritized demographic groups is to increase substantially, then appropriate opportunities designed specifically for their needs must to be provided.

A lack of time to participate in sport was widely reported in this study and is a commonly reported barrier in all age groups (Hardy, Kelly, Chapman, King & Farrell, 2010; Ruseski, Humphreys, Hallmann & Breuer, 2011). It could be argued that this perceived lack of time is influenced by other factors, that is older adults may place a lower priority on playing sport than other leisure activities. Additionally, interpersonal influences, such as societal factors or the organizational domain of few appropriate playing opportunities, can also influence this perceived lack of time. Having few appropriate opportunities and also the uncertainty of the 'societal appropriateness' of playing sport at an older age in some sports, will influence older adults' perception, and personal thoughts, about their own sport participation. Furthermore, as sport clubs often prioritize children and youth playing opportunities, for example allocating them the most desired time and days, this can also contribute to perceived lack of time, resulting from restricted access to playing opportunities. Therefore, older adults may place lower priority on their own sport participation than on their children/grandchildren's participation.

The concept of adults prioritizing their children/grandchildren's participation has been previously investigated for family leisure trends. The 2000 Mintel study suggests that having children reduces the sport participation level of their parents (Mintel, 2000). While this report studies all adults, and not solely older adults, it can be suggested that this is also true for older adults. This trend is also likely to be influenced by current sport policy. Australian national

policy for community sport prioritizes children and adolescent participation (Jenkin et al., 2016), for example through the funding of the Sporting Schools program. Therefore most NSOs and State Sporting Organisations will understandably prioritize younger age groups. Consequently, this will affect societal expectations of who should play sport, resulting in older adults likely to both consciously and subconsciously prioritize their children/ grandchildren's participation, and also sport spectatorship, over their own active participation. However, it can be argued that a change in policy and organizational domains, such as appropriate playing opportunities, may contribute to longer term societal change.

Another related barrier was the change in life schedules, particularly employment. It was suggested that the largely inflexible and time consuming traditional structure of sport negatively impacted older adult sport participation. This concept of the lack of flexibility with traditional sport club scheduling correlates with the Australian Sports Commission Market Segmentation report (Australian Sports Commission, 2013). The report investigated sport participation for all age groups up to 65 years old, while this research study suggests inflexible scheduling can also affect adults over 65 years old. Therefore suggesting that appropriate playing opportunities through policy changes are required to help reduce this barrier.

Physical health was seen as a barrier to older adults' sport participation, which has been identified in previous sport and aging literature (Chaudhury & Shelton, 2010; Green et al., 2009; Heo et al., 2013). For this study, it was suggested that risk of injury was the most prominent physical health barrier. However previous research has suggested that there is inconclusive evidence to justify the risk of injury in sport or purposeful physical activity for older adults (Dunsky & Netz, 2012), therefore this may be a perceived barrier and as such warrants further research.

This study has shown a dual relationship between physical health and sport, in that participation was suggested as being beneficial to physical health, but also that poor physical

health can limit sport participation. This dichotomy was also reflected in a recent systematic review on sport and aging (Jenkin, Eime, Westerbeek, O'Sullivan & van Uffelen, 2017). As sport has been shown to provide physical and social health benefits, it can be an ideal environment to encourage healthy aging. The World Health Organization's Global Strategy and Action Plan on Aging and Health 2016-2020 (World Health Organization, 2016) argues that age friendly environments need to be developed to enable older adults to engage in a healthy lifestyle, which reflects the concept that organizational factors can affect sport behaviors, such as sport participation. However, the current sporting infrastructure is largely non-age friendly, as there is a lack of appropriate playing opportunities and often inappropriate playing facilities for older adults. Therefore if appropriate opportunities, that accommodated for the reduced physical capabilities that can affect some older adults, were created, then physical health as a barrier could be somewhat mitigated.

Strengths and Limitations

This study sought input from older adults who played and did not play sport, in addition to National Sporting Organizations, to ensure a comprehensive approach to the research questions. However, while qualitative methodology can enable this in depth exploration of participant responses, it does also result in limited scope to involve a wider breadth of sport clubs or National Sporting Organizations. Also, the focus group interviews were led by researchers under 50 years old, which may have impacted the responses by the older adult participants and subsequent analysis.

The primary outcome from this research was that all of the socio-ecological model domains can affect sport participation and that social health was an important benefit of participating in sport. However, lack of appropriate playing opportunities were the main barrier for older adults to derive the potential health and intergenerational benefits that sport

participation can provide. Therefore, future research opportunities could expand this to research where appropriate opportunities do exist and to explore if the same benefit and barrier concepts emerge. Furthermore, the development of additional appropriate participation opportunities is required. This will enable an understanding of whether these benefits, especially the health benefits, can be derived from the wider older adult population, and if these discussed barriers can be somewhat mitigated.

Conclusion

In conclusion, older adults can derive a variety of general health benefits, particularly social health, from playing community club-based sport. Social health is hugely important for older adults, especially for those who are retired and/or living alone. The social health benefits of participating in sport for older adults extend beyond connections with their age cohorts, to younger club participants, particularly their families. However, as national sport policy prioritizes participation for younger people, and does not specifically address older adults, there is currently a void in specific age-appropriate opportunities for older adults to participate in most sports. Secondly, but a connected point, is that society in general perceives sport as a leisure-time physical activity for young people, therefore many older adults do not see all sports as a viable physical activity option for them. It is recommended that sport policy includes a focus on older adults, and that sporting opportunities are then developed accordingly. Then the promotion of sport as a viable leisure-time physical activity option for older adults may assist in maintaining or improving the health of older adults, particularly their social health.

References

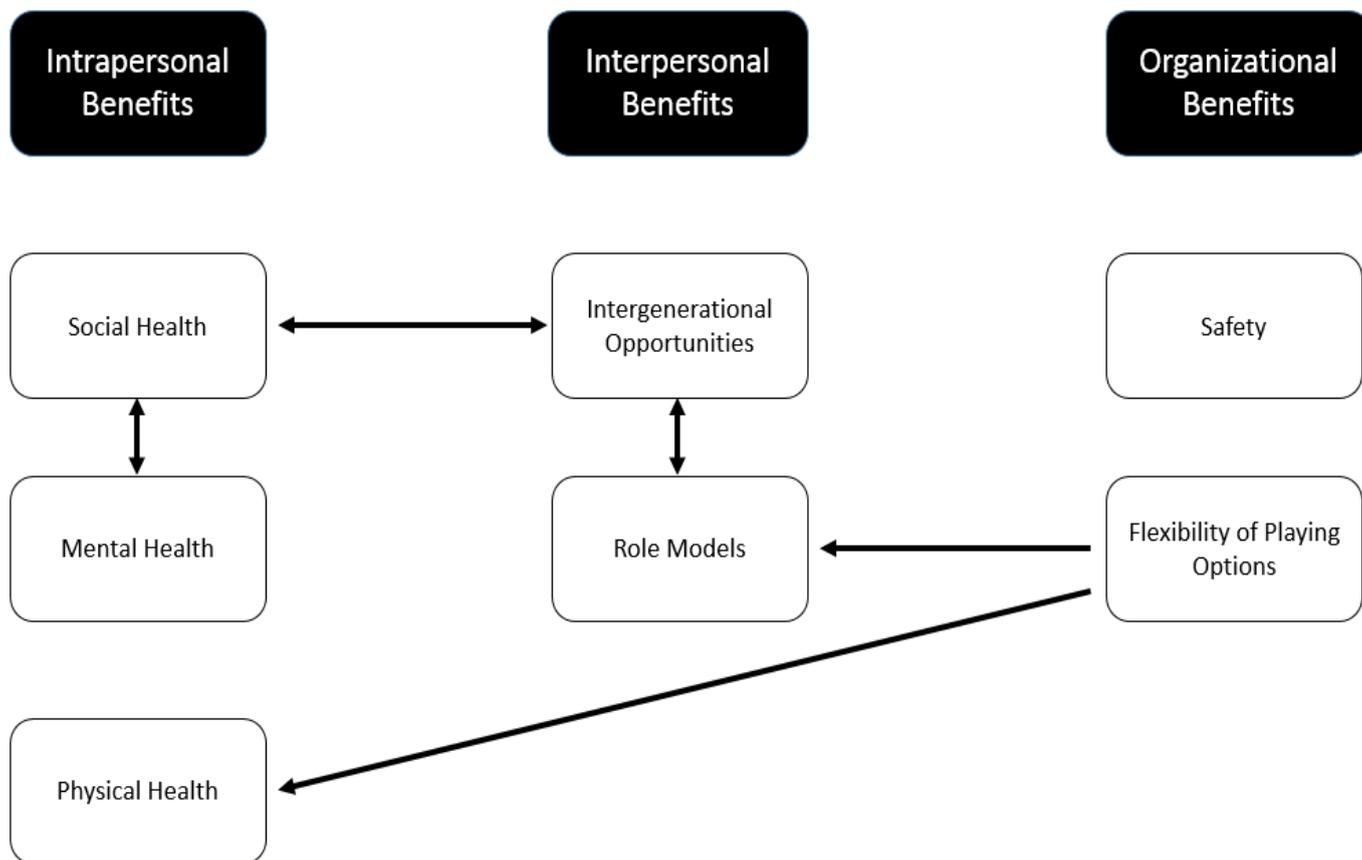
- Agate, J. R., Zabriskie, R. B., Agate, S. T., & Poff, R. (2009). Family leisure satisfaction and satisfaction with family life. *Journal of Leisure Research, 41*(2), 205.
- Anderson, C. (2010). Presenting and Evaluating Qualitative Research. *American Journal of Pharmaceutical Education, 74*(8), 141.
- Australian Sports Commission. (2009). *ASC recognition. What is defined as a sport?*. Retrieved from http://www.ausport.gov.au/supporting/nso/asc_recognition
- Australian Sports Commission. (2010). *Exercise, Recreation and Sport Survey*. Retrieved from <http://www.ausport.gov.au/information/casro/ERASS>
- Australian Sports Commission. (2013). *Adults & Children Market Segmentation for Sport Participation*. Retrieved from https://www.clearinghouseforsport.gov.au/research/smi/market_seg
- Bopp, M., Lattimore, D., Wilcox, S., Laken, M., McClorin, L., Swinton, R., & Bryant, D. (2007). Understanding physical activity participation in members of an African American church: a qualitative study. *Health Education Research, 22*(6), 815-826.
- Bronikowski, M., Bronikowska, M., Pluta, B., Maciaszek, J., Tomczak, M., & Glapa, A. (2016). Positive Impact on Physical Activity and Health Behavior Changes of a 15-Week Family Focused Intervention Program: "Juniors for Seniors". *BioMed Research International, 2016*.
- Bryman, A. (2012). *Social Research Methods* 4th Edition. Oxford University Press.
- Buman, M. P., Hekler, E. B., Haskell, W. L., Pruitt, L., Conway, T. L., Cain, K. L., & King, A. C. (2010). Objective light-intensity physical activity associations with rated health in older adults. *American Journal of Epidemiology, 172*(10), 1155-1165.
- 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.
- Chao, D., Foy, C. G., & Farmer, D. (2000). Exercise adherence among older adults: challenges and strategies. *Control Clinical Trials, 21*(5 Suppl), 212s-217s.
- Chaudhury, M., & Shelton, N. (2010). Physical activity among 60-69-year-olds in England: Knowledge, perception, behavior and risk factors. *Ageing & Society, 30*(8), 1343-1355.
- Creswell, J. W. & Plano Clark V. L. (2011). *Designing and Conducting Mixed Methods Research* 2nd edition. Sage: London.
- Dergance, J. M., Calmbach, W. L., Dhanda, R., Miles, T. P., Hazuda, H. P., & Mouton, C. P. (2003). Barriers to and benefits of leisure time physical activity in the elderly: differences across cultures. *Journal of the American Geriatrics Society, 51*(6), 863-868.
- Dionigi, R. (2006). Competitive sport as leisure in later life: Negotiations, discourse, and aging. *Leisure Sciences, 28*(2), 181-196.
- Dionigi, R. A. (2002). Resistance and empowerment through leisure: The meaning of competitive sport participation to older adults. *Society and Leisure, 25*(2), 303-328.
- Dunsky, A., & Netz, Y. (2012). Physical Activity and Sport in Advanced Age: Is it Risky? A Summary of Data from Articles Published Between 2000-2009. *Current Aging Science, 5*(1), 66-71.
- Eime, R., Harvey, J., Charity, M., & Casey, M. (2014). Sport participation in Victoria and the contribution of sport to physical activity levels. *Ballarat: Federation University, Victoria University*.

- Eime, R. M., Harvey, T., Charity, M. J., Casey, M. M., Westerbeek, H., & Payne, W. R. (2016). Age profiles of sport participants. *BMC Sports Science, Medicine and Rehabilitation*, 8(1), 6.
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for adults: informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition & Physical Activity*, 10(135), 14.
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity*, 10(1), 1.
- Farrell, L., & Shields, M. A. (2002). Investigating the economic and demographic determinants of sporting participation in England. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 165(2), 335-348.
- Field, S. J., & Oates, R. K. (2001). Sport and recreation activities and opportunities for children with spina bifida and cystic fibrosis. *Journal of Science and Medicine in Sport*, 4(1), 71-76.
- Green, S., Campbell, E., Barnett, L., Mitchell, R., Radvan, D., & Van Beurden, E. (2009). Promoting a team ball game (lifeball) to older people: Who does this game attract and who continues? *Health Promotion Journal of Australia*, 20(2), 120-126.
- Grenade, L., & Boldy, D. (2008). Social isolation and loneliness among older people: issues and future challenges in community and residential settings. *Australian Health Review*, 32(3), 468-478.
- Hanlon, C. M., & Coleman, D. J. (2006). Recruitment and retention of culturally diverse people by sport and active recreation clubs. *Managing Leisure*, 11(2), 77-95.
- Hardy, L. L., Kelly, B., Chapman, K., King, L., & Farrell, L. (2010). Parental perceptions of barriers to children's participation in organised sport in Australia. *Journal of Paediatrics and Child Health*, 46(4), 197-203.
- Harrington, M. (2006). Sport and leisure as contexts for fathering in Australian families. *Leisure Studies*, 25(2), 165-183.
- Henderson, K., Casper, J, Wilson BE, & Dern L. (2012). Behaviors, Reason, and Outcomes Perceived by Senior Games Participants. *Journal of Park and Recreation Administration*, 30(1), 19-35.
- 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), 105-113.
- Heuser, L. (2005). We're not too old to play sports: the career of women lawn bowlers. *Leisure Studies*, 24(1), 45-60.
- Holt, N. L., Kingsley, B. C., Tink, L. N., & Scherer, J. (2011). Benefits and challenges associated with sport participation by children and parents from low-income families. *Psychology of Sport and Exercise*, 12(5), 490-499.
- Howie, L. D., Lukacs, S. L., Pastor, P. N., Reuben, C. A., & Mendola, P. (2010). Participation in activities outside of school hours in relation to problem behavior and social skills in middle childhood. *Journal of School Health*, 80(3), 119-125.
- Jenkin, C.R., Eime, R.E., Westerbeek, H.M., 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 (in press)*.
- 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 organizations. *International Journal of Sport Policy and Politics*, 1-18.

- Juarbe, T., Turok, X. P., & Pérez-Stable, E. J. (2002). Perceived benefits and barriers to physical activity among older Latina women. *Western Journal of Nursing Research*, 24(8), 868-886.
- Kim, J., Yamada, N., Heo, J., & Han, A. (2014). Health benefits of serious involvement in leisure activities among older Korean adults. *International Journal of Qualitative Studies on Health and Well-being*, 9.
- Lautenschlager, N. T., Cox, K. L., Flicker, L., Foster, J. K., van Bockxmeer, F. M., Xiao, J., & Almeida, O. P. (2008). Effect of physical activity on cognitive function in older adults at risk for Alzheimer disease: a randomized trial. *Jama*, 300(9), 1027-1037.
- Lechner, M. (2009). Long-run labour market and health effects of individual sports activities. *Journal of Health Economics*, 28(4), 839-854.
- Leipert, B. D., Plunkett, R., Meagher-Stewart, D., Scruby, L., Mair, H., & Wamsley, K. B. (2011). "I Can't Imagine My Life Without It!" Curling and Health Promotion: A Photovoice Study. *Canadian Journal of Nursing Research*, 43(1), 60-78.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry* (Vol. 75): Sage.
- Litchfield, C., & Dionigi, R. A. (2011). The Meaning of Sports Participation in the Lives of Middle-aged and Older Women. *International Journal of Interdisciplinary Social Sciences*, 6(5).
- Lyons, K., & Dionigi, R. (2007). Transcending emotional community: A qualitative examination of older adults and masters' sports participation. *Leisure Sciences*, 29(4), 375-389.
- Marlier, M., Van Dyck, D., Cardon, G., De Bourdeaudhuij, I., Babiak, K., & Willem, A. (2015). Interrelation of Sport Participation, Physical Activity, Social Capital and Mental Health in Disadvantaged Communities: A SEM-Analysis. *PloS One*, 10(10), e0140196.
- Marquez, D. X., Bustamante, E. E., Blissmer, B. J., & Prohaska, T. R. (2009). Health promotion for successful aging. *American Journal of Lifestyle Medicine*, 3(1), 12-19.
- Mathews, A. E., Laditka, S. B., Laditka, J. N., Wilcox, S., Corwin, S. J., Liu, R., & Logsdon, R. G. (2010). Older adults' perceived physical activity enablers and barriers: a multicultural perspective. *Journal of Aging and Physical Activity*, 18(2), 119-140.
- Mintel. (2000). *Family Leisure Trends*. Retrieved from London.
- Morgan, D. L. (1997). *The focus group guidebook* (Vol. 1). Sage Publications
- Moschny, A., Platen, P., Klaatzen-Mielke, R., Trampisch, U., & Hinrichs, T. (2011). Barriers to physical activity in older adults in Germany: a cross-sectional study. *International Journal of Behavioral Nutrition and Physical Activity*, 8(1), 121.
- Orthner, D. K., & Mancini, J. A. (1991). Benefits of leisure for family bonding. *Benefits of Leisure*, 289-301.
- Pike, E. C. J. (2012). Aquatic antiques: Swimming off this mortal coil? *International Review for the Sociology of Sport*, 47(4), 492-510.
- Rasinaho, M., Hirvensalo, M., Leinonen, R., Lintunen, T., & Rantanen, T. (2007). Motives for and barriers to physical activity among older adults with mobility limitations. *Journal of Aging and Physical Activity*, 15(1), 90.
- Ruseski, J. E., Humphreys, B. R., Hallmann, K., & Breuer, C. (2011). Family structure, time constraints, and sport participation. *European Review of Aging and Physical Activity*, 8(2), 57.
- Sallis, J. F., Owen, N., & Fisher, E. B. (2008). Ecological models of health behavior. *Health behavior and health education: Theory, research, and practice*, 4, 465-486.
- Sawrikar, P., & Muir, K. (2010). The myth of a 'fair go': Barriers to sport and recreational participation among Indian and other ethnic minority women in Australia. *Sport Management Review*, 13(4), 355-367.
- Siegenthaler, K. L., & O'Dell, I. (2003). Older golfers: Serious leisure and successful aging. *World Leisure Journal*, 45(1), 45-52.

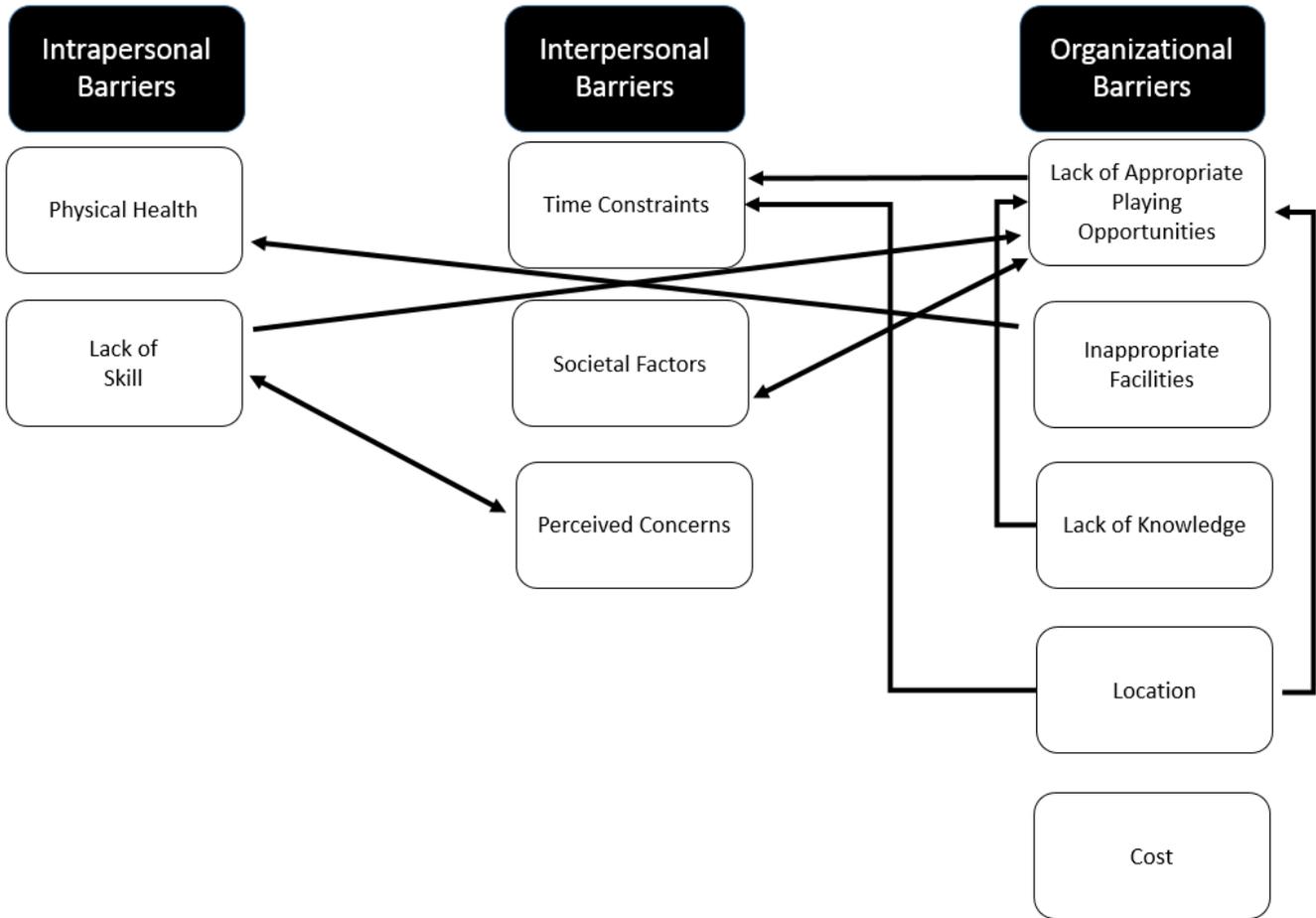
- Toftegaard-Støckel, J., Nielsen, G. A., Ibsen, B., & Andersen, L. B. (2011). Parental, socio and cultural factors associated with adolescents' sports participation in four Danish municipalities. *Scandinavian Journal of Medicine & Science in Sports*, 21(4), 606-611.
- van Uffelen, J. G. Z., Jenkin, C. R., Westerbeek, H. M., Biddle., S. J. H. , & Eime, R. M. (2015). *Active and Healthy Ageing through Sport. Report prepared for the Australian Sports Commission*. Retrieved from https://www.clearinghouseforsport.gov.au/data/assets/pdf_file/0010/650737/Active_and_healthy_ageing_through_sport_2015_Final.pdf
- World Health Organization. (2015). *World Report on Ageing and Health*. Retrieved from http://apps.who.int/iris/bitstream/10665/186468/1/WHO_FWC_ALC_15.01_eng.pdf?ua=1
- World Health Organization. (2016). *The Global Strategy and Action Plan on Ageing and Health*. Retrieved from <http://who.int/ageing/global-strategy/en/>
- Yeom, H. A., Fleury, J., & Keller, C. (2008). Risk factors for mobility limitation in community-dwelling older adults: a social ecological perspective. *Geriatric Nursing*, 29(2), 133-140

Figure 1: Linked Themes of the Socio-Ecological Model for Health: Benefits of Sport Participation for Older Adults



Note: Single direction arrow indicates one directional influence. A bi-directional arrow indicates a reciprocal influence on participation.

Figure 2: Linked Themes of the Socio-Ecological Model for Health: Barriers of Sport Participation for Older Adults



Note: Single direction arrow indicates one directional influence. A bi-directional arrow indicates a reciprocal influence on participation.

Chapter 7: Why older adults may drop out of sport and why they might re-engage in sport at an older age

This chapter contains standalone results that are not part of the journal articles included in this thesis. The data were collected as part of the focus group study which also contributed to Chapters 5 and 6. To learn more about drop out and re-engagement in sport amongst older adults, both representatives of NSOs and older adults were asked why older adults may drop out of sport at an older age. Discussions about drop out continued and broadened to also include discussion on reasons why older adults may re-engage with sport, thus this data is also included in this chapter. Therefore this chapter will explore research questions 4 and 5:

Research question 4: Why do older adults drop out of sport?

Research question 5. Why might older adults re-engage in sport at an older age?

Sport participation tends to decline with age (Eime et al., 2016a; Breuer & Wicker, 2009; Palacios-Ceña et al., 2012), consequently resulting in an increased sport drop out with age (De Knop, Engström, Skirstad, & Weiss, 1996; Monteiro et al., 2017). The majority of research within drop out of sport tends to focus on youth, particularly at adolescence, where there is the sharpest decline of participation (Eime et al. 2016a). This may be for a number of reasons. Children often play multiple sports (known as ‘sampling’), but during adolescence, tend to specialise and play one sport (Eime et al. 2016b; Coté, Horton, MacDonald, & Wilkes, 2009b; Strachan, Côté, & Deakin, 2009). However, research for this age group suggests that there are further reasons for drop out at this age. These were mainly intrapersonal or interpersonal, for example, lack of enjoyment (Calvo, Cervelló, Jiménez, Iglesias, & Murcia, 2010; Figueiredo,

Gonçalves, Coelho e Silva, & Malina, 2009; Guzmán & Kingston, 2012), perception of (in)competence (Boiché & Sarrazin, 2009; Cervelló, Escartí, & Guzmán, 2007; Mudrak, 2010) or social pressures (Mudrak 2010; Fraser-Thomas et al., 2008; Shakib, 2003). However, some studies did report structural constraints, such as inadequate facilities, as a reason for drop out (Armentrout & Kamphoff, 2011; Ferreira & Armstrong, 2002). There has been some research for this age group across a wider community sport context (Berger et al., 2008; Boiché & Sarrazin, 2009; DeBate, Pettee Gabriel, Zwald, Huberty, & Zhang, 2009), but most of the research on adolescence drop out of sport has been in specific sports, such as swimming (Fraser-Thomas, Côté, & Deakin, 2008; Salguero, Gonzalez-Boto, Tuero, & Marquez, 2003), handball (Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002), football (Delorme, Boiché, & Raspaud, 2010; Figueiredo et al., 2009); basketball (Delorme, Chalabaev, & Raspaud, 2011) and boxing (Trabal & Augustini, 1997).

There is no known research investigating drop out for older adults. Whilst some of this aforementioned research addresses other age groups, the upper age limit is 30 years old (Pelletier, Fortier, Vallerand, & Brière, 2001; Salguero et al., 2003). The research that does address these adults, do not provide age specific reasons for drop out (Salguero et al., 2003; Pelletier et al., 2001), resulting in a lack of knowledge whether adults report different reasons for drop out than adolescent participants. Therefore, to the researchers' knowledge, there is a dearth of literature on adult drop out of sport, and consequently, older adult drop out of sport, despite the fact that the reasons for drop out in adults and older adults are likely to be very different than reasons for drop out in children and adolescents, given the different life stage. Whilst some of the research into barriers that older adults may encounter when participating in sport may be similar to other age groups, there may be different reasons why this age group stop participating in sport.

If we want to prevent drop out and/or increase participation in sport, we need to be aware of the reasons for drop out and how to counter them, from both a sporting organisational and older adult perspective. Furthermore, by also understanding why and how older adults can potentially negotiate some of these constraints, will complement the other chapters and enable a greater understanding of what influences older adults to participate or not participate in sport. To aid this understanding, Leisure Constraints theory was utilised to explore what constraints contributed to potential drop out of sport, but also to understand the negotiation of these potential constraints. Leisure Constraints theory suggests there are three types of constraints that can prevent leisure participation: intrapersonal, such as personal motivation; interpersonal, for example lack of friends to play with; and structural, which can include cost and inappropriate facilities (Crawford & Godbey, 1987).

Why older adults may drop out of sport

The majority of the potential reasons why older adults may drop out of sport were agreed upon by participants across the eight focus groups, by participants in the two National Sporting Organisations, older adult sport club members and non-club members. However, there were some differences that emerged. There were 14 themes that emerged in total. The majority of the reasons given for drop out of sport in this study were categorised as structural constraints (n=11), with two results as interpersonal constraints and one as an intrapersonal constraint.

Structural constraints

Two of the most prominent structural constraints were **time constraints** and that there were **few age specific sporting opportunities** for older adults, whilst other structural constraints discussed included **physical health concerns, lack of social acceptance** and **non-inclusive marketing**.

A number of the participants felt they had **competing priorities of their time**, especially as they often prioritised their children's participation over their own participation: *"It was two nights a week for them [kids], then it was on the weekend with them with their sport...you don't have time to do your own stuff, when you're there two nights and half a day over the weekend. Family is more important"* (54 year old male non-sport club member). Some participants also reported that sport matches were sometimes too long and too structured, so participation in other activities was sometimes prioritised.

Another widely discussed concept was that there were **few age specific sporting opportunities** for older adults. This included opportunities for older adults new to a sport: *"There's a lack of adult beginner programs. I think if you haven't played at age 50, people are too embarrassed and too nervous to start picking up a racquet when they start retiring"* (male NSO participant); those who wanted to continue playing sport *"There didn't seem to be anywhere they could go to next for that age group [in netball], so they both stopped playing...I always thought that was such a shame because they loved netball and really enjoyed it so much for years"* (65 year old female non-sport club member); and also those who wanted to start playing sport again: *"For older people there are not many sporting clubs or anything that you could just go and join except lawn bowls"* (61 year old male non-sport club member). Another theme that links to this, is the **appropriateness of some sports**. A number of participants believed that contact sports became less desirable as people aged, due to physical health concerns: *"I don't want to have the contact sport anymore"* (60 year old female non-sport club member).

A linked structural constraint discussed by some participants were **physical health concerns**. There was a perceived increased risk of injury with age: *"As you get older, you're more susceptible to injuries"* (53 year old male non-sport club member). Additionally, some

participants believed that existing injuries meant it was harder to participate in sport at an older age for some people: *“Usually they [older adults] play every second Sunday because it takes them two weeks to get over the physicality of the whole thing”* (53 year old male non-sport club member).

A number of participants also believed that older adults **did not want to compete against younger players** and were therefore likely to transfer to individual/lower contact sports or visit the gym: *“I think when I was younger, I played more team sports. And as I got older and I couldn’t compete anymore, I did individual things like karate”* (50 year old male cricket club member). Furthermore, some participants felt that whilst competition was still important (especially to men), the desire to play sport in a competitive structure decreased with age *“I’m not as competitive as I was when I was younger. Nowhere near”* (54 year old male cricket club member).

The concept that older adults were **not a high priority for sporting organisations** was widely mentioned by participants. It was perceived by many that participation in sport for older adults was a lower priority than younger age groups, and some of these participants, mainly from the National Sporting Organisations, believed that specific needs of older adults were often not catered for due to a lack of organisational capacity: *“At the end of the day, our business is about junior development”* (female NSO participant), and *“We tend to focus on the players that we currently have and then recruiting new players and fans, so that’s very much pitched at younger age groups”* (male NSO participant).

Some participants perceived that a **lack of social acceptance** for older adults to play sport contributed towards older adults dropping out of sport. They felt that sport was an activity for

young people and not older adults: *“Some people also perceive it as culturally or as not really appropriate to play competitive any longer once you’re getting older, especially on the female side”* (female NSO participant).

There were three structural constraints mentioned by a few participants: **cost of participation**, the fact that **working patterns had changed** and **non-inclusive marketing**. Some participants felt that income was often spent on other priorities, whilst a few participants perceived that marketing for sport participation was often focused on competition, rather than the social and fun aspects of sport. Furthermore, it was felt that marketing was usually targeted at younger age groups, which used graphics and photographs that appealed to younger people: *“It would be really good if they showed a range of women who are playing, not just the young’uns [sic], perhaps a few older women? That would be a broader advertising campaign”* (69 year old female cricket club member) and *“You think sporting clubs are for when you’re young and then you’re going to give them up, but maybe they haven’t really been advertised as something that’s appropriate for all age levels”* (55 year old female non-sport club member). Additionally, some participants believed that older adults had a general **lack of awareness** of sporting opportunities available.

Finally, a small number of participants felt there had been a **change in working hours** in the past generation, where hours had become more flexible and people often worked on weekends, instead of playing sport. This meant that traditional weekend competitions sometimes had fewer participants: *“Saturday tennis isn’t the same as it used to be because the workforce are working a lot of Saturdays now instead of working just weekly, five days a week...I think that’s taken a lot of participation out of tennis”* (69 year old male tennis club member).

Interpersonal constraints

The two interpersonal constraints mentioned were **family commitments** and **friends stopped playing sport**.

Most participants believed that older adults often did not play sport because they had **families to look after**: *“My main sport has always been netball from the time I was at school right through till [sic] like when I was working...and I stopped ...when I got married and moved to another location and was planning another team and all excited about that, and then I was pregnant and then that was it. Never went back”* (60 year old female non-sport club member). Also, some participants felt that older adults sometimes stopped playing sport when their **friends stopped playing sport**.

Intrapersonal constraints

The one intrapersonal constraint discussed was **sports that specifically catered for older adults**. A few of the participants felt that some ‘age appropriate’ sports were seen as boring or unattractive: *“Golf is one of those games that a lot of people take up in retirement, but I find it boring”* (60 year old female non-sport club member) and *“It’s [bowls] boring. You roll the ball and then you walk out”* (54 year old female non-sport club member).

Why might older adults re-engage in sport

Although a number of participants identified reasons why they had dropped out of sport, or

reasons why other older adults may drop out of sport, some participants identified ways how they, or others, had renegotiated their participation and overcome some of these constraints. Some of these, such as more time and improving physical health, were identified as constraints and possible reasons for drop out of sport, suggesting that some of the focus group participants had overcome these possible constraints and re-engaged in sport.

There were four key reasons why older adults may re-engage with sport at an older age that were discussed by participants.

A number of participants perceived that participation in sport had contributed to improving their **physical health** as they had aged. Additionally, several participants perceived that older adults often **had more time** to pursue their own activities, as they had retired or their children had grown up: *“I’ve found the mid-30s when your kids are sort of less than 10, it’s harder to leave the home, whereas now my kids are all in their 20s, I never see them. So my wife’s happy to not have me under her feet and stuff, so it’s actually easier now in the 50s to actually spend more time at the club without young families”* (53 year old male cricket club member) and *“Now you’re semi-retired...you’ve got time on your hands and so you can [play sport]”* (64 year old female tennis club member).

Sport was also seen as an **opportunity to socially interact** with others, as many participants had taken up a sport only when their children or grandchildren had started to play that sport: *“My daughter roped me into doing a bit of cricket and I thought, ‘Oh that looks like fun!’”* (69 year old female cricket club member). A number of participants also perceived that older adults had used sport as an opportunity to interact with their families or friends: *“A friend of mine played*

tennis, so I joined in and actually from then we played every week” (68 year old male tennis club member).

Some participants felt that the **sporting ability of players** became less important in older age, and thus sport became more attractive to less ‘sporty’ types: *“In those days you couldn’t play those sports unless you were good. Really you just weren’t welcomed. Nowadays it’s probably the same, but tennis people have given up laughing at me because I don’t give a stuff” (62 year old male tennis club member) and “I don’t care what the younger ones think anymore” (59 year old female non-sport club member).*

The results from this chapter identify that the main reasons older adults may drop out of sport can be classified as structural constraints, whilst reasons for re-engaging in sport can include to improve their health and also to socially interact with their families. Similarly to the results from Chapter 6, this chapter suggests that a stronger focus on social connections for this age group may be a strategy to increase participation. Re-engagement in sport can be facilitated as some older adults, especially those that are retired, often have more leisure time. Furthermore, the perception that at an older age people can participate without the focus on excellence/being very good at sport, is an interesting result, that can be used by sporting organisations to try to attract more older adults into sport.

Chapter 8: Discussion, Conclusion and Recommendations

The purpose of this final chapter is to summarise the research conducted, followed by a discussion of the main research findings. This is followed by the conclusions relating to the research questions and how this research contributes to both the academic and industry fields of sport management. The limitations of this research, in addition to potential recommendations, are also presented.

To my knowledge, this is the first study to explore the sporting organisational perspective on sport and older adults, in addition to potential modifications that could make sport more accessible for older adults. Furthermore, whilst previous studies have investigated the older adult perspective of specific sports, this is the first to do so from more sports across a wider community sport context. Thus, the research presented in this review extends previous work and also fills a gap in the literature, by including the perspectives of both sporting organisations and older adults, as well as the focus on wider community sport participation.

Research background summary

Populations throughout the world are ageing (World Health Organisation, 2015) and ageing is often associated with a decline in health (Haskell et al., 2007; Rydwik et al., 2013; Chodzko-Zajko et al., 2009; Toepoel, 2013). Physical activity can prevent or delay the onset of a number of chronic diseases (Haskell et al., 2007), however leisure time physical activity (LTPA) levels of older adults remain relatively low (Australian Bureau of Statistics, 2014-15a). Therefore more diverse forms of LTPA are needed to provide greater opportunities for older adults to exercise. Sport, as a form of LTPA, is an option, however there has been limited research on sport for older adults.

Existing sport for older adults research has focused on high level, elite Masters sport (Dionigi, 2006; Dionigi, 2002; Pike, 2012) or on community sport, and on specific sports such as bowls (Heuser, 2005), golf (Siegenthaler & O'Dell, 2003), softball (Naar et al., 2017), curling (Leipert, 2011) or lifeball (Green et al., 2009). Furthermore, this research has largely been conducted from the perspective of older adults. This research has identified that participating in sport can improve older adults' physical health (Dionigi, 2006; Henderson, 2012; Heo et al., 2013; Kim et al., 2014; Siegenthaler & O'Dell, 2003), decrease social isolation (Leipert et al., 2011) increase social support (Henderson, 2012; Heo et al., 2013; Kim et al., 2014; Leipert et al., 2011; Lyons & Dionigi, 2007), reinforce social identity (Heo et al., 2013; Lyons & Dionigi, 2007), and improve mental or psychological health (Dionigi, 2006; Heo et al., 2013; Kim et al., 2014; Leipert et al., 2011).

To build on this knowledge, this program of research explored the benefits of, and barriers to, older adult sport participation, for both older adults and sporting organisations. Furthermore, potential reasons why older adults may drop out and also re-engage with sport at an older age were investigated. In addition, this research also explored potential playing modifications that could attract and/or retain active older adults in sport.

A discussion of the research findings is presented in six thematic sections (rather than sectioned by chapters), linked to the research questions as outlined in Chapter 1. All of these sections contribute to understanding the overarching research question for this thesis, *What influences older adults to participate in sport?:*

- Benefits of sport participation for older adults
- Barriers to sport participation for older adults

- Benefits of sporting organisations engaging older adults in sport
- Barriers to sporting organisations engaging older adults in sport
- Reasons for drop out and re-engagement in sport by older adults
- Potential modifications to attract and/or retain older adults in sport

Figure 1 details the key findings of this research project. The arrows show how the results from each research study are associated with key themes from the other research studies. The way in which different results are connected to each other will be discussed throughout the chapter.

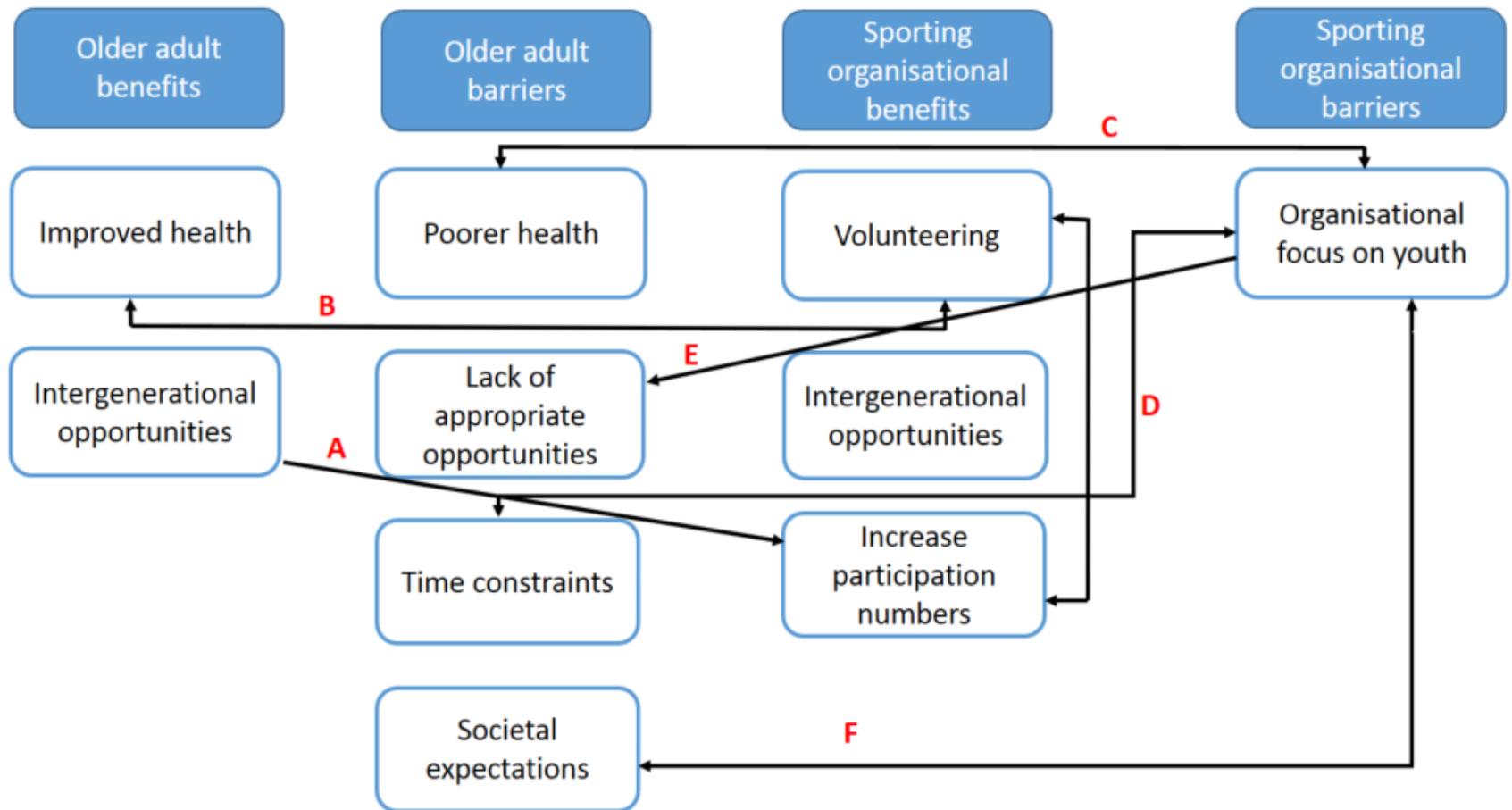


Figure 1: Sport participation for older adults: the benefits and barriers. Linking/influencing nature of the key themes across study results

1.1 Benefits of sport participation for older adults

The key findings relating to the benefits of older adults participating in sport are presented in Chapter 6. These are the perspectives of older adults who were members of tennis and cricket clubs, older adults who were not members of a sport club and the two National Sporting Organisations that participated in the focus group study. In summary, the main intrapersonal benefit identified for older adult sport participation was health benefits, particularly social and physical health. This was also identified in Chapter 7, as a reason to re-engage in sport at an older age. Another prominent benefit of participating in sport included intergenerational opportunities to play, or be involved, in sport together as a family.

The results of this research suggested that one of the main benefits of participation for older adults is that sport can contribute to and improve older adults' social and physical health. Existing research in this field has suggested that sport can provide physical health benefits for older adults, for example, that sport prolonged their physical fitness (Dionigi, 2006; Heo et al., 2013); that older adults gained physical strength and endurance (Kim et al., 2014) and prevention of physical disability (Siegenthaler & O'Dell, 2003). Research has also identified that sport can positively contribute towards social health, by decreasing social isolation (Leipert et al., 2011), increasing social support (Henderson, 2012; Heo et al., 2013; Kim et al., 2014; Leipert et al., 2011; Lyons & Dionigi, 2007) and reinforcing social identity (Heo et al., 2013; Lyons & Dionigi, 2007).

The findings from this research study further strengthen the potential of sport to be a physical activity option for older adults, especially in regard to reducing social isolation and improving social and physical health. It has been argued that sport can

be better placed than other forms of LTPA for social health, as sport clubs are a natural social setting (Eime, Young, Harvey, Charity, & Payne, 2013b; Howie, Lukacs, Pastor, Reuben, & Mendola, 2010). Sporting organisations should take this into account and use these health benefits as a leverage to encourage older adults to participate in sport. The health benefits are especially important for older adults, due to the increased risk of social isolation with advanced ageing (Grenade & Boldy, 2008). Furthermore, improving physical health and reducing social isolation are key facets of preventative health policies (Jackson & Shiell, 2017; Moodie et al., 2016) for older adults. This research therefore suggests that sport has the potential to positively contribute to preventative health policy for older adults.

A key feature of the Socio-Ecological model is the interconnected nature of themes at different levels (i.e. intrapersonal, interpersonal, organisational and policy) that influence behaviours, such as participation in sport. In this research, some of the social health benefits of participation can be attributed to the intergenerational opportunities of older adults bonding with their families (i.e. interpersonal). Leisure research has proposed that undertaking leisure activities can improve satisfaction with family life, for example improved family relationships and elevated trust (Agate, Zabriskie, Agate, & Poff, 2009). Another benefit that has been identified in leisure research is that leisure can provide positive family bonding opportunities (Orthner & Mancini, 1991), which correlates with the findings of this study. Providing intergenerational opportunities to enable older adults to participate in sport could also encourage youth participation, which would be an unintended organisational benefit of engaging older adults in sport (see Figure 1, arrow A). It has been suggested that becoming a parent can lead to increased adult participation in child-oriented sports, such as football, swimming or cycling (Farrell & Shields, 2002). If socially playing

sport with family is a key driver to older adults' involvement in sport, as indicated in this research, and therefore can provide the associated social health benefits, then sport should facilitate intergenerational opportunities.

Although a number of benefits have been identified from this research, there are also a number of barriers that may prevent older adult participation.

1.2 Barriers to older adults participating in sport

This section discusses the barriers older adults may face when attempting to participate in sport, which are derived from Chapter 6. These findings were also taken from the perspectives of older adults who were members of tennis and cricket clubs, older adults who were not members of a sport club and the two National Sporting Organisations that participated in the focus group study. Poor physical health, lack of appropriate playing opportunities, time constraints and societal factors were prominent barriers to participation.

Although improved physical health was identified as a benefit of participation, poor health for older adults was identified as a barrier to their participation at the same time. Poor physical health as a barrier has been recognised in previous research on sport for older adults, for example if older adults have a limiting long-term illness (Chaudhury & Shelton, 2010; Green et al., 2009). However, Heo et al. (2013) found that some older adults adapted their type of participation to cater for their reduced physical capabilities. Similarly, if sporting organisations want to encourage and/or facilitate older adult participation in sport, they have a responsibility to ensure that there are tailored, appropriate sporting opportunities available.

Another physical health barrier identified in the qualitative study described in Chapter 6, was a perceived increased risk of injury at higher age. In a systematic literature review examining the risk of injury for older adults participating in sport and physical activity (Dunsky & Netz 2012), inconclusive evidence was found to justify this concern. Therefore this concept needs further exploration to ascertain the reasons why some older adults perceive risk of injury to be a barrier to participation. It could also be argued that this perceived injury risk barrier is linked to another main barrier identified in this study for older adults, lack of appropriate opportunities.

A lack of appropriate participation opportunities, such as a lack of senior aged teams and limited facilities, was widely identified by both older adults and sporting organisations. This barrier has also been recognised for other underrepresented groups in sport, who do not form the main focus of sporting organisations, such as disabled people (Fields & Oates, 2001) and culturally and linguistically diverse communities (Hanlon & Coleman, 2006). It can be suggested that this barrier influenced the other barriers that emerged from this research. For example, lack of time to play sport may also be connected to a lack of senior aged teams, as it is likely older adults have to travel further to play sport in available/appropriate teams, which negatively impacts on their time. Furthermore, societal expectations link both appropriate playing opportunities and time. If it is seen as unusual for older adults to play sport (as sport is seen as the domain of young people), then only a few appropriate opportunities may be available for older adults (Jenkin et al., 2017a). In turn, this will impact on availability of playing options for older adults, and result in few older adults playing sport, which means that societal expectations of who should play sport, will be unlikely to change.

These benefits of and barriers to older adult participation were also influenced by the organisational benefits of and barriers to engaging older adults, as seen in the subsequent two sections of this chapter.

1.3 Benefits of sporting organisations engaging older adults in sport

These results are a synthesis of the research presented in Chapters 4 and 5. The latter Chapter was the qualitative study where older adults who were members of tennis or cricket clubs, older adults who were not members of a sport club and representatives of two National Sporting Organisations, were asked to discuss potential benefits that organisations could derive from engaging older adults in their sport. Chapter 4 was the quantitative study where 171 National and State Sporting Organisations were asked their level of agreement on five organisational benefits of sport for older adults. As this thesis used a sequential research structure, the findings from the qualitative study contributed to the development of the five benefits presented to respondents of the quantitative study.

The main organisational benefits identified from the qualitative study by both older adults and sporting organisations were volunteering and intergenerational opportunities, whilst in the quantitative study with sporting organisations, the most prominent benefit was the opportunity to increase overall participation numbers and also to engage with their older fan base.

In Chapter 5, it was suggested that older adults undertook more volunteering roles than younger people and were more likely to do this over a longer time period.

Existing research has suggested that the primary volunteers in sport clubs tend to be parents or grandparents of participating children (Doherty, 2006, Whittaker and Holland-Smith, 2016; Jenkin, et al., 2016a). Volunteering has been identified as vital

for the survival of community sport (Cuskelly et al., 2006, Breuer et al., 2012, Hoye et al., 2008), as it can increase the capacity of sport clubs (Adamson & Parker, 2006; Eime et al., 2009), for example adult members as committee members and/or coaches. Although older adults may still volunteer without active participation, if sport clubs provide appropriate opportunities for older adults to actively participate, this will likely lead to ensuring a vested interest in the club (Chaskin, 2001) to volunteer over a longer time period. Furthermore, this active engagement will also help clubs, and subsequently, National and State Sporting Organisations, increase their participation numbers. Although not prominently mentioned/reported in the present research, volunteering can also contribute towards improved social health, by developing social capital (Nicholson & Hoye, 2008), and by being active in their communities and socially connecting with others (Hoye, Cuskelly, Taylor, & Darcy, 2008). As shown in Figure 1 (arrow B), this can positively influence older adults' social health.

Another key benefit that sporting organisations can derive from engaging older adults was intergenerational opportunities. This was also identified as a benefit for older adult participation, in that it can enable older adults to bond with their families. This concept has been reflected in previous sport and physical activity research on parents and children. Harrington's (2006) study on bonding experiences of fathers with their children found that sport was a dominant context for bonding, whilst in physical activity, research has indicated that if families undertake intervention programs together, it can contribute towards strengthening family relationships (Bronikowski et al., 2016). However these studies were conducted with 'younger' adults, thus the research in this series of studies extends this knowledge to also include older adults. Furthermore, it can additionally be an organisational benefit, as engaging with older

adults may support their children/grandchildren to participate. As seen in Figure 1 (arrow A), this intergenerational benefit could also contribute towards increasing junior sport participation, which is a key current priority for sporting organisations (Eime et al., 2015). For sporting organisations to attain these benefits, the barriers to engaging older adults will need to be considered and somewhat mitigated first.

1.4 Barriers to sporting organisations engaging older adults in sport

The results from both the qualitative and quantitative studies in Chapters 4 and 5 also contributed to this section. The main barrier to engage older adults in sport identified in both studies was the sporting organisational focus on youth, whilst confirming that older adults were not a high priority for National and State Sporting Organisations. This was highlighted in Chapter 4, and reinforced in Chapter 5 by the two National Sporting Organisations, and also some of the older adult participants. Other key organisational barriers were lack of appropriate playing opportunities, insufficient resources to manage and develop older adult programs and perceived societal expectations. A number of the barriers were similar across both studies. This may be due to the methodological approach of this thesis, but also the triangulation of results demonstrates the collaboration and rigour of the thesis' conclusions.

Whilst research in the area of sport and ageing has not focused on the organisational perspective of sport for older adults, other research has suggested that younger people are prioritised in sport policy in Australia, for both elite and community sport (Eime et al., 2015a; 2016a; Green, 2007a; Österlind, 2016), with Nicholson & Hoye, (2011, p. 235) stating “the majority of these have targeted school-aged children rather than adults”. For example, a major program within the Australian Sports Commission

current community sport policy, Play.Sport.Australia, is the Sporting Schools program. Additionally, sporting organisations are choosing to increase their participation numbers by targeting even younger children (for example, aged 4-5 years old) through their modified sport programs (Eime et al., 2016a), rather than trying to engage adults. Eime et al. (2015a., p. 215) state that “it is more likely for young, strong and healthy Australians to be catered for by organisations offering physical activities and sport than it is for older citizens”, reinforcing the policy emphasis on younger people.

As the majority of sporting organisations are heavily dependent on the state (Houlihan, 2002), this priority for younger people at the policy level, unsurprisingly subsequently filters down to national, state and local sport levels. Therefore the confirmation of this concept in this body of research reinforces this notion and further identifies that older adults are a lower priority population group than not only young people but also other population groups, such as women, across a wider range of sports. This notion could also help explain why organisations reported they had insufficient resources to manage and develop older adult programs, as it would suggest their current resources are largely focused on youth and some other population groups. Similarly a number of organisations reported a lack of demand for their sport from older adults. This could be linked to a lack of current appropriate programs and also perceived societal expectations, as if there are few current opportunities for older adults to play sport, then they are less likely to participate in sport and therefore likely to result in a lower demand for that sport. Furthermore, as demonstrated in Figure 1, the organisational focus on youth influences a number of participation barriers for older adults (see arrows C, D, E & F). For example, sport in its current format could be argued to be inappropriate for most older adults, so they

are likely to perceive that their poorer physical health is a barrier to participation. Additionally, few appropriate playing opportunities can contribute towards the feeling of being time poor, as older adults would need to travel further to access opportunities. It can also be linked to the concept that sport is not socially 'acceptable' for older adults. As such, this organisational focus on youth, driven by sport policy, has emerged as the main barrier that affected the vast majority of determinants for older adult sport participation. As discussed in Chapter 4, unless there is an organisational change in priority at sport policy level, it is unlikely that a number of the older adult and organisational barriers identified in this series of studies will be mitigated.

1.5 Reasons for drop out and re-engagement in sport by older adults

Reasons why older adults may drop out of sport, but also why they may re-engage in sport at an older age, were discussed in the qualitative study in Chapter 7. The reasons for older adult drop out were mainly structural constraints such as a perceived lack of appropriate playing opportunities and time constraints. Due to the paucity of research on drop out for adults, it is difficult to ascertain whether these constraints resonate with the wider older adult population. As such, it is only possible to compare sport drop out between older adults and adolescence, for whom most of this research has been conducted. Although adolescence and older adults are at very different life stages, adolescents are a key participation group for sport policy and sporting organisations (Eime et al., 2016a; Green, 2007a; Österlind, 2016), therefore this comparison can provide interesting insight into sport for older adults. Whilst the main reasons for older adult drop out were classified as structural constraints, for adolescents, intrapersonal and interpersonal reasons for drop out, such as social

pressures (Mudrak 2010; Shakib 2003; Fraser-Thomas et al. 2008) or limited enjoyment (Calvo et al. 2010; Figueiredo et al. 2009; Guzman and Kingston 2012), were widely reported. This could suggest that the structural components of sport, such as appropriate opportunities and time constraints, are largely appropriate and specifically targeted towards adolescents and are therefore less of a constraint, whilst personal and social constraints are more prevalent for this age group. Therefore to identify strategies to assist older adults to negotiate participation constraints, for example if organisations provided modified sport options or if current social norms were challenged for it to become more normal for older adults to play sport, some of these structural constraints older adults face may become reduced and negotiated. Furthermore, the reasons identified in this study that influenced older adults to re-engage in sport can also be utilised by organisations to encourage more older adults to re-engage and actively participate in sport. In particular, the opportunity to improve their health and also to socialise with their families. Similarly to the results in Chapter 6, leisure activities such as playing sport can enable opportunities for families to bond (Orthner & Mancini, 1991) and improve family relationships (Agate, Zabriskie, Agate, & Poff, 2009), so sporting organisations should capitalise on this to attract more older adults.

Although there is some overlap between the results from Chapters 5-7, the reasons why older adults specifically drop out and also why they may re-engage in sport, provide an additional dimension to understanding the reasons that influence older adult sport participation. For sporting organisations wishing to engage older adults, the reasons for re-engagement in sport and the benefits older adults can derive from participation should be capitalised on and where possible, these opportunities should be provided.

1.6 Potential modifications to attract and/or retain older adults in sport

Potential modifications that could be made to sport were derived from the quantitative results shown in Chapter 4. The 171 National and State Sporting Organisations that participated in this study were asked for their level of agreement for 21 potential modifications that could be made to their sport to attract and/or retain more older adults. The most agreed overall modifications from the participating National and State Sporting Organisations were changing the way sport was advertised and also collaboration with ageing and/or community organisations. Other popular modifications were introducing age specific competitions or social play opportunities. Results for this study were also compared between sports with a relatively high, medium and low participation rate for older adults. Whilst there were few substantial differences in potential modifications between each of these groups, sports with a low participation rate felt that a decrease in physical contact was a potential modification to attract and/or retain more older adults to their sports.

Unsurprisingly, a number of the potential modifications that sports could make to attract and/or retain older adults in sport were also influenced by an organisational focus on youth. The two most frequently agreed modifications were change the way sport was advertised and collaboration with other organisations. The popularity of the former modification suggests that most sports are currently not marketed towards older adults, as highlighted as barriers in Chapters 4 and 7. Research into other underrepresented groups, such as culturally and linguistically diverse communities, has suggested that non-inclusive marketing is also a barrier for these communities (Sawrikar & Muir, 2010), insinuating that sport is not currently being suitably

marketed to diverse population groups, but to groups, such as young people, that are currently prioritised in sport policy.

The need to collaborate with other organisations, as identified in Chapter 4, could suggest that sporting organisations do not have the capacity and/or the expertise to engage with older adults. It would appear that comparable nations, such as England and New Zealand, are changing their sport policy focus to take a locally led approach, that is for National Sporting Organisations to work with local organisations who know their communities and to listen to what the consumer wants (Sport England, 2016).

The results from this program of research overwhelmingly suggest that the potential older adult consumer wants, and needs, appropriate opportunities to participate, and that most sports in their current, traditional format do not provide this. If Australia replicated aspects of this recent approach from England and New Zealand, it would provide an opportunity for Australian National and State Sporting Organisations to work with local organisations to embed this locally led approach, and for these sporting organisations to use their sport specific expertise to support local organisations to offer appropriate opportunities for older adults. However, this approach still requires strategic direction from national sport policy, where the need to reduce the organisational focus on youth is still important.

Contribution to knowledge

Previous research on sport and older adults mainly focused on high level competitive Masters sport participation or in specific sports at community level. Furthermore, this existing research largely focused on the individual benefits of and barriers to older

adult sport participation. As such, previous research provided a great starting point for sport and older adults, and this thesis has further contributed to this research field by:

- Researching the benefits of, and barriers to, sport participation for older adults across a broader community sport context
- Investigating the organisational perspective on the benefits and barriers that may affect older adults participating in sport
- Examining the organisational benefits of and barriers to sporting organisations engaging older adults in sport
- Assessing reasons for drop out and re-engagement in sport at an older age
- Exploring the potential sporting modifications that may attract and/or retain older adults in sport.

Strengths and Limitations of Thesis

This thesis utilised a mixed method approach to answer the research questions. As highlighted in Chapter 2, this approach utilises different research methodologies, which can enable a richer exploration of the research area. However, this approach can prove challenging, especially upon identifying an epistemological approach (Teddle & Tashakkori, 2003; McEvoy & Richards, 2006).

Similarly, both the qualitative and quantitative methodologies used in this thesis have specific strengths and limitations. For the qualitative study, the opinions of three different types of stakeholders were sought to provide a more holistic approach to the research questions. This study focused on a more in depth perspective, thus there was limited scope to engage a wider variety of sporting organisations and older adults.

This resulted in a lack of translatability to other sporting contexts, which is why a mixed method approach to also use quantitative research was used.

For the quantitative survey study, there was a high response rate, which resulted in a wide variety of sports and good representation of both National and State Sporting Organisations. A weakness of all forms of quantitative research is the inability to explore the context and/or further elaboration of the responses, however the focus group discussions with the two National Sporting Organisations helped to mitigate this limitation. It is also acknowledged that the different audiences who participated in the thesis may differ in their approach/opinion on older adults and that this may have influenced their responses. Finally, there was some selection bias in this program of research, as with any study. For the quantitative study, NSOs and SSOs who were recognised by the ASC were included, meaning that some informal and non-traditional sports did not participate. For the qualitative study, people not interested in sport would have been less likely to participate.

Conclusion

In conclusion, it seems that sport participation for older adults is not a priority area for government. However, this research shows it should be, given the various benefits that can be derived by society at large and indeed for older adults themselves. If government is to reassess their priorities in that regard, then policy needs to be re-orientated to influence a change in NSO/SSO priorities, to have an increased focus on older adult participation in sport.

With the increasing pressure on sporting organisations to increase their participation numbers, in addition to the health benefits older adults can derive from sport, it

appears logical for specific cross-sectoral partnerships in sport and health to be developed. There is a growing nexus between sport and health in sport policy, as seen in the Australian Sports Commission's (ASC) International Review of Australian Sport (2017). However, this largely focuses on sport and health for younger people. In the ASC's Review document, older adults are mentioned, but only in relation to generic physical activity, rather than sport. Conversely, in health policy, older adults have been prioritised (Victorian Department of Health and Human Services, 2015). With a Federal and Victorian State portfolio for sport, health and ageing, the case for cross-collaboration is strong. However, appropriate participation opportunities first need to be introduced. Some sports have recently created modified sport products which have attracted older adults, such as walking versions of basketball, football, netball and rugby. These developments are examples of modifying sport to cater for reduced physical capabilities, but are often offered on an ad hoc basis and usually heavily reliant on external funding. Therefore, these programs are often short term appropriate opportunities and are not always sustainable participation opportunities for older adults to continue to participate to derive sustainable health benefits. For these longer term opportunities and sustainability of such programs/opportunities to be available, a change in priority at policy level is required. The priorities set out in federal sport policy influences the priorities of all levels of sport, for example, National and State Sporting Organisations, and subsequently local sport clubs. The current focus on young people limits the capacity of sporting organisations to engage underrepresented population groups, such as older adults, and provide them with appropriate opportunities to participate. The capacity to engage with other population groups is unlikely to change unless there is a diversification in organisational focus away from young people. However, as sport policy often dictates funding priorities,

sporting organisations, and community organisations who offer sporting opportunities, are unlikely to change their organisational focus without a change in sport policy to prioritise older adult sport participation, and would need to also go through an organisational change process themselves. Only once this occurs, will more sports be inclined to develop modified sport products to create appropriate opportunities to help increase older adult participation. However as a caveat, club capacity to deliver these opportunities would also need to be considered and accounted for.

It is acknowledged that not all older adults are interested in playing sport and prefer other types of LTPA. However, this research, along with the popularity of emerging walking sport programs, show there is a demand for sport amongst this population group and an interest among sporting organisations, albeit with limited resources. In an ageing society with the associated health and social care costs that are likely to arise, more diverse LTPA options for this age group are required. As shown in this thesis, sport is in an ideal place to diversify these options, but sporting organisations need to give greater priority to this age group to reap these benefits.

Recommendations for Practice and Future Research

Recommendations for Practice.

The overarching recommendation for practice is a change of federal and state policy to convince and provide the underpinning evidence why sporting organisations need to go through a process of organisational change to realign their participation priorities to increase priority for older adults. Furthermore, changed policy needs to provide a nexus between sport and health for older adults, as there is substantive evidence to show the link between sport and health benefits. If this policy change

occurred, then more sporting organisations will need to develop modified sporting products to ensure older adults have appropriate opportunities to participate in sport.

Additionally, further recommendations include:

- Federal and State government to develop a policy nexus between portfolios for older adults, sport and health
- In addition to this policy nexus, the Australian Sports Commission should include a specific policy to try to engage more older adults in community sport. For example, taking a lifespan approach to participation, by reducing the emphasis on young people in sport and giving more emphasis to people at an older age
- Sporting organisations should collaborate with external organisations, such as ageing and/or health organisations. This would help to increase organisational capacity, in addition to providing expert support to engage with older adults
- Identify sporting organisations interested in increasing participation for older adults and investigate specific opportunities to modify those sports through a pilot program. This would test the feasibility of increasing older adults' participation in sport through potential modifications
- Sporting organisations should review proposed modification concepts, for example changed marketing, to modify their sport products to attract and/or retain older adults
- Sporting organisations should review the reasons why older adults may re-engage in sport and provide appropriate opportunities, such as playing opportunities with families, to encourage participation at an older age

If these changes occurred, older adults would be able to access more appropriate opportunities and in turn, may challenge the societal perception that it is not socially 'acceptable' for them to play sport. As previously stated, these changes have started to happen, for example with walking versions of some sports, but an organisational change of priority, in both rhetoric and funding, is needed to ensure these types of products become more widely available to all older adults and are sustainable in the longer term. Additionally, these current products cater for older adults who have reduced physical capability and also an interest in a more social form of sport. As discussed in the literature review in Chapter 2, older adults are a heterogeneous population group and further diverse sporting options are needed to appeal to a wider range of older adults.

Recommendations for Future Research.

There are five recommended areas for future research:

- Investigate participation trends through currently existing modified sport products. This could firstly result in these products being further modified and improved for participants. If the organisational benefits of these modified products are better understood, it could also help to persuade other sports to change their organisational priority to develop and offer modified products for older adults, which may encourage more older adults to choose sport as their preferred LTPA option
- Longitudinally measure the health benefits of participation for older adults

- Measure any economic benefits of participation for older adults, for example, fewer health care costs
- Examine how both top down and bottom up initiatives can optimally collaborate in achieving change
- The older adult age range used in this thesis is quite broad. An investigation of the more nuanced participation needs for different types of older adults (for example, ‘younger’ older adults, ‘mid-range’ older adults) should be undertaken, to ensure suitable participation opportunities are developed for this heterogenous population group

References

- Abrams, D., Vauclair, M., & Swift, H. (2011). *Predictors of attitudes to age across Europe. Department for Work and Pensions*. U.K. Research Report No. 735. Retrieved from:
<http://research.dwp.gov.uk/asd/asd5/rrs-index.asp>
- Atchley, R.C. (1989). A continuity theory of normal aging. *The Gerontologist*, 29(2), 183-190.
- Adamson, L. and Parker, G. (2006). There's more to life than just walking": older women's ways of staying healthy and happy. *Journal of Aging and Physical Activity*, 14, 380.
- Addy, C. L., Wilson, D. K., Kirtland, K. A., Ainsworth, B. E., Sharpe, P., & Kimsey, D. (2004). Associations of perceived social and physical environmental supports with physical activity and walking behavior. *American Journal of Public Health*, 94(3), 440-443.
- Agate, J. R., Zabriskie, R. B., Agate, S. T., & Poff, R. (2009). Family leisure satisfaction and satisfaction with family life. *Journal of Leisure Research*, 41(2), 205.
- Aiello, C. R., Canalella, A., & Altieri, D. (2016). Sport as a strategy for preventing physical inactivity: walking football. *Euromediterranean Biomedical Journal*, 11.
- Alexander, K., Stafford, A., and Lewis, R. (2011). *The experiences of children participating in organised sport in the UK*. London: NSPCC.
- Alexandris, K. and Carroll, B. (1999). *Constraints on recreational sport participation in adults in Greece: implications for providing and managing sport services*. *Journal of Sport Management*, 13, 317.
- Alexandris, K., Tsorbatzoudis, C., & Grouios, G. (2002). Perceived constraints on recreational sport participation: Investigating their relationship with intrinsic motivation, extrinsic motivation and amotivation. *Journal of Leisure Research*, 34(3), 233.
- Allender, S., G. Cowburn, & C. Foster. (2006). Understanding participation in sport and physical activity among children and adults: a review of qualitative studies. *Health Education Research*, 21,6. 826-835.
- Alvesson, M., & Sköldberg, K. (2009). *Reflexive methodology: New vistas for qualitative research*: Sage.
- Amis, J., Slack, T., & Hinings, C. R. (2004). Strategic change and the role of interests, power, and organizational capacity. *Journal of Sport Management*, 18(2), 158-198.
- Anderson, C., (2010). *Presenting and evaluating qualitative research*. *American Journal of Pharmaceutical Education*, 74, 141.
- Annear, M. J., Cushman, G., & Gidlow, B. (2009). Leisure time physical activity differences among older adults from diverse socioeconomic neighborhoods. *Health & Place*, 15(2), 482-490.
- Anthony, K., Robinson, K., Logan, P., Gordon, A. L., Harwood, R. H., & Masud, T. (2013). Chair-based exercises for frail older people: a systematic review. *BioMed Research International*, vol. 2013.
- Armentrout, S. M., & Kamphoff, C. S. (2011). Organizational barriers and factors that contribute to youth hockey attrition. *Journal of Sport Behavior*, 34(2), 121.

- Armstrong, T. (1997). Government Policy. In W. Vamplew, K. Moore, J. O'Hara, R. Cashman, & I. F. Jobling (Eds.), *The Oxford Companion to Australian Sport* (2nd ed., p. 188-190). Oxford: Oxford University Press.
- Arnold, J. T., Bruce-Low, S., & Sammut, L. (2015). The impact of 12 weeks walking football on health and fitness in males over 50 years of age. *BMJ Open Sport & Exercise Medicine*, 1(1).
- Australian Bureau of Statistics. (2013–2014). *Participation in sport and physical recreation*. Retrieved from: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/4177.0>
- Australian Bureau of Statistics. (2015a). *Australian Health Survey: Physical Activity*. 2014-15. Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4364.0.55.001~2014-15~Main%20Features~Exercise~29>
- Australian Bureau of Statistics. (2015b). *Animated population pyramids*. Retrieved from: <http://www.abs.gov.au/websitedbs/d3310114.nsf/home/Population%20Pyramid%20-%20Australia>
- Australian Bureau of Statistics. (2015c). *Feature Article: Population by Age and Sex, Australia, States and Territories*. Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/featurearticlesbyCatalogue/7A40A407211F35F4CA257A2200120EAA?OpenDocument>
- Australian Department of Health. (2014). *Australia's Physical Activity and Sedentary Behaviour Guidelines*. Retrieved from <http://www.health.gov.au/internet/main/publishing.nsf/Content/health-pubhlth-strateg-phys-act-guidelines#chba>
- Australian Department of Health and Ageing. (2010). *Taking preventative action - a response to Australia: the healthiest country by 2020*. The report of the National Preventative Health Taskforce. Canberra: Australia.
- Australian Department of Treasury & Finance. (2010). *Australia to 2050: Future Challenges*. Intergenerational report series no. 3., Canberra: Treasury.
- Australian Institute of Health and Welfare. (2014). *Preventing and treating ill health*. Retrieved from: <http://www.aihw.gov.au/australias-health/2014/preventing-ill-health/>
- Australian Sports Commission. (n.d.). *ASC recognition. What is defined as a sport?* Retrieved from http://www.ausport.gov.au/supporting/nso/asc_recognition
- Australian Sports Commission. (2010). *Exercise, Recreation and Sport Survey*. Retrieved from <http://www.ausport.gov.au/information/casro/ERASS>
- Australian Sports Commission, (2012). *Australia's Winning Edge: 2012-2022*. Retrieved from https://www.ausport.gov.au/__data/assets/pdf_file/0011/509852/Australias_Winning_Edge.pdf
- Australian Sports Commission. (2013). *Adults & Children Market Segmentation for Sport Participation*. Retrieved from https://www.clearinghouseforsport.gov.au/research/smi/market_seg
- Australian Sports Commission. (2015a). *2015-19 Corporate Plan*. Retrieved from: http://www.ausport.gov.au/data/assets/pdf_file/0004/643207/Corp_plan_web.pdf
- Australian Sports Commission. (2015b). *Australian Sport Policy*. Retrieved from: https://secure.ausport.gov.au/clearinghouse/knowledge_base/organised_sport/sport_and_government_policy_objectives/australian_sport_policy_documents

- Australian Sports Commission (2016). AusPlay participation data for the sport sector. Summary of key national findings. Retrieved from: https://www.ausport.gov.au/_data/assets/pdf_file/0007/653875/34648_AusPlay_summary_report_accessible_FINAL_updated_211216.pdf
- Australian Sports Commission. (2017). *Intergenerational Review of Australian Sport*. Retrieved from https://www.ausport.gov.au/nationalsportplan/home/second_row_content/resources/Intergenerational_Review_of_Australian_Sport_2017.pdf
- Badia, M., Orgaz, B. M., Verdugo, M. A., Ullán, A. M., & Martínez, M. M. (2011). Personal factors and perceived barriers to participation in leisure activities for young and adults with developmental disabilities. *Research in Developmental Disabilities, 32*(6), 2055-2063.
- Basketball Victoria. (2017). Walking Basketball Program. Retrieved from <http://basketballvictoria.com.au/walking-basketball/>
- Bauman, A., Bellew, B., Vita, P., Brown, W. & Owen, N. (2002). *Getting Australia Active: Towards a Better Practice for the Promotion of Physical Activity*. Melbourne (AUST): National Health Partnership.
- Bauman, A., Phongsavan, P., Schoeppe, S., & Owen, N. (2006). Physical activity measurement – a primer for health promotion. *Promotional Education, 13*(2), 92-103.
- Bergamin, M., Ermolao, A., Tolomio, S., Berton, L., Sergi, G., & Zaccaria, M. (2013). Water-versus land-based exercise in elderly subjects: effects on physical performance and body composition. *Clinical Interventions in Aging, 8*, 1109.
- Berger, I. E., O'Reilly, N., Parent, M. M., Séguin, B., & Hernandez, T. (2008). Determinants of sport participation among Canadian adolescents. *Sport Management Review, 11*(3), 277-307.
- Bergsgard, N.A., & Tangen, J.O. (2010). Norway. In M. Nicholson, R. Hoye, & B. Houlihan (Eds.), *Participation in Sport: International Policy Perspective*. London: Routledge.
- Bethancourt, H.J., Rosenberg, D.E., Beatty, T. and Arterburn, D.E. (2014). Barriers to and facilitators of physical activity program use among older adults. *Clinical Medicine & Research, 12*(1-2), 10-20.
- Bishop, N.A., Lu, T., & Yankner, B.A. (2010). Neural mechanisms of ageing and cognitive decline. *Nature, 464*, 529–535.
- Blake, H., Mo, P., Malik, S., Thomas, S. (2009). How effective are physical activity interventions for alleviating depressive symptoms in older people? A systematic review. *Clinical Rehabilitation, 23*, 10. 873-887.
- Boiché, J. C., & Sarrazin, P. G. (2009). Proximal and distal factors associated with dropout versus maintained participation in organized sport. *Journal of Sports Science & Medicine, 8*(1), 9.
- Booth, M. L., Owen, N., Bauman, A., Clavisi, O., & Leslie, E. (2000). Social–cognitive and perceived environment influences associated with physical activity in older Australians. *Preventive Medicine, 31*(1), 15-22.
- Booth, F.W., C.K. Roberts, & M.J. Laye. (2012) Lack of exercise is a major cause of chronic diseases. *Comprehensive Physiology*.
- Bopp, M., Lattimore, D., Wilcox, S., Laken, M., McClorin, L., Swinton, R., & Bryant, D. (2007). Understanding physical activity participation in members of an African American church: a qualitative study. *Health Education Research, 22*(6), 815-826.

- Braun, V. and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77–101.
- Breuer, C., & Wicker, P. (2009). Decreasing sports activity with increasing age? Findings from a 20-year longitudinal and cohort sequence analysis. *Research Quarterly for Exercise and Sport*, 80(1), 22-31.
- Breuer, C., Wicker, P., & Von Hanau, T. (2012). Consequences of the decrease in volunteers among German sports clubs: is there a substitute for voluntary work? *International Journal of Sport Policy and Politics*, 4, 173–186.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by design and nature*. Cambridge, MA: Harvard University Press.
- Bronikowski, M., Bronikowska, M., Pluta, B., Maciaszek, J., Tomczak, M., & Glapa, A. (2016). Positive Impact on Physical Activity and Health Behavior Changes of a 15- Week Family Focused Intervention Program: “Juniors for Seniors”. *BioMed Research International*, 2016.
- Brown, W. J., Bauman, A. E., Bull, F. C., & Burton, N. W. (2012). *Development of Evidence-based Physical Activity Recommendations for Adults (18-64 years)*. Report prepared for the Australian Government Department of Health. Retrieved from [http://www.health.gov.au/internet/main/publishing.nsf/Content/health-pubhlth-strateg-phys-act-guidelines/\\$File/DEB-PAR-Adults-18-64years.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/health-pubhlth-strateg-phys-act-guidelines/$File/DEB-PAR-Adults-18-64years.pdf)
- Brown, W. J., & van Uffelen, J. G. Z. (2014). *Action are 10: Older people*. In: *Blueprint for an active Australia*. Retrieved from: <https://www.heartfoundation.org.au/images/uploads/publications/Blueprint-for-an-active-Australia-second-edition.pdf>
- Bryman, A. (2012). *Social Research Methods*: Oxford University Press.
- Buman, M. P., Hekler, E. B., Haskell, W. L., Pruitt, L., Conway, T. L., Cain, K. L., & King, A. C. (2010). Objective light-intensity physical activity associations with rated health in older adults. *American Journal of Epidemiology*, 172(10), 1155-1165.
- Cairns, B., Harris, M., and Young, P. (2005). Building the capacity of the voluntary nonprofit sector: challenges of theory and practice. *International Journal of Public Administration*, 28, 869–885.
- Cann, A.P., Vandervoort, A.A., and Lindsay, D.M. (2005). Optimizing the benefits versus risks of golf participation by older people. *Journal of Geriatric Physical Therapy*, 28, 85–92
- Calvo, T. G., Cervelló, E., Jiménez, R., Iglesias, D., & Murcia, J. A. M. (2010). Using self-determination theory to explain sport persistence and dropout in adolescent athletes. *The Spanish Journal of Psychology*, 13(2), 677-684.
- Caspersen C.J., Powell K.E., & Christenson G.M. (1985). *Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research*. Public health reports (Washington, DC : 1974) 1985, 100(2):126-131.
- Casey, M. M., Eime, R. M., Payne, W. R., & Harvey, J. T. (2009a). Using a socioecological approach to examine participation in sport and physical activity among rural adolescent girls. *Qualitative Health Research*, 19(7), 881-893.
- Casey, M. M., Payne, W. R., Eime, R. M., & Brown, S. J. (2009b). Sustaining health promotion programs within sport and recreation organisations. *Journal of Science and Medicine in Sport*, 12(1), 113-118.

- Casey, M.M., Payne, W.R., and Eime, R.M. (2009c). Building the health promotion capacity of sport and recreation organisations: a case study of Regional Sports Assemblies. *Managing Leisure*, 14, 112–124.
- Casey, M. M., Payne, W. R., & Eime, R. M. (2012). Organisational readiness and capacity building strategies of sporting organisations to promote health. *Sport Management Review*, 15(1), 109-124.
- Caspersen, C. J., Powell, K. E., & Christenson, G. M. (1985). Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public Health Rep*, 100(2), 126-131.
- Caspersen, C.J., M.A. Pereira, and Curran K.M. (2000). Changes in physical activity patterns in the United States, by sex and cross-sectional age. *Medicine and Science in Sports and Exercise*. 32(9), 1601-1609.
- Cervelló, E. (2002). Dropout in sport: Proposals to improve grip in sports practice. *Psychology and Sports Performance*, 2nd ed. 175-188.
- Cervelló, E. M., Escartí, A., & Guzmán, J. F. (2007). Youth sport dropout from the achievement goal theory. *Psicothema*, 19(1).
- Chao, D., Foy, C. G., & Farmer, D. (2000). Exercise adherence among older adults: challenges and strategies. *Control Clinical Trials*, 21(5 Suppl), 212-217.
- Chaskin, R.J. (2001). Building community capacity: a definitional framework and case studies from a comprehensive community initiative. *Urban Affairs Review*. 36, 291–323.
- Chaudhury, M., & Shelton, N. (2010). Physical activity among 60-69-year-olds in England: Knowledge, perception, behavior and risk factors. *Ageing & Society*, 30(8), 1343- 1355.
- Chodzko-Zajko, W. J., Proctor, D. N., Fiatarone Singh, M. A., Minson, C. T., Nigg, C. R., Salem, G. J., & Skinner, J. S. (2009). American College of Sports Medicine position stand. Exercise and physical activity for older adults. *Medicine & Science in Sports & Exercise*, 41(7), 1510-1530.
- Choi, H. S., Johnson, B., & Kim, Y. K. (2014). Children’s development through sports competition: Derivative, adjustive, generative, and maladaptive approaches. *Quest*, 66(2), 191-202.
- Cleland, V., Ball, K., Hume, C., Timperio, A., King, A. C. & Crawford, D. (2010). Individual, social and environmental correlates of physical activity among women living in socioeconomically disadvantaged neighbourhoods. *Social Science & Medicine*, 70, 2011-2018.
- Coalter, F. (2007). *A wider social role for sport: who's keeping the score?* Routledge.
- Commonwealth of Australia. (2011). National Sport and Active Recreation Policy Framework. Retrieved from Canberra: https://www.ausport.gov.au/_data/assets/pdf_file/0004/467563/National_Sport_and_Active_Recreation_Policy_Framework.pdf
- Condello, G., Puggina, A., Aleksovska, K., Buck, C., Burns, C., Cardon, G., Carlin, A., Simon, C., Ciarapica, D., & Coppinger, T. (2017). Behavioral determinants of physical activity across the life course: a “DEterminants of Diet and Physical ACTivity”(DEDIPAC) umbrella systematic literature review. *International Journal of Behavioral Nutrition and Physical Activity*. 14(1), 58.
- Cook, J. (2011). The socio-economic contribution of older people in the UK. *Working with Older People*, 15(4), 141-146.
- Coté, J., Horton, S., MacDonald, D., & Wilkes, S. (2009a). The benefits of sampling sports during childhood. *Physical & Health Education Journal*, 74(4), 6.

- Côté, J., Lidor, R., & Hackfort, D. (2009b). ISSP position stand: To sample or to specialize? Seven postulates about youth sport activities that lead to continued participation and elite performance. *International Journal of Sport and Exercise Psychology*, 7(1), 7-17.
- Cousins, S.O. (1995). Social support for exercise among elderly women in Canada. *Health Promotion International*, 10(4), 273-282.
- Cozijnsen, R., Stevens N.L., & Van Tilburg T.G. (2013). The trend in sport participation among Dutch retirees, 1983–2007. *Ageing and Society*, 33(04), 698-719.
- Crane, J., & Temple, V. (2015). A systematic review of dropout from organized sport among children and youth. *European Physical Education Review*, 21(1), 114-131.
- Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences*, 9(2), 119-127.
- Creswell, J. W., & Clark, P.VL. (2011). *Designing and conducting mixed methods research*. London: Sage.
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Sage.
- Cupchik, G. (2001). *Constructivist realism: an ontology that encompasses positivist and constructivist approaches to the social sciences*. Forum: Qualitative Social Research, 2(1).
- Cuskelly, G. (2004). Volunteer retention in community sport organisations. *European Sport Management Quarterly*, 4, 59–76.
- Cuskelly, G., Auld, C.J., and Hoye, R. (2006). *Working with volunteers in sport theory and practice*. 1st ed. New York, NY: Routledge.
- De Knop, P., Engström, L.-M., Skirstad, B., & Weiss, M. R. (1996). *Worldwide trends in youth sport*: Human Kinetics Champaign, IL.
- DeBate, R. D., Pettee Gabriel, K., Zwald, M., Huberty, J., & Zhang, Y. (2009). Changes in psychosocial factors and physical activity frequency among third- to eighth-grade girls who participated in a developmentally focused youth sport program: A preliminary study. *Journal of School Health*, 79(10), 474-484.
- Dergance, J. M., Calmbach, W. L., Dhanda, R., Miles, T. P., Hazuda, H. P., & Mouton, C. P. (2003). Barriers to and benefits of leisure time physical activity in the elderly: differences across cultures. *Journal of the American Geriatrics Society*, 51(6), 863- 868
- Delorme, N., Boiché, J., & Raspaud, M. (2010). Relative age and dropout in French male soccer. *Journal of Sports Sciences*, 28(7), 717-722.
- Delorme, N., Chalabaev, A., & Raspaud, M. (2011). Relative age is associated with sport dropout: evidence from youth categories of French basketball. *Scandinavian Journal of Medicine & Science in Sports*, 21(1), 120-128.
- Ding, D., Lawson, K. D., Kolbe-Alexander, T. L., Finkelstein, E. A., Katzmarzyk, P. T., van Mechelen, W., & Pratt, M. (2016). The economic burden of physical inactivity: a global analysis of major non-communicable diseases. *The Lancet*, 388(10051), 1311-1324.
- Dionigi, R. A. (2002). Resistance and empowerment through leisure: The meaning of competitive sport participation to older adults. *Society and Leisure*, 25(2), 303-328.
- Dionigi, R. (2006). Competitive sport as leisure in later life: Negotiations, discourse, and aging. *Leisure Sciences*, 28(2), 181-196.

- Dionigi, R.A. (2016). The competitive older athlete: a review of psychosocial and sociological issues. *Topics in Geriatric Rehabilitation*, 32(1), 55-62.
- Doherty, A. (2006). Sport volunteerism: an introduction to the special issue. *Sport Management Review*, 9, 105–109.
- Dong, E., & Chick, G. (2012). Leisure constraints in six Chinese cities. *Leisure Sciences*, 34(5), 417-435.
- Downward, P. and Rasciute S. (2015). Exploring the covariates of sport participation for health: an analysis of males and females in England. *Journal of Sports Sciences*, 33(1), 67-76.
- Dubois, A., & Gadde, L.-E. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research*, 55(7), 553-560.
- Dunsky, A., & Netz, Y. (2012). Physical Activity and Sport in Advanced Age: Is it Risky? A Summary of Data from Articles Published Between 2000-2009. *Current Aging Science*, 5(1), 66-71.
- Dwyer, J.J. (2006). Adolescent girls' perceived barriers to participation in physical activity. *Adolescence*, 41, 75.
- Estabrooks, P.A., Lee, R.E., and Gyurcsik, N.C. (2003). Resources for physical activity participation: does availability and accessibility differ by neighborhood socioeconomic status? *Annals of Behavioral Medicine*, 25, 100–104.
- Eime, R., Payne, W., & Harvey, J. (2009). Trends in organised sport membership: Impact on sustainability. *Journal of Science and Medicine in Sport*, 12(1), 123-129.
- Eime, R. M., Harvey, J. T., Brown, W. J., & Payne, W. R. (2010). Does sports club participation contribute to health-related quality of life. *Medicine & Science in Sports & Exercise*, 42(5), 1022-1028.
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013a). A systematic review of the psychological and social benefits of participation in sport for adults: informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity*, 10, 135.
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013b). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity*, 10(1), 1.
- Eime, R. M., Sawyer, N., Harvey, J. T., Casey, M. M., Westerbeek, H., & Payne, W. R. (2014). Integrating public health and sport management: Sport participation trends 2001–2010. *Sport Management Review*, 18(2) 207-217.
- Eime, R. (2014). *Sport participation in Victoria and the contribution of sport to physical activity levels*. Ballarat: Federation University, Victoria University.
- Eime, R. M., Casey, M. M., Harvey, J. T., Charity, M. J., Young, J. A., & Payne, W. R. (2015a). Participation in modified sports programs: a longitudinal study of children's transition to club sport competition. *BMC Public Health*, 15(1), 649.
- Eime, R. M., Sawyer, N., Harvey, J. T., Casey, M. M., Westerbeek, H., & Payne, W. R. (2015b). Integrating public health and sport management: sport participation trends 2001–2010. *Sport Management Review*, 18(2), 207-217.

- Eime, R. M., Harvey, J. T., Charity, M. J., Casey, M. M., Westerbeek, H., & Payne, W. R. (2016a). Age profiles of sport participants. *BMC Sports Science, Medicine and Rehabilitation*, 8(1), 6.
- Eime, R.M., Harvey, J.T., Sawyer, N.A., Craike, M.J., Symons, C.M., & Payne, W.R. (2016b). Changes in sport and physical activity participation for adolescent females: a longitudinal study. *BMC Public Health*. 16(1), 533.
- Eime, R.M & Harvey J.T. (2018). Sport Participation Across the Lifespan: Australian Trends and Policy Implications. In *Sport and Physical Activity Across the Lifespan*, p.23-43. Palgrave MacMillan, London.
- Eman, J. (2012). The role of sports in making sense of the process of growing old. *Journal of Aging Studies*. 26(4), 467-475.
- Engel, C. & Nagel S. (2011). Sports participation during the life course. *European Journal for Sport and Society*. 8(1-2), 45-63.
- Fairclough, S.J., Boddy, L.M., Hackett, A.F., & Stratton, G. (2009). Associations between children's socioeconomic status, weight status, and sex, with screen-based sedentary behaviours and sport participation. *International Journal of Pediatric Obesity*. 4(4), 299-305.
- Fantin, F., Rossi, A., Morgante, S., Soave, D., Bissoli, L., Cazzadori, M., Vivian, M.E.
 Valsecchi, M., & Zamboni, M. (2012). Supervised walking groups to increase physical activity in elderly women with and without hypertension: effect on pulse wave velocity. *Hypertension Research*, 35(10), 988-993.
- Farrell, L., & Shields, M. A. (2002). Investigating the economic and demographic determinants of sporting participation in England. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 165(2), 335-348.
- Ferreira, M., & Armstrong, K. L. (2002). An investigation of the relationship between parents' causal attributions of youth soccer dropout, time in soccer organisation, affect towards soccer and soccer organisation, and post-soccer dropout behaviour. *Sport Management Review*, 5(2), 149-178.
- Field, S. J., & Oates, R. K. (2001). Sport and recreation activities and opportunities for children with spina bifida and cystic fibrosis. *Journal of Science and Medicine in Sport*, 4(1), 71-76.
- Figueiredo, A. J., Gonçalves, C. E., Coelho e Silva, M. J., & Malina, R. M. (2009). Characteristics of youth soccer players who drop out, persist or move up. *Journal of Sports Sciences*, 27(9), 883-891.
- Fleury, J., & Lee, S. M. (2006). The social ecological model and physical activity in African American women. *American Journal of Community Psychology*, 37(1-2), 129.
- Fraser-Thomas, J., Côté, J., & Deakin, J. (2008). Understanding dropout and prolonged engagement in adolescent competitive sport. *Psychology of Sport and Exercise*, 9(5), 645-662.
- Fullagar, S. (2002). Governing the healthy body: discourses of leisure and lifestyle within Australian health policy. *Health*. 6, 69–84.
- Giles-Corti, B., & Donovan, R. J. (2002). The relative influence of individual, social and physical environment determinants of physical activity. *Social Science & Medicine*, 54(12), 1793-1812.
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), 597-606.

- Gorman, M. (1999). Development and the rights of older people *The ageing and development report: poverty, independence and the world's older people*. (p. 3-21). London: Earthscan Publications Ltd.
- Gracia-Marco, L., Tomás, C., Vicente-Rodríguez, G., Jiménez-Pavón, D., Rey-López, J.P., Ortega, F.B., Lanza-Saiz, R., & Moreno, L.A. (2010). Extra-curricular participation in sports and socio-demographic factors in Spanish adolescents: the AVENA study. *Journal of Sports Sciences*, 28(13), 1383-1389.
- Grant, B.C. (2001). 'You're never too old': beliefs about physical activity and playing sport in later life. *Ageing and Society*, 21, 777-798.
- Gray, S. (2004). Team club sports clubs for adults: A model. *American Association of Behavioral Social Science Online Journal*, 7, 44-48.
- Green, L. W., Richard, L., & Potvin, L. (1996). Ecological Foundations of Health Promotion. *American Journal of Health Promotion*, 10(4), 270-281.
- Green, M. (2007a). Olympic glory or grassroots development? Sport policy priorities in Australia, Canada and the United Kingdom, 1960-2006. *The International Journal of the History of Sport*, 24, 921-953.
- Green, M. (2007b). Governing under advanced liberalism: sport policy and the social investment state. *Policy Sciences*, 40(1), 55-71.
- Green, M., & Collins, S. (2008). Policy, politics and path dependency: Sport development in Australia and Finland. *Sport Management Review*, 11(3), 225-251.
- Green, M., & Houlihan, B. (2005). *Elite sport development: Policy learning and political priorities*: Psychology Press.
- Green, S., Campbell, E., Barnett, L., Mitchell, R., Radvan, D., & Van Beurden, E. (2009). Promoting a team ball game (lifeball) to older people: Who does this game attract and who continues? *Health Promotion Journal of Australia*, 20(2), 120-126.
- Greene, J. C. (2006). Toward a methodology of mixed methods social inquiry. *Research in the Schools*, 13(1), 93-98.
- Grenade, L., & Boldy, D. (2008). Social isolation and loneliness among older people: issues and future challenges in community and residential settings. *Australian Health Review*, 32(3), 468-478.
- Greendorfer, S.L. and Lewko, J.H. (1978). Role of family members in sport socialization of children. *Research Quarterly: American alliance for Health, Physical Education and Recreation*, 49, 146-152.
- Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Technology Research and Development*, 29(2), 75.
- Gusi, N., Reyes, M. C., Gonzalez-Guerrero, J. L., Herrera, E., & Garcia, J. M. (2008). Cost-utility of a walking programme for moderately depressed, obese, or overweight elderly women in primary care: a randomised controlled trial. *BMC Public Health*, 8(1), 231.
- Guzmán, J. F., & Kingston, K. (2012). Prospective study of sport dropout: A motivational analysis as a function of age and gender. *European Journal of Sport Science*, 12(5), 431-442.
- Gymnastics Australia. (2017). Australian Masters Games Gymnastics. Retrieved from https://www.gymnastics.org.au/Ga/Posts/News_Articles/2017/04_Apr/Australian_Masters_Games.aspx
- Hamilton, S. (2012). *The psychology of ageing: An introduction*. Jessica Kingsley Publishers.

- Hamlyn, D. W. (1995). The History of Epistemology. *The Oxford Companion to Philosophy*, 242-245.
- Hanlon, C. M., & Coleman, D. J. (2006). Recruitment and retention of culturally diverse people by sport and active recreation clubs. *Managing Leisure*, 11(2), 77-95.
- Harada, M. (1994). Early and later life sport participation patterns among the active elderly in Japan. *Journal of Aging and Physical Activity*, 2(2), 105-114.
- Hardy, L. L., Kelly, B., Chapman, K., King, L., & Farrell, L. (2010). Parental perceptions of barriers to children's participation in organised sport in Australia. *Journal of Paediatrics and Child Health*, 46(4), 197-203.
- Harrington, M. (2006). Sport and leisure as contexts for fathering in Australian families. *Leisure Studies*, 25(2), 165-183.
- Haskell, W. L., Lee, I. M., Pate, R. R., Powell, K. E., Blair, S. N., Franklin, B. A., Macera, C.A., Heath, G.W., Thompson, P.D., & Bauman, A. (2007). Physical activity and public health: updated recommendation for adults from the American College of Sports Medicine and the American Heart Association. *Circulation*, 116(9), 1081.
- Henderson, K., Casper, J, Wilson BE, Dern L. (2012). Behaviours, Reason, and Outcomes Perceived by Senior Games Participants. *Journal of Park and Recreation Administration*, 30(1), 19-35.
- Henry, A.L., Kyle, S.D., Bhandari, S., Chisholm, A., Griffiths, C.E.M., & Bundy, C. (2016). Measurement, Classification and Evaluation of Sleep Disturbance in Psoriasis: A Systematic Review. *PLoS One*. 11(6).
- 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), 105-113.
- Heuser, L. (2005). We're not too old to play sports: the career of women lawn bowlers. *Leisure Studies*, 24(1), 45-60.
- Holt, N. L., Kingsley, B. C., Tink, L. N., & Scherer, J. (2011). Benefits and challenges associated with sport participation by children and parents from low-income families. *Psychology of Sport and Exercise*, 12(5), 490-499.
- Houlihan, B. (2002). 11 Political involvement in sport, physical education and recreation, in *Sociology of Sport and Physical Education: An Introduction*, 190
- Howie, L. D., Lukacs, S. L., Pastor, P. N., Reuben, C. A., & Mendola, P. (2010). Participation in activities outside of school hours in relation to problem behavior and social skills in middle childhood. *Journal of School Health*, 80(3), 119-125.
- Hoye, R., Cuskelly, G., Taylor, T., & Darcy, S. (2008). Volunteer motives and retention in community sport: A study of Australian rugby clubs. *Australian Journal on Volunteering*, 13(2), 40.
- Hoye, R., & Nicholson, M. (2011). Australia. In M. Nicholson, R. Hoye, & B. Houlihan (Eds.), *Participation in Sport: International Policy Perspective*. London: Routledge.
- Hunt, K., Ford, G., and Mutrie, N. (2001). Is sport for all? Exercise and physical activity patterns in early and late middle age in the West of Scotland. *Health Education*. 101, 151-158.
- Independent Sport Panel (ISP). (2009). The future of sport in Australia (the Crawford Report), Commonwealth of Australia, Canberra. Retrieved from <http://apo.org.au/system/files/19766/apo-nid19766-38741.pdf>

- International Masters Games Association. (2016). *Athletics*. Retrieved from <https://www.imga.ch/>
- Jackson, E. L., Crawford, D. W., & Godbey, G. (1993). Negotiation of leisure constraints. *Leisure Sciences*, 15(1), 1-11.
- Jackson, H., & Shiell, A. (2017). *Preventative health: How much does Australia spend and is it enough?* Canberra: Foundation of Alcohol Research and Education. Retrieved from: http://fare.org.au/wp-content/uploads/Preventive-health-How-much-does-Australia-spend-and-is-it-enough_FINAL.pdf
- Jenkin, C. R., Eime, R. M., Westerbeek, H., O'Sullivan, G., & van Uffelen, J. G. Z. (2016a). 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 and Politics*, 1-18.
- Jenkin CR, Eime, R., Westerbeek, H.M., & van Uffelen, J.G.Z. (2016b). *Why don't older adults participate in sport? Reported prepared for the Australian Sports Commission*. Victoria University, Institute of Sport, Exercise and Active Living (ISEAL): Australia.
- Jenkin, C. R., Eime, R. M., Westerbeek, H., & van Uffelen, J. G. (2017a). Sport for Adults Aged 50+ Years: Participation Benefits and Barriers. *Journal of Aging and Physical Activity*, (in press).
- Jenkin, C.R., Eime, R.E., Westerbeek, H.M., O'Sullivan, G., & van Uffelen, J.G.Z. (2017b). Sport and Ageing: A systematic review of the determinants and trends of participation in sport for older adults. *BMC Public Health* (in press).
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112-133.
- Jolly, R. (2013). *Sports Funding: Federal Balancing Act*. Canberra: Commonwealth of Australia. Retrieved from https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BN/2012-2013/SportFunding
- Joppe, M. (2000). The research process.
- Joffres, C. (2004). Facilitators and challenges to organizational capacity building in heart health promotion. *Qualitative Health Research*, 14, 39-60.
- Juarbe, T., Turok, X. P., & Pérez-Stable, E. J. (2002). Perceived benefits and barriers to physical activity among older Latina women. *Western Journal of Nursing Research*, 24(8), 868-886.
- Jurbala, P. (2006). Sport, the voluntary sector, and Canadian identity.
- Kalakanis, L.E. (2001). Parental activity as a determinant of activity level and patterns of activity in obese children. *Research Quarterly for Exercise and Sport*. 72, 202-209.
- 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.
- Khan, K. M., Thompson, A. M., Blair, S. N., Sallis, J. F., Powell, K. E., Bull, F. C., & Bauman, A. E. (2012). Sport and exercise as contributors to the health of nations. *Lancet*, 380(9836), 59-64.
- Kidd, P. S., & Parshall, M. B. (2000). Getting the focus and the group: enhancing analytical rigor in focus group research. *Qualitative Health Research*, 10(3), 293-308.

- Kikulis, L. M., Slack, T., & Hinings, B. (1992). Institutionally specific design archetypes: A framework for understanding change in national sport organizations. *International Review for the Sociology of Sport*, 27(4), 343-368.
- Kim, J., Yamada, N., Heo, J., & Han, A. (2014). Health benefits of serious involvement in leisure activities among older Korean adults. *International Journal of Qualitative Studies on Health and Wellbeing*, 9.
- Kmet, L.M., R.C. Lee, & L.S. Cook (2004). *Standard quality assessment criteria for evaluating primary research papers from a variety of fields*. Alberta Heritage Foundation for Medical Research Edmonton.
- Knuth, A.G. and Hallal P.C. (2009). Temporal trends in physical activity: a systematic review. *Journal of Physical Activity & Health*. 6(5), 548.
- Koeneman, M.A., Verheijden, M.W., Chinapaw, M.J.M., & Hopman-Rock, M. (2011). *Determinants of physical activity and exercise in healthy older adults: a systematic review*. International Journal of Behavioral Nutrition and Physical Activity. 8,1, 1.
- Koeneman, M.A., Chinapaw, M.J.M., Verheijden, M.W., van Tilburg, T.G., Visser, M., Deeg, D.J.H. & Hopman-Rock, M. (2012). Do major life events influence physical activity among older adults: The Longitudinal Aging Study Amsterdam. *International Journal of Behavioral Nutrition and Physical Activity*, 9.
- Kolt, G.S., Driver, R.P., & Giles, L.C. (2004). Why older Australians participate in exercise and sport. *Journal of Aging and Physical Activity*. 12, 185–198.
- Kokko, S., Kannas, L., & Villberg, J. (2009). Health promotion profile of youth sports clubs in Finland: club officials' and coaches' perceptions. *Health Promotion International*. 24 (1), 26–35.
- Kotter, J. P. (1995). Leading change: Why transformation efforts fail. *Canada Communication Group*.
- Krueger, R. A., & Casey, M. A. (2014). *Focus groups: A practical guide for applied research*: Sage publications.
- Landis, J.R. & Koch G.G. (1977). The measurement of observer agreement for categorical data. *Biometrics*. 159-174.
- Langley, D.J. & Knight S.M. (1999). Continuity in Sport Participation as an Adaptive Strategy in the Aging Process: A Lifespan Narrative. *Journal of Aging & Physical Activity*. 7(1), 32.
- Lautenschlager, N. T., Cox, K. L., Flicker, L., Foster, J. K., van Bockxmeer, F. M., Xiao, J., & Almeida, O. P. (2008). Effect of physical activity on cognitive function in older adults at risk for Alzheimer disease: a randomized trial. *Jama*, 300(9), 1027-1037.
- Lechner, M. (2009). Long-run labour market and health effects of individual sports activities. *Journal of Health Economics*, 28(4), 839-854.
- Lee, I. M., Shiroma, E. J., Lobelo, F., Puska, P., Blair, S. N., Katzmarzyk, P. T., & Lancet Physical Activity Series Working, G. (2012). Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet*, 380(9838), 219-229.
- Légaré, F., Ratté, S., Gravel, K., & Graham, I.D. (2008). Barriers and facilitators to implementing shared decision-making in clinical practice: update of a systematic review of health professionals' perceptions. *Patient Education and Counseling*. 73(3), 526-535.
- Leipert, B. D., Plunkett, R., Meagher-Stewart, D., Scruby, L., Mair, H., & Wamsley, K. B. (2011). " I Can't Imagine My Life Without It!" Curling and Health

- Promotion: A Photovoice Study. *Canadian Journal of Nursing Research*, 43(1), 60-78.
- Leitner, M. J., & Leitner, S. F. (2004). *Leisure in Later Life*: Haworth Press New York.
- Lincoln, Y.S. and Guba, E.G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage Publications.
- Litchfield, C. and Dionigi, R.A. (2012). The meaning of sports participation in the lives of middle-aged and older women. *The International Journal of Interdisciplinary Social Sciences: Annual Review*. 6, 21–36.
- Lyons, K., & Dionigi, R. (2007). Transcending emotional community: A qualitative examination of older adults and masters' sports participation. *Leisure Sciences*, 29(4), 375-389.
- Magdalinski, T. (2000). The reinvention of Australia for the Sydney 2000 Olympic Games. *The International Journal of the History of Sport*, 17(2-3), 305-322.
- Maher, C., Olds, T., & Dollman, J. (2009). Adolescent sport in Australia: who, when, where and what? *ACHPER Australia Healthy Lifestyles Journal*, 56(1), 11.
- Marlier, M., Van Dyck, D., Cardon, G., De Bourdeaudhuij, I., Babiak, K., & Willem, A. (2015). Interrelation of Sport Participation, Physical Activity, Social Capital and Mental Health in Disadvantaged Communities: A SEM-Analysis. *PloS One*, 10(10),
- Marquez, D.X., et al. (2009). Health promotion for successful aging. *American Journal of Lifestyle Medicine*. 3, 12–19.
- Martin, K.A. & Sinden A.R. (2001). Who will stay and who will go? A review of older adults' adherence to randomized controlled trials of exercise. *Journal of Aging and Physical Activity*. 9(2) 91-114.
- Mason, J. (2006). Mixing methods in a qualitatively driven way. *Qualitative Research*, 6(1), 9-25.
- Mathews, A. E., Laditka, S. B., Laditka, J. N., Wilcox, S., Corwin, S. J., Liu, R., & Logsdon, R. G. (2010). Older adults' perceived physical activity enablers and barriers: a multicultural perspective. *Journal of Aging and Physical Activity*, 18(2), 119-140.
- Mauthner, N. S., & Doucet, A. (2003). Reflexive accounts and accounts of reflexivity in qualitative data analysis. *Sociology*, 37(3), 413-431.
- McDonald, I. (2005). Theorising partnerships: Governance, communicative action and sport policy. *Journal of Social Policy*, 34(04), 579-600.
- McEvoy, P., & Richards, D. (2006). A critical realist rationale for using a combination of quantitative and qualitative methods. *Journal of Research in Nursing*, 11(1), 66-78.
- Merom, D., Bauman, A., & Ford, I. (2004). The public health usefulness of the exercise recreation and sport survey (ERASS) surveillance system. *Journal of Science & Medicine in Sport*, 7(1), 32-37.
- Merom, D., Carmen, C., Kamalesh, V., & Adrian, B. (2012). How diverse was the leisure time physical activity of older Australians over the past decade? *Journal of Science and Medicine in Sport*. 15(3), 213-219.
- Mintel. (2000). *Family Leisure Trends*. London.
- Monteiro, D., Cid, L., Marinho, D. A., Moutão, J., Vitorino, A., & Bento, T. (2017). Determinants and Reasons for Dropout in Swimming – Systematic Review. *Sports*, 5(3), 50.
- Moodie, A. R., Tolhurst, P., & Martin, J. E. (2016). Australia's health: being accountable for prevention. *Medical Journal of Australia*, 204(6), 223-225.

- Moran, J. W., & Brightman, B. K. (2000). Leading organizational change. *Journal of Workplace Learning*, 12(2), 66-74.
- Morgan, D. L. (1995). Why things (sometimes) go wrong in focus groups. *Qualitative Health Research*, 5(4), 516-523.
- Morgan, D. L. (1996). *Focus groups as qualitative research* (Vol. 16): Sage publications.
- Morgan, D. L. (1997). *The focus group guidebook* (Vol. 1). Sage Publications.
- Morse, J. M., Niehaus, L., Wolfe, R. R., & Wilkins, S. (2006). The role of the theoretical drive in maintaining validity in mixed-method research. *Qualitative Research in Psychology*, 3(4), 279-291.
- Moschny, A., Platen, P., Klaaßen-Mielke, R., Trampisch, U., & Hinrichs, T. (2011). Barriers to physical activity in older adults in Germany: a cross-sectional study. *International Journal of Behavioral Nutrition and Physical Activity*, 8(1), 121.
- Mota, J., Barros, M., Ribeiro, J. C., & Santos, M. P. (2013). Leisure Time, Physical Activity, and Health *Positive Leisure Science* (p. 159-174): Springer.
- Mudrak, J. (2010). Sprinters in the course of a marathon: Withdrawal from elite competitive sport in adolescence. *Gifted and Talented International*, 25(2), 125-136.
- Naar, J. J., Wong, J. D., West, S. T., Son, J. S., & Liechty, T. (2017). A Socioecological Approach to Women's Participation in Competitive Softball During Middle and Late Adulthood: Implications for the Future. *Topics in Geriatric Rehabilitation*, 33(3), 170-181.
- New South Wales Ministry of Health. (2014). New South Wales State Health Plan: Towards 2021. Retrieved from <http://www.health.nsw.gov.au/statehealthplan/Pages/NSW-State-Health-Plan-Towards-2021.aspx>
- Nicholson, M., & Hoye, R. (2008). *Sport and social capital*. Routledge.
- Nicholson, M., Hoye, R., & Houlihan, B. (2010). *Participation in sport: international policy perspectives*: Routledge.
- Oakland, J. S., & Tanner, S. (2007). Successful change management. *Total Quality Management & Business Excellence*, 18(1-2), 1-19.
- Oh, S., Lim, J.-M., Kim, Y., Kim, M., Song, W., & Yoon, B. (2015). Comparison of the effects of water-and land-based exercises on the physical function and quality of life in community-dwelling elderly people with history of falling: a single-blind, randomized controlled trial. *Archives of Gerontology and Geriatrics*, 60(2), 288-293.
- Oja, P., Titze, S., Bauman, A., De Geus, B., Krenn, P., Reger-Nash, B., & Kohlberger, T. (2011). Health benefits of cycling: a systematic review. *Scandinavian Journal of Medicine & Science in Sports*. 21(4), 496-509.
- Organisation for Economic Co-operation and Development. (2016). *OECD statistics: Health expenditure and financing*. Retrieved from <http://stats.oecd.org/index.aspx?DataSetCode=SHA>
- Orthner, D. K., & Mancini, J. A. (1991). Benefits of leisure for family bonding. *Benefits of Leisure*, 289-301.
- Österlind, M. (2016). Sport policy evaluation and governing participation in sport: governmental problematics of democracy and health. *International Journal of Sport Policy and Politics*, 8(3), 347-362.
- Palacios-Ceña, D., Fernandez-de-Las-Peñas, C., Hernández-Barrera, V., Jiménez-García, R., Alonso-Blanco, C., & Carrasco-Garrido, P. (2012). Sports

- participation increased in Spain: a population-based time trend study of 21 381 adults in the years 2000, 2005 and 2010. *British Journal of Sports Medicine*.
- Patel, A., Schofield, G.M., Kolt, G.S. & Keogh, J. (2013). Perceived barriers, benefits and motives for physical activity: two primary-care physical activity prescription programs. *Journal of Aging and Physical Activity*, 21(1), 85.
- Paterson, D.H., Jones, G.R., & Rice, C.L. (2007). Ageing and physical activity: evidence to develop exercise recommendations for older adults. This article is part of a supplement entitled Advancing physical activity measurement and guidelines in Canada: a scientific review and evidence-based foundation for the future of Canadian physical activity guidelines. *Applied Physiology, Nutrition, and Metabolism & the Canadian Journal of Public Health*.
- Patton, M.Q. (2002). *Qualitative research & evaluation methods*. Thousand Oaks, CA: SAGE Publications.
- Peek, L., & Fothergill, A. (2009). Using focus groups: lessons from studying daycare centers, 9/11, and Hurricane Katrina. *Qualitative Research*, 9(1), 31-59.
- Pelletier, L. G., Fortier, M. S., Vallerand, R. J., & Brière, N. M. (2001). Associations among perceived autonomy support, forms of self-regulation, and persistence: A prospective study. *Motivation and Emotion*, 25(4), 279-306.
- Petry, K. & Schulze, B. (2010). Germany. In M. Nicholson, R. Hoye, & B. Houlihan (Eds.), *Participation in Sport: International Policy Perspective*. London: Routledge.
- Phillips, P. and Newland, B. (2014). Emergent models of sport development and delivery: the case of triathlon in Australia and the US. *Sport Management Review*. 17, 107–120.
- Pike, E. C. J. (2012). Aquatic antiques: Swimming off this mortal coil? *International Review for the Sociology of Sport*, 47(4), 492-510.
- Pike, E.C.J. (2015). Assessing the sociology of sport: On age and ability. *International Review for the Sociology of Sport*. 50(4-5), 570-574.
- Pluye, P. & Q.N. Hong. (2014). Combining the power of stories and the power of numbers: mixed methods research and mixed studies reviews. *Public Health*, 35(1), 29.
- Rasinaho, M., Hirvensalo, M., Leinonen, R., Lintunen, T., & Rantanen, T. (2007). Motives for and barriers to physical activity among older adults with mobility limitations. *Journal of Aging and Physical Activity*, 15(1), 90.
- Rechel, B., Doyle, Y., Grundy, E., & McKee, M. (2009). How can health systems respond to population ageing? *European Observatory on Health Systems and Policies, Policy Brief 10*.
- Reddy, P., Dias, I., Holland, C., Campbell, N., Nagar, I., Connolly, L., Krustrup, P., & Hubball, H. (2017). Walking football as sustainable exercise for older adults— A pilot investigation. *European Journal of Sport Science*, 17(5), 638-645.
- Rippon, I., Kneale, D., de Oliveira, C., Demakakos, P., & Steptoe, A. (2013). Perceived age discrimination in older adults. *Age and Ageing*, 43(3), 379-386.
- Robinson, J., & Godbey, G. (2010). *Time for life: The surprising ways Americans use their time*: Penn State Press.
- Robinson, K. R., Leighton, P., Logan, P., Gordon, A. L., Anthony, K., Harwood, R. H., Gladman, J.R.F., & Masud, T. (2014). Developing the principles of chair based exercise for older people: a modified Delphi study. *BMC Geriatrics*, 14(1), 65.

- Rowe, K., Shilbury, D., Ferkins, L., & Hinckson, E. (2013). Sport development and physical activity promotion: An integrated model to enhance collaboration and understanding. *Sport Management Review*, 16(3), 364-377.
- Ruseski, J. E., Humphreys, B. R., Hallmann, K., & Breuer, C. (2011). Family structure, time constraints, and sport participation. *European Review of Aging and Physical Activity*, 8(2), 57.
- Rydwik, E., Welmer, A.-K., Kåreholt, I., Angleman, S., Fratiglioni, L., & Wang, H.-X. (2012). Adherence to physical exercise recommendations in people over 65—The SNAC-Kungsholmen study. *The European Journal of Public Health*, cks150.
- Salguero, A., Gonzalez-Boto, R., Tuero, C., & Marquez, S. (2003). Identification of dropout reasons in young competitive swimmers. *Journal of Sports Medicine and Physical Fitness*, 43(4), 530.
- Sallis, J., Bauman, A., & Pratt, M. (1998). Environmental and policy interventions to promote physical activity. *American Journal of Preventive Medicine*, 15(4), 379-397.
- Sallis, J. F., Owen, N. & Fisher, E. B. (2008). Ecological models of health behavior. *Health behavior and health education: Theory, research, and practice*, 4, 465-486.
- Sandford, R. A., Duncombe, R., & Armour, K. M. (2008). The role of physical activity/sport in tackling youth disaffection and anti-social behaviour. *Educational Review*, 60(4), 419-435.
- Sarrazin, P., Vallerand, R., Guillet, E., Pelletier, L., & Cury, F. (2002). Motivation and dropout in female handballers: A 21-month prospective study. *European Journal of Social Psychology*, 32(3), 395-418.
- Sato, D., Seko, C., Hashitomi, T., Sengoku, Y., & Nomura, T. (2015). Differential effects of water-based exercise on the cognitive function in independent elderly adults. *Aging Clinical and Experimental Research*, 27(2), 149-159.
- Sawrikar, P., & Muir, K. (2010). The myth of a 'fair go': Barriers to sport and recreational participation among Indian and other ethnic minority women in Australia. *Sport Management Review*, 13(4), 355-367.
- Scheerder, J., Vanreusel, B., Taks, M., & Renson, R. (2005). Social stratification patterns in adolescents' active sports participation behaviour: a time trend analysis 1969-1999. *European Physical Education Review*, 11(1), 5-27.
- Scheerder, J., Vanreusel, B., and Taks, M. (2005a). Stratification patterns of active sport involvement among adults social change and persistence. *International Review for the Sociology of Sport*. 40, 139-162.
- Scheerder, J., Thomis, M., Vanreusel, B., Lefevre, J., Renson, R., Eynde, B.V. & Beunen, G.P. (2006b). Sports participation among females from adolescence to adulthood a longitudinal study. *International Review for the Sociology of Sport*. 41(3-4), 413-430.
- Seabra, A.F., Mendonça, D.M., Thomis, M.A., Peters, T.J. and Maia, J.A. (2008). Associations between sport participation, demographic and socio-cultural factors in Portuguese children and adolescents. *The European Journal of Public Health*. 18(1), 25-30.
- Shakib, S. (2003). Female basketball participation: Negotiating the conflation of peer status and gender status from childhood through puberty. *American Behavioral Scientist*, 46(10), 1405-1422.
- Shannon-Baker, P. (2015). Making paradigms meaningful in mixed methods research. *Journal of Mixed Methods Research*.

- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63-75.
- Shibli, S.T. (1999). The characteristics of volunteers in UK sports clubs. *European Journal for Sport Management*. 6, 10–27.
- Shields, N., Synnot, A. J., & Barr, M. (2011). Perceived barriers and facilitators to physical activity for children with disability: a systematic review. *British Journal of Sports Medicine*.
- Siegenthaler, K. L., & O'Dell, I. (2003). Older golfers: Serious leisure and successful aging. *World Leisure Journal*, 45(1), 45-52.
- Silverman, D. (2010). *Doing qualitative research: a practical handbook*. 3rd ed. London: Sage.
- Sirven, N. & Debrand, T. 2008. Social participation and healthy ageing: An international comparison using SHARE data. *Social Science & Medicine*, 67, 2017-2026.
- Skinner, J., Stewart, B., & Edwards, A. (1999). Amateurism to professionalism: Modelling organisational change in sporting organisations. *Sport Management Review*, 2(2), 173-192.
- Slack, T., & Hinings, B. (1992). Understanding change in national sport organizations: An integration of theoretical perspectives. *Journal of Sport Management*, 6(2), 114-132.
- Slack, T., & Parent, M. M. (2006). *Understanding sport organizations: The application of organization theory*: Human Kinetics.
- Smith, C.L. & M. Storandt. (1997). Physical Activity Participation in Older Adults: A Comparison of Competitors, Noncompetitors, and Nonexercisers. *Journal of Aging & Physical Activity*. 5(2), 98.
- Son, J. S., Kerstetter, D. L., & Mowen, A. J. (2008). Do age and gender matter in the constraint negotiation of physically active leisure? *Journal of Leisure Research*, 40(2), 267.
- Song, M.-S., Yoo, Y.-K., Choi, C.-H., & Kim, N.-C. (2013). Effects of nordic walking on body composition, muscle strength, and lipid profile in elderly women. *Asian Nursing Research*, 7(1), 1-7.
- Sport England. (2016). *Towards an Active Nation Strategy 2016-2021*. Retrieved from <http://files.pitchero.com/counties/112/1464005691.pdf>
- Sport England. (2017a). *Active Ageing Fund*. Retrieved from <https://www.sportengland.org/funding/active-ageing-fund/>
- Sport England. (2017b). *This Girl Can*. Retrieved from <https://www.sportengland.org/our-work/women/this-girl-can/>
- Sport New Zealand. (2016). *The New Zealand Active Older People Discussion Document*. Bay of Plenty. Retrieved from <http://www.sportnz.org.nz/assets/Uploads/Active-Older-People-Discussion-Document-30-Nov-2016.pdf>
- Squires, J.E., Estabrooks, C.A., Gustavsson, P., & Wallin, L. (2011) Individual determinants of research utilization by nurses: a systematic review update. *Implementation Science*,. 6(1): p. 1.
- Stamatakis, E. and Chaudhury M. (2008). Temporal trends in adults' sports participation patterns in England between 1997 and 2006: the Health Survey for England. *British Journal of Sports Medicine*. 42(11), 901-908.
- Steindorf, K., Chang-Claude, J., Flesch-Janys, D., & Schmidt, M.E. (2010). Determinants of sports, cycling, walking and overall leisure-time physical

- activity among postmenopausal women in Germany. *Public Health Nutrition*. 13(11), 1905-1914.
- Steves, C. J., Spector, T. D., & Jackson, S. H. (2012). Ageing, genes, environment and epigenetics: what twin studies tell us now, and in the future. *Age and Ageing*, 41(5), 581-586.
- Stewart, B. (2004). *Australian Sport--better by Design?: The Evolution of Australian Sport Policy*: Psychology Press.
- Stokols, D. (1992). Establishing and maintaining healthy environments: Toward a social ecology of health promotion. *American Psychologist*, 47(1), 6.
- Strachan, L., Côté, J., & Deakin, J. (2009). 'Specializers' versus 'samplers' in youth sport: comparing experiences and outcomes. *The Sport Psychologist*, 23(1), 77-92.
- Sun, F., Norman, I.J. & While, A.E. (2013). Physical activity in older people: a systematic review. *BMC Public Health*. 13.
- Tashakkori, A., & Creswell, J. W. (2007). Editorial: The new era of mixed methods: Sage Publications.
- Taylor, A.H., Cable, N. T., Faulkner, G., Hillsdon, M., Narici, M., & Van Der Bij, A. K.. (2004). Physical activity and older adults: a review of health benefits and the effectiveness of interventions. *Journal of Sports Sciences*. 22,8, 703-725.
- Teddle, C., & Tashakkori, A. (2003). Major issues and controversies in the use of mixed methods in the social and behavioral sciences. *Handbook of Mixed Methods in Social & Behavioral Research*, 3-50.
- Telama, R., Yang, X., Viikari, J., Välimäki, I., Wanne, O. & Raitakari, O. (2005). Physical activity from childhood to adulthood: a 21-year tracking study. *American Journal of Preventive Medicine*. 28(3), 267-273.
- Terry, P. C., Lane, A. M., Lane, H. J., & Keohane, L. (1999). Development and validation of a mood measure for adolescents. *Journal of Sports Sciences*, 17(11), 861-872.
- Thibault, L., Slack, T., & Hinings, B. (1993). A framework for the analysis of strategy in nonprofit sport organizations. *Journal of Sport Management*, 7(1), 25-43.
- Thibault, L., & Babiak, K. (2005). Organizational Changes in Canada's Sport System: Toward an Athlete-Centred Approach 1. *European Sport Management Quarterly*, 5(2), 105-132.
- Todnem By, R. (2005). Organisational change management: A critical review. *Journal of Change Management*, 5(4), 369-380.
- Toepoel, V. (2013). Ageing, leisure, and social connectedness: how could leisure help reduce social isolation of older people? *Social Indicators Research*, 113(1), 355-372.
- Toftgaard-Støckel, J. (2011). Parental, socio and cultural factors associated with adolescents' sports participation in four Danish municipalities. *Scandinavian Journal of Medicine & Science in Sports*. 21, 606-611.
- Trost, S.G., Owen, N., Bauman, A.E., Sallis, J.F., & Brown, W. (2002). Correlates of adults' participation in physical activity: review and update. *Medicine and Science in Sports and Exercise*. 34(12), 1996-2001.
- Ullrich-French, S. & Smith, A.L. (2006). Perceptions of relationships with parents and peers in youth sport: independent and combined prediction of motivational outcomes. *Psychology of Sport and Exercise*. 7, 193-214.
- Trabal, P., & Augustini, M. (1997). L'abandon de la pratique de la boxe française. *Actes du*, 15.

- UK Sport & Sport England. (2016). *A Code for Sports Governance*. Retrieved from https://www.sportengland.org/media/11193/a_code_for_sports_governance.pdf
- United Nations. (2003). *Sport for Development and Peace: Towards Achieving the Millennium Development Goals. Report from the United Nations Inter-Agency Task Force on Sport for Development and Peace*. Retrieved from https://www.un.org/sport2005/resources/task_force.pdf
- University of Central Queensland (2014). *Australian Health and Social Science Panel Study*. Retrieved from <http://www.cqu.edu.au/research/research-organisations/institutes/health-and-social-sciences/centres2/population-research-laboratory/research/australian-health-and-social-science-panel-study>
- van Uffelen, J. G. Z., Jenkin, C.R., Westerbeek, H.M. Biddle, S.J.H., & Eime, R. M. (2015). *Active and Healthy Ageing through Sport. Report prepared for the Australian Sports Commission*. Retrieved from https://www.clearinghouseforsport.gov.au/__data/assets/pdf_file/0010/650737/Active_and_healthy_ageing_through_sport_2015_Final.pdf
- VicSport. (2017). *Transition to Mandatory Board Quotas*. Retrieved from <https://memberhq.s3.amazonaws.com/vicsport/uploads/About.Quotas-Project.-March-2017.FINAL.pdf>
- Victorian State Government. (2015). *Inquiry into Women and Girls in Sport and Active Recreation: A Five Year Game Plan for Victoria*. Retrieved from <http://www.sport.vic.gov.au/sites/default/files/documents/201704/Inquiry%20into%20women%20and%20girls%20in%20sport.pdf>
- Victorian Department of Health and Human Services. (2015). *Victorian Public Health and Wellbeing Plan 2015-2019*. Retrieved from <https://www2.health.vic.gov.au/about/health-strategies/public-health-wellbeing-plan>
- Victorian Health Promotion Foundation. (2012). *Capacity Building for Health Promotion information sheet*. Retrieved from <https://www.vichealth.vic.gov.au/media-and-resources/publications/capacity-building-for-health-promotion>
- Victorian Health Promotion Foundation (VicHealth). (2010). *Building Health Through Sport, VicHealth Action Plan 2010-13*. Retrieved from: <https://www.vichealth.vic.gov.au/media-and-resources/publications/building-health-through-sport>
- Vogeli, C., Shields, A.E., Lee, T.A., Gibson, T.B., Marder, W.D., Weiss, K.B., & Blumenthal, D. (2007). Multiple chronic conditions: prevalence, health consequences, and implications for quality, care management, and costs. *Journal of General Internal Medicine*, 22(3), 391-395.
- Vuori, I., Paronen, O., & Oja, P. (1998). How to develop local physical activity promotion programmes with national support: the Finnish experience. *Patient Education and Counseling*, 33, S111-S120.
- Wiener, J. M., & Tilly, J. (2002). Population ageing in the United States of America: implications for public programmes. *International Journal of Epidemiology*, 31(4), 776-781.
- Wood, L., & Danylchuk, K. (2012). Constraints and negotiation processes in a women's recreational sport group. *Journal of Leisure Research*, 44(4), 463.
- World Health Organisation. (2002). *Health Statistics and information systems*. Retrieved from <http://www.who.int/healthinfo/en/>

- World Health Organisation (2006). *Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June 1946, and entered into force on 7 April 1948*. Retrieved from http://www.who.int/governance/eb/who_constitution_en.pdf
- World Health Organisation. (2011) *Global health and ageing*. US National Institute on Ageing Bethesda. Retrieved from http://www.who.int/ageing/publications/global_health.pdf
- World Health Organisation. (2013). *Global action plan for the prevention and control of NCDs 2013-2020*. Geneva. Retrieved from http://www.who.int/nmh/events/ncd_action_plan/en/
- World Health Organisation. (2015). *World Report on Ageing and Health*. Retrieved from http://apps.who.int/iris/bitstream/10665/186468/1/WHO_FWC_ALC_15.01_eng.pdf?ua=1
- World Health Organisation. (2016). *The Global Strategy and Action Plan on Ageing and Health*. Retrieved from <http://who.int/ageing/global-strategy/en/>
- World Health Organisation. (2017). *Physical Activity*. Retrieved from http://www.who.int/topics/physical_activity/en/
- Wu, O., Bayoumi, N., Vickers, M. A., & Clark, P. (2008). ABO (H) blood groups and vascular disease: a systematic review and meta-analysis. *Journal of Thrombosis and Haemostasis*. 6(1), 62-69.
- Yeom, H.A., Fleury, J., and Keller, C. (2008). Risk factors for mobility limitation in community-dwelling older adults: a social ecological perspective. *Geriatric Nursing*. 29, 133–140.

Appendices

Appendix 1A: Sporting Organisational Survey: Survey Questions & Participant Implied Consent Form



ISEAL
INSTITUTE OF SPORT,
EXERCISE AND ACTIVE LIVING

Active and Healthy Ageing through Sport

Introduction:

This survey is specifically designed to learn more about the sporting options available for adults aged 50 years and older, and about your organisation's work in relation to actively engaging adults in your sport as they age. This survey is part of a larger research project that is being run by Victoria University in partnership with the Australian Sports Commission.

How to participate:

This is a one off survey that should take approximately 20 minutes to complete.

Benefits of participation:

The results of this survey will provide an extensive overview of the current sporting options available for people aged 50+ years, the potential barriers to participation, and the potential strategies to increase grassroots sports participation. The results will be used to develop a resource, which can help sporting organisations to promote sports participation for adults aged 50+ years. Respondents will receive a summary of the results upon completion of this research, and a copy of the resource.

General information:

Your responses will be treated confidentially. Only the research team will have access to your responses, and your information will be kept confidential and anonymous. Your name, and your sporting organisation's name, will be de-identified and only summarised group data will be reported.

Please read each question carefully and answer all as accurately as you can. If you are unsure about how to answer any of the questions, please contact Claire Jenkin (claire.jenkin@live.vu.edu.au or 0420 659 010).

The following definitions will be used throughout this survey:

- **Older adults/participants** = adults aged 50 years and older
- **Actively participating** = older adults playing your sport, whether socially or competitively. This does not include older adults who are coaching, officiating or volunteering in a club/organisation within your sport.

By completing and submitting this survey, you are consenting to participate in this research project.

Section 1: You and your role

What is your age?

_____ years

What is your gender?

Male

Female

What is your job title?

Within your job, are you mainly responsible for: (select one)

Strategic development

Programme delivery

Both strategic development and programme delivery

Other, please specify:

What type of sporting organisation do you work for?	
National	<input type="checkbox"/>
State	<input type="checkbox"/>
If state, please specify which state: _____	

What sporting organisation do you work for?

How long, in total, have you been working within your sporting organisation as a paid employee?
_____ years

How long, in total, have you worked within the sports sector in general, as a paid employee?
_____ years

What is your sporting organisation's level of priority to increase sport participation for each of the following groups? (select one box on each line)					
	Very low	Low	Neither low nor high	High	Very high
Primary school children (5-10 yrs)	<input type="checkbox"/>				
Early to mid teenagers (11-15 yrs)	<input type="checkbox"/>				
Older teenagers (16-19 yrs)	<input type="checkbox"/>				
Adults (20-49 yrs)	<input type="checkbox"/>				
Older adults (50 yrs +)	<input type="checkbox"/>				
Culturally and linguistically diverse communities (CALD)	<input type="checkbox"/>				
Aboriginal and Torres Strait Islanders (ATSI)	<input type="checkbox"/>				
People with a disability	<input type="checkbox"/>				
Women	<input type="checkbox"/>				
Men	<input type="checkbox"/>				
Other, please specify: _____	<input type="checkbox"/>				

Section 2: Your sport

Some sporting organisations have specific sports strategies or programmes for older adults.

Strategy = a long term plan to attract older adults into your sport, and/or retain players as they age, which is not part of a specific older adults' programme.

Programme = a formal programme(s)/series of activities that are specifically designed for older adults.

Does your organisation currently have any specific sport participation strategies, which are not a component of a specific programme, for older adults?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

Please provide the name(s) of the strategy/strategies:

Strategy 1:	
Strategy 2:	

Does your organisation have any specific sport programmes for older adults?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

Please provide the name(s) of the programme(s):	
Programme 1:	<hr/> <hr/>
Programme 2:	<hr/> <hr/>

Section 3: Sport and ageing - barriers and benefits

To what extent do you agree that the following issues could be barriers to increase participation in older people for your sport: (select one box in each line)

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Suitable equipment for older players	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suitable facilities for older players	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate programmes for older players	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specific competitions for older players	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Designated staff to develop programmes for this specific group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Designated staff to manage programmes for this specific group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient resources to develop programmes for this specific group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient resources to manage programmes for this specific group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of demand from older adults to justify specific programmes for this group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concerns/difficulties about insuring older players	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Main focus is on other age groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Main focus is on other target groups	<input type="checkbox"/>				
Other, please specify: <hr/>	<input type="checkbox"/>				

To what extent do you agree that the following outcomes of increasing participation for older adults could be beneficial for your sport: (select one box on each line)

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Increase overall participation numbers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Engage with your older fan base	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increase your older fan base	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Develop positive role models for your younger players	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Be socially responsible and as such accommodate a growing older demographic in our society	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 4: Sport and ageing - increasing participation

To what extent do you agree that the following potential modifications could help to retain current older players and/or attract new older players in your sport: (select one box on each line)

Potential modifications	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	N/A
Decrease in level of physical contact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increase in team size	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decrease in team size	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower frequency of training sessions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shorter training sessions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower frequency of matches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shorter playing time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smaller playing size (i.e. court/pitch/oval)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increase flexibility of membership options	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changes in equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower the cost of participating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Change the way your sport is advertised to older adults	<input type="checkbox"/>					
More accessible locations (i.e. near retirement villages)	<input type="checkbox"/>					
Improve accessibility (i.e. introduce ramps/handrails)	<input type="checkbox"/>					
Introduce age specific competition categories (i.e. over 50 years)	<input type="checkbox"/>					
Introduce age specific social play categories (i.e. over 50 years)	<input type="checkbox"/>					
Introduce social play rather than competition	<input type="checkbox"/>					
Introduce gender specific programmes	<input type="checkbox"/>					
Introduce a stronger focus on specific strength and conditioning programmes	<input type="checkbox"/>					
Collaborate with community organisations	<input type="checkbox"/>					
Collaborate with ageing/senior programmes	<input type="checkbox"/>					
Other, please specify: _____	<input type="checkbox"/>					

If you have any further comments on the modifications presented in the previous question, please provide below:

Appendix 1B: Sporting Organisational Survey: Participant Information Sheet



INFORMATION TO PARTICIPANTS INVOLVED IN RESEARCH

You are invited to participate

You are invited to participate in a research project entitled **Active and Healthy Ageing: a survey study about sport and ageing**.

This project is being conducted by Claire Jenkin, Dr Jannique Van Uffelen, Associate Professor Rochelle Eime and Professor Hans Westerbeek of the Institute of Sport, Exercise and Active Living (ISEAL) at Victoria University in Melbourne. This study has been co-funded and supported by the Australian Sports Commission.

Project explanation

The aim of this survey is to understand the current sporting opportunities for people aged 50+ years to play sport, and explore potential strategies of how to engage people of this age into sport, across a wide range of Australian sporting organisations.

What will I be asked to do?

You can participate in this survey study, if you are:

- An employee of a national or state sporting organisation who works in a role that includes increasing/ growing sports participation
- 18 years old or older
- able to understand and communicate in written English

If you would like to participate and if you meet the above criteria, you will be invited to complete a one off online survey which will take approximately 20 minutes to complete. If you prefer, we can send you a paper survey and a pre-paid envelope. The information you provide will be anonymous, and the data from your survey will be de-identified for your sport.

If you are from a national sporting organisation, you will also be asked to provide a named employee from each of your state or territory organisations, along with their job role and contact details. We will then contact that employee to also complete this survey.

What will I gain from participating?

The study will provide an overview of the current sporting options available for people aged 50+ years, the potential benefits and barriers to participation, and the potential strategies to increase sports

participation. The results will be used to develop a resource, which can help sporting organisations increase sports participation for adults aged 50+ years. The ASC will send a summary report to all organisations that were contacted.

How will the information I give be used?

This study is the second of a series of studies informing the development of a resource to promote sports participation in people aged 50+ years. The overall aim is to inform the development of a resource for sporting organisations to increase sports participation. The data will also be used in research reports, in scientific publications, and conference presentations. All data will be de-identified and summarised in these presentations. Data will be treated confidentially and individuals outside of the research team will not have access to your personal information.

What are the potential risks of participating in this project?

You may feel a little anxious about disclosing your opinions on this subject. If this occurs, you are free to drop out of the project, with no repercussions and no explanation needed.

How will this project be conducted?

You will have an opportunity to discuss the research programme with members of the research team prior to signing the consent section of the survey. The consent section will immediately precede the start of the main survey questions for the online survey. If you decide to not complete the survey, your organisation will not be informed in any way.

Who is conducting the study?

Institute of Sport, Exercise and Active Living (ISEAL), Victoria University

College of Sport and Exercise Science, Victoria University

Chief Investigators:

Claire Jenkin

phone: 0420 659 010

E-mail:

claire.jenkin@live.vu.edu.au

Dr Jannique van Uffelen

Associate Professor Rochelle Eime

Professor Hans Westerbeek

Any queries about your participation in this project may be directed to the Chief Investigators listed above. If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

Appendix 1C: Sporting Organisational Survey: Consent Form (hard copy survey)



CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

INFORMATION TO PARTICIPANTS:

We would like to invite you to participate in a survey study about active and healthy ageing. The aim of this survey is to understand the current sporting opportunities for people of this age to play sport, and explore potential strategies of how to engage people aged 50 years or older into sport. This is a collaborative project between the Australian Sports Commission and Victoria University.

Participation involves completing a one-off online survey, which should take approximately 20 minutes to complete. If you prefer, we can send you a paper survey and a reply paid envelope. Survey answers will be collected and analysed by the VU research team. The information you provide will be anonymous, and the data from your survey will be de-identified for your sport.

CERTIFICATION BY SUBJECT

I certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the study:

Active and Healthy Ageing: a survey study about sport and ageing with representatives of sporting organisations, being conducted at Victoria University by Ms Claire Jenkin, Dr Jannique van Uffelen, Associate Professor Rochelle Eime and Professor Hans Westerbeek.

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by Ms Claire Jenkin and that I freely consent to participation involving the below mentioned procedures:

- Completing a survey
- Agree for the research team to use the answers I give in this survey for research purposes.

I certify that I have had the opportunity to have any questions answered. I understand that I can withdraw from this study at any time, and that this withdrawal will not jeopardise me in any way. I also understand that I can leave blank any questions I feel unable to answer in the survey.

Any queries about your participation in this project may be directed to the researcher Claire Jenkin on 0420 659 010 or claire.jenkin@live.vu.edu.au.

The researchers may wish to contact you in the future for future studies on ageing or sport. If this is the case, do you allow the research team to contact you for research projects related to this study?

Yes

No

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email Researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

By returning your completed survey, you are indicating consent to participate in the research study.

Appendix 1D: Ethics Application: Survey

- » Application ID: HRE14-234
- » Chief Investigator: DR JANNIQUE VAN UFFELEN
- » Other Investigators: MISS Claire Jenkin, PROF HANS WESTERBEEK, DR ROCHELLE EIME
- » Application Title: Healthy and Active Ageing: a survey study on sport and ageing for national and state sporting organisations
- » Form Version: 13-07

The application has been accepted and deemed to meet the requirements of the National Health and Medical Research Council (NHMRC) 'National Statement on Ethical Conduct in Human Research (2007)' by the Victoria University Human Research Ethics Committee. Approval has been granted for two (2) years from the approval date; 20/10/2014.

Continued approval of this research project by the Victoria University Human Research Ethics Committee (VUHREC) is conditional upon the provision of a report within 12 months of the above approval date or upon the completion of the project (if earlier). A report proforma may be downloaded from the Office for Research website at: <http://research.vu.edu.au/hrec.php>.

Please note that the Human Research Ethics Committee must be informed of the following: any changes to the approved research protocol, project timelines, any serious events or adverse and/or unforeseen events that may affect continued ethical acceptability of the project. In these unlikely events, researchers must immediately cease all data collection until the Committee has approved the changes. Researchers are also reminded of the need to notify the approving HREC of changes to personnel in research projects via a request for a minor amendment. It should also be noted that it is the Chief Investigators' responsibility to ensure the research project is conducted in line with the recommendations outlined in the National Health and Medical Research Council (NHMRC) 'National Statement on Ethical Conduct in Human Research (2007).'

On behalf of the Committee, I wish you all the best for the conduct of the project.

Secretary, Human Research Ethics Committee
Phone: 9919 4781 or 9919 4461
Email: researchethics@vu.edu.au

Appendix 2A: Focus Group Interview Schedule with representatives of National Sporting Organisations

	Topic and questions <i>Cursive font: prompting questions to encourage discussion</i>	Time
	<i>Sport and ageing: attitudes, thoughts and opinions</i>	20 mins
Q1	What is your role in the sporting organisation and how do you think it is relevant to sport and ageing? <ul style="list-style-type: none"> • <i>Can you tell us about sport participation in this age group (50+) within your organisation?</i> 	5 mins
Q2	What do you think are positive and negative aspects of sport participation in this age group? <ul style="list-style-type: none"> • <i>Benefits or risks for the individual – general or specific?</i> • <i>Benefits or specific risks for sporting organisation – general or specific?</i> 	10 mins
Q3	Why do you think many people this age do/don't play your sport?	5 mins
	<i>Drop out from sport</i>	10 mins
Q4	What do you think are the potential reasons why less people play (your) sport as they get older? <ul style="list-style-type: none"> • <i>Has your organisation experienced this?</i> 	5 mins
Q5	What is the weighting of resources allocated/spent on this age group? <ul style="list-style-type: none"> • <i>How does this compare to other age groups?</i> • <i>What are the reasons for this?</i> 	5 mins
	<i>Strategies to retain or attract active members aged 50+ years</i>	25 mins
Q6	In what ways does your organisation try to retain or increase the number of playing participants this age, in comparison to other age groups? <ul style="list-style-type: none"> • <i>If yes, what strategies did the organisation use? (e.g. specific programmes)</i> <ul style="list-style-type: none"> • <i>What were your experiences? (What worked well, what worked less well; Why; How did you overcome difficulties)</i> • <i>If no, how come?</i> 	10 mins
Q7	How do you think the organisation can retain or increase the number of active members this age? <ul style="list-style-type: none"> • <i>What strategies would you use?</i> • <i>What are your thoughts about the following ideas for people this age?</i> <ul style="list-style-type: none"> ○ <i>Changes in timing/schedule/location?</i> ○ <i>Specific programmes or type of play (social play or competition)</i> ○ <i>Changes to rules or playing time?</i> ○ <i>Changes in equipment, court size, team size?</i> ○ <i>Cost and flexible membership options?</i> ○ <i>Other changes</i> • <i>What do you think your grassroots clubs would think of this?</i> 	15 mins

<i>Conclude interview</i>		5 mins
Q8	Is there anything else you like to share after this discussion?	5 mins

* It will be clarified at the beginning of the focus group interview that this refers to people aged 50+ years.

** It will be clarified at the beginning of the focus group interview that this refers to people aged 50+ years who regularly participate in training, competition or social games.

Appendix 2B: Focus group interview schedule with people aged 50+ years who regularly participate in training, competition or social games*

Topic and questions		Time
<i>Cursive font: prompting questions to encourage discussion</i>		
<i>Sport and ageing: attitudes, thoughts and opinions</i>		25 mins
Q1	<p>For those of you who play sport, tell me a bit about your sports participation.</p> <ul style="list-style-type: none"> <i>What do you play? How often?</i> <p>For those of you who don't play sport within a club, do you play any kind of sport?</p> <ul style="list-style-type: none"> <i>If yes: is it important for you? Why?</i> <i>If yes: are there any reasons why you don't play sport in your club?</i> <i>If no: are there any reasons why you don't play sport in your sports club?</i> <p><i>If no: do you undertake any other exercise?</i></p>	5 mins
Q2	<p>For those of you who play sport, why do you play sport?</p> <ul style="list-style-type: none"> <i>Is it important for you? Why?</i> <i>What is it about club sport/club environment that you specifically enjoy? Do you do other non-club based physical activity?</i> <p>For those of you who don't play sport, why are you involved within the club?</p>	5 mins
Q3	<p>What do you think are positive and negative aspects of sport participation for people your age**?</p> <ul style="list-style-type: none"> <i>Benefits or risks for the individual – general or specific?</i> <i>Benefits or specific risks for sports club – general or specific?</i> 	10 mins
<i>Drop out from sport</i>		15 mins
Q4	<p>In your adult years, how has your sports participation changed over time?</p> <ul style="list-style-type: none"> <i>Why has this changed?</i> <i>What encouraged you to start playing sport again and why did you chose this sport?</i> <p>For those of you who don't play sport, have you ever played sport as an adult?</p>	5 mins

Q5	Why do you think, in general, less people play (your) sport as they get older?	5 mins
Q6	Why do you think it is important for your sports club to retain active members*** as they age?	5 mins
<i>Strategies to retain or attract active members aged 50+ years</i>		25 mins
Q7	Do you know of any initiatives that your sport has developed to encourage people your age to participate in sport? <ul style="list-style-type: none"> • <i>If yes, what were these initiatives? (e.g. specific programmes)</i> • <i>What did you think of these initiatives? (What worked well, what worked less well; why?)</i> 	5 mins
Q8	How do you think your sport can retain or increase the number of active members your age? <ul style="list-style-type: none"> • <i>What strategies would you suggest?</i> • <i>Out of the following, what do you think is the most important aspect for you and your peers to change their behaviour? Also rank in order of importance.</i> <ul style="list-style-type: none"> ○ <i>Changes in timing/schedule/location?</i> ○ <i>Specific programmes or type of play (social play or competition)</i> ○ <i>Changes to rules or playing time?</i> ○ <i>Changes in equipment, court size, team size?</i> ○ <i>Cost and flexible membership options?</i> ○ <i>Other changes</i> <p><i>For those of you who don't play sport, would any of these options encourage you to become an active member of your club?</i></p> <ul style="list-style-type: none"> • <i>If yes, which ones and why</i> • <i>If no, why not</i> 	20 mins
<i>Conclude interview</i>		5 mins
Q9	Is there anything else you like to share after this discussion?	5 mins

* 2 separate focus groups will be held, one with men and one with women, with active members from both organisations represented in the focus groups with representatives of sporting organisations

** It will be clarified at the beginning of the focus group interview that this refers to people aged 50+ years.

*** It will be clarified at the beginning of the focus group interview that this refers to people aged 50+ years who regularly participate in training, competition or social games.

Appendix 2C: Focus group interview schedules with people aged 50+ years, who are not a member of a sport club*

Topic and questions	Time
<i>Cursive font: prompting questions to encourage discussion</i>	
<i>Sport and ageing: attitudes, thoughts and opinions</i>	
25 mins	
Q1 Do you play any kind of sport?	10 mins
<ul style="list-style-type: none"> • <i>If yes: is it important for you? Why?</i> • <i>If yes: are there any reasons why you are not a member of a sports club?</i> • <i>If no: are there any reasons why you don't play sport in a sports club?</i> • <i>If no: do you undertake any other exercise?</i> 	
Q2 What do you think are reasons for (not) playing sport change as people age?	5 mins
<ul style="list-style-type: none"> • <i>What barriers do you think exist for people your age** to participate in sport?</i> 	
Q3 What do you think are positive and negative aspects of sport participation for people your age?	10 mins
<ul style="list-style-type: none"> • <i>Benefits or risks for the individual – general or specific?</i> • <i>Benefits or specific risks for sports club – general or specific?</i> 	
<i>Drop out from sport</i>	
15 mins	
Q4 In your adult years, have you ever played sport?	5 mins
<ul style="list-style-type: none"> • <i>If yes, what sport and why?</i> • <i>What are the reasons that you are no longer playing this sport?</i> 	
Q5 Why do you think, in general, less people play sport as they get older?	5 mins
Q6 Do you think it is important for sports clubs to retain active members*** as they age?	5 mins
<ul style="list-style-type: none"> • <i>If yes, why?</i> • <i>If no, why not?</i> 	
<i>Strategies to retain or attract active members aged 50+ years</i>	
35 mins	
Q7 Do you know of initiatives that sports clubs have developed to encourage people your age to participate in sport?	5 mins
<ul style="list-style-type: none"> • <i>If yes, what were these initiatives? (e.g. specific programmes)</i> <ul style="list-style-type: none"> • <i>What did you think of these initiatives? (What worked well, what worked less well; Why)</i> 	
Q8 How do you think sports clubs can encourage people your age to join a club?	20 mins
<ul style="list-style-type: none"> • <i>What strategies would you suggest?</i> • <i>What are your thoughts about the following ideas?</i> <ul style="list-style-type: none"> ○ <i>Changes in timing/schedule/location?</i> 	

	<ul style="list-style-type: none"> ○ <i>Specific programs or type of play (social play or competition)</i> ○ <i>Changes to rules or playing time?</i> ○ <i>Changes in equipment, court size, team size?</i> ○ <i>Cost and flexible membership options?</i> ○ <i>Other changes</i> 	
Q9	Would any of these options encourage you to participate in sport?	10 mins
	<ul style="list-style-type: none"> ○ <i>If yes, which ones and why</i> ○ <i>If no, why not</i> ○ <i>What kind of sports would you be interested in and why?</i> 	
<i>Conclude interview</i>		5 mins
Q10	Is there anything else you like to share after this discussion?	5 mins

* 2 separate focus groups, one with men and one with women, will be held with people aged 50+ years who are not a member of a sports club

** It will be clarified at the beginning of the focus group interview that this refers to people aged 50+ years.

*** It will be clarified at the beginning of the focus group interview that this refers to people aged 50+ years who regularly participate in training, competition or social games.

Appendix 2D: Focus Group study: Participation Information Sheet for representatives of National Sporting Organisations



INFORMATION TO PARTICIPANTS INVOLVED IN RESEARCH

Your organisations are invited to participate

Your employees are invited to participate in a research project entitled **Active and Healthy Ageing: focus group interviews about health, sport and ageing with people aged 50+ years and representatives of sporting organisations.**

This project is being conducted by Claire Jenkin, Dr Jannique van Uffelen, Dr. Lauren Banting, Associate Professor Rochelle Eime and Professor Hans Westerbeek of the Institute of Sport, Exercise and Active Living (ISEAL) at Victoria University.

Project explanation

We are exploring sporting organisations' attitudes, thoughts and opinions about sports participation in people aged 50+ years. Questions that will be addressed include the importance of offering opportunities for sport in this age group, and strategies to promote sport participation in this age group. This is a collaborative project between the Institute of Sport, Exercise and Active Living (ISEAL) at Victoria University and the Australian Sports Commission.

What will I be asked to do?

Your employees can participate in this focus group study, if they are:

- An employee of selected sporting organisations
- able to understand English and can verbally communicate freely in English

If they would like to participate and if they meet these criteria, they will be invited to attend one **focus group interview** for 75 to 90 minutes. This will involve the participants talking about their thoughts and opinions on sports participation and adults aged 50+ with 6-8 of their colleagues from within the organisation. Before the start of the focus group interview, participants will be asked to complete a short questionnaire with questions about their current job role, their background with sport and the sporting organisation. This information will be used by the researchers to put their thoughts and opinions voiced during the focus group interview into context. Their answers will be treated confidentially and will not be shared with the sporting organisation they are affiliated to. All data will be de-identified in any research output.

What will I gain from participating?

This study will help in the further understanding of the importance of sport for people aged 50+ years, options available sport for people this age and strategies to increase participation.

How will the information I give be used?

This study is the first of a series of studies informing the development of a resource to promote sports participation in people aged 50+ years. It will also be used in research reports, in scientific and public health related publications, and conference presentations. All data will be de-identified and summarised in these presentations, and individuals outside of the Victoria University research team, including the Australian Sports Commission, will not have access to participants' personal information.

How will this project be conducted?

Your employees will have an opportunity to discuss the research programme with members of the research team prior to signing the consent form. If they decide to sign the consent form to participate in the study, they will be invited to complete the short questionnaire and participate in the focus group interview. The focus groups discussion will be recorded and transcriptions will be analysed by members of the research team.

If they decide at any time that they no longer want to participate in the study, they can withdraw without further explanation. They can do so without any penalty for themselves or the organisation they are affiliated with.

Who is conducting the study?

Institute of Sport, Exercise and Active Living (ISEAL), Victoria University
College of Sport and Exercise Science, Victoria University

Chief Investigators:

Claire Jenkin phone: 0420 659 010 E-mail: claire.jenkin@live.vu.edu.au
Dr Jannique van Uffelen
Dr. Rochelle Eime
Professor Hans Westerbeek

Any queries about your participation in this project may be directed to the Chief Investigators listed above.

Appendix 2E: Focus Group study: Participation Information Sheet for active and/or involved older adult sport club participants



INFORMATION TO PARTICIPANTS INVOLVED IN RESEARCH

You are invited to participate

You are invited to participate in a research project entitled **Active and Healthy Ageing: focus group interviews about health, sport and ageing with people aged 50+ years**.

This project is being conducted by Claire Jenkin, Dr Jannique Van Uffelen, Associate Professor Rochelle Eime and Professor Hans Westerbeek of the Institute of Sport, Exercise and Active Living (ISEAL) at Victoria University.

Project explanation

This focus group study will explore attitudes, thoughts and opinions of people aged 50+ years about sports participation in people their age. The aim of this study is to explore participants' opinions about sports participation, potential reasons for drop out from sport and strategies to encourage people to stay active members as they age. This is a collaborative project between the Institute of Sport, Exercise and Active Living (ISEAL) at Victoria University and the Australian Sports Commission.

What will I be asked to do?

You can participate in this focus group study, if you are:

- Aged 50 years and older
- A member of a sports club (this could be a playing member, or also a coach, committee member or volunteer)
- Able to understand English and can verbally communicate freely in English

If you would like to participate and if you meet these criteria, you will be invited to attend one **focus group interview** for 75 to 90 minutes. This will involve you talking about your thoughts and opinions on sports participation amongst a group of 6-8 people of your age. Before the start of the focus group interview, you will be asked to complete a **short questionnaire** with questions about your health, your sports participation history and your background. This information will be used by the researchers to put your thoughts and opinions voiced during the focus group interview into context. Your answers on the questionnaire will be treated confidentially and will not be shared with other focus group participants. All data will be de-identified in any research output.

What will I gain from participating?

This study will help in the further understanding of why people stop playing sport as they age, and what strategies could be used to increase sports participation for people your age. You will also receive a \$20 shopping voucher as a contribution for transport and parking costs associated with attending the focus group interview.

How will the information I give be used?

This study is the first of a series of studies informing the development of a resource to promote sports participation in people aged 50+ years. It will also be used in research reports, in scientific and public health related publications, and conference presentations. All data will be de-identified and summarised in these presentations, and individuals outside of the research team will not have access to your personal information.

What are the potential risks of participating in this project?

You may feel a little anxious about discussing your thoughts and experiences in front of your peers, or you may feel pressured by your sporting organisation, club or peers to participate in this study. If this occurs, you are free to drop out of the project, with no repercussions and no explanation needed. If you do feel any amount of stress related to the research project, you can contact a university psychologist by calling Mark Anderson on (03) 9919-5413.

How will this project be conducted?

You will have an opportunity to discuss the research programme with members of the research team prior to signing the consent form. If you decide to sign the consent form to participate in the study, you will be invited to complete the short questionnaire and participate in the focus group interview. The focus groups discussion will be recorded and transcriptions will be analysed by members of the research team. If you decide to not sign the informed consent form, your club will not be informed in any way.

If you decide at any time that you no longer want to participate in the study, you can withdraw without further explanation. You can do so without any penalty for yourself, your club or organisation.

Who is conducting the study?

Institute of Sport, Exercise and Active Living (ISEAL), Victoria University
College of Sport and Exercise Science, Victoria University

Chief Investigators:

Claire Jenkin phone: 0404 498 332 E-mail: claire.jenkin@live.vu.edu.au
Dr Jannique van Uffelen
Dr. Rochelle Eime
Professor Hans Westerbeek

Any queries about your participation in this project may be directed to the Chief Investigators listed above.

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

Appendix 2F: Focus Group study: Participation Information Sheet for non-sport club older adult participants



INFORMATION TO PARTICIPANTS INVOLVED IN RESEARCH

You are invited to participate

You are invited to participate in a research project entitled **Active and Healthy Ageing: focus group interviews about health, sport and ageing with people aged 50+ years and representatives of sporting organisations.**

This project is being conducted by Dr Jannique Van Uffelen, Claire Jenkin, Associate Professor Rochelle Eime and Professor Hans Westerbeek of the Institute of Sport, Exercise and Active Living (ISEAL) at Victoria University.

Project explanation

This focus group will explore attitudes, thoughts and opinions of people aged 50+ years about sports participation in people their age. The aim of this study is to explore participants' opinions about sports participation, potential reasons for drop out from sport and strategies to encourage people to stay active members as they age. This is a collaborative project between the Institute of Sport, Exercise and Active Living (ISEAL) at Victoria University and the Australian Sports Commission.

What will I be asked to do?

You can participate in this focus group study, if you are:

- Aged 50 years and older
- able to understand English and can verbally communicate freely in English
- And not a member of a sports club

If you would like to participate and if you meet these criteria, you will be invited to attend one **focus group interview** for 75 to 90 minutes. This will involve you talking about your thoughts and opinions on sports participation and adults aged 50+ with 6-8 of your peers. Before the start of the focus group interview, you will be asked to complete a short questionnaire with questions about your health, your sports participation history and your background. This information will be used by the researchers to put your thoughts and opinions voiced during the focus group interview into context. Your answers on the questionnaire will be treated confidentially and will not be shared with other focus group participants. All data will be de-identified in any research output.

What will I gain from participating?

This study will help in the further understanding of why people stop playing sport as they age, and what strategies could be used to increase sports participation for people your age. You will also receive a \$20 shopping voucher as a contribution for transport and parking costs associated with attending the focus group interview.

How will the information I give be used?

This study is the first of a series of studies informing the development of a resource to promote sports participation in people aged 50+ years. It will also be used in research reports, in scientific and public health related publications, and conference presentations. All data will be de-identified and summarised in these presentations, and individuals outside of the research team will not have access to your personal information.

What are the potential risks of participating in this project?

You may feel a little anxious about discussing your thoughts and experiences in front of your peers. If this occurs, you are free to drop out of the project, with no repercussions and no explanation needed. If you do feel any amount of stress related to the research project, you can contact a university psychologist.

How will this project be conducted?

You will have an opportunity to discuss the research programme with members of the research team prior to signing the consent form. If you decide to sign the consent form to participate in the study, you will be invited to complete the short questionnaire and participate in the focus group interview. The focus groups discussion will be recorded and transcriptions will be analysed by members of the research team.

If you decide at any time that you no longer want to participate in the study, you can withdraw without further explanation.

Who is conducting the study?

Institute of Sport, Exercise and Active Living (ISEAL), Victoria University
College of Sport and Exercise Science, Victoria University

Chief Investigators:

Claire Jenkin phone: 0420 659 010 E-mail: claire.jenkin@live.vu.edu.au
Dr Jannique van Uffelen
Dr. Rochelle Eime
Professor Hans Westerbeek

Any queries about your participation in this project may be directed to the Chief Investigators listed above.

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

Appendix 2G: Focus Group Interview Study: Participant Consent Form for representatives of National Sporting Organisations



CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

INFORMATION TO PARTICIPANTS:

We would like to invite you to participate in a focus group study about active and healthy ageing. The aim of this study is to explore the reasons why adults aged 50 years and older do or do not participate in sport, sport specific experiences for their drop out from sport and strategies to encourage people to stay active members as they age. This is a collaborative project between the Australian Sports Commission and Victoria University.

You will be asked to attend one focus group interview for 75 to 90 minutes. This will involve you talking about your thoughts and opinions on sports participation amongst a group of 6-8 people from your sporting organisation. Before the start of the focus group interview, you will be asked to complete a short questionnaire with questions about your job title/role, your background and your sporting organisation. This information will be used by the researchers to put your thoughts and opinions voiced during the focus group interview into context. Your answers will be treated confidentially and will not be shared with other focus group participants. All data will be de-identified in any research output.

CERTIFICATION BY SUBJECT

I, "[Click here & type participant's name]"

of "[Click here & type participant's suburb]"

certify that I am at least 18 years old* and that I am voluntarily giving my consent to participate in the study:

Active and Healthy Ageing: focus group interviews about health, sport and ageing with people aged 50+ years and representatives of sporting organisations, being conducted at Victoria University by Dr Jannique van Uffelen, Ms Claire Jenkin, Dr Lauren Banting, Associate Professor Rochelle Eime and Professor Hans Westerbeek.

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by Ms Claire Jenkin and that I freely consent to participation involving the below mentioned procedures:

- Complete a brief questionnaire about my job role, my background and my sporting organisation
- Participate in a focus group interview

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed:

Date:

The researchers may wish to contact you in the future for future studies on ageing or sport. If this is the case, do you allow the research team to contact you for research projects related to this focus group study?

Signed:

Date:

Any queries about your participation in this project may be directed to the researcher, Dr. Jannique Van Uffelen on 9919 4259.

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email Researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

[*please note: Where the participant/s are aged under 18, separate parental consent is required; where the participant/s are unable to answer for themselves due to mental illness or disability, parental or guardian consent may be required.]

Appendix 2H: Focus Group Interview Study: Participant Consent Form for older adult participants



CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

INFORMATION TO PARTICIPANTS:

We would like to invite you to participate in a focus group study about active and healthy ageing. The aim of this study is to explore the reasons why adults aged 50 years and older may or may not participate in sport, sport specific experiences for potential drop out from sport and strategies to encourage people to stay active members as they age. This is a collaborative project between the Australian Sports Commission and Victoria University.

You will be asked to attend one focus group interview for 75 to 90 minutes. This will involve you talking about your thoughts and opinions on sports participation amongst a group of 6-8 of your peers. Before the start of the focus group interview, you will be asked to complete a short questionnaire with questions about your general health, sports participation history and your background. This information will be used by the researchers to put your thoughts and opinions voiced during the focus group interview into context. Your answers for this questionnaire will be treated confidentially and will not be shared with other focus group participants. All data will be de-identified in any research output.

CERTIFICATION BY SUBJECT

I,

of (suburb)

certify that I am at least 18 years old* and that I am voluntarily giving my consent to participate in the study:

Active and Healthy Ageing: focus group interviews about health, sport and ageing with people aged 50+ years and representatives of sporting organisations, being conducted at Victoria University by Dr Jannique van Uffelen, Ms Claire Jenkin, Associate Professor Rochelle Eime and Professor Hans Westerbeek.

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by Ms Claire Jenkin and that I freely consent to participation involving the below mentioned procedures:

- Complete a brief questionnaire about your health, sports participation history and your background
- Participate in a focus group interview

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed:

Date:

The researchers may wish to contact you in the future for future studies on ageing or sport. If this is the case, do you allow the research team to contact you for research projects related to this focus group study?

Signed:

Date:

Any queries about your participation in this project may be directed to the researcher, Claire Jenkin, on 0420 659 010.

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email Researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

[*please note: Where the participant/s are aged under 18, separate parental consent is required; where the participant/s are unable to answer for themselves due to mental illness or disability, parental or guardian consent may be required.]

Appendix 2I: Ethics Application: Focus Group Interviews

» Application ID: HRE14-041

» Investigators: DR JANNIQUE VAN UFFELEN (Primary CI); DR ROCHELLE EIME, PROF HANS WESTERBEEK, MISS LAUREN BANTING, MISS Claire Jenkin

» Application Title: Active and Healthy Ageing: focus group interviews about health, sport and ageing with people aged 50+ years and representatives of sporting organisations

» Form Version: 13-07

The application has been accepted and deemed to meet the requirements of the National Health and Medical Research Council (NHMRC) 'National Statement on Ethical Conduct in Human Research (2007)' by the Victoria University Human Research Ethics Committee. Approval has been granted for two (2) years from the approval date; 24/03/2014.

Continued approval of this research project by the Victoria University Human Research Ethics Committee (VUHREC) is conditional upon the provision of a report within 12 months of the above approval date or upon the completion of the project (if earlier). A report proforma may be downloaded from the Office for Research website at: <http://research.vu.edu.au/hrec.php>.

Please note that the Human Research Ethics Committee must be informed of the following: any changes to the approved research protocol, project timelines, any serious events or adverse and/or unforeseen events that may affect continued ethical acceptability of the project. In these unlikely events, researchers must immediately cease all data collection until the Committee has approved the changes. Researchers are also reminded of the need to notify the approving HREC of changes to personnel in research projects via a request for a minor amendment. It should also be noted that it is the Chief Investigators' responsibility to ensure the research project is conducted in line with the recommendations outlined in the National Health and Medical Research Council (NHMRC) 'National Statement on Ethical Conduct in Human Research (2007).'

On behalf of the Committee, I wish you all the best for the conduct of the project.

Secretary, Human Research Ethics Committee

Phone: 9919 4781 or 9919 4461

Email: researchethics@vu.edu.au

Appendix 3.1: Active and Healthy Ageing Through Sport: Report prepared for the Australian Sports Commission

ACTIVE AND HEALTHY AGEING THROUGH SPORT

Report prepared for the
Australian Sports Commission
by the Active Living and Public Health team,
Institute of Sport, Exercise and Active
Living (ISEAL), Victoria University

Jannique van Uffelen,
Claire Jenkin, Hans Westerbeek,
Stuart Biddle and Rochelle Eime



Table of Contents

Acknowledgements	2785
Executive summary	2796
Conclusions and recommendations	282
Glossary	2863
List of abbreviations	2874
Introduction and aims	288
Study 1 - Sport participation by adults aged 50+ years: participation, types of sport and contribution to physical activity (ERASS data)	289
Data source	289
Participation in physical activity – non organised/organised/club.....	289
Which club-based sports do older adults engage in?	290
What is the contribution of sport to health enhancing leisure physical activity levels?	2941
Health enhancing leisure time physical activity by age	2941
Health enhancing leisure time physical activity in older adults by gender	296
Study 2 - Sport participation by adults aged 50+ years: memberships, involvement in organisations, perceived benefits and health (AHSS data)	2996
Data source	2996
Memberships and types of organisations.....	299
What sports do older club members play?.....	298
How are older members involved in their club?.....	299
Benefits of sport participation	3030
Are current non-members interested in becoming a member and, if so, why?	3041
Comparison of club members, members of other organisations and non-members	3074
Physical activity levels.....	3074
Socio-demographics.....	3074
Health and wellbeing	3096

Study 3 - Sport and ageing from the perspective of sporting organisations (Survey study)	311
Aim and study description	311
Respondents	312
Sporting Organisations' level of priority for different target groups.....	31209
Sport opportunities for older adults	3130
Organisational barriers to increasing sport participation in older adults.....	3163
Organisational benefits of increasing sport participation in older adults	3174
Strategies to increase sport participation among older adults	3185
Resource development	3207
Summary	3230
Study 4 - Sport and ageing: opinions of sporting organisations, sport club members and non-sport club members (Focus group interview study)	3241
Aim and study description	3241
Benefits of sport participation	3263
Benefits of sport participation for older adults	3263
Summary of benefits of sport participation for older adults.....	3296
Benefits of sport participation for Sporting Organisations.....	3307
Summary of benefits for Sporting Organisations	3330
Barriers to sport participation	3341
Barriers for older adults	3341
Summary of barriers for older adults.....	3407
Barriers for Sporting Organisations	341
Summary of barriers for Sporting Organisations	3441
Strategies to increase sport participation.....	3452
Current age specific sport opportunities for older adults	3452
Summary of current age specific sport opportunities	3496
Potential modifications to increase participation.....	3507
Summary of potential modifications to increase participation	3541
References	3552
List of tables	3574
List of figures	358

Acknowledgements

This report has been developed under the umbrella of the Strategic Partnership Agreement between the Australian Sports Commission (ASC) and Victoria University. It was written by the Active Living and Public Health team, Institute of Sport, Exercise and Active Living, Victoria University. The ASC provided funding and support.

Major contributors to this report were:

<i>Dr Jannique van Uffelen</i>	Institute of Sport, Exercise and Active Living, Victoria University
<i>Ms Claire Jenkin</i>	Institute of Sport, Exercise and Active Living, Victoria University
<i>Prof Hans Westerbeek</i>	College of Sport, and Exercise Science, Victoria University
<i>Prof Stuart Biddle</i>	Institute of Sport, Exercise and Active Living, Victoria University
<i>Associate Prof Rochelle Eime</i>	Institute of Sport, Exercise and Active Living, Victoria University & Federation University, Ballarat

We acknowledge our **key collaborator at the ASC, Cecilia Hemana, and her team** for the involvement in the development of the sport participation questions included in the Australian Health and Social Science study (AHSS), and the development and support with recruitment for the Survey and Focus group interview studies:

<i>Mrs Cecilia Hemana</i>	Director Sport Market Insights, Australian Sports Commission
---------------------------	--

Also thanks to the **National and State/Territory Sporting Organisations** who participated in the Survey and Focus group interview studies, as well as the sport club members and non-sport club members.

Thanks also to the following colleagues from the **Institute of Sport, Exercise and Active Living**, who have contributed to the development of the sport participation questions included in AHSS and provided overall support for the Survey and Focus group interview studies:

<i>Dr Lauren Banting</i>	Institute of Sport, Exercise and Active Living, Victoria University
<i>Dr Jason Bennie</i>	Institute of Sport, Exercise and Active Living, Victoria University

Furthermore, we thank the following colleagues from **Federation University** for their assistance with the analysis of the Exercise Recreation And Sport Survey (ERASS) 2010 data:

<i>Ms Melanie Charity</i>	Institute of Sport, Exercise and Active Living, Victoria University & Federation University, Ballarat
<i>Dr Jack Harvey</i>	Federation University, Ballarat

We also acknowledge colleagues from **Central Queensland University** for their assistance in the development of the sport participation questions and the inclusion of these questions in the AHSS:

<i>Associate Prof Corneel Vandelanotte</i>	Centre for Physical Activity Studies, CQUniversity, Rockhampton
<i>Dr Mitch Duncan</i>	Centre for Physical Activity Studies, CQUniversity, Rockhampton, School of Medicine and Public Health, and Priority Research Centre for Physical Activity and Nutrition, The University of Newcastle
<i>Ms Christine Hanley</i>	AHSS Project Manager CQUniversity, Rockhampton

Suggested citation: van Uffelen JGZ, Jenkin CR, Westerbeek HM, Biddle SJH and Eime RM. Active and Healthy Ageing through Sport. Report prepared for the Australian Sports Commission. Victoria University, Institute of Sport, Exercise and Active Living (ISEAL), 2015.

Executive summary

Sport is a form of physical activity which provides an excellent opportunity to be active in an enjoyable way. In addition to personal enjoyment, regular physical activity also improves physical and mental health, which has the potential to improve overall quality of life. Furthermore, club based or team based sport participation has been associated with better social health, particularly due to the social nature of sport participation. Despite the benefits of sport, participation decreases with age. Given Australia's rapidly ageing population, it is important to understand the reasons for this decline and to develop strategies to keep people active through sport throughout the lifespan.

The overall aim of this report is to provide knowledge about sport participation by adults as they age. **For the purpose of this report, the age of 50+ years has been used and will be referred to as 'older adults'.** The specific aims of this report are to provide:

- 1. Knowledge about sport participation by older adults**
- 2. Knowledge about the benefits of and barriers to sport participation in older adults**
- 3. Knowledge about opportunities, strategies and potential modifications to increase sport participation by older adults**

Data were used from two population-based surveys, the 2010 Exercise Recreation and Sport Survey (ERASS) and the 2013 Australian Health and Social Science study (AHSS), to address the first aim. It is important to recognise that these are different survey samples; hence the findings cannot be directly linked. In addition we surveyed 192 National and State/Territory Sporting Organisations (Survey study) and conducted eight focus group interviews with representatives of National Sporting Organisations, sport club members of these organisations and non-sport club members (Focus group interview study) to address the remaining two aims.

Results

Overall, a third of active older adults participate in sport at varying levels of intensity, and older adults play a wide variety of sports. Sport participation is more popular for older men than women. The study results indicate that age in itself is not necessarily a reason to stop participating in sport.

This study confirms that there are many health benefits of sport participation for older adults, provided it is done in a safe manner to prevent injuries. Many older adults participate in sport for social reasons, and enjoy the opportunity to play with other family members across generations.

Sporting Organisations (SOs) currently prioritise participation in their sport for children and adolescents, and not specifically for older adults. This could be related to national sport policy which is heavily focused on elite participation and not on grass-roots participation and specifically not for older adults. Given other priorities, SOs currently lack the resources and/or capacity to develop specific products/programs for older adults. Therefore there is a lack of specific sport products catering to the needs and desires of this rapidly growing population group. It should be acknowledged that older adults contribute greatly to sport clubs not only through their participation, but also by increasing the resource capacity of the club through volunteering, and by being role models for younger participants. Therefore there is a great opportunity for targeted policy and strategies to get more older adults active through sport, which would contribute to the health of the nation.

The key findings of the studies described in this report are detailed below.

1. Sport participation by older adults

- About **a third (30%)** of all older adults who do physical activity for recreation, sport or exercise do this in a **club setting** (ERASS)
- Older adults are less likely than younger adults to participate in club-based activity for recreation, sport or exercise (30% in older adults; 46% in younger adults; ERASS)
- **Golf, lawn bowls and tennis** are the three most frequently played club-based sports by older adults (ERASS, AHSS)
- Of all **health enhancing physical activity** in older adults, **38% is sport based**. This is less than in younger adults (58%; ERASS)
- Older **men do more physical activity in a club setting** than women (15% vs 9%) and **they do more sport-based health enhancing physical activity** than women (45% vs 30%; ERASS)
- About **one third (34%) of older adults are a current member of a sport club**, association or other type of organisation, just over **one third (37%) used to be a member** and just under **one third (30%) have never been a member** (AHSS)
- Of all sport club members, **90% play the sport** and **20% are involved as a committee member or administrator** (AHSS)
- Almost 90% of current sport-club members agree that **being a member is good for physical and mental health**; almost 80% agree that it is good for **social health** (AHSS)
- **Older sport club members are more likely to meet the physical activity recommendations** of at least 150 minutes of moderate to vigorous intensity per week, than members of other clubs or non-club members (AHSS)
- Of all older adults **interested in becoming a sport club member, most are men** (78%; AHSS)
- Regardless of past membership status or gender, **social reasons, becoming more active and improving physical and mental health are important factors to become a member** (AHSS).

2. Benefits of and barriers to sport participation for individuals and organisations

- Benefits and barriers for **older adults**
 - Main **benefits** are improved **social and physical health**. In addition, there are **intergenerational benefits**, such as the ability to play in the same club with children/grandchildren
 - The most frequently mentioned **barriers** to sport participation are **time constraints, lack of appropriate playing opportunities and physical limitations**.
- Benefits and barriers for **SOs**
 - **Main benefits** are that older adults are more inclined to take on **volunteering roles**, which are essential for most sport clubs, and that older members can be **role models for younger players**
 - **Additional benefits** include the opportunity to **increase overall participation numbers** and **the opportunity to engage with their older fan base**

- Key **barriers for SOs** include a **lack of sufficient resources to manage and develop programs** for older adults, a **focus on increasing participation in younger age groups, and risk management** in regard to **insurance**.

3. Opportunities, strategies and potential modifications to increase sport participation by older adults

- There are **formal programs**, such as masters competitions; however sport club members are often unaware of these opportunities
- There are **informal programs that cater for older adults' sporting needs**. These generally follow a '**bottom up approach**', with sport clubs as the primary driver, and are usually situated **outside the traditional sporting organisational structure**
- Most SOs **do not have specific strategies or programs** for older adults, however **sport clubs often informally modify the sport structure** or make minor rules changes to cater for older members
- SOs are interested in the following strategies to increase participation in older adults: **change the way their sport is advertised** for older adults (emphasise **the social aspects, enjoyment,** and the **health benefits** of regular participation) and **collaborate with community and/or senior organisations**
- Potential modifications include the **modification/expansion of existing programs, increasing social/informal playing opportunities, minor rule amendments** and **developing external partnerships**.

Conclusions and recommendations

There currently is a lack of targeted and specialised sport participation options for older adults. Because of the rapidly ageing society, there is a **major opportunity for Sporting Organisations (SOs) to increase their focus on older adults** in order to **increase overall participation numbers** and to **improve the health of the nation. There is a role for government to set and drive policy advocating that SOs place a greater emphasis on meeting the needs of older adults.** On the basis of the results described in this report, we conclude and recommend the following actions or considerations for those targeting adults aged 50+ years.

1. Knowledge about sport participation by older adults

Conclusions:

1. More older adults participate in physical activity informally than at a sport club
2. Golf, lawn bowls and tennis are the most popular club-based sports for older adults
3. Sport participation is higher in older men than in older women and older men are more interested in becoming a sport club member than older women
4. Past sport club members are more interested in becoming a sport club member than those who have not previously been sport club members
5. Older adults' main motivators to join a sport club are for social reasons, to improve physical health, to become more active, and to improve mental health.

Recommendations:

1. Encourage older adults to participate in physical activity in the sport club setting by **introducing and promoting sport options that meet the needs of older adults**
2. Characteristics of golf, lawn bowls and tennis can inform the development of sport options that meet the needs of older adults
3. **Focus on engaging men initially** to increase membership among older adults and develop **gender specific strategies or products to engage women**
4. Focus on **retaining current sport club members**, and **re-engaging past sport club members**
5. **Emphasise the social and health benefits of sport** and **introduce and promote sport options with a focus on the social aspect of sport, rather than competition.**

2.a) Knowledge about the benefits of sport participation in older adults

Conclusions:

- **Benefits for older adults:**
 1. Older adults emphasise the health benefits of sport participation, particularly social health, in addition to physical health and mental health
 2. Older adults enjoy the opportunity that sport provides to be active with their children/grandchildren and recognise this as a specific benefit of sport over other activity options.

- **Benefits for SOs:**
 3. Engaging older adults can help SOs increase overall participation numbers and there is currently an excellent opportunity to do so given the ageing population
 4. Increasing older adults' sport participation is an additional way for SOs to engage with their older fan base
 5. Older adults contribute greatly to the resource capacity of sport clubs as they are often the primary volunteers at sport clubs
 6. Older adults can be important role models for younger sport club members, teaching them the values of sport, such as sportsmanship.

Recommendations:

1. **Emphasise the social benefits**, in addition to the **physical and mental health benefits** of sport participation
2. Promote **opportunities for intergenerational interaction within sport clubs**
3. **Promote the opportunity for sport clubs to increase participation** in their sport by increasing the number of older adult members
4. **Promote the opportunity for NSOs and SSOs to engage with their older fan base**
5. Develop and implement recruitment strategies that specifically target older adults to **strengthen the capacity of club management** in addition to encouraging older adults to become active members
6. **Promote the benefits of having older members as role models** to sport clubs.

2.b) Knowledge about the barriers to sport participation in older adults

Conclusions:

- **Barriers for older adults:**
 1. Older adults often face time constraints, despite the perception that older adults have more time than younger adults
 2. There is a lack of appropriate sport opportunities, with limited opportunities to play with and against adults of their own age
 3. Older adults are concerned about the impact of sport on their physical health and the risk of developing injuries. They therefore prefer sports that are low impact and low-contact/non-contact.

- **Barriers for SOs:**
 4. NSOs and SSOs appear to prioritise other target groups, specifically 11-15 year olds, and therefore older adults are currently a low priority
 5. NSOs and SSOs report a lack of resources to develop and manage specific sport participation strategies and products for older adults.

Recommendations:

1. **Develop and promote opportunities for intergenerational interaction within sport clubs**, which could help negate time constraints for older adults looking after their children or grandchildren
2. **Develop and promote opportunities for older adults to play sport with and against adults of the same age**
3. **Emphasise existing sport options or develop and promote sport opportunities for older adults that are low impact and low-contact/non-contact**
4. **Set and drive policy that encourages a greater emphasis on meeting the needs of older adults**
5. **Set and drive policy that encourages a greater emphasis on meeting the needs of older adults.**

3.a) Knowledge about opportunities and strategies to increase sport participation by older adults

Conclusions:

1. Most NSOs and SSOs surveyed do not have specific strategies or programs for older adults
2. Whilst there are some formal programs, most sport opportunities for older adults appear to be developed and implemented through a 'bottom-up approach' by sport clubs, resulting in an ad hoc approach to sport participation opportunities.

Recommendations:

1. **Establish and drive policy that encourages and enables NSOs and SSOs to develop, promote and implement strategies and programs that meet the needs of older adults**
2. **Encourage sports to develop national and state participation strategies to develop, promote and implement formal programs and sport opportunities** for older adults. The current 'bottom up approach' can inform these strategies with NSOs and SSOs enabling clubs flexibility to implement these opportunities.

3.b) Knowledge of the potential modifications to increase sport participation by older adults

Conclusions:

1. There is a need for more appealing marketing approaches for older adults, for example through the use of appropriate images in promotion materials
2. NSOs and SSOs are interested in the following resources to help increase older adults' sport participation: a website with advice on attracting older adults into sport; a report on the issues surrounding older adults and sport; and marketing guidelines for promotion materials
3. There appears to be limited collaboration between NSOs and SSOs with community or senior organisations
4. Few NSOs, SSOs and sport clubs reported an interest in modifying equipment or substantially modifying the rules to increase participation in older adults. However, some SOs reported an interest in:
 - Modifying/expanding existing programs
 - Increasing social/informal play opportunities
 - Minor rule amendments

Recommendations:

1. Provide and implement **specific marketing guidelines** for SSOs and sport clubs to inform the development of promotion materials to increase participation in older adults
2. **Provision of a resource to support NSOs and SSOs** in increasing sport participation for older adults
3. Encourage sport clubs to **develop partnerships with community or senior organisations**
4. **Identify NSOs interested in increasing participation** in older adults and investigate **specific opportunities to modify those sports through a pilot program** in order to test the feasibility of increasing older adults' sport participation through potential modifications.

Glossary

- **Australian Health and Social Science study (AHSS)**

The AHSS is initiated and funded by the Institute for Health and Social Science Research at CQUniversity Australia, and is administered by the Institute's resident Population Research Laboratory. The aim of the study is to examine the unique issues affecting Australians now and into the future through targeted and regular research using a randomly selected national group (panel) of participants. This panel, with members from all states and territories, provides regular input via the completion of web-based surveys on key issues such as all aspects of wellbeing, activity levels, nutrition and behavioural risk factors.[1] The panel study in 2013 included a series of questions about sport participation which were developed by the research team at Victoria University for the Active and Healthy Ageing through Sport project.

- **Exercise Recreation and Sport Survey (ERASS)**

The ERASS was a joint initiative of the Australian Sports Commission and State and Territory Departments of Sport and Recreation, conducted on an annual basis between 2001 and 2010. ERASS collected information on the frequency, duration, nature and type of activities participated in by persons aged 15+ years for exercise, recreation or sport during the previous 12 months. Participation refers to active 'playing' participation, and does not include coaching, refereeing, being a spectator or activities related to work, household or gardening duties.[2] Data from the 2010 ERASS survey were used in this report. In each quarter in 2010, approximately 3,400 community dwelling adults aged 15+ years, representing all states and territories, were sampled and interviewed using computer-assisted telephone interviewing.

- **Exercise**

Exercise is a subset of physical activity that is planned, structured, and repetitive and has a final or an intermediate objective; the improvement or maintenance of physical fitness.[3]

- **Physical Activity (PA)**

PA is defined as any bodily movement produced by skeletal muscles which results in energy expenditure.[3] PA is an umbrella term including more specific forms of activity, such as exercise or sport.

- **Leisure Time Physical Activity (LTPA)**

Adults can do PA in different settings, the most common settings are occupational activity, domestic activity, transport related activity, and **Leisure Time Physical Activity (LTPA)**. [4] LTPA is activity for exercise or recreation.[4]

- **Health Enhancing Leisure Time Physical Activity (HELPA)**

LTPA that is of at least moderate intensity is referred to as **Health Enhancing Leisure Time Physical Activity (HELPA)**.

- **Sport**

A human activity capable of achieving a result requiring physical exertion and/or physical skill which, by its nature and organisation, is competitive and is generally accepted as being a sport.[5]

- **Health**

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.[6]

List of abbreviations

AHSS	Australian Health and Social Science study
ATSI	Aboriginal and Torres Strait Islander
ASC	Australian Sports Commission
CA	Cricket Australia
CALD	Culturally And Linguistically Diverse
ERASS	Exercise Recreation And Sport Survey
HELPA	Health Enhancing Leisure Time Physical Activity
ISEAL	Institute of Sport, Exercise and Active Living
LTPA	Leisure Time Physical Activity
NSO	National Sporting Organisation
PA	Physical Activity
SO	Sporting Organisation
SSO	State/Territory Sporting Organisation
TA	Tennis Australia
vs	versus
VU	Victoria University

Introduction and aims

Sport is a form of physical activity (PA). There is a myriad of sports that adults can choose from, including individual sports, team sports, sports ranging from low to high intensity, sports that require tactics and specific skills, sports that you can do without specific skills, or competitive or social sports. Sport therefore provides a great opportunity for adults to engage in PA in an enjoyable way. However, it is not only important to be physically active for personal enjoyment, but also for health and wellbeing. Regular PA leads to better physical health, including decreased risks of chronic conditions such as diabetes, cardiovascular disease and certain cancers,[7, 8] but also to improved mental health, such as decreased risks of depression or anxiety.[7] Current public health guidelines indicate that adults should engage in 150-300 minutes/week of moderate intensity activity, 75-150 minutes/week of vigorous intensity, or any combination, for health benefits.[7] Despite these health benefits, less than half (43%) of all Australian adults engage in sufficient PA for health benefits and this proportion decreases with age.[9]

The sport sector can play an important role in increasing PA levels and contribute to improved health and wellbeing.[10] The literature on sport and health suggests that participation in sport is not only associated with a considerable reduction in all-cause mortality compared with non-participation,[10] but there is also evidence that sport has specific benefits for social health. [11] However, as with overall PA, sport participation declines with age.[12] Sporting Organisations (SOs) have an opportunity to respond to this decline by helping older adults experience the numerous health benefits of sport participation. This is recognised by key health promotion organisations. For example, the National Heart Foundation of Australia suggests in their recent Blueprint for an Active Australia to “encourage better use of existing infrastructure /organisations (e.g. sport clubs) by older adults, with attention to increasing social support for activity”.[13]

Most current research on activity options for older adults focuses on PA rather than sport, so understanding the role that sport, and SOs, can play to promote active and healthy ageing, will enable the development of useful strategies to increase participation in this rapidly growing population group.

This report on Active and Healthy Ageing through Sport has been developed under the umbrella of the Strategic Partnership Agreement between the Australian Sports Commission (ASC) and Victoria University (VU). The overall aim of this report is to provide knowledge about sport participation by adults as they age. For the purpose of this report, the age of 50+ years has been used and will be referred to as ‘older adults’. The specific aims of this report are to provide:

1. Knowledge about sport participation by older adults
2. Knowledge about the benefits of and barriers to sport participation in older adults
3. Knowledge about opportunities, strategies and potential modifications to increase sport participation by older adults

The first aim is addressed by analysing the data of two population based surveys, the 2010 Exercise Recreation and Sport Survey (ERASS) and the 2013 Australian Health and Social Science study (AHSS). The remaining two aims are addressed in a Survey study with National and State/Territory Sporting Organisations (NSOs/SSOs) and a Focus group interview study with representatives of National Sporting Organisations (NSOs), sport club members of these organisations and non-sport club members.

Study 1 - Sport participation by adults aged 50+ years: participation, types of sport and contribution to physical activity (ERASS data)

This study describes the results of analysis of the Australian Exercise Recreation and Sport Survey (ERASS). The aim of this study is to describe patterns of sport participation by older adults, defined as aged 50+ years, and to examine the contribution of sport to health enhancing PA levels.

Data source

Data used in this study were collected in 2010 as part of the ERASS. Data were obtained from the ASC. The aim of this survey was to collect population based data about participation in PA and sport, as well as details about the context and type of activities adults participate in. Quarterly survey samples for ERASS were selected from adults aged 15 years and over, living in occupied private dwellings, using computer-assisted telephone interviewing. In each quarter, approximately 3,400 persons were sampled Australia-wide, representing all states and territories.

After explaining the purpose and format of the ERASS questionnaire, interviewers asked respondents if they had participated in any leisure time PA (LTPA) for exercise, recreation or sport in the last 12 months (as opposed to PA associated with work, household or garden chores). If the response was 'yes', respondents were then asked to report what types of activity they had participated in during this period. Respondents were then requested, for each reported activity type, to indicate whether any of the activity had been organised by a club, association or any other type of organisation. If the activity had been organised, a further question then inquired as to what type of club, association or organisation had organised the activity (fitness, leisure or indoor sport centre that required payment for participation; sport or recreation club or association that required payment of membership, fees or registration; work; school; other).

From responses to the above questions three dichotomous measures were derived indicating: (1) whether there was **any participation in PA for exercise, recreation or sport** in the past 12 months (yes/no); (2) for each type of activity, whether any of the **activity was organised** (yes/no); and (3) if so, was the **activity organised by a sport or recreation club or association that required payment of membership fees or registration (herein referred to as club)** (yes/no). As a person can engage in a particular type of PA in more than one setting, these three dichotomies are **not mutually exclusive**.

Participation in physical activity – non organised/organised/club

Most adults, regardless of age or gender, participated in any PA for recreation, sport or exercise in the past 12 months. Almost four out of five older adults (76%) participated in any PA, which includes both non-organised and organised PA. About two out of five older adults (41%) participated in any organised activity (including but not limited to club-based PA) and one in three older adults (30%) participated in club-based organised PA (**Table 1, page 15**).

The percentage of adults under 50 years participating in any PA was higher (86%) than the percentage of older adults (76%). The difference between these groups was greater for organised and club based activities. The proportion of younger adults participating in organised activity was 1.8 times higher than

the proportion of older adults (72% vs 41%, respectively). Although the difference was smaller for club-based activities, the proportion of younger adults participating in club-based activity was still 1.5 times higher than the proportion of older adults (46% versus 30%, respectively).

The proportions of older women and men who did any PA, any organised activity or any club-based activity were similar. Overall, of all older adults who did PA in the past year, 30% did this in a club setting and 11% in an organised setting other than a club.

Table 1: Participation in physical activity by age and gender*

	Younger than 50 years**			50 years or older**		
	Women	Men	<i>Total</i>	Women	Men	<i>Total</i>
	N=6,495	N=6,512	<i>N=13,007</i>	N=4,422	N=4,174	<i>N=8,596</i>
Any physical activity	85%	88%	<i>86%</i>	76%	77%	<i>76%</i>
Any organised activity	71%	74%	<i>72%</i>	42%	40%	<i>41%</i>
Any club-based activity	43%	50%	<i>46%</i>	29%	32%	<i>30%</i>

* Includes adults 15+ years who participated at least once in the past 12 months

** Column percentages do not add up to 100%, as adults can be included in more than one category (i.e. any physical activity includes any organised and any club based; any organised activity includes any club-based)

Which club-based sports do older adults engage in?

Adults were asked to list up to 10 activities for recreation, sport or exercise they participated in in the last 12 months and if these were non-organised, organised in a setting other than a club, or organised in a club-setting. Activities were categorised into 95 types. Of the 95 activities in ERASS, 57 activities, administered by a NSO and/or SSO recognised as such by the ASC, were classified as sport. (Australia, 2011) Sport activities that were organised in a club-setting are referred to as club-based sport. Overall, larger proportions of men than women reported participation in club based sport. Of the 1,316 men aged 50+ years who did an activity at club level, 890 (67%) played a sport. Of the 1,287 women aged 50+ years who did an activity at club level, 521 (41%) played a sport.

The top **three most frequently played club-based sports were golf, lawn bowls and tennis** for both older men and women. These sports were played by more than 5% of older adults who did club-based activities. Adults reported a wide variety of sports. The 25 club-based sports older men and women most frequently participated in are reported in **Table 2 (page 17)**. Eighteen of these 25 sports were reported by both men and women.

More older men than women played the following 11 club-based sports:

- **Golf (26% in men; 8% in women)**
- **Lawn bowls (16% in men; 9% in women)**
- Sailing (4% in men; 0.6 % in women)
- Shooting sports (3% in men; 0.5% in women)
- Cycling (3% in men; 1% in women)
- Motor sport (1% in men, 0.2% in women)
- Outdoor hockey (0.9% in men; 0.2% in women)
- Badminton (0.4% in men; 0.2% in women)
- Bocce (0.6% in men; 0.4% in women)
- Squash/racquetball (0.6% in men; 0.5% in women)
- Swimming (1% in men; 0.9% in women).

More older women than men played the following six club-based sports:

- **Tennis (8% in women; 6% in men)**
- Dancing (3% in women; 1% in men)
- Martial arts (2% in women; 1% in men)
- Tenpin bowling (1% in women; 0.5% in men)
- Canoeing/kayaking (1% in women; 0.6% in men)
- Croquet (1% in women; 0.7% in men).

Women reported seven club-based sports that were not included in the 25 most frequently reported sports by men. These were: netball, horse riding/equestrian/polo cross, rowing, softball, athletics/track and field, boxing and basketball. There were also seven club-based sports in the top 25 for men that were unique to men: cricket, touch football, table tennis, AFL, archery/bow hunting, outdoor football and orienteering.

Older adults played a variety of club-based sports, ranging from light (e.g. shooting sports) **to high intensity** (e.g. squash/racketball, boxing), **as well as individual** (e.g. canoeing/kayaking) **and team sports** (e.g. hockey). Thus, age in itself is not necessarily a reason to stop participating in these activities. However, except for the 11 most frequently played club-based sports by women and 12 most frequently played club-based sports by men, the proportion of older adults participating in each of these sports is typically less than 1% of the older adults who do club-based activities (**Table 2, page 17**). This indicates that most of the 57 ERASS activities classified as sport are not commonly played by older adults.

Using a classification based on metabolic equivalents which is commonly used to establish the energy expenditure of activities and which has been used previously for ERASS data, (Merom, Bauman, & Ford, 2004) each of these sports was classified as:

- **'Health Enhancing Leisure Time PA (HELPA)'**: moderate to vigorous intensity sport with an estimated energy expenditure of at least 3.5 times higher than the energy expenditure during rest
- **Non HELPA activity**: light intensity sport with an estimated energy expenditure lower than 3.5 times the energy expenditure during rest.

Of the 25 most frequently reported club-based sport activities in older women and men, only four were non-HELPA activities. These were lawn bowls, croquet, shooting sport and bocce. This means that these sports may be less effective in improving physical fitness and physical health than the other club-based sports in the top 25. However, these sports are likely to be beneficial for other aspects of health and wellbeing, such as mental and social health. Moreover, especially as adults age, these sports may be easier to maintain than the higher intensity sports.

Table 2: Top 25 of club-based sports in adults aged 50+ years by gender*

Women N=521				Men N=890			
	Sport	%*	HELPA		Sport	%*	HELPA
1	Lawn Bowls	9%	No	1	Golf	26%	Yes
2	Golf	8%	Yes	2	Lawn Bowls	16%	No
3	Tennis	8%	Yes	3	Tennis	6%	Yes
4	Dancing	3%	Yes	4	Sailing	4%	Yes
5	Martial Arts	2%	Yes	5	Cycling	3%	Yes
6	Netball	2%	Yes	6	Shooting Sports	3%	No
7	Croquet	1%	No	7	Cricket (outdoor)	2%	Yes
8	Canoeing/Kayaking	1%	Yes	8	Motor Sports	1%	Yes
9	Cycling	1%	Yes	9	Touch Football	1%	Yes
10	Horse Riding/Equestrian/ Polo Cross	1%	Yes	10	Martial Arts	1%	Yes
11	Tenpin Bowling	1%	Yes	11	Dancing	1%	Yes
12	Swimming	0.9%	Yes	12	Swimming	1%	Yes
13	Sailing	0.6%	Yes	13	Hockey (outdoor)	0.9%	Yes
14	Rowing	0.5%	Yes	14	Table Tennis	0.9%	Yes
15	Squash/Racquetball	0.5%	Yes	15	Australian Rules Football	0.8%	Yes

16	Ice/Snow Sports	0.5%	Yes	16	Archery/Bow Hunting	0.7%	Yes
17	Shooting Sports	0.5%	No	17	Croquet	0.7%	No
18	Bocce	0.4%	No	18	Football (outdoor)	0.7%	Yes
19	Softball	0.3%	Yes	19	Bocce	0.6%	No
20	Athletics/Track&Field	0.2%	Yes	20	Canoeing/Kayaking	0.6%	Yes
21	Boxing	0.2%	Yes	21	Orienteering	0.6%	Yes
22	Hockey (outdoor)	0.2%	Yes	22	Squash/Racquetball	0.6%	Yes
23	Badminton	0.2%	Yes	23	Ice/Snow Sports	0.5%	Yes
24	Basketball	0.2%	Yes	24	Tenpin Bowling	0.5%	Yes
25	Motor Sports	0.2%	Yes	25	Badminton	0.4%	Yes

* Percentage reflects proportion of adults aged 50+ years who participated in any club-based activity for exercise, recreation or sport in the past 12 months. HELPA = health enhancing leisure time physical activity

What is the contribution of sport to health enhancing leisure physical activity levels?

As described previously, the activities older adults reported were classified as a HELPA or non-HELPA. This was done for all 95 activities included in the ERASS survey. Of the 95 activity types, 78 were HELPA activities. Moreover, 50 (64%) of these 78 HELPA activities were classified as HELPA *sport* activities, meaning they were administered by an NSO and/or SSO recognised as such by the ASC. (Australia, 2011)

To determine the contribution of sport to health enhancing PA levels, respondents were assigned to one of **three mutually exclusive categories** for each reported activity. **All persons who participated in a club setting were classified as club participants (organised club)**, regardless of whether they also participated in other settings. Of those remaining, **persons who participated in an organised non-club setting were classified as organised non-club participants (organised non-club)**, regardless of whether they also participated in non-organised settings. **Those remaining participated in non-organised settings only (non-organised).**

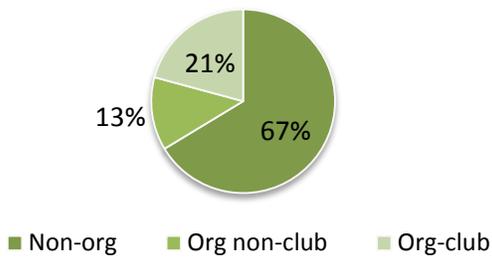
Health enhancing leisure time physical activity by age

Figures 1-4 (page 19) present the context of all HELPA activities, the proportion of HELPA activities that are sport-based, HELPA sport activities by context and HELPA sport activities by frequency, in younger and older adults.

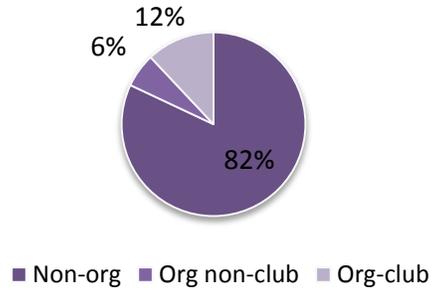
Older adults reported 10,607 HELPA activities in the past 12 months. The vast majority of these activities (82%) were non-organised, 12% were organised in a club-setting and 6% was organised in a non-club setting. The proportions of activities that were organised-club or organised non-club were about twice as high for younger adults than for older adults (**Figure 1**).

In older adults, the proportion of HELPA activities that was sport based was 38%, versus 58% in younger adults (**Figure 2**). Two thirds (67%) of all HELPA sport activities in older adults were non-organised, 29% was organised club and 4% was organised non-club. The proportion of non-organised activities was considerably lower in younger adults (53%), whereas the proportion of organised non-club activities (13%) was markedly higher in younger adults (**Figure 3**). Of all HELPA sport activities, about 80% was done more than 12 times per year in both younger and older adults (**Figure 4**).

These results show that **older adults perform fewer activities within a club setting than younger adults and that a lower proportion of these activities is HELPA sport**. However, **of all HELPA sport activities, older and younger adults perform about the same proportion in a club setting**. Also, most of the HELPA sport activities are performed at least 12 times per year, regardless of age.

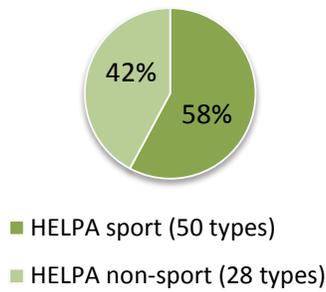


a. Younger than 50 years (24,174 activities)

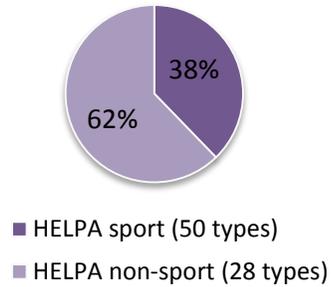


b. 50+ years (10,607 activities)

Figure 1: Health enhancing leisure time physical activity (HELPA) by context and age

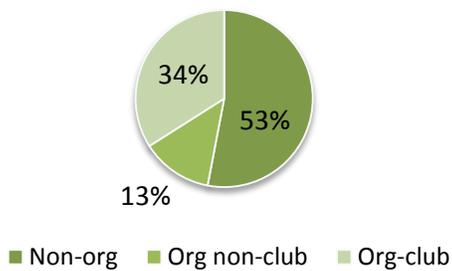


a. Younger than 50 years (24,174 activities)

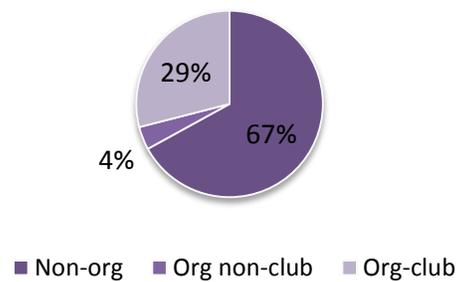


b. 50+ years (10,607 activities)

Figure 2: HELPA activities by sport category and age



a. Younger than 50 years (13,981 activities)



b. 50+ years (4,006 activities)

Figure 3: HELPA sport activities by context and age



a. Younger than 50 years (13,927 activities)

b. 50+ years (3,992 activities)

Figure 4: HELPA sport activities by frequency and age

Health enhancing leisure time physical activity in older adults by gender

Figures 5-8 (page 21) present the context of all HELPA activities, the proportion of HELPA activities that are sport-based, HELPA sport activities by context and HELPA sport activities by frequency, in older adults by gender.

Older women and men reported similar numbers of HELPA activities. The proportions of older women and men who participated in non-organised, organised club-based and organised non-club based HELPA activities were also similar. About 20% of all HELPA activities in older adults were organised. However, men reported a slightly higher proportion of organised activities in a club setting than women (15% in men vs 9% in women). Conversely, women reported a higher proportion of organised non-club activities than men (**Figure 5**).

The proportion of all HELPA activities that were HELPA sport activities was 1.5 times higher in men than in women (45% in men vs 30% in women; **Figure 6**). Although men reported more HELPA sport activities, the proportions of non-organised, organised non-club and organised club HELPA activities were similar in men and women. Just over a quarter of HELPA sport activities (30% in men vs 26% in women) were done in the organised club setting (**Figure 7**). About 80% of these activities were performed at least 12 times per year (**Figure 8**).

Thus, **older men perform more activities within an organised club setting and they do more HELPA sport activities than older women**. However, there is **little difference in the context and frequency between women and men who participate in HELPA sport activities**.

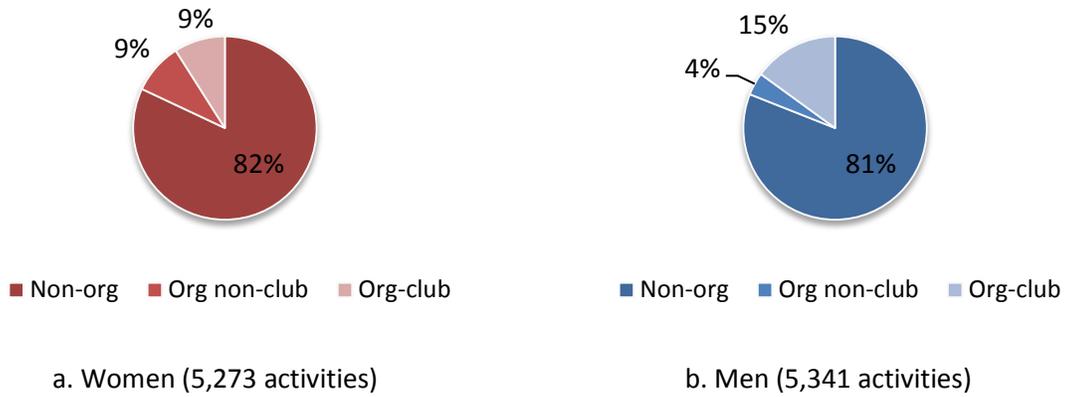


Figure 5: Health enhancing leisure time physical activities (HELPA) in adults aged 50+ years by context and gender

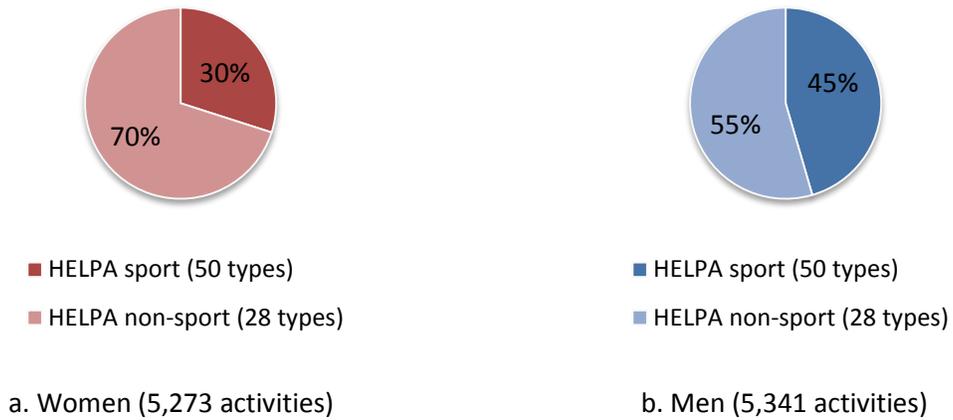


Figure 6: HELPA activities in adults aged 50+ years by sport category by gender

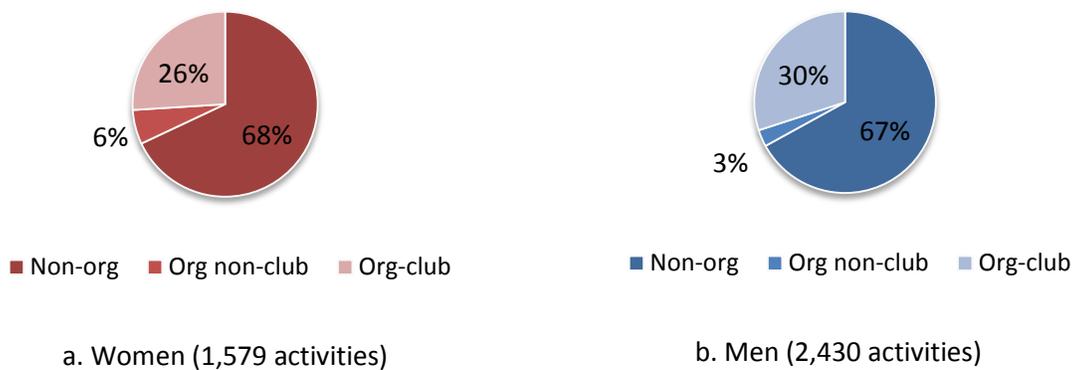
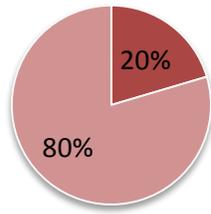
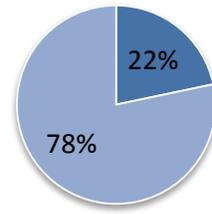


Figure 7: HELPA sport activities in adults aged 50+ years by context and gender



■ < 12 times ■ >= 12 times

a. Women (1,572 activities)



■ < 12 times ■ >= 12 times

b. Men (2,423 activities)

Figure 8: HELPA sport activities in adults aged 50+ years by frequency and gender

Study 2 - Sport participation by adults aged 50+ years: memberships, involvement in organisations, perceived benefits and health (AHSS data)

The aim of this study is to provide more in depth information about sport participation in older adults, defined as 50+ years, including their involvement in organisations and perceived benefits of sport. Furthermore, physical activity (PA) levels, socio-demographic characteristics and health and wellbeing of club members, members of other organisations and non-members will be compared. As this information was not available in the ERASS dataset, questions specifically developed by the research team at VU were included in the Australian Health and Social Science study (AHSS).

Data source

Data used in this study were obtained from the AHSS study at CQUniversity. The AHSS panel is a group of Australian adults who were recruited from 2009-2013 and consented to participate in online surveys. The AHSS study is not longitudinal. The data were collected in November 2013. Of all 1,856 adults who responded to the sport participation questions, 30% were younger than 50 years and 70% were 50+ years. Mean age of the younger respondents was 39 (SD 7.9; range 18-49) and 59% were female. Mean age of the older respondents was 63 years (SD 8.2 years; range 50-92 years) and 49% were female.

Memberships and types of organisations

See **Figure 9** for memberships of sport clubs, associations and other types of organisations by age and gender. There were some differences between age groups:

- Past member – last 10 years: 16% in older adults vs 28% in younger adults
- Never been a member: 30% in older adults, 22% in younger adults.

Twice as many older women as men had been a member of any organisation in the last 10 years (21% vs 10%). This indicates that organisations could use **gender specific strategies** to encourage older adults to become a member of a sport club, association, or other type of organisation.

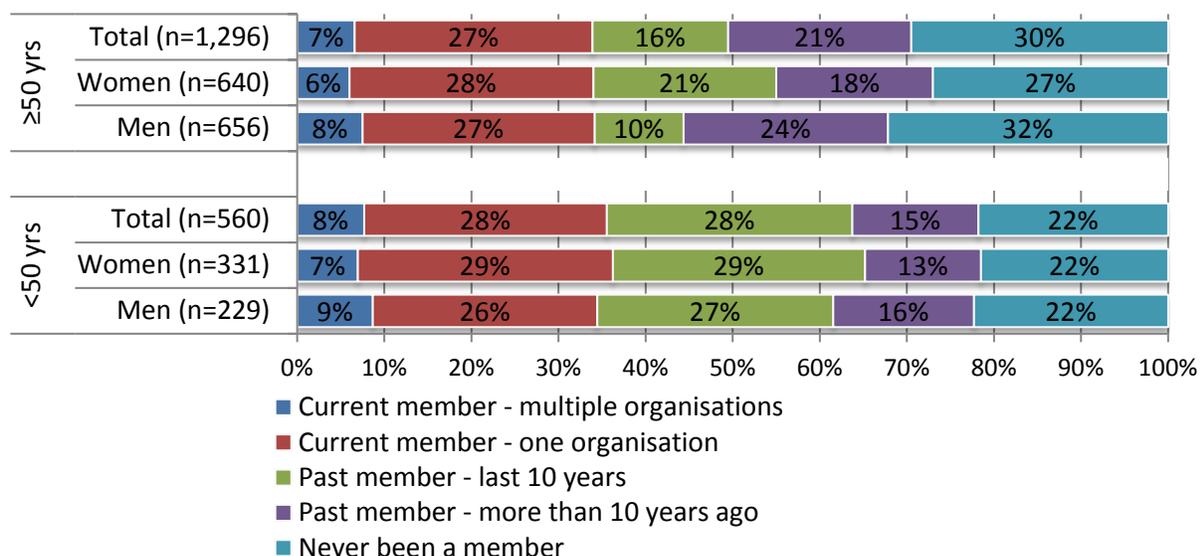


Figure 9: Membership of sport clubs, associations or other type of organisations by age and gender

Current members were asked what type of organisation they were a member of. Adults who were a member of more than one organisation were asked to report at which organisation they spend most of their time. Results are presented in **Table 3**. Two types of organisations clearly stood out in terms of the proportion of older adults. Of the 440 older adults who were a current member:

- **44%** were a member of an association that required payment of fees, membership or registration, hereafter referred to as ‘**club**’
- **39%** were a member of a **fitness, leisure or indoor sport centre** that required payment for participation.

Compared to younger adults, **older adults were more likely to be a member of a:**

- **Club** (44% vs 40% in younger adults)
- **Recreation club or association** (5% vs 1% in younger adults)
- **Community fitness program** (3% vs 1% in younger adults).

Younger adults were more likely to be a member of a:

- **Fitness, leisure or indoor sport centre** (47% vs 39% in older adults).

Table 3: Types of organisations adults are a member of by age and gender

	Younger than 50 years			50 years or older		
	Women n=120	Men n=79	Total n=199	Women n=216	Men n=224	Total n=440
Club	33%	51%	40%	30%	58%	44%
Fitness, leisure or indoor sport centre that requires payment for participation	53%	38%	47%	51%	28%	39%
Recreation club or association	-	3%	1%	5%	6%	5%
Community fitness program	3%	-	1%	4%	1%	3%
Physical activity courses	2%	-	2%	3%	0.9%	2%
Other	10%	9%	10%	8%	6%	7%

Possible reasons for the slightly higher proportion of club members among older adults could be the relatively high proportion of older adults who play golf, lawn bowls and tennis. Furthermore, older adults may be more interested in the social nature of club sport. Another reason could be that the average age of the younger adults was 39 years, which may mean that family and career investment may be a barrier to participation in club sport.

There were marked **gender differences**. In **older adults**:

- **Twice as many males were a member of a club** (58% in men vs 30% in women)
- **A higher proportion of women was a member of a fitness, leisure or indoor sport centre** (51% in women vs 28% in men).

What sports do older club members play?

Figure 10 shows what sports older sport club members play and the proportion of men and women participating in these sports. The **top three sports** were:

- **Golf** (43% of men vs 23% of women)
- **Lawn bowls** (14% of men vs 6% of women)
- **Tennis** (14% of women vs 9% of men).

Older club members play a variety of other sports, ranging from light (e.g. croquet) to high intensity (e.g. squash, triathlon), but the number of members reporting these sports was generally low, indicating that these sports are not commonly played by older members.

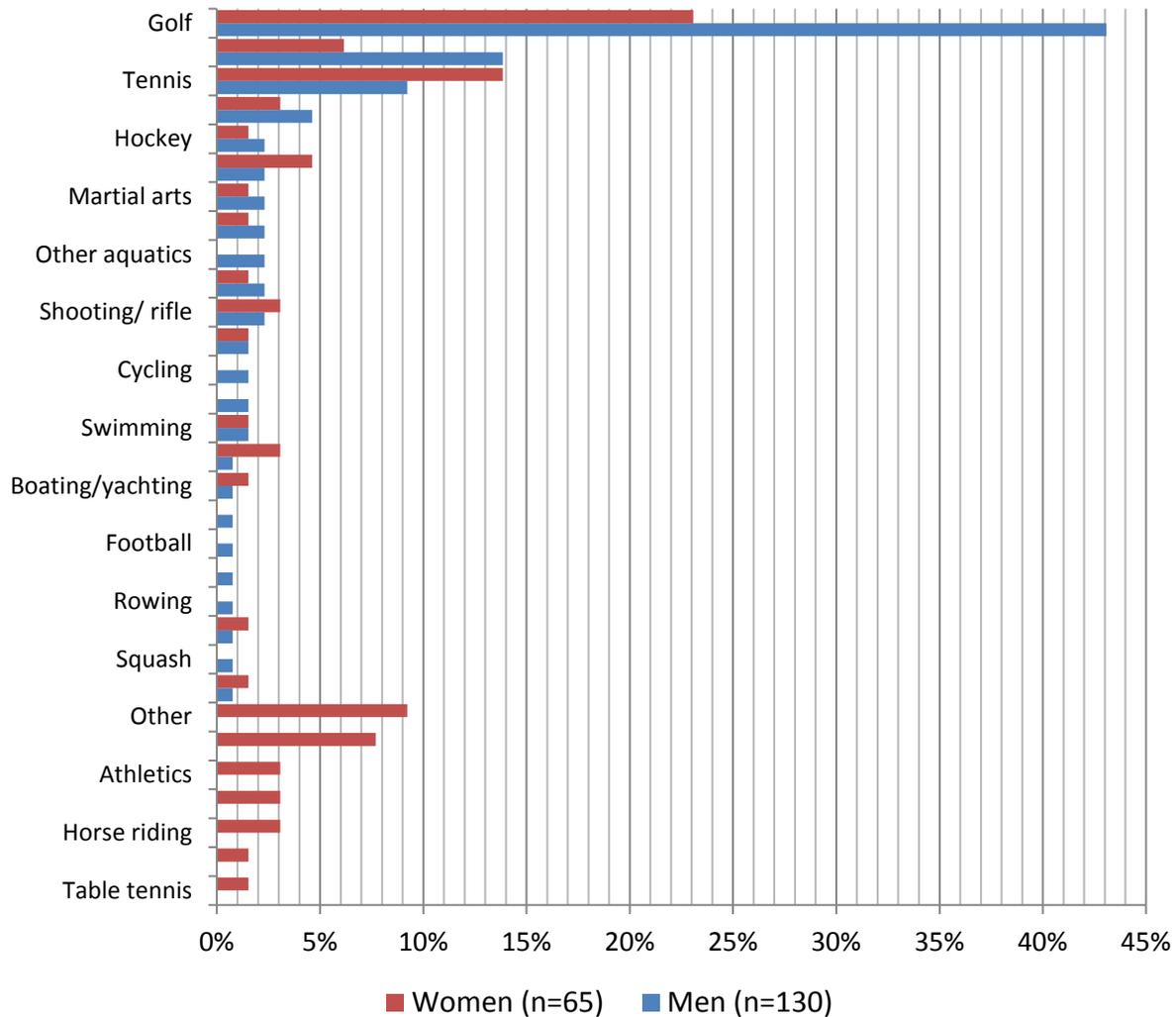


Figure 10: Sports reported by older club-members and proportion playing each sport by gender

How are older members involved in their club?

Older adults who were a member of a club were asked about their type of involvement (**Table 4**).

- **Most older club members** were involved as a **participant** with a focus on competition (60%), or on relaxation, socialising, health and fitness (39%)
- A **higher proportion of older adults than younger adults had a focus on competition** (60% vs 53%)
- Involvement as a **committee member or administrator** (19%) was the **most frequent type of involvement after being a participant; older adults were more likely to be involved in this role than younger adults** (19% vs 14%)
- Compared to younger members, **older members were less likely to be involved as a coach, instructor or teacher** (15% vs 9%), or as a **scorer or timekeeper** (5% vs 1%).

Table 4: Involvement of adults who are a member of club by age and gender

	Younger than 50 years*			50 years or older*		
	Women	Men	Total	Women	Men	Total
	n=39	n=40	n=79	n=65	n=130	n=195
Participant - focus on competition	44%	63%	53%	60%	60%	60%
Participant - focus on relaxation, socialising, health and fitness	51%	45%	48%	37%	40%	39%
Committee member or administrator	8%	20%	14%	25%	16%	19%
Coach, instructor or teacher	10%	20%	15%	8%	9%	9%
Referee or umpire	5%	8%	6%	3%	9%	7%
Scorer or timekeeper	8%	3%	5%	0%	2%	1%
Provider of medical support	3%	0%	1%	2%	0%	1%

*Column percentages may not add up to 100% as multiple answers were possible

More than 90% of all older members were participants. There were no clear gender differences in the different types of involvement by older club members (**Figure 11**).

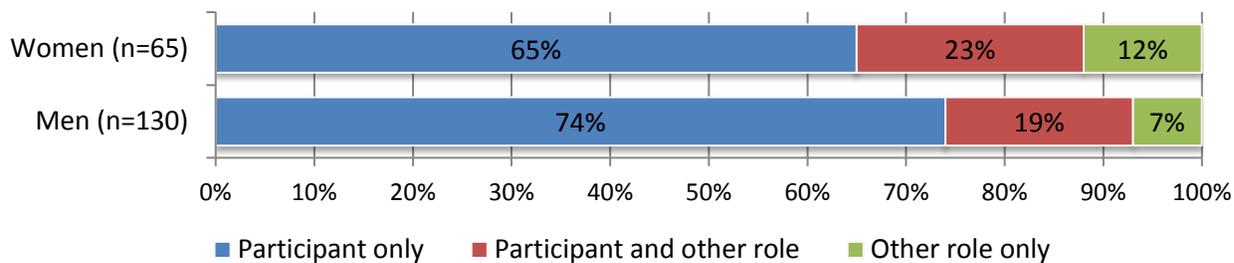


Figure 11: Involvement as participants and in other roles in adults aged 50+ years by gender

Older club members were also asked to rate the overall intensity of their participation

- 32% rated the intensity as **light**
- 57% rated the intensity as **moderate** (activity which increases your breathing, but you are still able to hold a conversation)
- 12% rated the intensity of activities in their club as **vigorous** (activity which makes you breathe harder or puff and pant).

Public health guidelines for PA recommend that adults do a combination of moderate and vigorous intensity activity for health benefits. The guidelines recommend adults do 150-300 minutes per week of moderate intensity activity, 75-150 minutes per week of vigorous intensity activity or any combination. (Brown et al., August 2012.) However, there is ample evidence that even if adults do not meet these PA levels, doing something is better for health and quality of life than doing nothing. It can therefore be assumed that PA levels achieved through sport participation contribute to the health of active older club members.

Benefits of sport participation

Club members were also asked to rate their agreement with statements about the potential benefits of being a member (**Figure 12**).

- Almost 90% agreed or strongly agreed that being a club member was good for physical and mental health
- Almost 80% agreed or strongly agreed that being a club member was good for their social health
- The results indicate that women and men believe they receive similar benefits from being a club member.

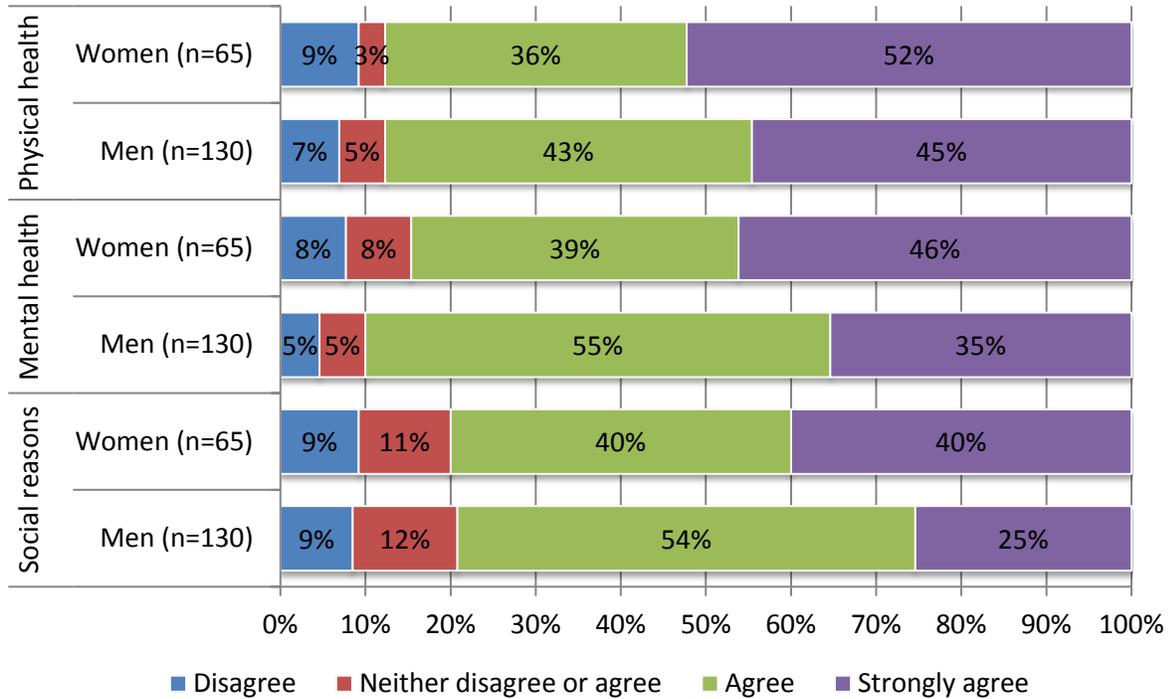


Figure 12: Perceived benefits of being a club member in current members aged 50+ years by gender

Are current non-members interested in becoming a member and, if so, why?

Older adults who were not a current member of an organisation were asked if they were interested in becoming a member and, if so, what type of organisation they would be interested in. Results are presented in **Table 5**.

- **The proportion of older adults interested in becoming a member of a sport club was**
 - 8% in those who were a member in the last 10 years, behind fitness centre (19%), community fitness program (18%) and other activity options (14%)
 - 10% in those who were a member more than 10 years ago, behind community fitness program (14%) and recreation club or association (12%)
 - 4% in those who have never been a member, behind other (13%), community fitness program (11%) and recreation club or association (7%)

- **The proportion of older adults not interested in becoming a member was**
 - 29% in those who were a member in the last 10 years
 - 42% in those who were a member more than 10 years ago
 - 59% in those who have never been a member.

Table 5: Type of organisation non-members aged 50+ years are most interested in joining by past membership status and gender

	Member <10 years ago			Member >10 years ago			Never-member		
	Women	Men	Total	Women	Men	Total	Women	Men	Total
	N=135	N=67	N=202	N=118	N=154	N=272	N=171	N=211	N=382
Club	3%	18%	8%	5%	14%	10%	2%	6%	4%
Fitness, leisure or indoor sport centre that requires payment for participation	19%	19%	19%	14%	11%	8%	6%	2%	4%
Recreation club or association	2%	10%	5%	7%	16%	12%	5%	9%	7%
Community fitness program	24%	8%	18%	20%	8%	14%	18%	5%	11%
Physical activity course	7%	6%	6%	3%	2%	2%	3%	1%	2%
Other (e.g. work, events based)	18%	8%	14%	8%	11%	10%	14%	13%	13%
Not interested	27%	31%	29%	43%	40%	42%	53%	64%	59%

Of the 58 older adults who were interested in becoming a member, the majority were male (n=45; 78%). Older adults were interested in a range of sports including: golf (n=15); lawn bowls (n=6); cricket or hockey (both n=4); cycling, swimming or tennis (all n=3); croquet, gymnastics, shooting/rifle, or other (all n=2); baseball, boxing, fencing, football, gymnastics, motorsport, netball, rowing, rugby, sailing, surf and lifesaving club, or soccer (all n=1). This again highlights the popularity of golf and lawn bowls for older adults. However, these findings also indicate that older adults are interested in a range of sports.

Older adults interested in becoming a member of a sport club were asked to rate their agreement with four potential reasons for becoming a club member (**Figure 13**).

- Two thirds (67%) of older adults would become a club member for **social reasons**
- Just over half (55%) would become a club member to **improve physical health**
- Just over half (53%) would become a club member to **be more active**
- Just below half (45%) would become a club member to **improve mental health**

- There were no clear differences in agreement with these reasons based on past membership status or gender.

This indicates that **sport clubs** looking to **grow their membership base among older adults** could **focus on the social aspect of their sport and the physical and mental health benefits of regular participation.**

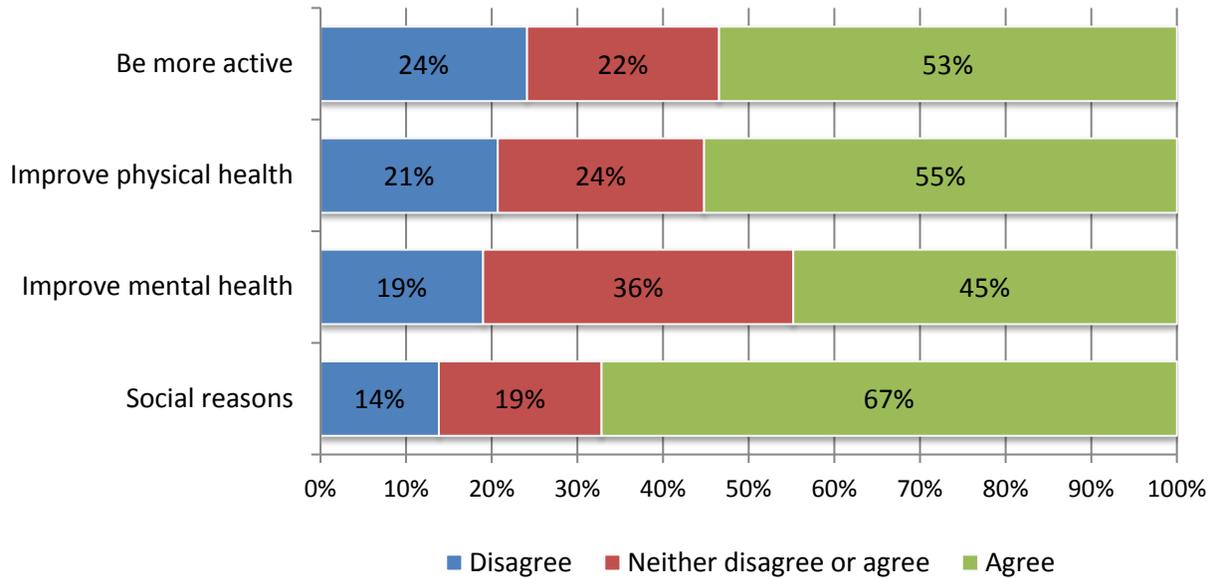


Figure 13: Agreement with potential reasons for becoming a club member in adults aged 50+ years who are interested in becoming a member of a club

Comparison of club members, members of other organisations and non-members

Physical activity levels

The PA levels of club-members, members of other organisations and non-members are presented in **Figure 14**.

- **Club members were more likely to meet the PA guidelines** (82%) than members of other organisations (75%) and non-members (54%)
- **The proportion of 82% is considerably higher than the proportion of 40% of adults aged 55-64 years in the general population who meet the guidelines.**(Statistics, 2013)

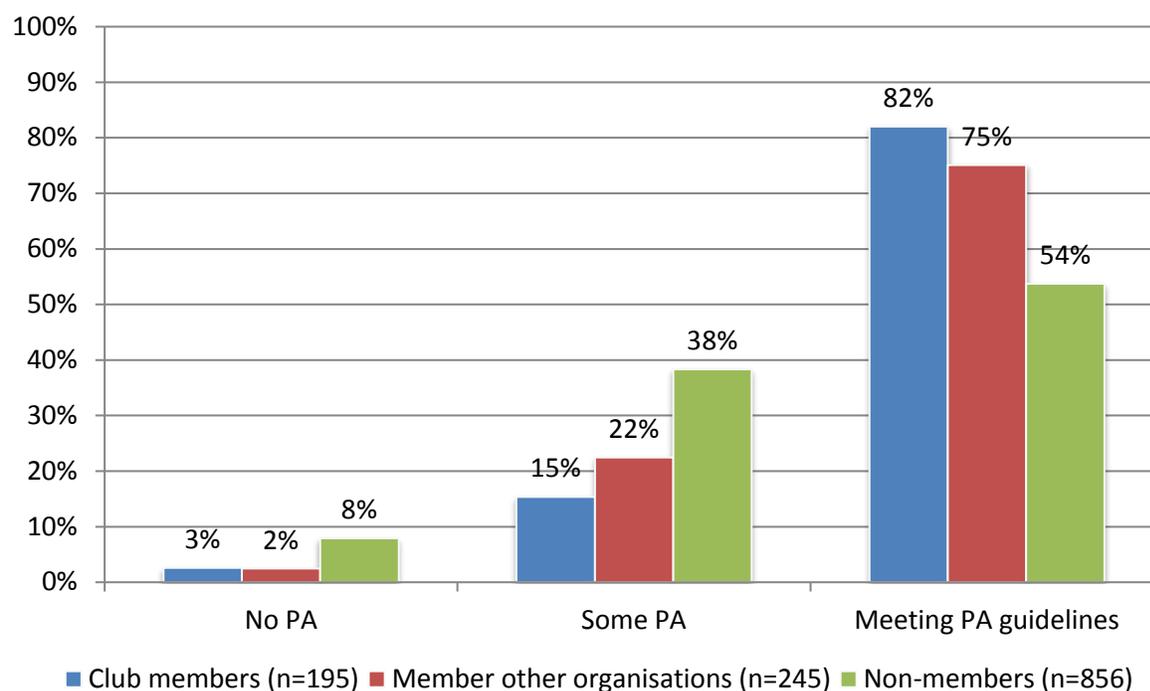


Figure 14: Physical activity levels of adults aged 50+ years by membership status

Socio-demographics

Socio-demographic characteristics of club members, members of other organisations and non-members are reported in **Table 6 (page 30)**. The statistically significant differences were:

- **A larger proportion of club members was male** (67%), compared to members of other organisations (38%) and non-members (51%)
- **Club-members differed more in socio-demographic characteristics from the members of other organisations than from the non-members**
 - Fewer club members lived in major cities (57% vs 66% in members of other organisations) and more lived in outer regional or remote areas (10% vs 4% in members of other organisations)

- Club members generally had lower education than members of other organisations (Table 6)
- Club members generally had a lower income than members of other organisations (Table 6)
- There were no significant differences between the three groups in age, marital status, living situation, country of birth or employment status.

Table 6: Socio-demographic characteristics of adults aged 50+ years by current membership status

	Club members N=195	Member other organisation N=245	Non-members N=856	Total N=1296
Age, mean (SD)	64 (7.9)	63 (8.2)	63 (8.3)	63 (8.2)
Gender				
Female	33%	62%	50%	49%
Male	67%	38%	51%	51%
Marital status				
Single/widowed/divorced	22%	20%	20%	20%
Married/de-facto/live-in	79%	80%	80%	80%
Living situation				
children<18 yrs	7%	9%	10%	10%
children 18+ yrs	15%	20%	19%	19%
children moved out/no children	79%	71%	71%	72%
Area of residence				
Major Cities	57%	66%	54%	57%
Inner Regional	32%	30%	33%	33%
Outer Regional/Remote	10%	4%	13%	11%
Country of birth				
Australia	76%	74%	78%	77%
Other	24%	26%	22%	23%

Education				
Up to year 12	24%	17%	30%	27%
Technical studies/trade certificate	21%	11%	16%	16%
Tertiary studies	55%	73%	54%	58%
Employment status				
Full-time	24%	27%	31%	29%
Part-time	15%	18%	14%	15%
Casual	4%	4%	5%	5%
Unemployed/home duties/student	3%	4%	6%	5%
Retired/pensioner	55%	47%	44%	46%
Income				
Lowest tertile	36%	27%	44%	40%
Middle tertile	35%	39%	30%	32%
Highest tertile	29%	34%	26%	28%

Health and wellbeing

Details about the health and wellbeing of club members, members of other organisations and non-members are presented in **Table 7**. The statistically significant differences were:

- **Club members and members of other organisations** had **better self-rated health** than non-members
- Body Mass Index
 - **A higher proportion of club members was overweight**
 - **Lower proportions of club members and members of other organisations were obese**, compared to non-members
- **Club members and members of other organisations** reported **better physical quality of life** than non-members
- There were no significant differences between the three groups in the number of chronic conditions, the presence of symptoms of depression, or mental quality of life.

Table 7: Health and wellbeing of adults aged 50+ years by current membership status

	Club members N=195	Member other organisations N=245	Non-members N=856	Total N=1296
Self-rated health				
Very good/excellent	51%	53%	36%	42%
Good	33%	35%	41%	39%
Poor/fair	16%	12%	22%	19%
Chronic conditions				
None	20%	24%	24%	23%
One	32%	26%	28%	28%
Two	20%	25%	19%	20%
Three or more	29%	25%	29%	28%
Body Mass Index				
Normal weight	33%	45%	34%	36%
Overweight	50%	36%	36%	38%
Obese	18%	20%	30%	26%
Depression				
No symptoms	84%	82%	82%	83%
Symptoms	16%	18%	18%	17%
Quality of life	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Physical component summary	46 (8.9)	45 (9.3)	43 (10.3)	44 (9.9)
Mental component summary	52 (9.0)	51 (9.3)	51 (9.9)	51 (9.7)

Study 3 - Sport and ageing from the perspective of sporting organisations (Survey study)

Aim and study description

To develop a better understanding of how Sporting Organisations (SOs) perceive sport and ageing, the research team conducted a survey study. For this study, SOs refer to National Sporting Organisations (NSOs) and State/Territory Sporting Organisations (SSOs). The aim of the study was to understand these SOs perspectives on:

- 1) Current sport opportunities for older adults
- 2) Potential barriers of and benefits to increasing sport participation in older adults
- 3) Potential strategies to increase sport participation among older adults.

In addition, SOs were asked to indicate their preference for a resource to help increase sport participation in older adults.

The results of this survey were analysed with a focus on responses in the following subcategories:

- NSO versus SSO
- Team sports versus individual sports
- Contact/collision sports versus limited contact sports and non-contact sports
- Sports with a high participation rate for older adults, versus sports with a medium participation rate, and sports with low participation rates among older adults (based on ERASS 2010 data).(Australian Sports Commission)

A web based survey was designed for this study by the research team, with input from the Director Sport Market Insights, Australian Sports Commission (ASC). The survey included 19 questions about sport and ageing, and was completed by SO employees or volunteers with a remit to increase active participation in their sport.

These SOs were selected via the ASC's list of recognised NSOs (as of February 2012),(Commission) and included both funded and unfunded sports. Of the 93 organisations listed, 78 NSOs and their associated SSOs were contacted to complete the survey (maximum of 702 SOs). Fifteen NSOs were not contacted, as 14 were umbrella organisations and one focused on elite sport only.

Recruitment of the NSOs was undertaken in partnership with the ASC. The ASC asked relevant contacts within each selected NSO to provide permission for Victoria University (VU) to contact them. Interested NSOs (n=28) were then invited by the VU research team to complete the survey and to share contact details for relevant employees in all of their SSOs. NSOs that did not respond to the invitation from the ASC (n=50) were contacted by the researchers through their respective NSO websites. This was also done for the SSOs if no contact details were received from the NSOs. Altogether, 241 SSOs were contacted (47% of the total eligible SSOs).

Respondents

Overall, 65% of eligible sports were represented in this study. The response rate for NSOs was 59% (46 out of 78 eligible NSOs). The response rate for SSOs was 61% (146 out of 241 contacted SSOs). SOs from all Australian states and territories were included in the study.

The mean age of respondents was 44 years, ranging from 22 to 71 years. Almost two-thirds (64%) of the respondents were male. Respondents worked in a variety of roles, including CEOs, Participation Managers and Secretaries. However, most respondents (76%) had a focus on both strategic development and program delivery, with 12% responsible for strategic delivery only, and 6% responsible for program delivery only. The remaining 6% had a focus on other responsibilities. Most respondents (45%) had worked in their respective organisations for one to five years.

Sporting Organisations' level of priority for different target groups

Respondents were asked to report how important it was for their SO to increase participation in different population groups (Figure 15):

- The **highest priority** was **11-15 year olds** (86% rated as high/very high)
- The **lowest priority** was **older adults** (39% rated as high/very high).

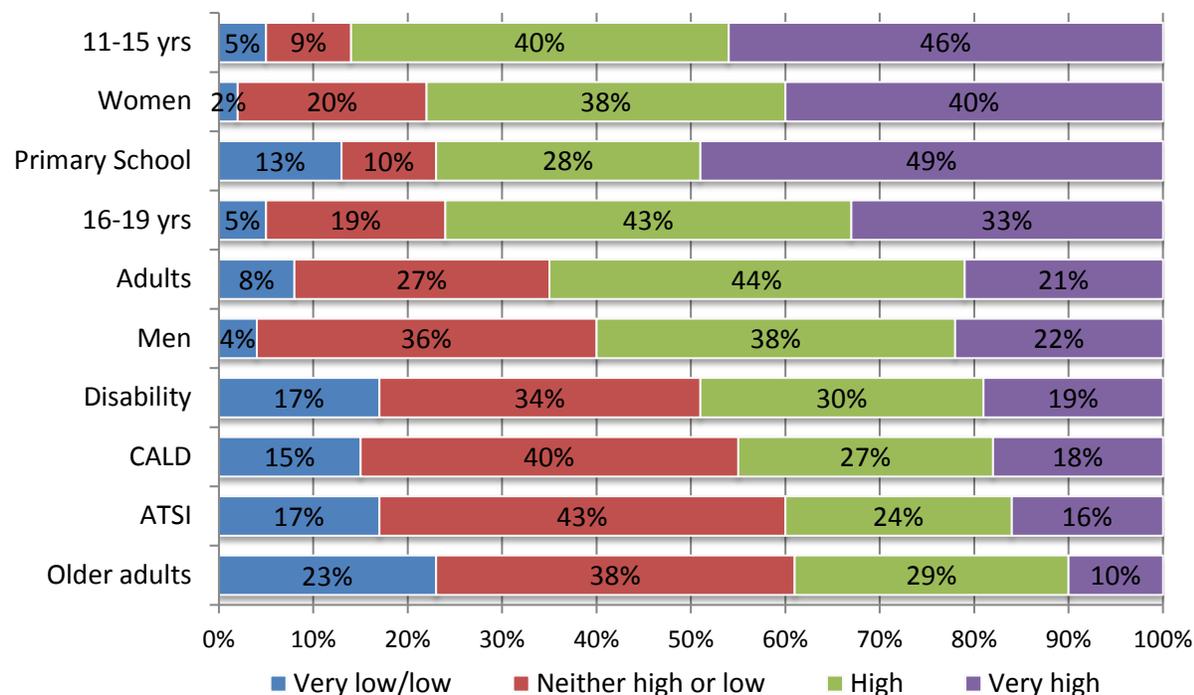


Figure 15: Ratings of level of priority to increase sport participation in different population groups (n=192)

Whilst increasing participation among older adults appears to be a lower priority for the majority of SOs, it is important to keep in mind that the survey was completed by representatives of sports that may be less frequently played by older adults (ERASS data, 2010),(Australian Sports Commission) including high impact and high contact sports.

To acquire a better understanding of the survey responses, SOs were categorised by the level of older adults' participation as derived from ERASS data (**Figure 16, page 34**). (Australian Sports Commission) Based on participation rates among older adults, sports were categorised as having a 'high level of participation' (>0.5%); a 'medium level of participation' (>0.05%-<0.5%); or a 'low level of participation' (<0.05%). Nine sports (covering 21 SOs) that were not included in the ERASS 2010 data were classified as an 'unknown level of participation'.

- Sports with the **highest levels of participation** among older adults tended to express a **higher level of priority** to increase sport participation in this population group (44% rated as high/very high) than sports with lower or unknown participation rates.

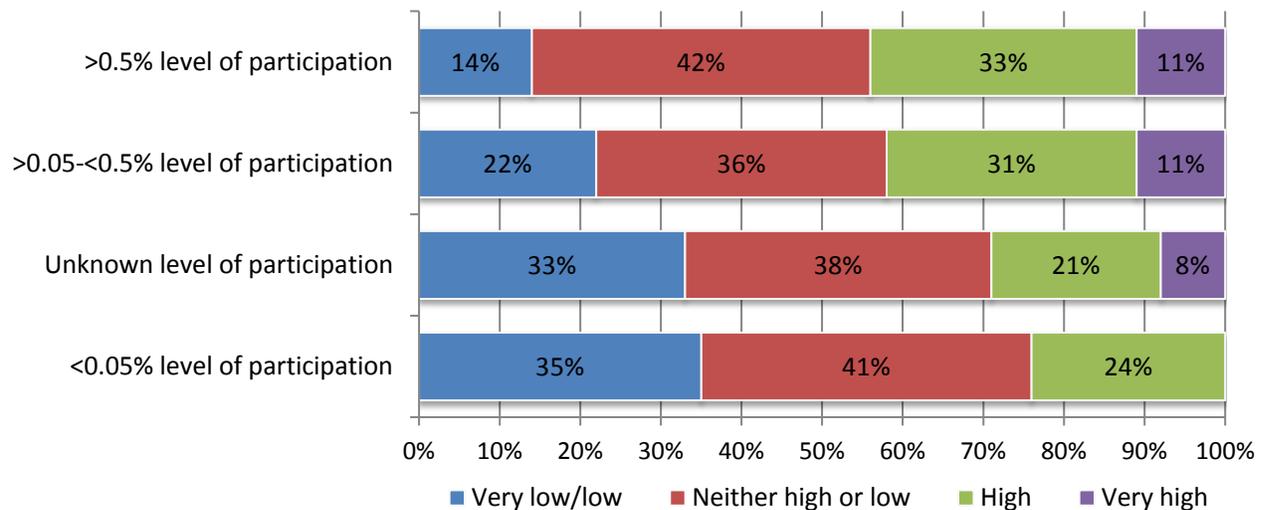


Figure 16: Ratings of level of priority to increase sport participation in older adults by participation level (n=192)

There were also differences in priorities between the subcategories:

- Team and individual sports neither agreed nor disagreed that older adults were a priority for their organisation. However, the **level of priority** to promote participation in older adults was **higher in individual sports (46%) than team sports (29%)**
- Respondents from **limited (40%) or non-contact (50%) sports** rated their **level of priority as higher than contact/collision sports (13%)**.

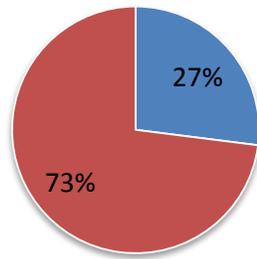
Thus, **individual sports, and sports with limited or no contact, appear to prioritise older adults' sport participation more than team sports and sports that involve contact/collision**. However, the promotion of sports participation in older adults was neither a high nor low priority for most SOs.

Sport opportunities for older adults

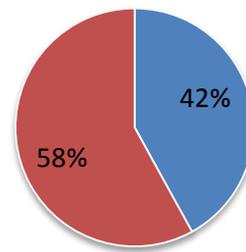
Respondents were asked if their SOs had specific strategies or programs for older adults (**Figures 17 and 18, page 35**). Strategies were defined as 'a long term plan to attract older adults into your sport, and/or retain players as they age, which is not part of a specific older adults' program'. Programs were defined

as ‘a formal program(s)/series of activities that are specifically designed for older adults’. **Most SOs did not have specific strategies or programs** for older adults:

- 27% of SOs had strategies for older adults
- 42% of SOs had programs for older adults
- **The most popular programs were Masters, Legends or Veterans programs**, with 20% of SOs (representing 22 different sports) providing these programs.



■ SOs with an older adults' strategy
 ■ SOs without an older adults' strategy



■ SOs with an older adults' program
 ■ SOs without an older adults' program

Figure 17: Proportion of SOs with strategies (n=192) Figure 18: Proportion of SOs with programs (n=192)

Strategies:

There were differences between the following subcategories:

- **More individual sports (30%) than team sports (19%) had specific strategies**
- **More high level participation sports (30%) than low level participation sports (17%) had specific strategies.**

However, only 30% of high level participation sports had strategies, which suggests that **having a specific strategy does not necessarily mean that participation numbers for older adults will increase.** Participation is likely to be higher in sports that are more attractive for older adults, regardless of specific strategies and programs to increase their participation.

Programs:

There were minor differences between sports with different participation levels:

- **More low level participation sports (50%) than medium (45%) or high level participation sports (42%) had specific programs.**

This suggests that **having specific programs does not necessarily mean participation levels for older adults will increase.**

Respondents were also asked to report what age they considered an ‘older player’ to be, and to report the age of the oldest age group their sport would cater for:

- **The average age for 'older players' was 42 years old**, ranging from 18 to 75 years
- **The average maximum age sports would cater for was 72 years**, ranging from 30 to 110 years.

SOs categorise 'older players' differently and there are differences in the maximum age SOs would cater for. This study has defined older adults as adults aged 50+ years, but the average age that SOs considered older players to be is younger than 50 years.

Organisational barriers to increasing sport participation in older adults

Respondents were asked to rate their agreement with 11 potential organisational barriers to sport participation in older adults (Figure 19). The top three barriers were:

- **Lack of resources to manage programs** for this age group (70% agreed/strongly agreed)
- **Lack of resources to develop programs** for this age group (69% agreed/strongly agreed)
- **Main focus is on other age groups** (69% agreed/strongly agreed).

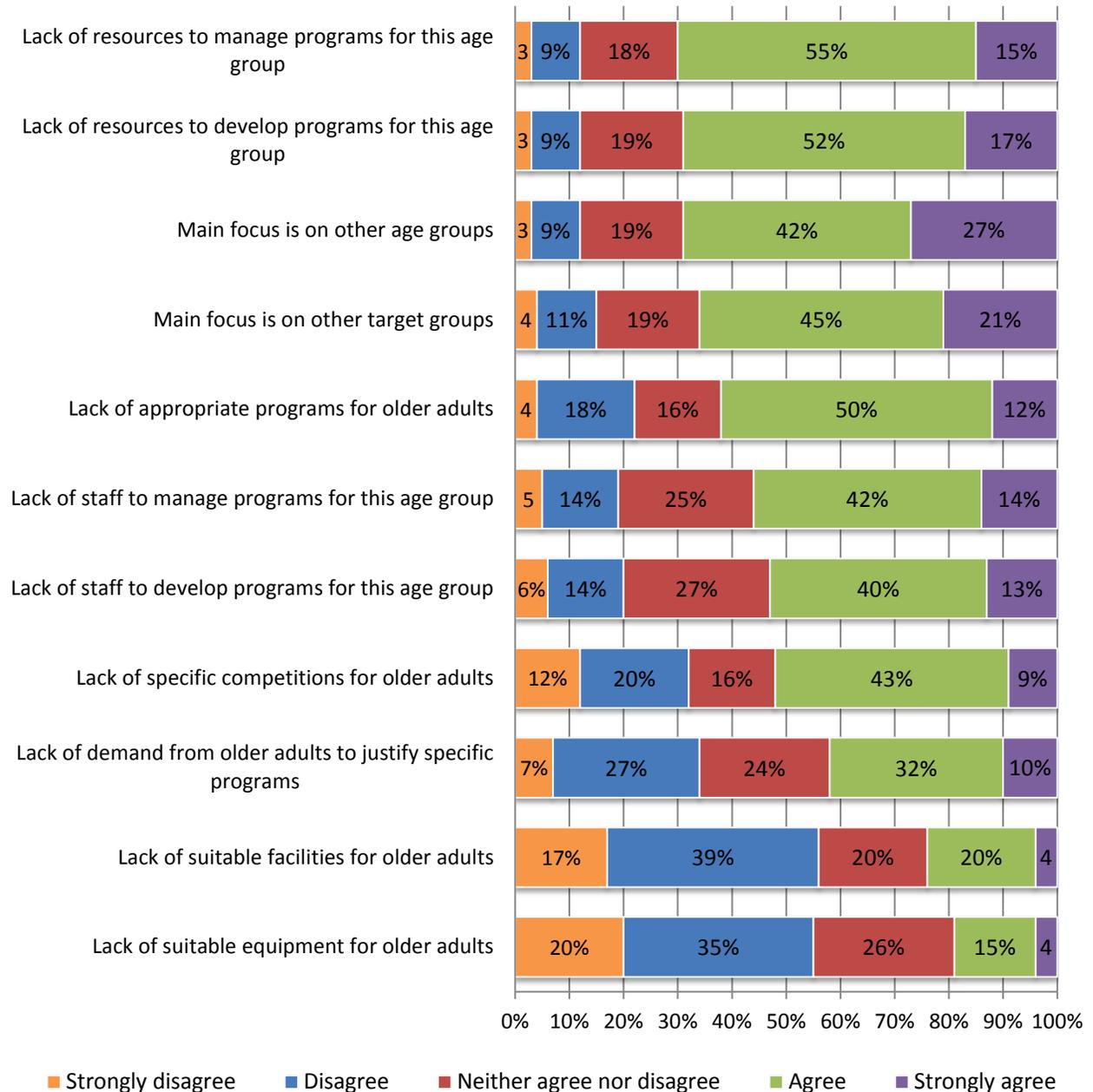


Figure 19: Ratings of agreement with potential organisational barriers to increase sport participation in older adults (n=192)

There were differences between sports with different participation levels and between contact and non-contact sports:

- **More low level participation sports** (50%) than medium (34%) or high level participation sports (26%) reported a **perceived lack of demand for their sports**
- **More contact/collision sports** (64%) than limited (45%) or non-contact sports (27%) reported a **perceived lack of demand for their sports**
- **More low participation sports** (72%) than medium (61%) or high level participation sports (62%) reported that they did **not have appropriate programs** for older adults
- **More contact/collision sports** (90%) than limited (69%) or non-contact sports (56%) reported a **focus on other age groups**.

Organisational benefits of increasing sport participation in older adults

Respondents were asked to rate their agreement with five potential organisational benefits for SOs of increasing sport participation in older adults. Most (60%) of the respondents agreed or strongly agreed with all five benefits (**Figure 20**). The top three benefits were:

- Facilitate an **increase in overall participation numbers** (91% agreed/strongly agreed)
- **Engage with SOs older fan base** (78% agreed/strongly agreed)
- Be **socially responsible** and accommodate a growing population group in society (75% agreed/strongly agreed).

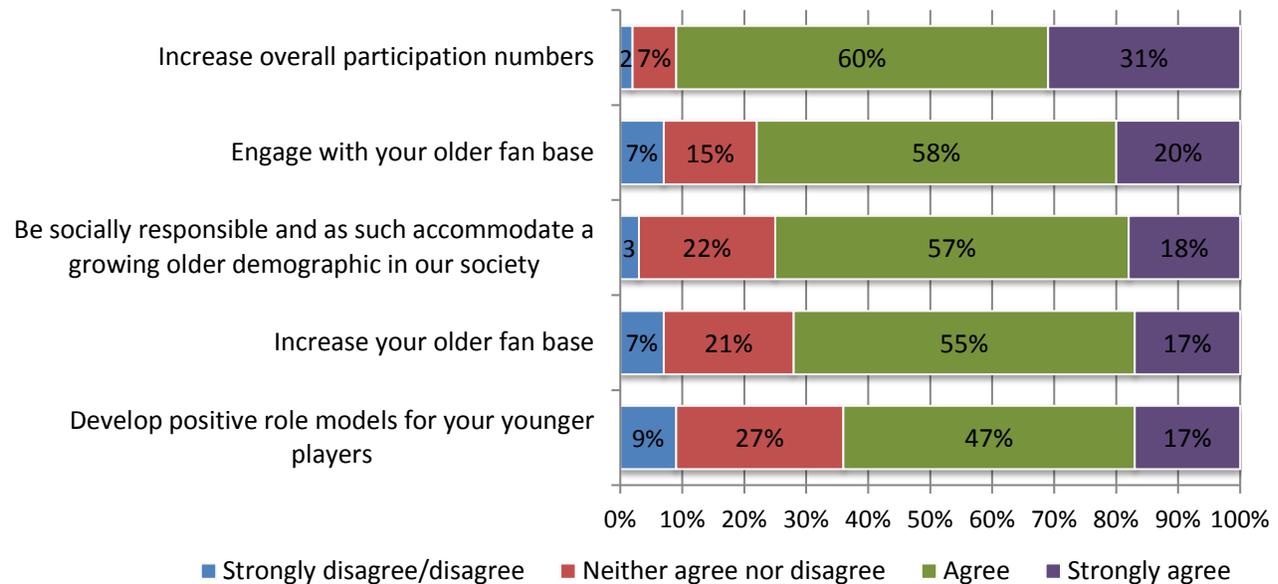


Figure 20: Ratings of agreement with potential organisational benefits of increased participation in older adults (n=192)

Strategies to increase sport participation among older adults

Respondents were asked to rate their level of agreement with 21 potential modifications to increase older adults' sport participation (**Figure 21**). The top three modifications were:

- **Change the way their sport is advertised** (77% agreed/strongly agreed)
- **Collaborate with community organisations** (77% agreed/strongly agreed)
- **Collaborate with senior organisations** (74% agreed/strongly agreed).

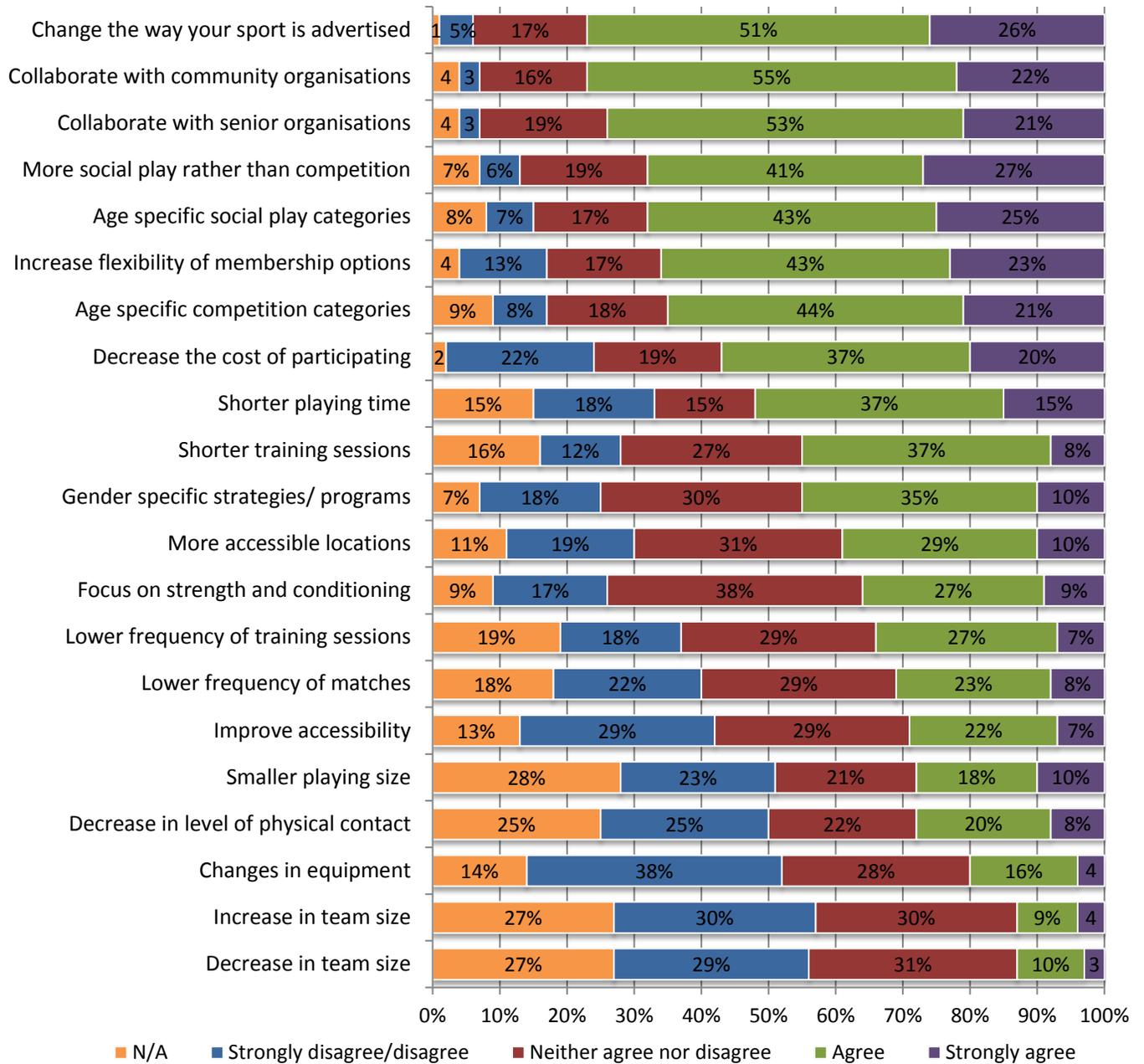


Figure 21: Ratings of agreement with potential modifications to increase older adults' sport participation (n=192)

There was general agreement among subcategories for modifications, such as changing the way their sports are advertised, collaborating with other organisations and introducing more social play. However, there were clear differences regarding other potential modifications for some subcategories.

Modifying equipment:

- Twice as many **NSOs** (52%) as **SSOs** (25%) **disagreed with modifying equipment.**

Decrease in level of physical contact:

- More than twice as many **contact/collision sports** (59%) as limited (25%) or non-contact sports (12%) agreed with a **decrease in the level of physical contact**
- More **low** (50%) **and medium** (22%) **level** participation sports than high participation sports (13%) agreed with a **decrease in the level of physical contact.**

SOs representing high level participation sports reported that a decrease in the level of physical contact was either not applicable or they did not agree or disagree with this modification. These results reflect the 2010 ERASS data, (Australian Sports Commission) which show that more older adults participate in low contact or collision sports such as golf, lawn bowls and tennis than in contact/collision sports.

Decrease the cost of participating:

- More **high** (61%) **and medium** (58%) than low participation sports (33%) agreed with a **decrease in the cost of participating.**

These results indicate that a decrease in the cost for low participation level sports will not necessarily result in an increase in sport participation in older adults.

Frequency and length of training sessions:

- **More contact/collision sports** (51%) than limited (32%) or non-contact sports (18%) agreed that there should be a **lower frequency of training sessions**
- Three and a half times as many **team sports** (56%) as individual sports (16%) agreed that there should be a **lower frequency of training sessions**
- Twice as many **team sports** (63%) as individual sports (30%) agreed that **training sessions should be shorter.**

Therefore training sessions for team sports may be more time restrictive or physically intense than training sessions for individual sports.

Gender specific strategies/programs:

- More **low** (61%) than medium (44%) or high level participation sports (42%) agreed that **gender specific strategies or programs** should be introduced.

More accessible locations:

- More **non-contact** (49%) and limited contact (35%) than contact/collision (21%) sports agreed that sport should take place in more **accessible locations.**

Resource development

Respondents were asked to rate the level of usefulness for 10 different resources to help SOs increase sport participation for older adults (**Figure 22**).

- Over 80% of respondents reported that all of the resources could be useful or very useful.

The top three resources in terms of usefulness were:

- Specific **marketing guidelines** to attract older adults into sport (49% rated as very useful)
- **Factsheet** for SOs (44% rated as very useful)
- **Factsheet** for local sport clubs (43% rated as very useful).

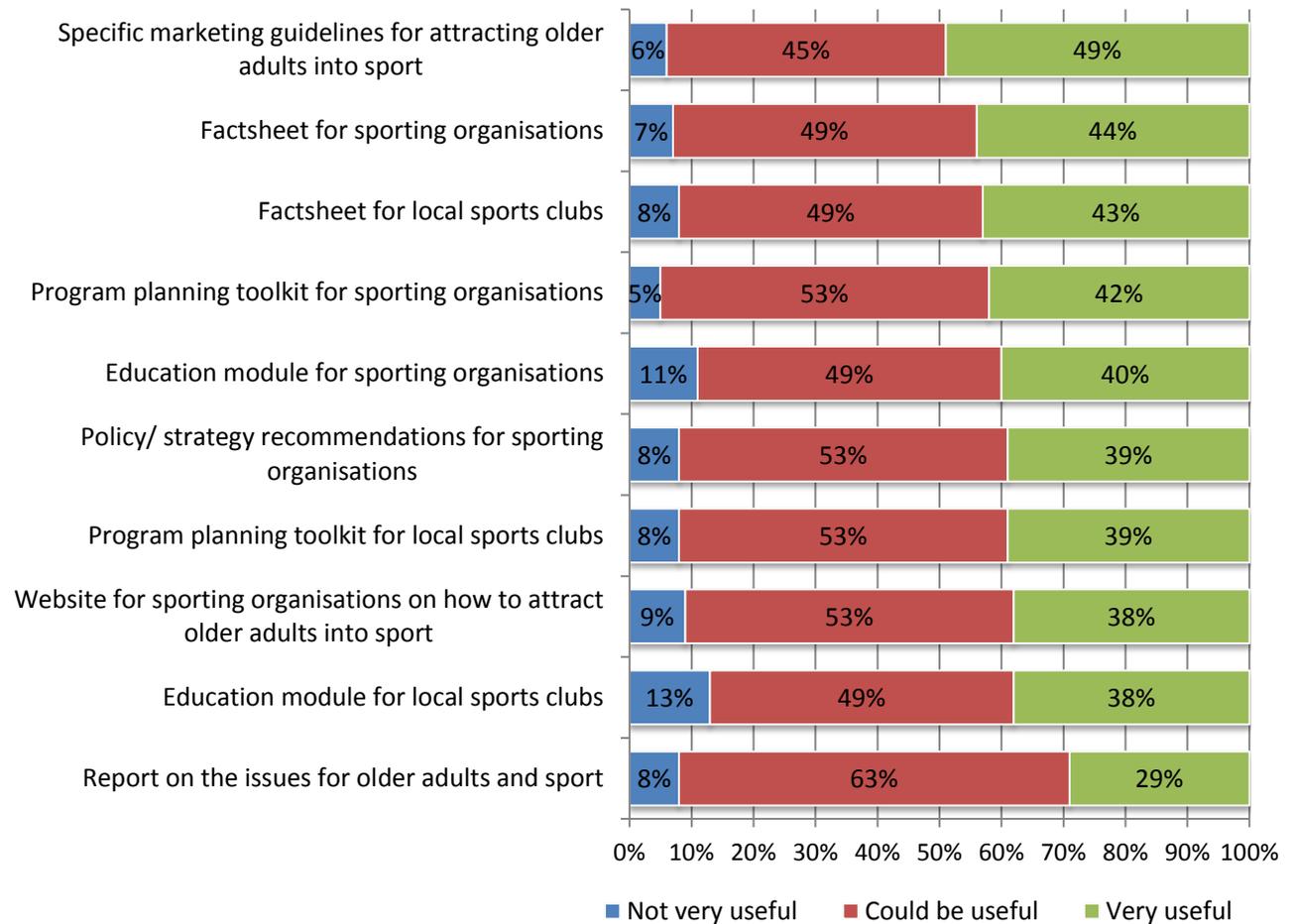


Figure 22: Ratings of usefulness for resource options to increase sport participation in older adults (n=192)

When SOs were asked to select their preferred resource, the results were different (**Figure 23**). The top three preferred resources were:

- A **website providing advice on attracting older adults into sport** (preferred by 16% of SOs)
- A **report on the issues surrounding older adults and sport** (preferred by 16% of SOs)
- **Specific marketing guidelines** to attract older adults into sport (preferred by 15% of SOs).

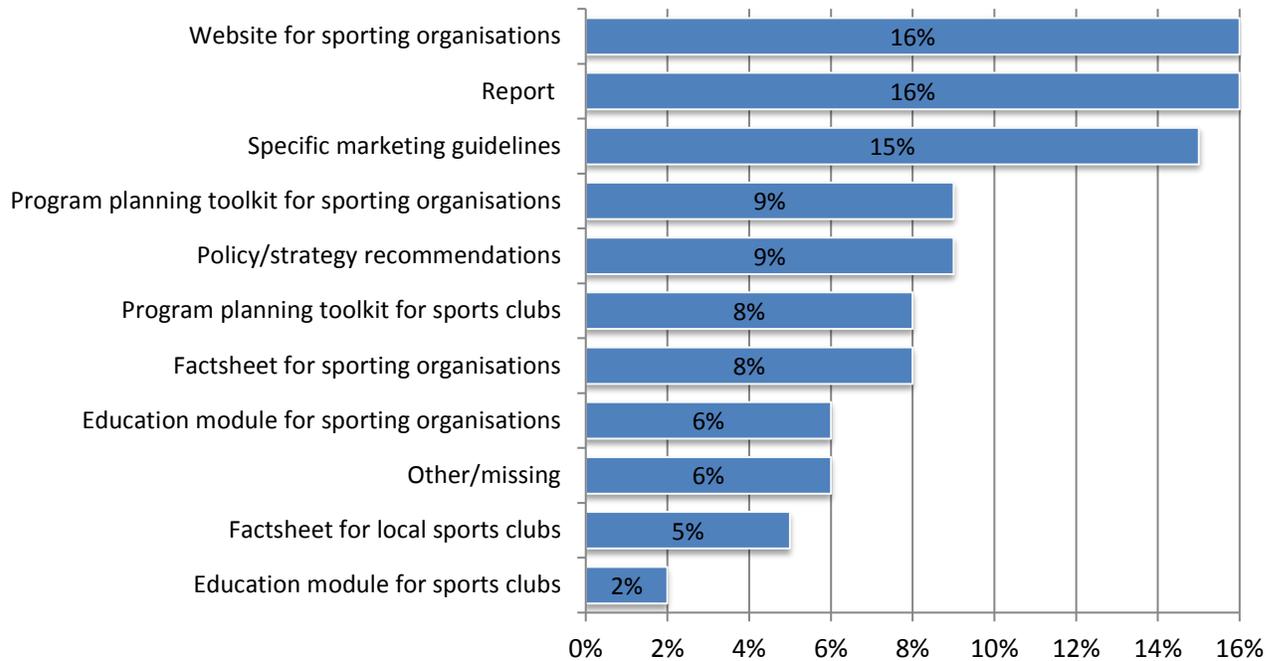


Figure 23: Preferred resource to increase sport participation in older adults (n=192)

A website, report or marketing guidelines were also the three preferred resources across the subcategories, but the preference order differed by subcategory (**Table 8**). Alternative resources identified by survey respondents included case studies, grant opportunities and funding strategies. There was a **strong preference for electronic delivery of resources** (90% of SOs).

Table 8: Preferred resource for each of the subcategories

Preferred resource	
Organisation	
NSOs	Website (preferred by 22% of NSOs)
SSOs	Report (preferred by 15%) Marketing guidelines (preferred by 15%)
Participation rate for older adults	
Low level participation sports	Report (preferred by 28%)
Medium level participation sports	Report (preferred by 18%)
High level participation sports	Marketing guidelines (preferred by 23%)
Type of sport	
Individual sports	Website (preferred by 18%) Marketing guidelines (preferred by 18%)
Team sports	Report (preferred by 22%)
Level of contact	
Non-contact sports	Marketing guidelines (preferred by 19%)
Limited contact sports	Website (preferred by 19%)
Contact/collision sports	Report (preferred by 18%)

Summary

Increasing **sport participation in older adults is a lower priority** for most SOs than increasing participation in other population groups, particularly youth. Individual sports, and limited or non-contact sports, reported a higher level of priority for older adults than team sports or contact/collision sports.

Most SOs did not have specific strategies or programs to engage older adults in their sport. However, of the SOs that had strategies or programs for older adults in place, more SOs had programs than strategies.

The main barriers to increase sport participation in older adults reported by SOs were a **lack of resources to manage and develop appropriate programs** for this population group. Also, SOs reported that their **focus was on other age groups or target groups**. Low participation sports and contact/collision sports felt there was a lack of demand for their sports. However, SOs identified that increasing sport participation in older adults would help to **increase overall participation numbers**, and enable them to **engage with their older fan base**.

Overall, SOs reported that **changing the way in which their sports were advertised** and **collaborating with community or senior organisations** would be the modifications most likely to help increase older adults' sport participation. Potential modifications for subcategories include:

- For **team sports**, a decrease in the frequency of training sessions and shorter training sessions would also be beneficial
- For **contact/collision sports**, a decrease in the level of physical contact, and a decrease in the frequency of training sessions should be considered
- For sports with **limited or no contact**, more accessible locations would be a potential modification
- For **high or medium level participation sports**, a decrease in the cost of sport is a potential modification
- For **low level participation sports**, a decrease in the level of physical contact and the introduction of gender specific programs are potential modifications.

SOs had a preference for the following resources to increase sport participation in older adults:

- A **website** providing advice on attracting older adults into sport
- A **report** on the issues surrounding older adults and sport
- **Specific marketing guidelines** for attracting older adults.

Study 4 - Sport and ageing: opinions of sporting organisations, sport club members and non-sport club members (Focus group interview study)

Aim and study description

The aim of the Focus group interview study was to:

- 1) Explore the role of sport for active and healthy ageing
- 2) Examine sporting organisations' (SOs) attitudes towards sport opportunities for older adults
- 3) Discuss potential strategies to engage older adults in sport.

For this study, SOs refer to National Sporting Organisations (NSOs), State/Territory Sporting Organisations (SSOs) and local sport clubs.

Two sports were selected for this study on the basis of ERASS data.(Australian Sports Commission) This was done by ranking the sports included in ERASS from high to low participation rates among older adults. The research team considered the 10 most frequently played sports and the 10 least frequently played sports in this age group, in terms of the appropriateness of each sport for older adults and the research team's existing relationships with SOs. Subsequently, tennis was selected from the 10 most frequently played sports and cricket was selected from the 10 least frequently played sports. NSO representatives, older sport club members and older adults who were not members of any sport club, were invited to participate in the study. Sport club members included members who played the sport, and those who were involved in a different capacity, such as committee members or coaches. Separate focus group interviews for the sport club members and non-sport club members were held for men and women. Details about the focus group interviews are presented in **Figure 24**; each square represents a separate focus group interview.



Figure 24: Structure of focus group interview study

A total of 49 adults participated in the focus group interviews, with group sizes ranging from four to nine participants. The groups were held in a variety of settings, including the NSO offices (Tennis Australia (TA) and Cricket Australia (CA)), sport clubs and at VU. There were two VU facilitators at each focus group interview; one led the group and the other took notes of any non-verbal communication. The interviews lasted 70-90 minutes and there were engaged discussions in all groups. In general, there was agreement in each focus group interview about the issues discussed, although there were some differing opinions. After the focus group interviews, data were transcribed and analysed using a hybrid approach of content and thematic analysis.

Within each focus group interview, three key issues were addressed. These three key issues are reported within six sections in this study:

1) Benefits of sport participation

- a) Benefits of sport participation for older adults
- b) Benefits of older adults' sport participation for SOs

2) Barriers to sport participation

- a) Barriers to sport participation for older adults
- b) Barriers to older adults' sport participation for SOs

3) Strategies to increase sport participation

- a) Current age specific sport opportunities for older adults
- b) Potential sport modifications to increase sport participation for older adults.

Within each of these six sections, there are three sub sections:

- Results from SOs will be presented together
- Results from cricket and tennis club members will be presented together
- Results from the non-sport club members will be presented together.

The benefits, barriers and strategies addressed in this study are mostly pertinent for sport and ageing in general. The results in this study are a reflection of the discussions during the focus group interviews; so not all benefits, barriers and strategies to increase older adults' sport participation may have been discussed. All of the themes are firstly displayed in a thematic data table, and then common themes that emerged across the focus group interviews in each sub section are presented together. Themes that were not commonly discussed in each sub section are presented separately. Each of the six sections has an overall summary to address the three key issues.

Benefits of sport participation

All focus group interviews began with a discussion on the benefits of sport participation for older adults and SOs.

Benefits of sport participation for older adults

The common benefits across the eight focus group interviews were **social health, physical health and intergenerational benefits**. See **Table 9** for an overview of all benefits that were discussed.

Table 9: Key benefits of sport participation for older adults*

Individual benefits	NSOs		Sport club members		Non-sport club members	
	Tennis	Cricket	Male	Female	Male	Female
Social health	√	√	√	√	√	√
Physical health	√	√	√	√	√	√
Intergenerational benefits	√	√	√	√	√	√
Mental health		√	√			√
Safety						√
Role modelling ('feel good factor')					√	
Club provides flexibility of playing opportunities				√		

* Order based on the number of focus group interviews in which the benefits were discussed

Benefits for older adults: NSOs

Benefits of sport participation for older adults discussed by both Tennis Australia (TA) and Cricket Australia (CA) included **social health, physical health and intergenerational benefits**. Mental health was discussed by CA only.

Social health – TA and CA:

- Tennis clubs can provide an **increased sense of belonging**, as they may be perceived to have a more welcoming environment than other leisure facilities
- Tennis enables older adults to still **compete at an older age**
- There are also opportunities for older adults to socialise after playing tennis, so sport clubs can **provide an environment that fosters social connections**

- Cricket players have often **played together for a long time**, and could have a drink together after training or a game.

Physical health – TA and CA:

Both organisations discussed **physical health**, but from slightly different angles.

- Tennis provides the opportunity for **relatively robust exercise**. As it is non-contact and less physically strenuous than some other sports, it can be played across the lifespan, and adults can still compete at an older age
- Cricket is **not overly strenuous**, and therefore an appropriate sport for older adults.

Intergenerational benefits – TA and CA:

- Both sports are **suitable for all ages**, so older adults could play in the same club as their children/grandchildren, which in turn can provide an opportunity for **family bonding**
- Tennis can be a **mixed gender sport**, which could provide further opportunities to include all members of the family.

Mental health - CA:

- Older cricket members can interact in their club settings, which can aid their mental health.

Benefits for older adults: Sport club members

For tennis and cricket club members, common benefits included **social health, physical health and intergenerational benefits**. **Mental health** was discussed by the male sport club members only. There were a number of sport specific differences in the benefits (details below), but there were no notable differences in responses between male and female sport club members.

Social health – male and female tennis and cricket club members:

- Sport clubs have a **family atmosphere** and include regular social activities, such as having a drink after a match/training or having a monthly party day
 - **Developing friendships** through sport clubs is an important benefit of both sports
 - Sport clubs **provide social connections**; playing tennis could be a day out for older adults who live alone.
- *“It’s the social aspect that keeps me going” (53 year old male cricket club member)*
 - *“The club becomes your extended family” (51 year old male cricket club member)*
 - *“In the world of cricket..., you always have a friend” (69 year old female cricket club member)*
 - *“We come together for the socialisation, don’t we?” (70 year old female tennis club member).*

Physical health – male and female tennis and cricket club members:

- Sport can keep older adults’ bodies and minds active, and can also provide an avenue to **minimise the effects of ageing**
- Sport can provide a **type of exercise older adults enjoy**
- **Sport in general can improve health** and playing sport could help with **injury rehabilitation**
- Tennis is an **appropriate and safe sport**; older adults who play tennis are less likely to be injured than older adults who play a contact sport
- Cricket is an appropriate sport for older adults.

- *“Cricket is a sport where a club can have an older cricketer and he could play for as long as he wants” (54 year old male cricket club member).*

Intergenerational benefits – male and female tennis club members:

- Tennis is a **family sport**
- Tennis has a **lifetime involvement**; those involved as a child are likely to stay involved for life
- Older adult members become involved in sport clubs to **bond with their family**, especially with their children.

- *“There is nothing better than playing with your kids” (62 year old male tennis club member).*

Although the opinion was that adults who play as a child are more likely to play as an older adult, there were male tennis club members and female cricket club members who started playing at an older age after their children started playing the sport.

Mental health – male cricket club members:

- Cricket enables players to switch off and relax.
- *“You’re amongst people. You’re not talking about work stuff. Yes, the brain’s switching off. You go home at the end of the day and you just feel relaxed before your real job starts again. That [is] mental health” (53 year old male cricket club member).*

Clubs provide flexibility of playing opportunities – female tennis club members:

- Being a member of a sport club provides **flexibility in playing options**, with the chance to play structured competitions, such as intra club and inter club, as well as social tennis.

Benefits for older adults: Non-sport club members

Social health, physical health and **intergenerational benefits** were common benefits in the focus group interviews with male and female non-sport club members. The male non-sport club members also discussed role modelling, whereas the female non-sport club members discussed mental health and safety.

Social health – male and female non-sport club members:

- Sport clubs can provide opportunities for **social interaction** and to **meet people**
- The **social structure/network** of belonging to a sport club is important
- People who retire could experience **social isolation** and may need something to do, especially if they have lost a partner.

Physical health – male and female non-sport club members:

- Sport can provide an opportunity to **remain healthy**.

Intergenerational benefits – male and female non-sport club members:

- Sport enables participants to **build a bond with their family**
- Sport participation **promotes respect between younger and older people** through regular interaction.

- *“A family that plays together stays together”* (54 year old female non-sport club member).

Role modelling – male non-sport club members only:

- Older adults can provide **authority and guidance to younger players** and **be a role model to younger and less experienced players**.

Mental health – female non-sport club members only:

- **Older adults can experience personal enjoyment**, as being a club member can help adults feel good about themselves as they age.

Safety – female non-sport club members:

- Older adults who participate in sport as part of a sport club, such as kayaking, feel more comfortable to explore new areas, as they may **feel safer doing this as part of a group rather than individually**.

Summary of benefits of sport participation for older adults

A number of common benefits emerged in the eight focus group interviews; **better social health, better physical health** and **intergenerational benefits**.

Improved health was the predominant benefit discussed in all groups and perceived benefits were even greater for **social health** than for physical health. Participants felt the primary benefit from being a sport club member was the opportunity to socialise with their friends. The **social nature of sport** could **help sport position itself** as a provider of physical activity programs for older adults. Whilst there are opportunities for social interaction in non-sport club based activities, such as gym classes or walking groups, sport clubs provide a unique cultural setting with regular social events, and where social interaction after games or training is part of the environment. **Better physical health** was also discussed as a key benefit. Participants felt that sport could improve their physical health, minimise the effects of ageing, and aid injury rehabilitation.

Intergenerational benefits included the **opportunity to bond with their family** whilst participating in sport. In addition, **sport could foster respect between generations**. As with the social health benefits, this is **also unique to sport in comparison to other types of physical activity**, and could be used to maintain and promote sport participation in people as they age.

Other potential benefits of sport participation for older adults discussed in some of the focus groups were **mental health, safety, role modelling**, and that the club provides **flexibility of playing opportunities**.

Benefits of sport participation for Sporting Organisations

The common benefits for SOs across the eight focus group interviews were **volunteering, role modelling for younger club members** and **financial contributions**, although these benefits were not discussed in all focus group interviews. See **Table 10** for an overview of all benefits that were discussed.

Table 10: Key benefits for SOs of older adults participating in sport*

Organisational benefits	NSOs		Sport club members		Non-sport club members	
	Tennis	Cricket	Male	Female	Male	Female
Higher volunteering capacity	√	√	√	√	√	√
Role modelling for younger club members		√	√	√	√	
Financial contributions		√	√	√	√	
Intergenerational benefits	√		√	√		
Community engagement		√			√	
Member diversity				√		√
Maximising facility usage	√					
Appropriate playing opportunities	√					

* Order based on the number of focus group interviews in which the benefits were discussed

Benefits for SOs: NSOs

Tennis Australia (TA) and Cricket Australia (CA) mostly discussed sport specific benefits and therefore there were few similarities in benefits for SOs.

Volunteering – TA and CA:

- **Older adults are often volunteers** who can contribute to the running of tennis clubs
 - Older adults are often more **time rich** than younger people, which can benefit sport clubs
 - Older adults can successfully liaise with local government, schools and also the wider community.
- Older adults are “*worth their weight in gold*” (49 year old male Cricket Australia participant).

Intergenerational benefits – TA:

- Parents/grandparents who are engaged in tennis may introduce their children/grandchildren to the sport. **Families are often influenced to participate in similar sports that other family members participate in**, so this could increase overall tennis participation numbers.

Maximising facility usage – TA:

- **Courts are often empty during the day** and could be used by retired older adults at off peak times.

Appropriate playing opportunities – TA:

- Tennis can be played between and against men and women, and requires only a **minimum of two players**. This can increase playing opportunities for older adults.

Role modelling for younger club members – CA:

- Older adults are often seen as local heroes and can provide **mentoring for younger players**
- Older adults can show younger players that it is possible to play the game long term, and could **positively influence children's and grandchildren's perception of older adults**.

Financial contributions – CA:

- Older adults are often more financially secure than younger people, which can benefit sport clubs.

Community engagement – CA:

- A cricket **club is representative of the broader community**, and therefore it is important that sport clubs include older adults to reflect this.

Benefits for SOs: Sport club members

The main benefits discussed in the focus group interviews with sport club members were **volunteering, role modelling, financial contributions** and **intergenerational benefits**. Women also discussed member diversity.

Volunteering – male and female tennis and cricket club members:

- Older adults are **more likely to volunteer** to become **committee members**, and are more likely to **do this long term**, whereas younger players often do not show the same dedication to a sport club
- Volunteering in sport clubs occurs because older adults are generally more time rich, especially if they are retired
- Older adults may be more likely to volunteer for the club in other ways, for example helping with the **maintenance of club facilities**
- Some participants feel indebted to their club, for examples one participant said the club welcomed him when he first joined, and another participant said that the club helped him to keep out of trouble. They therefore felt a desire to **'give back' to the club**, through being a volunteer and being supportive of youth player development.

Role modelling for younger club members – male and female cricket club members:

- Older adults often teach cricket etiquette to younger players, such as **sportsmanship**
- Younger players can benefit from older adults' organisational and **nurturing skills**.

Financial contributions – male and female tennis and cricket club members:

- Older adults may be more **financially comfortable** than younger players, so would be more willing to spend money at club functions and post-game social events
- Older adults can provide an **additional membership source to a club**
- There are **financial benefits of older adults' volunteering for the club**. If the older adults did not volunteer their time, the membership costs to run a sport club would be higher and potentially less accessible for younger members.

Intergenerational benefits – male and female cricket club members:

- Older adults are more likely to have a **vested interest in the club** to ensure the club would provide a safe environment for their children
- Older adults **enjoy seeing children grow up** through the club and the **children appreciate the adults being there** every week.

➤ *"We do it for the kids...it's like a big family"* (51 year old female cricket club member).

Member diversity – female cricket club members:

- Aligning a female cricket team with a male cricket club can bring benefits to both parties
 - The female team would benefit from **joint fundraising**
 - The male team would benefit from having women involved more heavily within the club, as it can create a **wider community within the club**.
- *"We're with a men's club, so we're affiliated with men's clubs. So obviously we have a great social life. Some of the women's clubs are... [on their own] and that's a bit harder because you've got to do your own fundraising"* (51 year old female cricket club member)
- *"The guys love the fact they've got a women's team and they all get out and support us"* (51 year old female cricket club member).

Benefits for SOs: Non-sport club members

In both focus group interviews with non-sport club members, **volunteering** was the major benefit. However, the male and female non-sport club members also discussed a range of other benefits (**Table 10, page 49**).

Volunteering – male and female non-sport club members:

- Older adults are likely to **volunteer in club administration**
- Older adults are generally more **time rich** than younger people, so it can increase their ability to volunteer within the club.

However the female non-sport club members felt that **50+ years was a very broad age range, which** contains people in different situations, for example, people who are retired and those that still work. Hence, it depends on people's situation whether they have more time available or not.

Role modelling for younger club members – male non-sport club members:

- Older adults are seen as **role models in the wider community**, especially for young people
- Older adults can **transfer their knowledge** about the sport to younger players and coaches.

Financial contributions – male non-sport club members:

- Older adults can be **more financially secure** than younger members, so they would be more likely to **spend money** at fundraising events
- Encouraging older adults to become sport club members could **increase club income** through additional membership fees.

Community engagement – male non-sport club members:

- **Word of mouth advertising** within the community could not only raise the profile of the club, but also further increase membership numbers.

Member diversity – female non-sport club members:

- Attracting older adults would ensure greater **diversity** and breadth in membership.

Summary of benefits for Sporting Organisations

The main benefits that were discussed were **higher volunteering capacity, role modelling for younger members** and **financial contributions**. Almost all groups felt that **older adults were more likely to volunteer** as committee members than younger adults, especially over the long term. However, the female tennis club members felt that volunteering would still occur, even if older adults stopped playing the sport. This could deter SOs from investing resources into increasing participation for this population group and needs further investigation. There were also numerous discussions on older adults being **role models** to younger players. SOs could **capitalise on these volunteering and role model opportunities** to help sport clubs flourish and benefit all generations.

The opportunity to reap potential **financial benefits** was also discussed. The groups felt that older adults were more likely to financially contribute to sport clubs during fundraising events and by socialising in the club.

A range of other potential benefits for SOs of older adults participating in sport was discussed by SOs, sport club members and non-members. These included **intergenerational benefits, community engagement, member diversity**, the opportunity to **maximise facility usage** and that some sports **already provide appropriate playing opportunities** for older adults.

Barriers to sport participation

Barriers to sport participation for older adults, and the potential barriers for SOs to increase sport participation in older adults, are discussed in this section.

Barriers for older adults

Time constraints and a **lack of appropriate opportunities** were discussed in all eight focus group interviews. **Poor physical health** was widely discussed as a barrier by the sport club members and non-sport club members. See **Table 11** for all barriers that were raised in the eight focus group interviews.

Table 11: Barriers to sport participation for older adults*

Individual barriers	NSOs		Sport club members		Non-sport club members	
	Tennis	Cricket	Male	Female	Male	Female
Time constraints	√	√	√	√	√	√
Lack of appropriate playing opportunities	√	√	√	√	√	√
Physical health (including risk of injury)	√		√	√	√	√
Lack of knowledge about opportunities	√		√	√		
Cost (too expensive)			√	√	√	
Societal factors			√	√		
Inappropriate facilities			√	√		
Perceived concerns about participation	√					√
Lack of resources		√				
Lack of skill		√				
Location						√

* Order based on the number of focus group interviews in which the barriers were discussed

Barriers for older adults: NSOs

Both Tennis Australia (TA) and Cricket Australia (CA) highlighted **time constraints** and a **lack of appropriate playing opportunities** as barriers to sport participation for older adults. There were also some sport specific differences; physical health and injury risk, lack of knowledge about opportunities and perceived concerns about participation were discussed by TA only, whereas lack of resources and lack of skill were discussed by CA only.

Time constraints – TA and CA:

- The **retirement age has risen**, which has implications for the time people can invest in sport; Saturday tennis competition formats are perceived to be too long
- As older adults can be time poor, **cricket could be competing with other traditional sports that are less time consuming**, such as golf, which may hinder older adults' participation in cricket.

These reported barriers are in contrast with the benefit mentioned in the previous section that older adults are perceived to be time rich.

Lack of appropriate playing opportunities – TA and CA:

- Sport participation is often specific to where older adults live. Older adults in certain areas may **lack appropriate opponents in social tennis competition**, for example, a 50 year old may not want to play a match against a 35 year old
- Most clubs **do not have senior aged club teams**, so interested older adults have to travel further afield to play sport
- There are **limited playing facilities**, so it would be difficult for newly created senior aged teams to access local cricket pitches
- Cricket **clubs can sometimes be quite insular**, so it may be difficult for new players to discover a club, or feel welcomed into a new club.

Physical health (including risk of injury) – TA:

- Playing tennis can increase the risk of sport injuries, and can cause general wear and tear of the body.

Lack of knowledge about opportunities – TA:

- There is a general **lack of awareness** among older adults about the available programs and events for older adults.

Perceived concerns about participation – TA:

- **Specific marketing** may be needed to **break down negative perceptions** of tennis, for example, that the sport is perceived to be too expensive and that courts are inaccessible
- Most beginner programs are aimed at younger players and **older adults may be nervous or hesitant to start beginner programs with younger players.**

Lack of resources – CA:

- Cricket clubs often do not have coaches, so there may be **limited capacity to teach new older adult members how to play the game.**

Lack of skill – CA:

- Cricket is a **highly skilled and technical game**, making it harder for new participants to start to play in their adult years.

Barriers for older adults: Sport club members

Common barriers discussed in the four focus group interviews with sport club members included **time constraints, lack of appropriate playing opportunities, physical health, lack of knowledge about playing opportunities, cost, societal factors and inappropriate facilities.** These barriers were discussed by men and women; there were no gender specific barriers.

Time constraints – male and female tennis and cricket club members:

- Older adults can be involved in **other activities**, so they may not have time to play tennis
- Older adults are often **responsible for minding** their children, grandchildren or caring for elderly parents
- **Life schedules have changed**, as more adults work on Saturdays. Therefore Saturday tennis competitions are losing their popularity, although this may result in higher participation levels for week night tennis
- Cricket **matches are lengthy**, especially when compared to sports such as the Australian Football League (AFL).

Lack of appropriate playing opportunities – male and female tennis and cricket club members:

- The **proximity of other tennis clubs** is important, as it would be easier to play more inter-club and diverse competitions if there are nearby clubs
- There **may not be veterans' competitions** close to where older adults live, which could deter participation in cricket
- However, even if further veterans' competitions for either men or women were developed, a **lack of cricket facilities** would hinder the possibility of playing matches.

Physical health – male and female tennis and cricket club members:

- Former club members **dropped out** of sport due to physical ailments and/or injuries
 - As people get older, more injuries occur, and it is **harder to recover from injuries** at an older age.
- *“I still have to run the kids around and it would be a bit hard if I was injured. I’d find it difficult. So yeah, I gave it up at forty” (52 year old female cricket club member).*

Although physical health was regarded as a main barrier, it was also discussed that sport can be beneficial for physical health and that injuries can be prevented.

- **Injuries are a risk for all players, regardless of age**, and older adults are less likely to get injured playing sport than if they did no exercise
- As long as players **manage their body correctly**, such as ensure they include a thorough warm up and cool down, then physical health should not be a barrier to participation
- As long as the sport club has a **supportive network**, older adults can continue playing tennis until they can no longer compete on-court.

Lack of knowledge about opportunities – male and female tennis club members:

- Older adults are interested in playing sport, but they **may not know how to access opportunities**
 - In contrast, male tennis club members discussed that playing opportunities were widely advertised in local newspapers and on club signs, but that this did not attract new members.

Cost (too expensive) – male and female tennis and cricket club members:

- **Tennis can be an expensive sport**, especially for new players. However once participants have the equipment and do not need coaching, it will become much cheaper. The **equipment for cricket** can also be quite expensive.

There were discussions in both sports about **membership cost**. This resulted in a debate within each sport about having a **joining fee versus increasing the membership fees** and eliminating the joining fee. **There was no consensus**. Some sport club members felt that **joining fees provided much needed financial capital** for sport clubs, and that it was a fairer process than an increase in fees for long standing members. However other participants felt that this **high initial cost could be a barrier** to attracting new members.

Societal factors – male and female tennis club members:

- It may be **daunting** for a new player to walk into an unfamiliar club environment
 - Members of the general public **expressed surprise** that older participants were still playing tennis
 - **Socio-demographic factors** can contribute towards lower participation rates
 - In socio-economically privileged areas, more people want to play tennis to compensate for an inactive office job
 - In socio-economically deprived areas, people who tend to work in labour-intensive jobs are often more physically tired after work, and may not want to play sport in their leisure time.
- *“I’ll say I’m going to tennis. ‘Oh do you still play tennis?’ Like hell, once you get over fifty, you shouldn’t be playing” (70 year old female tennis club member).*

Inappropriate facilities – male and female tennis club members:

- **Concrete/flexi paved tennis courts** (the most frequently used surface for grassroots tennis courts) are **detrimental for the joints of older adults**, and it is painful to play on these surfaces

- **Porous surfaces are more appropriate** for tennis courts, but it can be difficult in persuading the relevant organisations to consider installing porous tennis court surfaces in grassroots sport clubs.

Barriers for older adults: Non-sport club members

The main barriers that were discussed in the two focus group interviews with non-sport club members were **time constraints**, **lack of opportunities** and **physical health**. Male non-sport club members also discussed cost and female non-sport club members discussed perceived concerns about participation and location.

Time constraints – male and female non-sport club members:

- **Family becomes more important than sport**
 - It is **difficult to regularly commit** to a club due to **caring** for children/grandchildren or elderly parents
 - Older adults may be **required to work away from home**, so it can be difficult to regularly commit to a sport club
 - **Spectatorship is prioritised over participation**, and for some older adults, it may be too expensive and too time consuming to undertake both.
- *“We’re from a generation where we’ve all worked [whilst raising a family]...So you talked about being time poor, I remember when I was 50, I was very time poor, because you’re pulled in different directions, and if you’ve got a full-time job as well or even a very big part-time job, there’s no time. So we’re from a generation where maybe we’ve had 20 or 30 years away from being able to commit to a sport apart from being our kids’ sport programs” (60 year old female non-sport club member).*

Lack of appropriate playing opportunities – male and female non-sport club members:

- Some clubs may **not always welcome** new players into a sport club environment
- There is a **lack of age appropriate sport clubs** for older adults to join.

Physical health (including risk of injury) – male and female non-sport club members:

- Older adults are **more likely to break bones** and **injure themselves** playing sport than younger adults
- Older adults **need to be fit to play sport**, in order to fit into a sport club, and to reduce the likelihood of injury
- Older adults **cannot afford to become injured**. Insurance may cover their wage during injury, but they could lose their job as a longer term consequence of being absent because of a sport injury
- The participants of the focus group interview stated that they would **still play sport if they were physically capable**, but their physical health prevented them from playing sport.

Cost (too expensive) – male non-sport club members:

- The **costs** involved in playing sport, including membership, equipment and social activities, can prevent participation.

Perceived concerns about participation – female non-sport club members:

- Older adults need to **develop the necessary skill** to play that sport before joining a club
- Older adults may **disappoint existing sport club members** if they are not very good.

Location – female non-sport club members:

- Older adults **do not want to travel too far** to attend sport sessions
 - People living in **rural areas** may be more inclined to play sport, but there are often **few provisions in those areas** for older adults. There are generally more sport opportunities in cities, and local councils in cities are more likely to push the importance of exercise.
- In the rural areas, *“if you don’t play sport, there is no life”* (60 year old female non-sport club member).

Summary of barriers for older adults

Time constraints and **lack of appropriate playing opportunities** were discussed as main barriers to participation in older adults by NSOs, sport club members and non-sport club members. **Physical health** was the main barrier discussed by the sport club and non-sport club members.

Whilst CA and female non-sport club members felt that older adults were more likely to provide a benefit to sport clubs by volunteering (benefits section, page 49), it was stated in all focus group interviews that older adults **may not have time to participate in sport**. This appears to be **closely linked to working status and caring responsibilities**.

Lack of appropriate playing opportunities included a discussion about **people to play with or compete against**, as well as the actual **sport facilities**. For example, there are **typically few sport clubs with senior teams**, and therefore few neighbouring teams to compete against. This could be an important barrier to older adults' sport participation if they do not want to compete, or are not capable of competing, against younger and more agile opponents. Linked with this were **limited facilities**, especially for cricket. Even if senior aged teams were developed, it would be difficult to provide sufficient facilities for both younger and older adults to play their separate matches. A potential solution to a general lack of opportunities, as discussed by the female tennis club members, would be to **identify and incentivise a relatively large and well-resourced sport club** in each suburb to create a senior aged team. This could then be supported by the NSOs and SSOs via marketing initiatives and by encouraging neighbouring clubs to support this team. However it would still require accessible playing facilities and resources from SOs, which may not always be available.

Physical health was a key barrier to participation discussed by club members and non-club members. **Injury and injury prevention** were important issues for most participants, but there was a dichotomy between injuries and health. **Sport club members felt that playing sport helped to prevent and rehabilitate injuries**, whereas **non-sport club members felt that injuries prevented their participation in sport**. However, the male non-sport club members did concede that injuries would probably be reduced if sport was modified.

Other potential barriers to sport participation for older adults discussed in some of the focus groups were **lack of knowledge** about opportunities, **cost** (too high), **societal factors**, **inappropriate facilities**, **perceived concerns about participation**, **lack of resources**, **lack of skill** and **inconvenient location**.

Barriers for Sporting Organisations

Only a few common barriers emerged from the discussion. For the most part SOs, sport club members and non-sport club members discussed different barriers. NSOs and non-sport club member groups discussed **risk management** as a potential barrier. See **Table 12** for all barriers that were discussed in the eight focus group interviews.

Table 12: Barriers for SOs of older adults participating in sport*

Organisational barriers	NSOs		Sport club members		Non-sport club members	
	Tennis	Cricket	Male	Female	Male	Female
Risk management (resources, insurance & external partners)	√	√			√	√
Focus on other age groups and elite level	√	√				
Emphasis on competition					√	√
Attracting new members			√	√		
Creating the right balance in a club			√			

* Order based on the number of focus group interviews in which the barriers were discussed

Barriers for SOs: NSOs

Both Tennis Australia (TA) and Cricket Australia (CA) discussed **risk management** and that their focus was on **younger age groups** as potential barriers for SOs of older adults participating in sport.

Risk management (resources, insurance & external partners) – TA and CA:

- Competitions for older adults may need **additional resources**, such as extra first aid facilities, which could deter sport clubs from engaging with this population group. This could add **implications for other partners**, such as local government
- Access to **appropriate insurance** to cover older adults' sport participation is often difficult
- For non-NSO affiliated competitions, there can be a **lack of structure and communication** with some of these organisations, which can make it difficult to fully maximise the opportunities available.

Focus on other age groups and elite level – TA and CA:

- NSOs are generally focused on **elite player development**
- The **media and the general population influence** the focus of NSO and SSOs, which have a focus on younger age groups and elite level players

- Whilst it was acknowledged that the goal of TA is to have a certain number of registered players, fans and Grand Slam champions, it was also expressed that there is often too much of a **focus on those who already play**, rather than those who are not current players
- Sport clubs have difficulty focusing on older adults, as clubs rely heavily on volunteers. So sport clubs may **lack the capacity** to undertake any further work to engage older adults
- It is important to focus on increasing cricket participation in young people, because children who engage with cricket, will become **hooked on the sport**, and are likely to be a fan for life
- It may not be **cost effective** for an organisation to focus on older adults, as there are fewer participants to engage
- NSOs are focused on the concept of **creating and maintaining their fan bases**
- CA may not prioritise an increase in participation in older adults if they are already fans.

Barriers for SOs: Sport club members

Sport club members felt there were **very few barriers** for organisations to offer sport participation opportunities for older adults. Male and female cricket club members discussed attracting new members as a barrier. Male cricket club members also discussed ‘creating the right balance in clubs’.

- *“I don’t see any disadvantages at all, and I think there are many advantages to the clubs”* (51 year old female cricket club member).

Attracting new members – male and female tennis club members:

- Older adults want **flexibility in hiring tennis courts**, but do not want to become sport club members, despite that becoming a member is cheaper in the long term
- Older adults often have **competing priorities** with other activities.

Creating the right balance in a club – male cricket club members:

- If **too many older adults play in a team**, younger players’ cricket development may be blocked
- If a club has too many older adults on the committee or in volunteering roles for too long, the **club may stagnate**, and sport clubs need to ensure their club remains progressive.

Barriers for SOs: Non-sport club members

Non-sport club members discussed **risk management** and an **emphasis on competition** as key barriers of older adults participating in sport for SOs.

Risk management (resources, insurance & external partners) – male and female non-club members:

- A sport club’s **insurance policy is typically unlikely to cover older adults**, as most sport clubs take out minimal, low cost cover which would probably include an age limit
- Whilst certain insurance is likely to cover older adults, having older adults members could require more paperwork and **could result in higher premiums**
- Sport clubs **may not want to spend extra time on insurance paperwork**, as they are predominantly run by volunteers; clubs may therefore be less inclined to encourage older adults to become members.

Emphasis on competition – male and female non-sport club members:

- **Clubs often focus on competition**, and therefore may not want members who cannot adhere to high playing standards
- Although competitiveness may decrease with age, **some clubs are overly competitive**, which may deter older adults to play sport.

Summary of barriers for Sporting Organisations

SOs, sport club members and non-sport club members discussed different barriers for SOs to increase sport participation in older adults. **Risk management** was the most frequently discussed barrier. A **focus on other age groups and elite level** was only discussed by the NSOs. The sport club members felt there were few barriers for SOs, however they did discuss the difficulty in attracting new members. Non-sport club members felt that the emphasis on competition at some sport clubs was a potential barrier to participation.

Risk management was discussed by SOs and non-sport club members. The discussion focused on **the inclusion of older adults in insurance policies** and the **cost of insurance**. Further research is required to determine if these are perceived or actual barriers. If they are actual barriers, then SOs would need to look into insurance policies and see if they can be changed in the future. If they are perceived barriers, sport clubs and potential older adult participants need to be made aware of these misconceptions.

NSOs are focused on other age groups, and an important aim for them is to increase **youth participation**. TA and CA stated that the focus on **finding their next 'superstar'** and ensuring **lifelong fandom** through involving people at a young age, are both potential barriers that could negatively affect time and resources to promote or increase older adults' sport participation. However, older adults tend to be the primary volunteers within sport clubs (benefits section, page 49). Volunteers are essential for most sport clubs and are likely to contribute to the capacity of those clubs to provide both elite pathways and grassroots participation opportunities for younger players. So whilst it currently may be unlikely that older adults will become the principal participation focus of SOs, older adults are an important population group for SOs to consider, both as players to increase overall participation numbers and to contribute towards volunteering.

Sport club members felt that there were very few risks for SOs, but that it was **difficult to attract new members**. They stated that older adults wanted flexibility in hiring facilities, and therefore did not want to become a club member. This suggests that the **current club membership structure may not suit older adults who want to start playing club sport**.

Non-sport club members felt that sport clubs had an emphasis on competition. They felt that **clubs were often overly competitive** and may not want older adults who could not adhere to high playing standards. This would suggest that **many sport clubs do not have opportunities for social play that older adults could participate in**.

Another potential barrier for SOs discussed by male cricket club members was **creating the right balance between younger and older players in a club**.

Strategies to increase sport participation

The third aim of this study was to identify current age specific sport opportunities for older adults and potential modifications to promote sport participation in this population group.

Current age specific sport opportunities for older adults

NSOs, sport club members and non-sport club members discussed different opportunities. Current sport opportunities for older adults that were discussed included **formal programs** and **informal modifications (Table 13)**. There were some differences between male and female sport club members and non-sport club members.

Table 13: Current age specific sport opportunities for older adults

Sport opportunities		NSOs		Sport club members		Non-sport club members	
		Tennis	Cricket	Male	Female	Male	Female
Formal programs	Masters competitions	√	√			√	
	Seniors' Cricket		√				
	Twenty20 cricket			√	√		
	ITF Tennis Xpress Program	√					
	ITF Tennis Seniors	√					
	Rusty Rackets	√					
	Cardio Tennis	√					
	Next Generation	√					
	Seniors Tennis (Old Man's Tennis)			√			
	Golden Oldies cricket		√				
	Veterans Cricket			√			
	Informal modifications	Internal club rule changes			√	√	
Club fun days				√	√		
Social outings/ intergenerational activities					√		

* Order based on the number of focus group interviews in which the opportunities were discussed

Age specific sport opportunities: NSOs

Tennis Australia (TA) and Cricket Australia (CA) discussed current **formal programs** that they promote or support.

Formal programs – TA and CA:

- **Masters competitions** are held for indoor and outdoor versions of cricket. **Tennis Seniors Australia** provides a program of playing opportunities for players aged 35-80+ years
- The **International Tennis Federation's (ITF) Tennis Xpress Program** provides beginner sessions for new adult players, or for adults who are returning to the game
- The **ITF Tennis Seniors program** is the formal overage program with national and world ranking events in Australia, and social events/competitions around Australia
- The **Rusty Rackets** program (in South Australia) is a social tennis program for older adults who want to build their confidence in playing tennis
- The **Cardio Tennis program** has mixed aged groups, but is popular with older adults, as there are decompressed balls and smaller racquets (to cater for lower skilled players). It also has an emphasis on having fun, rather than on competition
- **Next Generation Fitness Centres** run tennis programs that offer social play opportunities, intra club championships and coaching sessions for older adults who are members of their centres
- The **Seniors Cricket** program has matches in the on and off season. The players often travel to interstate competitions with their partners and use cricket as an opportunity to socialise with people their own age
- **Golden Oldies cricket** is a one week annual global cricket festival for people over 35 years.

None of these programs are reported to be run within the traditional NSO structure. However, the ITF programs and the Tennis Seniors Australia programs are supported by TA. Similarly, the cricket programs mentioned are often supported by CA.

Age specific sport opportunities: Sport club members

Tennis club members predominantly discussed **informal modifications** and cricket club members discussed **formal programs**. There were no differences in the programs discussed by the male and female sport club members.

Formal programs – male and female tennis and cricket club members:

- The **Seniors Tennis** program was introduced six years ago by either Tennis Victoria or TA. The program was open to all tennis clubs, and the NSO/SSO provided marketing materials and tennis balls. This program developed into ongoing '**Old Man's Tennis**' sessions, which is the informal and social program for older adults at the tennis club of which some of the focus group interview participants are a member of
- **Veterans' (Vets) cricket:**
 - Run by the **Victorian Over 60s Cricket Association**
 - Consists of one day games of 36 overs, in which each player bowls a maximum of six overs, and each batsman has to retire after hitting 40 runs

- There is a **reduced frequency of matches**, with one game every two weeks, and the heat rule is lowered to 35 degrees compared to 38 degrees in affiliated adult competitions
- Some veterans' cricket teams also make **informal modifications** to the sport. For example, one team does not participate in training sessions, and another team changes the batting order for each game, to ensure that every player has the opportunity to bat throughout the season
- Whilst these matches still provide a competitive edge, the matches differ from affiliated adult competitions
- **Twenty20 cricket** is a CA registered program for all ages. Whilst it may be suitable for mixed aged teams, it is potentially too physically intense for a team consisting of purely older adults.
- *"Vets is really, really big on social"*, as both captains give speeches at the tea break (57 year old male cricket club member).

Informal modifications – male and female tennis club members:

- Clubs informally modified their training or competitive sessions for new players; for those who are less skilled; or for those who are less physically able, for example **underarm serving** or playing **American Doubles' Tennis**
- **Club fun days** were **assisted by Tennis Victoria**, through general advertising and the provision of merchandise, such as key rings and balloons. However these club fun days were available for all ages, and their purpose was to increase club membership generally
- The non-playing aspects of retaining older adults, such as the organisation of **social outings** and the development of **family/intergenerational activities** within the club, are important to attract older adult members.

Age specific sport opportunities: Non-sport club members

The non-sport club member groups were aware of a number of sport opportunities for their peers. However, they had not undertaken any themselves for various reasons, as discussed in the barriers section on page 56. The male non-sport club members discussed **formal programs that have been created by NSOs/SSOs**, and the female non-sport club members predominantly discussed informal opportunities at **sport clubs**.

Formal modifications – male non-sport club members:

- **Masters competitions**
 - **Age specific competitions for AFL and Soccer**: shorter matches, fewer matches, reduced playing intensity, and no offside rules for soccer.

Informal modifications – female non-sport club members:

- **Local bowling club** that ran barefoot bowls taster sessions for non-club members
 - Short competitions, with a club member in charge of each team, so that **potential new members are introduced to someone involved within the club**

- Participants **did not require specialised footwear**, which negated another potential barrier to participation
- **Local rowing club** that ran come-and-try sessions for non-club members
- **Local croquet club** ran open taster sessions.

Only some non-sport club members were aware of sport opportunities or programs for older adults. This emphasises a need for specific marketing for this population group.

Summary of current age specific sport opportunities

Whilst the focus group interviews focused on current tennis and cricket opportunities, a number of participants also discussed other age specific sport opportunities. The main opportunities discussed across all eight focus group interviews were **formalised programs** and **informal modifications**.

Formal programs for older adults were mainly discussed by the NSOs, but also very briefly by the male and female tennis and cricket club members, and the male non-sport club members. Although some sport club members and some non-sport club members were aware of current sport opportunities, most of them were **unaware of the available formal playing opportunities**. So whilst it may not be advisable to employ a wholly 'top down' approach to increasing opportunities for older adults to play sport, it would appear that there needs to be a **more coherent approach** from NSO/SSOs to ensure that available programs are well publicised to sport clubs.

Also these formal programs and organisations often appear to be **outside of the traditional NSO structure**. Therefore it may be more difficult to sustainably grow sport participation for older adults through these external organisations long term. One NSO felt that the partnerships with these types of organisations needed to be developed to build trust on both sides. However, they considered that some of these organisations may want engagement and support from the NSO, but may be reluctant to pay affiliation fees. **Building these relationships and trust requires time and resources, such as funding and staff capacity, from a NSO**. This would need to be taken into consideration by senior management teams when looking to develop long term strategic engagement plans with non-NSOs that offer programs for older adults.

Informal modifications were discussed by the sport club members and non-sport club members. It would appear that sport clubs often **informally modify** their sport's structure or make minor rules changes to cater for their older members' needs. This is a **'bottom up' approach**, where sport clubs are the primary driver. Examples of these modifications include the barefoot bowls and rowing taster sessions, which were mentioned by the non-sport club members. These examples demonstrate that the development of initiatives to increase older adults' sport participation is possible, provided there is capacity and passion within a sport club. **Sport clubs play a vital role in increasing sport participation in older adults**, but are often constrained by capacity limitations. So whilst some sport clubs are able to modify sessions for older adults, this may not be achievable for other clubs. Consequently, **sport clubs need to be supported by NSO/SSOs** to improve the sporting landscape for older adults. In turn, **NSO/SSOs are likely to need funding in order to increase their support**.

Potential modifications to increase participation

The final issue discussed was potential modifications that could be made to sport to increase participation in older adults. The common modifications discussed by NSOs, sport club members and non-sport club members were: **developing external partnerships, modifying/expanding existing programs, increasing opportunities for social and informal play, and minor rule amendments (See Table 14).**

Table 14: Potential modifications to increase sport participation for older adults*

Potential modifications	NSOs		Sport club members		Non-sport club members	
	Tennis	Cricket	Male	Female	Male	Female
Develop external partnerships	√	√	√	√	√	
Modify/expand existing programs	√	√			√	√
Increase social/informal play opportunities	√	√			√	√
Minor rule amendments	√		√		√	√
Marketing changes	√	√		√		
Membership/cost changes		√			√	√
Promote age appropriate sports					√	√

* Order based on the number of focus group interviews in which the modifications were discussed

Potential modifications to increase participation: NSOs

Research by Cricket Australia (CA) showed a need to engage players at an early age, as adults are less likely to start playing cricket as a new sport. As a result their potential modifications **focused on retaining existing players**. Also, CA felt that older adults prefer the traditional cricket game and would not want any major rule/structural amendments. In contrast, Tennis Australia (TA) felt that some minor rule amendments could be applicable to tennis.

- *“We regard fans in that age bracket as the test fans and the purists, and they’re very much into the traditional side of the game” (29 year old female CA participant).*

Develop external partnerships – TA and CA:

- **Work collaboratively** with external organisations, such as community organisations and senior organisations, to develop and deliver tennis programs
- Further develop the partnership with **‘The Lord Taverners Australia’** Association to include older adults as a target group to work with.

Modify/expand existing programs – TA and CA:

- The existing **Cardio Tennis** program could be modified for older adults
 - Develop **specific sessions** for older adults
 - **Modify aspects of the session**, so all ages and different skill levels could participate
 - **Emphasise fun**, rather than competition
 - Specifically **market sessions for older adults**
- Develop **Fast 4** (shortened version of tennis for time poor adults) for older adults
- Consider expanding **indoor cricket**
 - The game would **remain relatively informal**
 - It would involve **scoring and rivalries** to keep competitiveness, but could be played with **unwritten rules**, such as fairer play, to compensate for age.

Increase social/informal play opportunities – TA and CA:

- Introduce more **social and informal play opportunities** within sport clubs
- **Reduce the frequency of matches**, for example have one match per month, which would negate the issue of time constraints.

Marketing changes – TA and CA:

- Provide more **overt marketing** for older adults
- A **strong advertising and marketing campaign** would be needed for any new program that emphasised the social and physical health benefits, as well as the intergenerational benefits of sport participation.

Minor rule amendments – TA:

- There is an opportunity for shorter games, slower balls, smaller rackets, smaller courts and lower nets.

Membership/cost changes – CA:

- Introduce greater flexibility with club memberships.

Potential modifications to increase participation: Sport club members

The potential modifications that were discussed by sport club members largely reflected the opinions of their respective NSOs. For example, major rule amendments were not considered appropriate by cricket club members. Developing **external partnerships** was discussed by tennis members only, whereas **minor rule amendments** and **marketing changes** were discussed by cricket members only.

Develop external partnerships – male and female tennis club members:

- Tennis clubs could **liaise with nearby tennis clubs** to organise more joint competitions. This could diversify their sessions and increase participation in tennis
- Tennis clubs could work with their club coach to **offer more coaching sessions** for adult beginners
 - **Regional sessions** could be set up in **partnership with local councils**
 - These sessions, **aimed at new/beginner adults** or those who are **lacking confidence**, could be run by a tennis coach

- The coach would be able to assess players' abilities and direct competent players straight into sport clubs, and then run more sessions for those who need further support.

Minor rule amendments – male cricket club members:

- One option is to reduce the **size of the cricket boundary**. This has been undertaken at veterans' level, but only on an ad hoc basis.

Marketing changes – female cricket club members:

- **Current sport opportunities should be marketed appropriately**, for example, to **emphasise** the sessions' **friendly atmosphere** and the **exercise element** of the sessions.

Potential modifications to increase participation: Non-sport club members

Non-sport club members suggested many modifications that could be made to increase sport participation in older adults (**Table 14, page 66**). Male non-sport club members discussed **developing external partnerships**, but this was not discussed by female non-sport club members.

The female non-sport club members felt that sport clubs should **put in more effort to attract older adults**. Some sports, such as barefoot bowls and golf, both perceived as **traditional older adult sports**, have already done this. However, these **sports can be perceived as not very interesting**. The female non-sport club members felt that other sports could be more interesting to play, and would like those sports to put in more effort to engage older adults.

Modify/expand existing programs – male and female non-sport club members:

- **Involve parents within their children's sessions** to encourage parents to become physically active
 - England Netball's **Back 2 Netball** program is targeted at all adults, but some netball clubs run specific sessions for parents at the same time as their daughters' netball sessions
- Clubs could provide training sessions only, without associated competition
- Modify contact sports so that more emphasis is placed on options to score points through actions that require **less physical contact**
- Use **modified sport programs** that already exist for children, such as **AusKick**
- Introduce club/multisport **taster sessions**
 - Sport clubs could offer their sport as part of a wider community event, which would give older adults the opportunity to try a sport before deciding which club to join.

Increase social /informal play opportunities – male and female non-sport club members:

- Emphasise the **social and fun element** of sport
- Still **maintain an element of competition**, but place less emphasis on competitive sport
- **Indoor sport** should be promoted

- There is generally **less running and less physical contact in indoor sport**. Also indoor sport promotes social sport; and the equipment is usually modified, such as softer cricket balls
- However **age appropriate indoor sport competitions** need to be introduced, as most indoor sport is currently for adults of all ages
- **Reduce the frequency of games.**

Minor rule amendments – male and female non-sport club members:

- **Reduce the level of physical contact** in sport
 - Contact sports incur more injuries and are harder to modify
 - Older adults no longer want to play contact sports
- **Promote less physically exertive sports** that require less running
- **Introduce generic rule amendments**, such as reducing pitch/court sizes, shortening game length and modifying the scoring
- **Introduce sport specific amendments**; examples for basketball include a smaller court, a smaller ball and lowering the hoops.

Membership/cost changes – male and female non-sport club members:

- Older adults could **participate on a casual basis** without commitment, and have **flexible memberships**
 - **Introduce a monthly direct debit seniors' membership**, so the **cost is spread out over the year**. This direct debit would only be available for older adults to specifically attract this age group. Target groups that do not necessarily need incentives, such as children, would still be required to pay upfront to ensure the sport club has sufficient funds to successfully operate
 - **Introduce reduced fees during off peak hours**, similar to gyms and fitness centres.

Promote age appropriate sports – male and female non-sport club members:

- Examples of these sports include badminton, cricket, cycling, kayaking, swimming, rowing, table tennis, tennis, ten pin bowling and volleyball
 - **Key elements** of these sports include a **lack of physical contact, low impact** and the **potential to modify equipment**
- Sport could be used to **provide an upper body workout** for older adults. Many older adults already engage in cardiovascular physical activity, such as walking, so sport could provide physical activity that engages the upper body.

Develop external partnerships – male non-sport club members:

- Sport clubs could **partner with other community programs**
 - Use the Sons of the West project (a health promotion program run by an AFL club in Melbourne) as an example
 - Offer taster sessions to increase the awareness of playing opportunities at local sport clubs
 - Explore the feasibility of including an educational component to sport sessions.

Summary of potential modifications to increase participation

The most frequently discussed modifications included **developing external partnerships, modifying/expanding existing programs, increasing social/informal playing opportunities** and **minor rule amendments**.

There are opportunities for SOs to **work with external partners**, such as neighbouring sport clubs, non-sport community or seniors organisations, or charitable organisations to increase older adults' sport participation. A successful example of this is the Rusty Rackets program run by Tennis South Australia and Active Ageing Australia (page 63). The development of external partnerships could also negate the capacity issues that were previously discussed as a SO barrier to increasing sport participation in older adults.

Modifying or expanding existing programs, and/or **developing external partnerships**, would provide opportunities for SOs to develop and implement sport opportunities for older adults. One opportunity could be to use **appropriate modifications of programs that already exist for other population groups**, such as modified sports for children or Cardio Tennis. Whilst modifying/expanding existing programs, or developing external partnerships would still require significant commitment from SOs initially, there would be fewer long term resources needed.

Increasing social or informal playing opportunities was discussed by the two NSOs and also the non-sport club members. Examples included **emphasising the social and fun element of sport**, further **developing indoor sport** (specifically to introduce age specific competitions) and **reducing the frequency of matches**. **Minor rule amendments** were also discussed by TA, male sport club members and male and female non-sport club members, though these tended to be sport specific. Therefore, to increase participation in older adults across a range of sports, individual **sports could identify and choose the aspects of their sport that could be most feasible and attractive to modify**.

Marketing changes, changes to membership options and **membership costs** and the **promotion of age appropriate sports** were also discussed by NSOs, sport club members and non-sport club members as potential modifications to increase sport participation in older adults.

References

1. **Central Queensland University. Australian Health and Social Science Panel Study.** Accessed September 2014 from [<http://www.cqu.edu.au/research/research-organisations/institutes/health-and-social-sciences/centres2/population-research-laboratory/research/australian-health-and-social-science-panel-study>]
2. **Australian Sports Commission. Exercise, Recreation and Sport Survey.** Accessed February 2014 from [<http://www.ausport.gov.au/information/casro/ERASS>]
3. Caspersen CJ, Powell KE, Christenson GM: **Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research.** *Public health reports (Washington, DC : 1974)* 1985, **100**(2):126-131.
4. Bauman A, Phongsavan P, Schoeppe S, Owen N: **Physical activity measurement--a primer for health promotion.** *Promotion & education* 2006, **13**(2):92-103.
5. **Australian Sports Commission. ASC recognition. What is defined as a sport?** Accessed February 2014 from [http://www.ausport.gov.au/supporting/nso/asc_recognition]
6. **World Health Organization. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June 1946, and entered into force on 7 April 1948.**
7. Brown WJ, Bauman AE, Bull FC, Burton NW: **Development of Evidence-based Physical Activity Recommendations for Adults (18-64 years).** *Report prepared for the Australian Government Department of Health.* August 2012.
8. Lee IM, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzyk PT, Lancet Physical Activity Series Working G: **Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy.** *Lancet* 2012, **380**(9838):219-229.
9. **Australian Bureau of Statistics: 4364.0.55.004 - Australian Health Survey: Physical Activity, 2011-12.** 2013.
10. Khan KM, Thompson AM, Blair SN, Sallis JF, Powell KE, Bull FC, Bauman AE: **Sport and exercise as contributors to the health of nations.** *Lancet* 2012, **380**(9836):59-64.
11. Eime RM, Young JA, Harvey JT, Charity MJ, Payne WR: **A systematic review of the psychological and social benefits of participation in sport for adults: informing development of a conceptual model of health through sport.** *The international journal of behavioral nutrition and physical activity* 2013, **10**:135.
12. Eime RM, Sawyer N, Harvey JT, Casey MM, Westerbeek H, Payne WR: **Integrating public health and sport management: Sport participation trends 2001–2010.** *Sport Management Review* 2015, **18**(2): 207-217.
13. Brown WJ, van Uffelen JGZ: **Action area 10: Older people.** In: *Blueprint for an active Australia.* 2nd edn. Melbourne: National Heart Foundation of Australia; 2014.
14. Commonwealth of Australia: **National sport and active recreation policy framework.** Canberra; 2011.

15. Merom D, Bauman A, Ford I: **The public health usefulness of the exercise recreation and sport survey (ERASS) surveillance system.** *Journal of science and medicine in sport / Sports Medicine Australia* 2004, **7**(1):32-37.

List of tables

Table 1: Participation in physical activity by age and gender*	2907
Table 2: Top 25 of club-based sports in adults aged 50+ years by gender*	2929
Table 3: Types of organisations adults are a member of by age and gender	3007
Table 4: Involvement of adults who are a member of club by age and gender	302
Table 5: Type of organisation non-members aged 50+ years are most interested in joining by past membership status and gender	3052
Table 6: Socio-demographic characteristics of adults aged 50+ years by current membership status	3085
Table 7: Health and wellbeing of adults aged 50+ years by current membership status	3107
Table 8: Preferred resource for each of the subcategories	322
Table 9: Key benefits of sport participation for older adults*	3263
Table 10: Key benefits for SOs of older adults participating in sport*	3307
Table 11: Barriers to sport participation for older adults*	3341
Table 12: Barriers for SOs of older adults participating in sport*	341
Table 13: Current age specific sport opportunities for older adults.....	3452
Table 14: Potential modifications to increase sport participation for older adults*	3507

List of figures

Figure 1: Health enhancing leisure time physical activity (HELPA) by context and age	2952
Figure 2: HELPA activities by sport category and age.....	2952
Figure 3: HELPA sport activities by context and age.....	2952
Figure 4: HELPA sport activities by frequency and age.....	2963
Figure 5: Health enhancing leisure time physical activities (HELPA) in adults aged 50+ years by context and gender.....	2974
Figure 6: HELPA activities in adults aged 50+ years by sport category by gender.....	2974
Figure 7: HELPA sport activities in adults aged 50+ years by context and gender	2974
Figure 8: HELPA sport activities in adults aged 50+ years by frequency and gender	2985
Figure 9: Membership of sport clubs, associations or other type of organisations by age and gender.....	2996
Figure 10: Sports reported by older club-members and proportion playing each sport by gender ..	301
Figure 11: Involvement as participants and in other roles in adults aged 50+ years by gender	3030
Figure 12: Perceived benefits of being a club member in current members aged 50+ years by gender	3041
Figure 13: Agreement with potential reasons for becoming a club member in adults aged 50+ years who are interested in becoming a member of a club.....	3063
Figure 14: Physical activity levels of adults aged 50+ years by membership status.....	3074
Figure 15: Ratings of level of priority to increase sport participation in different population groups (n=192).....	31209
Figure 16: Ratings of level of priority to increase sport participation in older adults by participation level (n=192).....	313
Figure 17: Proportion of SOs with strategies (n=192)	3141
Figure 18: Proportion of SOs with programs (n=192).....	3141
Figure 19: Ratings of agreement with potential organisational barriers to increase sport participation in older adults (n=192)	3163
Figure 20: Ratings of agreement with potential organisational benefits of increased participation in older adults (n=192)	3174
Figure 21: Ratings of agreement with potential modifications to increase older adults' sport participation (n=192).....	3185
Figure 22: Ratings of usefulness for resource options to increase sport participation in older adults (n=192).....	3207
Figure 23: Preferred resource to increase sport participation in older adults (n=192).....	321
Figure 24: Structure of focus group interview study	3241

Appendix 3.2: Why don't older adults participate in sport? Report prepared for the Australian Sports Commission

WHY DON'T OLDER ADULTS PARTICIPATE IN SPORT?

Report prepared for the
Australian Sports Commission
by the Active Living and Public Health team,
Institute of Sport, Exercise and Active
Living (ISEAL), Victoria University

Claire Jenkin, Rochelle Eime,
Hans Westerbeek and
Jannique van Uffelen



Table of Contents

Acknowledgements	3631
Glossary	3653
List of abbreviations	3653
Executive Summary	3664
Introduction and aims	3697
Aims	3697
Chapter 1: Methodologies	3708
Focus Group Interview Study (FGIS)	3708
Australian Health and Social Science study (AHSS)	3720
Chapter 2: Reasons why older adults do not participate in sport	3742
Personal reasons.....	3742
Social reasons	3753
Organisational reasons	3764
Chapter 3: Reasons why older adults may re-engage with sport	3797
Personal reasons.....	3797
Social reasons	3807
Chapter 4: Potential strategies to engage older adults in sport	381
Social strategies	381
Organisational strategies	3820
Chapter 5: Conclusion and Recommendations	3842
References	3853

Acknowledgements

This report has been developed under the umbrella of the Strategic Partnership Agreement between the Australian Sports Commission (ASC) and Victoria University. It was written by the Active Living and Public Health team, at the Institute of Sport, Exercise and Active Living, Victoria University. The ASC provided funding and support.

Major contributors to this report were:

<i>Ms Claire Jenkin</i>	Institute of Sport, Exercise and Active Living, Victoria University
<i>Associate Prof Rochelle Eime</i>	Institute of Sport, Exercise and Active Living, Victoria University & Faculty of Health, Federation University
<i>Prof Hans Westerbeek</i>	Institute of Sport, Exercise and Active Living and College of Sport, and Exercise Science, Victoria University
<i>Dr Jannique van Uffelen</i>	Institute of Sport, Exercise and Active Living, Victoria University

We acknowledge our key collaborator at the ASC, Cecilia Hemana, and her team for their involvement in the development of the sport participation questions included in the Australian Health and Social Science study (AHSS), and for support with the development of and recruitment for the focus group interview study:

<i>Mrs Cecilia Hemana</i>	Previously Director of National Sports Research, Australian Sports Commission
---------------------------	---

Also thanks to **Cricket Australia** and **Tennis Australia**, who participated in the focus group interview study, in addition to the **sport club members** and **non-sport club members**.

Thanks also to the following colleagues from the **Institute of Sport, Exercise and Active Living**, who have contributed to the development of the sport participation questions included in AHSS and provided overall support for the focus group interview study:

<i>Dr Lauren Banting</i>	Institute of Sport, Exercise and Active Living, Victoria University
<i>Dr Jason Bennie</i>	Institute of Sport, Exercise and Active Living, Victoria University

We also acknowledge colleagues from **Central Queensland University** for their assistance in the development of the sport participation questions and the inclusion of these questions in the AHSS:

<i>Associate Prof Corneel Vandenalotte</i>	Centre for Physical Activity Studies, CQUniversity, Rockhampton
<i>Dr Mitch Duncan</i>	Centre for Physical Activity Studies, CQUniversity, Rockhampton, the School of Medicine and Public Health, and Priority Research Centre for Physical Activity and Nutrition, The University of Newcastle
<i>Ms Christine Hanley</i>	AHSS Project Manager CQUniversity, Rockhampton

Suggested citation: Jenkin CR, Eime RM, Westerbeek HM and van Uffelen JGZ. Why don't older adults participate in sport? Report prepared for the Australian Sports Commission. Victoria University, Institute of Sport, Exercise and Active Living (ISEAL), 2016.

Glossary

- **Australian Health and Social Science study (AHSS)**

The AHSS is initiated and funded by the Institute for Health and Social Science Research at CQUniversity, Australia. It is administered by the Institute's resident Population Research Laboratory. The AHSS examines the unique issues affecting Australians now and into the future through targeted and regular research using a randomly selected national group (panel) of participants. This panel, with members from all states and territories, provides regular input via the completion of web-based surveys on key issues such as all aspects of wellbeing, activity levels, nutrition and behavioural risk factors. [1] The 2013 panel study included a series of questions about sport participation which were developed by the research team at Victoria University for the Active and Healthy Ageing through Sport project. Responses from people aged 50+ years who were a member of a sport club in the past 10 years (n=47) were used in this report.

- **Sport**

A human activity capable of achieving a result requiring physical exertion and/or physical skill which, by its nature and organisation, is competitive and is generally accepted as being a sport. [2]

- **Health**

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. [3]

- **Older adults**

For this report, 'older adults' refer to adults aged 50 years and over.

List of abbreviations

AHSS	Australian Health and Social Science study
ERASS	Exercise, Recreation and Sport Survey
FGIS	Focus Group Interview Study
ISEAL	Institute of Sport, Exercise and Active Living
NSO	National Sporting Organisation
SC	Sport Club
SO	Sporting Organisation (umbrella abbreviation to include NSO, SSO and SC)
SSO	State Sporting Organisation
VU	Victoria University

Executive Summary

Sport is a form of physical activity that can contribute towards improving health across the life span. However the proportion of adults engaged in sport decreases with age [4]. The aim of this report is to provide information on why older adults do not participate in sport, why older adults may re-engage with sport and to discuss potential strategies to engage this age group in sport. For this research, older adults were defined as those aged 50+ years.

The aims of this research were to:

1. **Investigate the reasons why older adults do not participate in sport**
2. **Investigate the reasons why older adults may re-engage in sport**
3. **Recommend strategies to engage older adults in sport**

This research included two specific research studies, a qualitative Focus Group Interview Study (FGIS), and a quantitative Australian Health and Social Science study (AHSS). The FGIS investigated all three aims of this research. The AHSS investigated the first and second aims only.

The key results are summarised below. For this report, National Sporting Organisations are referred to as NSOs; State Sporting Organisations as SSOs; and sport clubs as SCs.

1. Reasons why older adults do not participate in sport

The FGIS participants suggested that there were 11 main reasons that could explain why older adults do not participate in sport. They have been categorised into personal, social or organisational reasons:

Personal reasons

- **Time constraints:** Many respondents believed that older adults had competing priorities, such as caring for family members, and may have prioritised their children/grandchildren's sport participation over their own participation (FGIS)
- **Physical health concerns:** The perception that the risk of injury increased as they aged was discussed by some respondents (FGIS)
- **Costs:** Some respondents felt that income was often spent on other priorities (FGIS).

Social reasons

- **Family commitments:** Most respondents believed that older adults often did not play sport as they had families to look after (FGIS)
- **Friends stopped playing sport:** Some respondents felt that older adults sometimes stopped playing sport when their friends stopped playing sport (FGIS)
- **Working patterns changed:** A few respondents felt there had been a change in working hours in the past generation, where hours had become more flexible and people often worked on weekends, instead of playing sport (FGIS)

- **Lack of social acceptance that older adults played sport:** Some respondents perceived that sport was an activity for young people and not older adults (FGIS).

Organisational reasons

- **Sports that specifically catered for older adults:** A few of the respondents felt that some 'age appropriate' sports were seen as boring or unattractive (FGIS)
- **Lack of playing opportunities with peers:** Many respondents felt that there were few opportunities for older adults to play with, or against, their peers (FGIS)
- **Older adults were not a high priority for Sporting Organisations:** It was perceived by many respondents that participation in sport for older adults was a lower priority than other younger age groups. Their needs were often not catered for due to a lack of organisational capacity within Sporting Organisations (SOs) (FGIS)
- **Non-inclusive marketing:** Marketing was discussed by a few respondents. They believed it often focused on competition, rather than the fun and social aspects of sport. They also felt that marketing was usually targeted at younger age groups, with graphics and photographs used that appealed to younger people (FGIS).

2. Investigate the reasons why older adults may re-engage with sport

Despite the above reasons for why older adults may not participate in sport, the FGIS participants gave reasons why some of them had re-engaged with sport at an older age. Also, the AHSS respondents who had been a sport club member in the past 10 years (n=47) were asked to rate their agreement with four potential reasons to re-join a sport club. There were six main reasons given from both set of participants which were classified as personal or social reasons:

Personal reasons

- **Physical health:** Many respondents (62%) stated that they would consider re-joining a sport club to become more physically active or to improve their physical health (AHSS). A number of respondents felt that playing sport had improved their physical health (FGIS)
- **Time rich:** Several respondents perceived that older adults often had more time to pursue their own activities, as they had retired or their children had grown up (FGIS)
- **Mental health:** Some respondents (36%) reported that they would consider re-joining a sport club to improve their mental health (AHSS).

Social reasons

- **Social opportunities:** A number of respondents (55%) stated that they would consider re-joining a sport club for social reasons (AHSS)
- **Family/friends:** Many respondents only took-up a sport when their children or grandchildren had started to play that sport. Some respondents perceived that older adults had used sport as an opportunity to interact with their families or friends (FGIS)

- **Sporting ability:** The sporting ability of players became less important in older age, and thus sport became more attractive to less 'sporty' types, according to some respondents (FGIS).

3. Recommended strategies to engage older adults in sport

The FGIS participants suggested the following six social and organisational strategies that could help engage older adults in sport:

Social strategies

- **Develop and promote intergenerational sport opportunities:** Older adults should have the opportunity to play social sport within the same sport club setting as their children or grandchildren (FGIS)
- **Develop and promote age specific sport opportunities:** This may include age specific competitions that are less physically strenuous; and/or more social play opportunities (FGIS)

Organisational strategies

- **Introduce rule amendments:** These amendments could be used by sports, where appropriate, to cater for older adults' physical health needs. For example, SOs could amend the physical requirements by reducing the level of physical contact and exertion needed, and shorten match times (FGIS)
- **Produce age appropriate marketing:** This marketing should focus on the fun and social aspect of sport, and show photos with a variety of ages, including older adults (FGIS)
- **Introduce flexible sport club membership options:** Offer reduced senior membership prices and encourage off peak play at discounted rates (FGIS)
- **Develop external partnerships:** Engage with external community partners to develop and deliver specific joint programs. Developing such partnerships could help capacity building and/or knowledge transfer (FGIS).

Introduction and aims

Populations throughout the developed world are ageing. In Australia, the proportion of adults aged 50+ years is projected to increase to 39% by 2061 [5]. At present, many Sporting Organisations (SOs) tend to prioritise younger age group participants, and therefore older adults are not a high priority. However, as sport participation declines with age [4,6,7,8], and there is an ageing population, the older adult age group may provide a good opportunity for SOs to increase overall participation in sport. For this research, older adults were defined as those aged 50+ years.

This report expands on results from an earlier report. In 2015, the 'Active and Healthy Ageing through Sport' report [9] explored the relationship between older Australian adults and sport. The earlier report covered details of older adults' sport participation, the benefits and barriers to older adults' sport participation, and potential opportunities to increase participation for older adults. It suggested that past sport club members were generally more interested in becoming a sport club member than those who had not previously been a sport club member. Furthermore, more older men than women were interested in joining sport clubs.

Aims

The aims of this research were to:

- 1. Investigate the reasons why older adults do not participate in sport**
- 2. Investigate the reasons why older adults may re-engage in sport**
- 3. Recommend strategies to engage older adults in sport**

This research included two specific studies, a qualitative Focus Group Interview Study (FGIS), and a quantitative Australian Health and Social Science study (AHSS). The FGIS research study investigated all three aims of this report. The AHSS investigated the first and second aims only.

This report presents the integrated findings from the two separate studies within each of the research aims:

- Chapter 1 provides a summary of the methodologies
- Chapter 2 presents the results of aim 1: Reasons why older adults do not participate in sport
- Chapter 3 presents the results of aim 2: Reasons why older adults may re-engage in sport
- Chapter 4 presents the results of aim 3: Recommended strategies to engage older adults in sport.

Chapter 1: Methodologies

Focus Group Interview Study (FGIS)

The 2014 qualitative FGIS investigated reasons why older adults do not participate in sport, the reasons why older adults may re-engage with sport at an older age and potential strategies that organisations could implement to engage older adults in sport. Two sports were selected for this research: tennis and cricket. This study involved representatives of the two National Sporting Organisations (NSOs): Tennis Australia and Cricket Australia, older adults who were sport club members of these two sports and older adults who were not members of any sport clubs.

Sport selection:

- The sports (tennis and cricket) were selected using analysis of 2010 Exercise, Recreation and Sport Survey (ERASS) data [10]. Sports in the 2010 ERASS data were ranked from high to low levels of participation amongst older adults to understand participation rates in specific sports
- The 10 most frequently played sports and the 10 least frequently played sports in this age group for both genders were considered in the context of existing relations with NSOs, and the appropriateness of each sport for this age group
- Tennis was selected from the 10 most frequently played sports and cricket was selected from the 10 least frequently played sports
- Representatives of Tennis Australia and Cricket Australia (referred to as NSO participants), and a selection of their older sport club (50+ years) members (including actively playing or administrative members) were invited to participate in the focus group interviews. These members were recruited through the NSOs or local sport clubs were independently contacted by the research team
- Older adults (50+ years), who were not members of a sport club, were also invited to take part. They were recruited through community groups and public advertisements

A figure showing the study design of the focus group interviews is presented in Figure 1 on the following page.

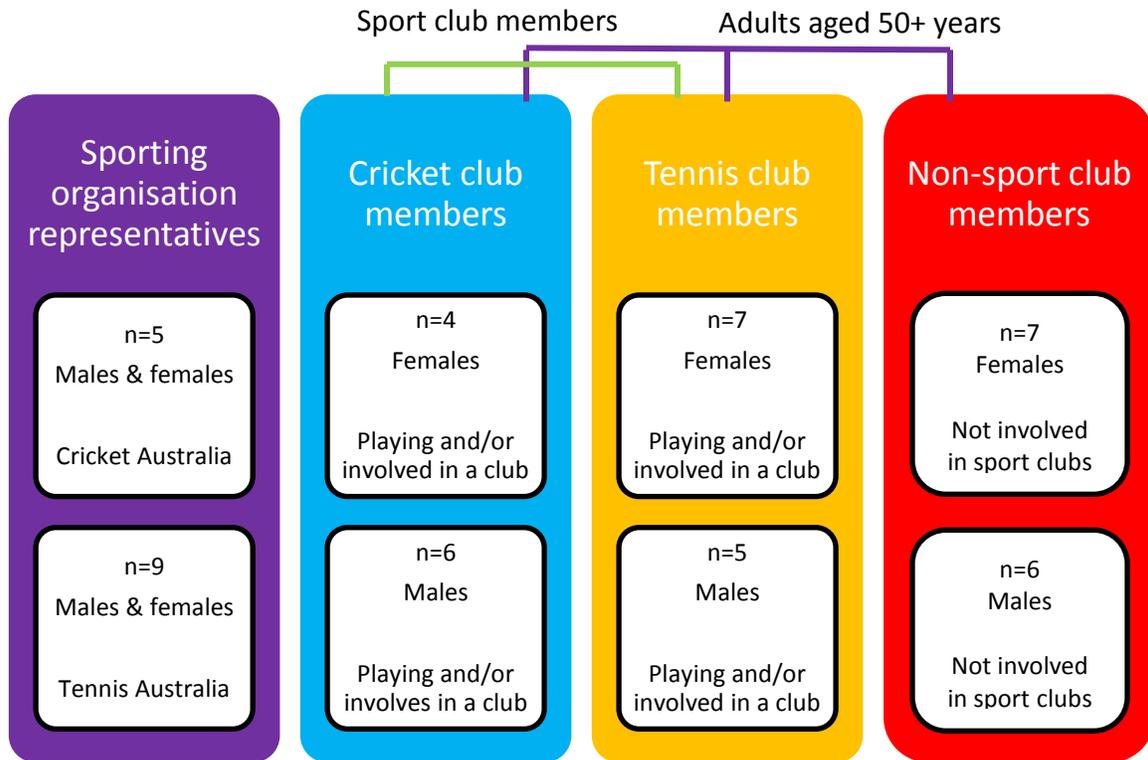


Figure 1: Structure of focus group interview study

Data collection and analysis:

- There were eight focus group interviews. Separate focus group interviews were held for each NSO, sport club members and non-sport club members, and they were stratified for gender
- There were 49 participants in total (four to nine adults in each interview)
- The focus group interviews lasted for approximately 75 minutes and discussions on this topic area lasted for 10-15 minutes. There was general agreement in each focus group interview about the issues discussed, and although some differing opinions were offered, these were debated in a friendly manner
- There were two VU facilitators at each focus group interview, with one to lead the group and the other to take notes of any non-verbal communication
- Data were transcribed and analysed using a hybrid approach of content and thematic analysis
- The ideas discussed were developed into common themes, and these themes are presented in the following three chapters of this report. The results presented are therefore the perceptions of these people in the focus group interviews and may not be representative of the sport as a whole.

Australian Health and Social Science study (AHSS)

The 2013 quantitative AHSS study surveyed a panel of 2034 people from the Australian public. They completed regular web-based surveys on key issues such as wellbeing, activity levels, nutrition and behavioural risk factors. The study included a series of questions about sport participation which were developed by the research team at VU for the Active and Healthy Ageing through Sport project for this report. Only current sport club members or those who were a sport club member in the past 10 years were asked the sport participation questions.

Respondent selection:

- A total of 1,856 adults responded to the sport participation questions. Of these, 560 were younger than 50 years and 1,296 were over 50 years
- To address the first and second aims of this research, responses from adults aged over 50 years who were a sport club member in the past 10 years (n=47) were analysed
- The full demographics of these 47 participants are detailed in Table 1 on the following page. In summary, their mean age was 60.3 years, with 22 female and 25 male respondents.

Data collection and analysis:

- There were 12 survey questions related to respondents' association with sport. These questions included their history of belonging to a sport club or association, the benefits of belonging to a sport club, reasons for discontinuing membership and potential reasons to re-engage with sport
- The data were analysed for frequency of agreement with each question. Gender differences in frequency of agreement were also analysed.

Respondent demographics	Sport club member within the last 10 years	
Age (mean)		60.3 years
Gender		
	Female	47%
	Male	53%
Marital status		
	Single/widowed/divorced	25%
	Married/de facto/live in	75%
Living situation		
	Children <18 years	17%
	Children 18+ years	28%
	Children moved out/no children	53%
Area of residence		
	Major cities	54%
	Inner regional	31%
	Outer regional/remote	15%
Country of birth		
	Australia	79%
	Other	21%
Education		
	Up to year 12	32%
	Technical studies/trade certificate	17%
	Tertiary studies	51%
Employment status		
	Full-time	43%
	Part-time	19%
	Casual	2%
	Unemployed/home duties/student	11%
	Retired/pensioner	25%
Income		
	Lowest tertile	32%
	Middle tertile	27%
	Highest tertile	41%

Table 1: Characteristics of adults aged 50+ years who were a member of a sport club in the past 10 years (n=47)

Chapter 2: Reasons why older adults do not participate in sport

The reasons why older adults stopped participating in sport have been categorised into three sections in this chapter: **personal reasons**, **social reasons** and **organisational reasons**. There were some similar reasons that arose from both the AHSS and the FGIS studies, particularly relating to time constraints, physical health concerns and lack of playing opportunities. Other reasons reported by the FGIS participants included family commitments and marketing.

The main reasons why older adults do not participate in sport are summarised below.

Personal reasons

Time constraints

- Some older adults (17%) who were a sport club member in the past 10 years discontinued their membership due to **time constraints** (AHSS)
- Many respondents believed that older adults had **competing priorities**, which included prioritisation of their children's sport participation over their own participation. This limited older adults' availability to participate in sport themselves (FGIS)
 - *"It was two nights a week for them [kids], then it was on the weekend with them with their sport...you don't have time to do your own stuff, when you're there two nights and half a day over the weekend. Family is more important"* (54 year old male non-sport club member)
- A few respondents felt that **sport matches were sometimes too long and too structured**, so participation in other activities was sometimes prioritised (FGIS)

Physical health concerns

- A little over a quarter of respondents (28%) discontinued their sport club membership due to their **physical health** (AHSS)
- The perception that the **risk of injury increased as they aged** was discussed by some respondents (FGIS)
 - *"As you get older, you're more susceptible to injuries"* (53 year old male non-sport club member)
- Some respondents believed that **existing injuries** meant it was harder to participate in sport at an older age for some people (FGIS)
 - *"Usually they [older adults] play every second Sunday because it takes them two weeks to get over the physicality of the whole thing"* (53 year old male non-sport club member)

Costs

- Some respondents felt that **income was often spent on other priorities** (FGIS)
 - *“They may be spending their money on other things, like travel rather than sport”* (Male NSO participant).

Social reasons

Family commitments

- Most respondents believed that older adults often did not play sport because **they had families to look after** (FGIS)
 - *“My main sport has always been netball from the time I was at school right through till like when I was working... and I stopped ... when I got married and moved to another location and was planning another team and all excited about that, and then I was pregnant and then that was it. Never went back”* (60 year old female non-sport club member)

Friends stopped playing sport

- Some respondents felt that older adults sometimes stopped playing sport **when their friends stopped playing sport** (FGIS)

Working patterns changed

- A few respondents felt there had been a change in working hours in the past generation, where **hours had become more flexible and people often worked on weekends, instead of playing sport**. This meant that traditional weekend competitions sometimes had fewer participants (FGIS)
 - *“Saturday tennis isn’t the same as it used to be because the workforce are working a lot of Saturdays now instead of working just weekly, five days a week...I think that’s taken a lot of participation out of tennis”* (69 year old male tennis club member)

Lack of social acceptance that older adults played sport

- Some respondents perceived that **sport was an activity for young people** and not older adults (FGIS)
 - *“I’ll say I’m going to tennis. ‘Oh do you still play tennis?’ Like hell, once you get over fifty, you shouldn’t be playing”* (70 year old female tennis club member)

- *“Some people also perceive it as culturally or as not really appropriate to play competitive any longer once you’re getting older, especially on the female side”* (Female NSO participant).

Organisational reasons

Sports that specifically catered for older adults

- A few of the respondents felt that **some ‘age appropriate’ sports were seen as boring or unattractive** (FGIS)
 - *“Golf is one of those games that a lot of people take up in retirement, but I find it boring”* (60 year old female non-sport club member)
 - *“It’s [bowls] boring. You roll the ball and then you walk out”* (54 year old female non-sport club member)
- A number of respondents believed that **contact sports became less desirable** as people aged, due to physical health concerns (FGIS)
 - *“I don’t want to have the contact sport anymore”* (60 year old female non-sport club member)

Lack of playing opportunities with peers

- Some respondents (16%) discontinued their sport club membership due to lack of playing opportunities (AHSS)
- Many respondents felt that there were **few age specific sporting opportunities for older adults**. This included opportunities for older adults new to a sport, those who wanted to continue playing sport and also those who wanted to start playing sport again (FGIS)
 - *“There’s a lack of adult beginner programs. I think if you haven’t played at age 50, people are too embarrassed and too nervous to start picking up a racquet when they start retiring”* (Male NSO participant)
 - *“There didn’t seem to be anywhere they could go to next for that age group [in netball], so they both stopped playing...I always thought that was such a shame because they loved netball and really enjoyed it so much for years”* (65 year old female non-sport club member)
 - *“For older people there are not many sporting clubs or anything that you could just go and join except lawn bowls”* (61 year old male non-sport club member)

- A number of respondents believed that older adults **did not want to compete against younger players** and were therefore likely to transfer to individual/lower contact sports or visit the gym (FGIS)
 - *“At some point the realisation came ‘I can’t compete with those kids anymore’ and there’s really nowhere else to go”* (62 year old male cricket club member)
 - *“I think when I was younger, I played more team sports. And as I got older and I couldn’t compete anymore, I did individual things like karate”* (50 year old male cricket club member)
- Some respondents felt that whilst competition was still important (especially to men), the **desire to play sport in a competitive structure decreased with age** (FGIS)
 - *“I’m not as competitive as I was when I was younger. Nowhere near”* (54 year old male cricket club member)

Older adults were not a high priority for Sporting Organisations (SOs)

- It was perceived by many respondents that **participation in sport for older adults was a lower priority than younger age groups** (FGIS)
- Some respondents believed that specific needs of older adults were often not catered for due to a **lack of organisational capacity** (FGIS)
 - *“At the end of the day, our business is about junior development”* (Female NSO participant)
 - *“We tend to focus on the players that we currently have and then recruiting new players and fans, so that’s very much pitched at younger age groups”* (Male NSO participant)

Non-inclusive marketing

- Marketing was discussed by a few respondents. They felt that marketing for sport participation was often **focused on competition**, rather than the social and fun aspects of sport (FGIS)
- Some respondents felt that **marketing was usually targeted at younger age groups**, which used graphics and photographs that appealed to younger people (FGIS)
 - *“It would be really good if they showed a range of women who are playing, not just the young’uns [sic], perhaps a few older women? That would be a broader advertising campaign”* (69 year old female cricket club member)
 - *“You think sporting clubs are for when you’re young and then you’re going to give them up, but maybe they haven’t really been advertised as something that’s appropriate for all age levels”* (55 year old female non-sport club member)

- Some respondents believed that older adults had a **general lack of awareness** of sporting opportunities available (FGIS)
- A few respondents felt that there **must be a suitable product on offer to advertise**; otherwise there is little point in advertising sport to older adults (FGIS).

Chapter 3: Reasons why older adults may re-engage with sport

Despite the barriers to participation in sport for older adults discussed in the previous chapter, most FGIS participants felt that sport drop out occurred more frequently in their 30s due to having a young family. A 62 year old male tennis club member stated *“it can be very difficult, say in your 30s and that if you’ve got kids, it’s really hard to make commitments to other people”*.

For some people, there may be a greater opportunity to re-engage in sport as an older adult than a young adult. Many older adults within the FGIS also felt that their participation had changed positively over their lifetime for the **individual reasons** and **social reasons** shown below.

AHSS respondents who had been a sport club member in the past 10 years (n=47) were asked to rate their agreement with four potential reasons to re-join a sport club. Their responses are also shown below.

Personal reasons

Physical health

- Almost two thirds of respondents (62%) agreed or strongly agreed that they would consider re-joining a sport club to **become more physically active** (AHSS)
- Many respondents (62%) agreed or strongly agreed that they would consider re-joining a sport club to **improve their physical health** (AHSS)
- A number of respondents perceived that **sport had improved their physical health** as they had aged (FGIS)
 - *“It’s helped my health. I mean I don’t know where I’d be if I wasn’t playing tennis”* (69 year old male tennis club member)

Time rich

- Several respondents perceived that older adults often had **more time to pursue their own activities**, as they had retired or their children had grown up (FGIS)
 - *“I’ve found the mid-30s when your kids are sort of less than 10, it’s harder to leave the home, whereas now my kids are all in their 20s, I never see them. So my wife’s happy to not have me under her feet and stuff, so it’s actually easier now in the 50s to actually spend more time at the club without young families”* (53 year old male cricket club member)
 - *“Now you’re semi-retired...you’ve got time on your hands and so you can [play sport]”* (64 year old female tennis club member)

Mental health

- Almost half of respondents (49%) agreed or strongly agreed that they would consider re-joining a sport club to **improve their mental health** (AHSS).

Social reasons

Social opportunities

- A little over half of respondents (55%) agreed or strongly agreed that they would consider re-joining a sport club for **social reasons** (AHSS)

Family/friends

- Many respondents had taken up a sport only **when their children or grandchildren had started to play that sport** (FGIS)
 - *“My daughter roped me into doing a bit of cricket and I thought, “Oh that looks like fun!”* (69 year old female cricket club member)
- A number of respondents also perceived that older adults had used sport as an opportunity to **interact with their families or friends** (FGIS)
 - *“There is nothing better than playing with your kids”* (62 year old male tennis club member)
 - *“A friend of mine played tennis, so I joined in and actually from then we played every week”* (68 year old male tennis club member)

Sporting ability

- The **sporting ability of players became less important in older age**, and thus sport became more attractive to less ‘sporty’ types, according to some respondents (FGIS)
 - *“In those days you couldn’t play those sports unless you were good. Really you just weren’t welcomed. Nowadays it’s probably the same, but tennis people have given up laughing at me because I don’t give a stuff”* (62 year old male tennis club member)
 - *“I don’t care what the younger ones think anymore”* (59 year old female non-sport club member).

This chapter identified reasons why some older adults started playing sport in their adult years. The dichotomy in the data collected for this chapter and the previous chapter demonstrates the complexity of issues involved in older adults’ sport participation.

The influences described in this chapter, that lead older adults to start playing sport in a sport club, could give SOs insight into how they might attract this age group back to club sport. SOs could also draw on the specific strategies described in chapter 4 to engage older adults into their respective sports.

Chapter 4: Potential strategies to engage older adults in sport

This chapter explores the potential strategies that Sporting Organisations (SOs) could implement to engage older adults in sport. FGIS respondents discussed **social strategies** and **organisational strategies** that could be implemented to increase sport participation for older adults.

Social strategies

- **Develop and promote intergenerational sport opportunities:** Older adults in the FGIS felt that they experienced time constraints and had competing priorities, such as looking after their families. Older adults can re-engage with sport when their children play sport
 - *“They’ve [older adults] got families and their offshoots of that family might join as well, and those offshoots are going to have kids and they’re going to grow up in the same environment, so it goes on”* (69 year old male tennis club member)

Recommendations: Develop and promote intergenerational opportunities to play sport, where older adults can play sport within the same sport club setting as their children or grandchildren.

- **Develop and promote age specific sport opportunities:** Older adults in the FGIS felt that it became harder to participate in sport as they grew older, specifically due to their declining physical health. Respondents also believed there was a lack of appropriate opportunities to play sport. The FGIS respondents provided examples of appropriate playing opportunities within their sport clubs, and these should be used by SOs to further develop appropriate opportunities for this age group to play sport
 - *“We go out. Four people go out. We all have a serve. Then that’s the end of the game. Or else if there’s eight of us, then we change ends. Four have a serve, then that’s the end of the game. Then we all change partners... we have party day so we all bring something different...I would think number socialising first. Second, thinking you’re getting a little bit fit”* (70 year old female tennis club member)
 - *“[veteran competitions] It’s more the enjoyment. You still play to win and our team still play to win and you have finals and all that sort of stuff, but at the end of the day, the fact that you’re still playing is a bonus when you’re over 50, and that’s what vets is all about...it’s a one-day competition, 36 overs. Its maximum six overs. You retire at 40. It’s more I open the bowling, so I bat down the order. You try to make sure that the guys all get a go, the fielding’s slower, the umpires, so it’s all that sort of stuff. It’s good”* (57 year old male cricket club member)

Recommendations: Introduce age specific competitions that are less physically strenuous, thus helping to negate concerns of increased risk of injury in sport. Introduce age specific sport competitions or social play opportunities, which would also provide appropriate opportunities for older adults to play sport.

Organisational strategies

- **Introduce rule amendments:** FGIS respondents discussed how potential rule amendments may not be applicable to all sports. It is recommended that sports identify amendments with older adult players in mind and implement these where appropriate
 - *“We talk about modified sport for the young kids who can’t play, but we don’t talk about modified sport for older people who find it difficult to play the full sized court... Your racquet is smaller, so you can actually have a rally of 10-15 hits with someone who truly can’t play the game. And I think that’s the thing is that there’s no distinct level of ability between it, and I think that makes people enjoy it more”* (Male NSO participant)
 - *“They modify the courts. They modify the period of time and they also have minimal contact for a lot of them depending on the age and what they tend to do. Normally when you play AFL football, its contact. As you get older, it’s minimal contact”* (54 year old male non-sport club member)

Recommendations: Reduce contact, reduce physical exertion and shorten match time.

- **Produce age appropriate marketing:** FGIS respondents felt that the majority of sport marketing focused on young, athletic people. This, in a way, implied that sport was not for older adults, or for those who did not conform to an athletic stereotype. FGIS respondents mentioned that to increase the appeal of sport for older adults, marketing needed to become more inclusive and change its focus
 - *“It would be really good if they showed a range of women who are playing, not just the young’uns [sic], perhaps a few older women? That would be a broader advertising campaign”* (69 year old female cricket club member)
 - *“The marketing is...so you’re retiring next week? Why don’t you take up tennis instead of golf? It’s cheaper, it’s more accessible, it’s this...you can learn...so I think the actual marketing and selling of the benefits of it, actually wouldn’t be that difficult”* (Female NSO participant)

Recommendations: Market the fun and social side of sport, and promote the potential health benefits of playing sport. Include people of different ages on marketing material, including older adults. Encourage/market less strenuous and less competitive sports that include less physical contact.

- **Introduce flexible sport club membership options:** FGIS respondents felt that memberships were a vital income source for sport clubs, but there was scope to offer some pricing flexibility for older adults. The simple principle applied that it was better to have older adults participate in sport clubs at a modest membership fee, than not to have them around at all. FGIS respondents also linked this to their assertion that older adults contributed more generously in volunteering time than younger adults
 - *“I think one of our issues has been the whole membership question that a lot of our traditional clubs who have relied on their membership and said you can’t come and play at our club unless you’re a member and not everyone wants to become a member. They might only want to play half a dozen times a year, so they’re looking for value for money and membership becomes a bit of an obstacle”* (Male NSO participant)
 - *“I think flexibility in their pricing could be good. And trials would be excellent”* (53 year old male non-sport club member)

Recommendations: Introduce flexible membership options for older adults. Provide reduced senior membership prices and encourage off peak play at discounted rates.

- **Develop external partnerships:** FGIS respondents provided examples of successful programs that had been developed and delivered in partnership between SOs and external partners. These examples included the Rusty Rackets Tennis Program in South Australia, which was run in partnership between Active Ageing Australia and Tennis South Australia.

SOs should develop similar partnerships with community, health or senior organisations to provide sport opportunities for older adults. FGIS respondents identified that working in such partnerships could help negate capacity issues within SOs, and provide an opportunity for SOs to utilise membership databases from external organisations

- *“We’ve partnered with them to pilot a couple of these Rusty Racquets programs... I’m not sure if it was running Australia-wide with Active Ageing or just South Australia, but you could choose a bunch of sports and do five weeks of each sport for 10 dollars and then ideally, the local coach that was running it would try and encourage them to continue playing either cardio tennis, which was probably the most common outcome here or get into competitive playing”* (Male NSO participant)

Recommendations: Engage with external community partners to develop and deliver specific joint programs. Develop partnerships that could help capacity building and/or knowledge transfer.

Chapter 5: Conclusion and Recommendations

The main aims of this report were to investigate the reasons why older adults do not participate in sport, investigate the reasons why older adults may re-engage with sport at an older age, and then to provide recommended strategies to engage older adults in sport.

There were a range of personal, social and organisational reasons why older adults did not play sport. In order to increase participation in older adults, these reasons have to be identified for each sport and sport specific strategies have to be put in place to address these reasons to increase sport participation in older adults.

The main recommended strategies to increase sport participation drawn from this report include:

- Develop and promote intergenerational sport opportunities, where older adults can play sport within the same club setting as their children or grandchildren
- Develop and promote age specific sport opportunities/products
- Introduce rule amendments
- Produce age appropriate marketing
- Introduce flexible sport club membership options
- Develop external partnerships with community organisations.

Considering the ageing Australian population, Sporting Organisations have an excellent opportunity to engage with this age group, which could also help increase their overall participation figures.

References

1. **Central Queensland University. Australian Health and Social Science Panel Study.** Accessed September 2014 from <http://www.cqu.edu.au/research/research-organisations/institutes/health-and-social-sciences/centres2/population-research-laboratory/research/australian-health-and-social-science-panel-study>
2. **Australian Sports Commission. ASC recognition. What is defined as a sport?** Accessed February 2014 from http://www.ausport.gov.au/supporting/nso/asc_recognition
3. **World Health Organisation. Preamble to the Constitution of the World Health Organisation as adopted by the International Health Conference, New York, 19-22 June 1946 and entered into force on 7 April 1948.**
4. Eime, R., Payne, W. & Harvey, J. (2009). **Trends in organised sport membership: impact on sustainability.** *Journal of Science and Medicine in Sport*, 12(1): 123-129.
5. **Australian Bureau of Statistics, 2014. Animated population pyramids.** Accessed February 2014 from <http://www.abs.gov.au/websitedbs/d3310114.nsf/home/Population%20Pyramid%20-%20Australia>
6. Breuer, C. & Wicker, P. (2013). **Decreasing sports activity with increasing age?** Findings from a 20 year longitudinal and cohort sequence analysis, *Research Quarterly for Exercise and Sport*, 80:1, 22-31.
7. Palacios-Ceña, D., Fernandez-de-las-Penas, C. & Hernandez-Barrera, V. (2012). **Sports participation increased in Spain: a population-based time trend study of 21, 381 adults in the years 2000, 2005 and 2010,** *British Journal of Sports Medicine*, 46: 1137-1139.
8. Eime, R. M., Harvey, J. T., Charity, M. J., Casey, M. M., Westerbeek, H. & Payne, W. R. (2016). **Age profiles of sport participants.** *BMC Sports Science, Medicine and Rehabilitation*, 8, 1.
9. van Uffelen JGZ, Jenkin CR, Westerbeek HM, Biddle SJH and Eime RM. **Active and Healthy Ageing through Sport.** Report prepared for the Australian Sports Commission. Victoria University, Institute of Sport, Exercise and Active Living (ISEAL), 2015.
10. **Australian Sports Commission. Exercise, Recreation and Sport Survey.** Accessed February 2014 from <http://www.ausport.gov.au/information/casro/ERASS>

Appendix 3.3 Why don't older adults participate in sport? Factsheet prepared for the Australian Sports Commission

WHY DON'T OLDER ADULTS PARTICIPATE IN SPORT?



BACKGROUND

Australia is faced with an ageing population, and ageing is typically associated with a decline in health. Physical activity, and sport more specifically, can contribute towards improving physical, social and mental health. However, sport participation declines with age, and very few older adults participate in sport. Understanding reasons why older adults do not participate in sport, can inform strategies aimed at engaging them in sport for healthier individuals and a healthier nation.

There are many reasons why older adults do not participate in sport or why they drop out of sport. These have been categorised into personal reasons, social reasons and organisational reasons below. In this study, older adults are defined as adults who are aged 50 years or over.

PERSONAL REASONS:

Time Constraints

Older adults have competing priorities, such as caring for family members, and may prioritise their children/grandchildren's sport participation over their own participation

Physical Health Concerns

Older adults are worried that the risk of injuries increase as they age

Costs

Income is often spent on other priorities

SOCIAL REASONS:

Family Commitments

Older adults often do not play sport as they have families to look after

Friends Stopped Playing Sport

Older adults may stop playing sport if their friends stop playing sport

Working Patterns Changed

Working hours are becoming more flexible and people often work on weekends instead of playing sport

Lack of Social Acceptance that Older Adults Played Sport

Sport is perceived to be an activity for young people and not older adults

ORGANISATIONAL REASONS:

Sports that Specifically Catered for Older Adults

Some 'age appropriate' sports could be seen as boring or unattractive by some older adults

Lack of Playing Opportunities with Peers

There are sometimes few opportunities for older adults to play with, or against, their peers

Older Adults not a High Priority for Sporting Organisations

Older adults are often a lower priority than other younger age groups. Their needs are often not catered for due to a lack of organisational capacity

Non-inclusive Marketing

Marketing is usually focused on competition, rather than the fun and social aspects of sport

Marketing is usually targeted at younger age groups, that use graphics and photos that appeal to younger people



Australian Government
Australian Sports Commission

 **ISEAL**
VICTORIA UNIVERSITY

HOW CAN OLDER ADULTS BE ENGAGED IN SPORT?



These strategies may help sporting organisations better engage older adults in sport. Some of these suggestions can be used in all sports, whereas some may be more sport specific.

ORGANISATIONAL STRATEGIES:

Introduce Rule Amendments

Reduce physical contact and exertion

Shorten match time

Produce Age Appropriate Marketing

Market the fun and social side of sport

Include people of different ages on marketing materials, including older adults

Introduce Flexible Sport Club Membership Options

Provide reduced senior membership prices

Encourage off peak play at discounted rates

Develop External Partnerships

Engage with external community partners to develop and deliver specific joint programs

Developing partnerships could help capacity building and/or knowledge transfer

REFERENCES

This information was summarised from two previous reports on older adults and sport:

- Jenkin CR, Eime RM, Westerbeek HM and van Uffelen JGZ. Why don't older adults participate in sport? Report prepared for the Australian Sports Commission. Victoria University, Institute of Sport, Exercise and Active Living (ISEAL), 2016.

- van Uffelen JGZ, Jenkin CR, Westerbeek HM, Biddle SJH and Eime RM. Active and Healthy Ageing through Sport. Report prepared for the Australian Sports Commission. Victoria University, Institute of Sport, Exercise and Active Living (ISEAL), 2015.

Citation for this factsheet: Jenkin CR, Eime RM, Westerbeek HM and van Uffelen JGZ. Why don't older adults participate in sport? Factsheet prepared for the Australian Sports Commission. Victoria University, Institute of Sport, Exercise and Active Living (ISEAL), 2016.

SOCIAL STRATEGIES:

Develop and Promote Intergenerational Sport Opportunities

Introduce opportunities where older adults can play sport within the same club setting as their children or grandchildren

Develop and Promote Age Specific Sport Opportunities

Introduce age specific competitions that are less physically strenuous

Introduce more social play opportunities



Australian Government
Australian Sports Commission

 **ISEAL**
VICTORIA UNIVERSITY

