Walking football initiation and maintenance in older adults: A mixed-methods investigation

Rachel Catherine Cholerton

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This thesis is dedicated to
Irene Cholerton and Barrie Cholerton.

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Thesis Abstract

For older adults, physical activity (PA) is important to maintain a healthy lifestyle, and benefits include higher mobility and less healthcare needs (Age UK, 2018; Guzman-Castillo et al., 2017; Hambrook et al., 2020). Despite this, there are still a large number of older adults in the United Kingdom (UK) who are inactive (Sport England, 2020a), and research suggests few older adults maintain PA long-term (Kendrick et al., 2018; Van Der Deijl et al., 2014). Interventions to increase PA in older adults include sport, the benefits of which include managing mental health conditions, and reporting less sedentary behaviour in older adulthood (Eime et al., 2010; Gayman et al., 2017). Adapted sports such as walking football have also gained popularity (Lloyd, 2019), and understanding the experiences of those participating could inform design of accessible sport interventions to increase levels of older adult PA.

A mixed-methods programme of research was undertaken. Studies one and two explored initiation and maintenance experiences of 55-75 year-old walking football players. Influences related to initiation of walking football included sporting identity, player values, and empowering players to cognitively and socially develop in older age. Influences related to maintenance of walking football included awareness of walking football benefits, positive walking football culture and availability of maintenance resources. Informed by study one and two findings, an empirically grounded survey was developed in study three to investigate differences in walking football initiation and maintenance influences, across key respondent characteristics in 50-75 year-old adults (chapter six). Further analysis investigated what characteristics and influences contribute to players returning to walking football after the Coronavirus-19 pandemic. Analysis found significant differences in social influences in initiation and maintenance across the number of health conditions. Regression analyses found walking football culture and maintenance resources (e.g. scheduling sessions) during maintenance contributed to the intention to continue playing after Coronavirus-19 pandemic restrictions were eased.

Findings highlight the complex nature of older adult walking football participation, but show support for encouraging social interactions in those with health conditions, and creating a positive walking football culture and

encouraging older adults to increase maintenance resources, in order to continue walking football play. The thesis provides club, coach and sporting body recommendations, and recommends that future research focuses on exploring the walking football culture in more detail, and the implementation of maintenance resources in aiding older adults to successfully maintain the sport.

Candidate's Statement

I hereby declare that:

1. I have not been enrolled for another award of the University, or other academic or professional organisation, whilst undertaking my research degree.
2. None of the material contained in the thesis has been used in any other submission for an academic award.
3. I am aware of and understand the University's policy on plagiarism and certify that this thesis is my own work. The use of all published or other sources of material consulted have been properly and fully acknowledged.
4. The work undertaken towards the thesis has been conducted in accordance with the SHU Principles of Integrity in Research and the SHU Research Ethics Policy.
5. The word count of the thesis is ……60,109……..

Signature (to be completed electronically):

Name	Rachel Catherine Cholerton
Award	Doctor of Philosophy
Date of Submission	26th May 2021
Faculty	Health and Wellbeing
Director(s) of Studies	Prof. Jeff Breckon

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Outputs from this thesis

Peer-reviewed journal article publications

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Cholerton, R., Breckon, J., Butt, J., & Quirk, H. (2019, June). Experiences of walking football initiation in 55-75 year-old adults. Oral presentation at the 3rd Annual Northern Research and Applied Practice Showcase for Sport and Exercise Psychology, Sheffield Hallam University, Sheffield, UK.

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Abbreviations

COVID-19 – Coronavirus 2019

CMO – Chief Medical Officer

FFIT – Football Fans in Training

GP – General Practitioner

HCP – Healthcare Practitioner

MET – Metabolic Equivalent of Task

NHS – National Health Service

PA – Physical Activity

SDT – Self Determination Theory

SES – Socio-Economic Status

TTM – Transtheoretical Model

UK – United Kingdom

WHO – World Health Organisation

Chapter 1: Introduction

1.1 Overview

This chapter defines physical activity (PA), exercise and sport participation, and discusses the definition of older adult, and the importance of understanding different ages within the wider older adult bracket. It also outlines the current state of physical and mental health in older adults, as well as how older adult health impacts wider care systems. This chapter explores the impact of PA on older adult health, as well as discussing under-researched areas within PA research focusing on older adults, such as adapted sport participation. To conclude, the purpose of the thesis is discussed, alongside an overview of the chapters presented in this thesis.

1.2 Defining and understanding older-adult age groups

The recognised age for being defined as an older adult, in the United Kingdom (UK) by the Chief Medical Officer (CMO), is 65 years old (Davies et al., 2019). However, it is important to note that different organisations use various ages to denote the onset of older age. Sport England uses 55 years of age as a benchmark for older adults within their surveys and research (Sport England, 2016, 2020a).

The ‘young-old’ range is a class of older adults between 55 and 75 years old, where large life events, such as retirement and changes in leisure time, generally take place (Neugarten, 1974). In the UK, it is estimated that employment rates decline from 86% for 50 year olds to 31% for 65 year olds (Department for Work & Pensions, 2017). Previous research has also found that cognitive health in sedentary ‘young-old’ adults, compared to physically active young-old adults, declines when participating in memory tasks (Younan, 2018). In the UK, it has also been reported that those with frailty are at higher risk of being admitted to care homes, compared to physically active older adults (Age UK, 2018).

As there are specific life events and care needs reported in the ‘young-old’ age bracket, it is important to consider how different ages within the wider bracket of ‘older adult’ may experience development, and potentially PA, differently. Research has suggested that physiological and neurological differences are seen between ‘young-old’ (55-75 years old) and ‘old-old’ adults (aged 75 and above), including reduced cognitive plasticity compared with young-old adults (Navarro & Calero, 2018). Furthermore, PA behaviour has been found to differ between ‘aged’ (60-74 years old) and nonagenarian participants (those aged between 90 and 100 years old), with nonagenarians generally reporting more sedentary behaviour than those in the aged category (Johannsen et al., 2008). Considering these marked differences seen between different ages within the broader older adult category, research focusing on PA experiences related to different phases of old age is important to understand. By understanding specific phases of older age, interventions can be appropriately tailored, so to optimise uptake and health outcomes.

As individuals within the ‘young-old’ age range experience many life changes (including changes in health), and broadly covers both age ranges used by the CMO and Sport England, for the purpose of this thesis, the age range that will be investigated is 55-75 year old adults. This age range was chosen in order to align with Neugarten's (1974) ‘young-old’ category and the previous literature suggesting PA may combat the decline in cognitive and physical health within sedentary ‘young-old’ adults. Furthermore, research is beginning to state the importance of providing preventative approaches to healthcare, and promoting lifestyle behaviour change in the wider population, especially amongst older adults (Craig & Robinson, 2019; Petrides et al., 2019). Relating to section 1.4 and the healthcare outcomes of older adults, and the health outcomes of the young-old as shown in this section, preventative healthcare from 55-75 years old may “mediate the link between healthcare and demand” in ageing populations (Craig & Robinson, 2019, p. 196).

1.3 Defining physical activity, exercise and sport

This section defines the main concepts relating to PA, that will be described throughout this thesis. Differentiating between PA, exercise, and sport

participation is important, and should be defined and measured, so research studies can be compared appropriately (Caspersen et al., 1985). The various definitions of PA, exercise, and sport, and the differences between these concepts are outlined below.

PA is defined by the World Health Organization (WHO) as “any bodily movement produced by skeletal muscles that requires energy expenditure – including activities undertaken while working, playing, carrying out household chores, travelling, and engaging in recreational pursuits” (World Health Organisation, 2018). Nevertheless, the debate around what defines differences between PA, exercise and other related activities, such as sport participation, is ongoing (Lawrence & Singleton, 2017).

Differentiating between PA and exercise is important, as some research has used these terms interchangeably, and differences in how these terms are conceptualised can impair comparisons with similar studies (Lawrence & Singleton, 2017). Whilst PA refers to general body movement requiring energy expenditure, exercise is defined as “the purposeful, structured, and repetitive movement intended for fitness” (Chodzko-Zajko et al., 2009, p. 1511). Exercise is seen as a subset of PA and is considered as more regimented than PA (Lawrence & Singleton, 2017). For the purposes of this thesis, the Chodzko-Zajko et al. (2009) definition will be used to define exercise where appropriate.

Winterbotham and Du Preez (2015) identifies competitive sport as “a wide range of athletic activities including both individual and team sports, requiring training and preparation so it may be played at a high level of competition such as state, national, and world events” (p.97). However, due to the mention of training for high level of competition, this definition may not include those playing sport recreationally. Other reports suggest a more inclusive definition of sport, including the following definition from the Australian Sports Commission:

> “personal involvement in an organised fixture, match or competition of 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” (Eime et al., 2013, p. 2)

This definition has been used widely within recent research within sport psychology (Gayman et al., 2017). Sport participation is often considered as a subset of exercise. For the purpose of this thesis, the definition of sport participation will follow the definition set out by the Australian Sports Commission. This will be used in order to maintain consistency within sport psychology research and to include a wider range of participants that may not compete in typically 'competitive' events (Hodge et al., 2008).

1.4 The state of older adult health

In the UK, more people than ever are reaching older adulthood, which is defined by the CMO as an adult over 65 years-old (Davies et al., 2019). Those reaching 65 years and older are projected to form a quarter of the population by 2046, and it was estimated that the UK would become a 'super-aged' country (where one in five of the population are 65 years old, or older) by 2020 (Walker, 2018; Randall, 2017). Despite UK adults living longer, many older adults suffer from poor health. It is reported that in the UK population, one in six people are over 65 years, but this age group contributes to approximately a third of all outpatient attendances in hospital (British Medical Association, 2016).

The definition of health is considered, by WHO to be "the state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 2006, p. 1). Good physical health in older adulthood has been linked to greater perceived health-related quality of life (Machón et al., 2017). Poor physical health markers have equally been linked with poor mental health and non-communicable diseases related to older age, such as dementia and cardiovascular disease (Age UK, 2018; Margetts et al., 2003). The societal impact of older adulthood health markers warrant consideration. Within recent modelling studies, it has been reported that 2.8 million people over 65 will need nursing and social care by as soon as 2025 (Guzman-Castillo et al., 2017). In addition, whilst Accident and Emergency attendance rates in the UK rose across age groups between 2010/11 and 2017/18, rates increased sharply amongst those aged 65 to 79, equating to 50 per cent of total attendance (Age UK, 2019). Within the field of mental health, it

has been estimated that 22 per cent of men and 28 per cent of women 65 years and over live with depression, yet approximately 85 per cent of older people living with depression receive no help from the NHS (The Royal College of Psychiatrists, 2018). These statistics suggest poor health markers having an increased impact on public health services in the UK, and the need for a considerable increase in funding, as well as actionable strategies, to provide care needs for this population (Guzman-Castillo et al., 2017). Due to these individual and environmental impacts related to older adult health markers, it is important to explore the ways older adults can increase health related quality of life into older age.

In recent years, there have been initiatives to tackle the poor health outcomes relating to the older population. WHO has encouraged, as a global agenda, 'healthy ageing' initiatives, which refer to the process of maintaining functional capacity, whilst enabling wellbeing and quality of life in older adulthood (World Health Organisation, 2018). Many third sector, health, and government organisations in the UK have introduced and developed their own Healthy Ageing agendas, discussing support for older adults on an individual, social and environmental level (Public Health England, 2019). These initiatives detail lifestyle areas which can be modified to keep older adults physiologically and mentally healthy, for example through improving PA, adhering to taking medicine, and staying socially active with friends and family (Age UK, 2015; British Geriatric Society, 2019; Public Health England, 2019). This strategy to improve older adult health, especially through the use of PA, is being utilised by UK sporting bodies such as Sport England (2016). The aims of Sport England within their 'Active Ageing' initiative include reducing the number of older adults who are physically inactive, understanding what activities do and do not engage older adults, and what activities can help make PA a normal part of ageing (Sport England, 2016). Research exploring the activities taken part in during older age and providing clear guidelines around engaging older adults in these activities is crucial.

1.4.1 State of older adult physical activity levels

Benefits of PA in the general population are well-understood. Health improvements found through increasing PA levels include prevention against non-communicable diseases such as cardiovascular disease, cancer and diabetes (Warburton et al., 2006). PA has also provided an avenue to reduce the impact of poor health in older adults specifically, and intervention studies conducted suggest a multitude of physical and mental benefits to PA within those reaching older age. These include physiological benefits such as lower risk of cardiovascular disease and psychological benefits such as increased memory performance (Chapman et al., 2013; Earnest et al., 2013).

Despite these physiological and psychological benefits seen within older adults, inactivity within this population is still a major concern. Sport England (2018, 2020a) have reported a marked increase in inactivity levels when reaching age 55 over recent years, increasing up to 48% of those over the age of 75 (compared with 22% of 25 to 54 year-old adults). Not only are older adults considered to be more inactive than those in younger age categories, but differences between men and women are also noticeable, with less women taking part in PA compared to men in this age group (Sun et al., 2013). As the prevalence of non-communicable disease is seen in those who are more inactive (Age UK, 2018; Margetts et al., 2003), women may therefore be disproportionately affected by health conditions as a result of being physically inactive. Therefore, it is important to consider the types of PA which can be tailored to different genders, especially women.

Inequalities in PA participation also increase when factoring in socio-economic status (SES). Research has found differences in inactivity between those living in high and low-income households in the UK and across westernised countries. Those reporting lower SES have been found to be more inactive than higher SES counterparts (Eime et al., 2015; Sport England, 2020), and are discussed in the literature review (chapter two) in depth. Negative health outcomes and a lower life expectancy have been reported frequently within those stating a lower SES, with those living in wealthier neighbourhoods experiencing better health and lower rates of mortality than similar individuals

living in more disadvantaged areas (Diez Roux & Mair, 2010; Zhang et al., 2019). Furthermore, research suggests that physically active people with low SES had better odds to reporting good self-rated health, compared with high SES counterparts who had low PA levels (Johansson et al., 2019). There is also some suggestion that gender and SES could interact, with research suggesting that women who are a lower SES may have worse health (Talaei et al., 2013); however results are mixed, with a lack of consistency in how SES has been measured (e.g., based on husband's occupation, or cross-cultural differences measuring this) in earlier studies (Elo, 2009). As it is known that PA can be a factor in reducing cases of non-communicable disease and increase perceived health related quality of life in older adults (Earnest et al., 2013; Machón et al., 2017), understanding SES discrepancies in PA is important. Further research into SES differences could provide information in how to increase activity in these specific groups, and decrease potentially avoidable negative health outcomes. In summary, understanding gender and SES discrepancies is important to prioritise when exploring older adults' participation in PA.

In addition to understanding factors related to inactivity, it is also important to understand how active older adults initiate and maintain PA. It has been reported that approximately half of older adults who initiate PA programmes relapse or revert back to the original behaviour (i.e inactivity), within three months (Sherwood et al., 2008). Research has reported participants' failure to achieve behaviour change (Jepson et al., 2006),and as a result, it is also important to consider what factors contribute to successful changes in health behaviours. By investigating the influencing physical, mental and socioeconomic factors on PA behaviours of active older adults, further understanding can be achieved regarding how active lifestyles in older age can promote healthy ageing from more than a physiological perspective (McPhee et al., 2016). Examining behaviours can also gain valuable insight into the psychological aspects of active lifestyles at this stage of life, in order to influence suitable practice and policy (Gutiérrez et al., 2018). Reported factors related to decreasing activity levels include increased age itself, physical limitations and social support, alongside other mental health factors such as depression and memory loss (Gomes et al., 2017). These factors suggest a

multi-level set of influences related to inactivity, originating from individual, social and environmental levels.

1.5 Introduction to sport participation and adapted sports

National Health Service (NHS) guidelines for older adult PA currently recommend a whole host of activities for this age group, including water aerobics and dancing (National Health Service, 2019). Whilst there is inclusion of some sports within the new NHS guidelines (e.g. tennis), less attention has been given to sport participation (Jenkin et al., 2018a). Sport participation has shown added benefits for older adults, including reduced frailty and improved cognition (Pesce & Audiffren, 2011; Watts et al., 2017), but equally barriers to participation, such as health conditions, deter older adults from this type of exercise (Jenkin et al., 2017; Jenkin et al., 2018a). Compared to PA, there is much less research surrounding sport participation in older adult populations, especially within a behaviour change context. Where studies into sport participation have been published, research has suggested that health conditions and physical limitations were discussed as being a barrier to sport participation (Jenkin et al., 2017; McPhee et al., 2016). Therefore, research has suggested that a focus on inclusive PA, such as adapted sports, may help older adults to continue to be physically active in later life (Jenkin et al., 2018a).

Adapted sport is defined as activities that are directed at those “who require adaptation for participation in the context of physical activity” (Carlier et al., 2016, p. 351). Whilst physical rehabilitation through PA and sport has been present since the 1700s, adapted sport has gradually developed over time. This rehabilitation stemmed from 'sport clubs for the deaf' in 1800s Germany, to the Stoke Mandeville Games in 1948, which aimed to rehabilitate soldiers injured in World War Two (Scholz & Chen, 2019). Adapted sport has continued to grow, culminating in worldwide competitions such as the Paralympic Games, and the scope of who can take part in adapted sports continues to widen, "from fully able-bodied to severely limited" (Scholz & Chen, 2019, p. 11). As many older adults manage health conditions and have stated that health conditions often present a barrier to taking part in mainstream sport (Jenkin et al., 2018a), adapted sports interest has grown in recent years. Adapted forms of

mainstream sports, such as walking football, have increased in popularity over the past decade (Lloyd, 2019). Despite this, research within the specific area of adapted and walking sports is still limited, and therefore, further research is warranted to explore how these sports can increase health, and aid older adults in increasing PA levels, and participating in sport into later life.

1.6 Purpose of the thesis

The negative health consequences associated with inactivity in older adulthood have led behavioural scientists to explore factors related to increasing and maintaining PA in this population. Research has mostly focused upon increasing general forms of PA, such as walking (Buman et al., 2010). Other forms of activity, such as sport, and particularly adapted sport, have not been explored as deeply within research settings (Jenkin et al., 2018a). Additionally, while there is evidence that interventions work in the short-term, there is a lack of evidence that these changes are maintained (Marcus et al., 2000; Murray et al., 2017). Therefore, it is important to understand the mechanisms by which older adults initiate and maintain different forms of PA, in order to formulate pragmatic initiatives to aid older adults to increase and continue PA in later life. This is discussed within the literature review in more detail.

1.7 Aims of the thesis

This thesis aims to explore the experiences of initiation and maintenance of walking football within a 55- to 75- year-old population. It seeks to address this through the following objectives:

- Explore the experiences associated with initiation and maintenance of walking football in older adults
- Create a survey, driven by the qualitative data, to measure these experiences within an older adult population
- Quantitatively establish key influences present during initiation and maintenance of walking football across demographic variables
- Suggest policy and practice guidelines to sporting bodies, clubs and coaches for engaging and retaining older adult walking football players.

1.8 Structure of the thesis

Chapter One: Introduction

This chapter introduces the thesis and provides definitions for PA and sport participation that will be used throughout the thesis, as well as describing the age range which this thesis focuses on. This chapter also discusses the current state of health and PA levels in older adults and states the need to further understand various forms of PA for this age group when aiding long-term PA change and improving health outcomes.

Chapter Two: Literature Review

This chapter provides an overview and critique of the literature relating to phase or stage-based behaviour change theories, literature focusing on behavioural factors relating to PA and sport participation amongst older adults, and contemporary literature relating to walking football. Overall, this chapter aims to validate the rationale for researching walking football initiation and maintenance in older adults.

Chapter Three: PhD Methodology

Chapter three presents the methodological approaches and standpoint taken by the researcher. Rationale relating to the ontological and epistemological standpoints are discussed, alongside the mixed-methods approach taken in the thesis.

Chapter Four: Study one - Experiences influencing walking football initiation in 55–75-year-old adults

This chapter presents study one of the thesis, consisting of a qualitative exploration into the experiences of initiation in walking football players. For this study, 17 walking football players were interviewed and inductive thematic analysis was used to highlight influences relating to walking football initiation in

the first six months of play. The data provides insight into both men and women playing the sport.

Chapter Five: Study two - Experiences and strategies influencing older adults to continue playing walking football

Chapter five presents study two, the second qualitative study, which aimed to understand the experiences of maintenance in walking football players. A similar approach (inductive thematic analysis) was used to analyse data from walking football players, highlighting influences involved in continuing play beyond six months.

Chapter Six: Study three - Influences on walking football initiation and maintenance among older adults: differences and relationships across respondent characteristics

Chapter six describes the final study relating to the development, implementation and analysis of an empirically grounded survey with walking football players. This study investigated the differences in initiation and maintenance influences across sample characteristics, and examined the contributing factors to returning to play after a forced break (e.g., the Coronavirus-19 pandemic). The qualitative data from chapters four and five provided a base for this survey development, and the survey was completed by 439 walking football players between 50-75 years old.

Chapter Seven: Epilogue - policy and practice recommendations for 50–75-year-old adults initiating and maintaining walking football

In this chapter, policy recommendations for clubs and sporting bodies are suggested, and practice recommendations for clubs and coaches are discussed for engagement, initiation and maintenance phases of walking football play.

Chapter Eight: Research implications and conclusions

The final chapter of the thesis discusses the findings from the programme of research, and provides the overall outcomes and conclusions of the thesis. Recommendations for future research, strengths and limitations, as well as critical reflections of the research process are discussed.

A flow chart of the thesis is provided below.

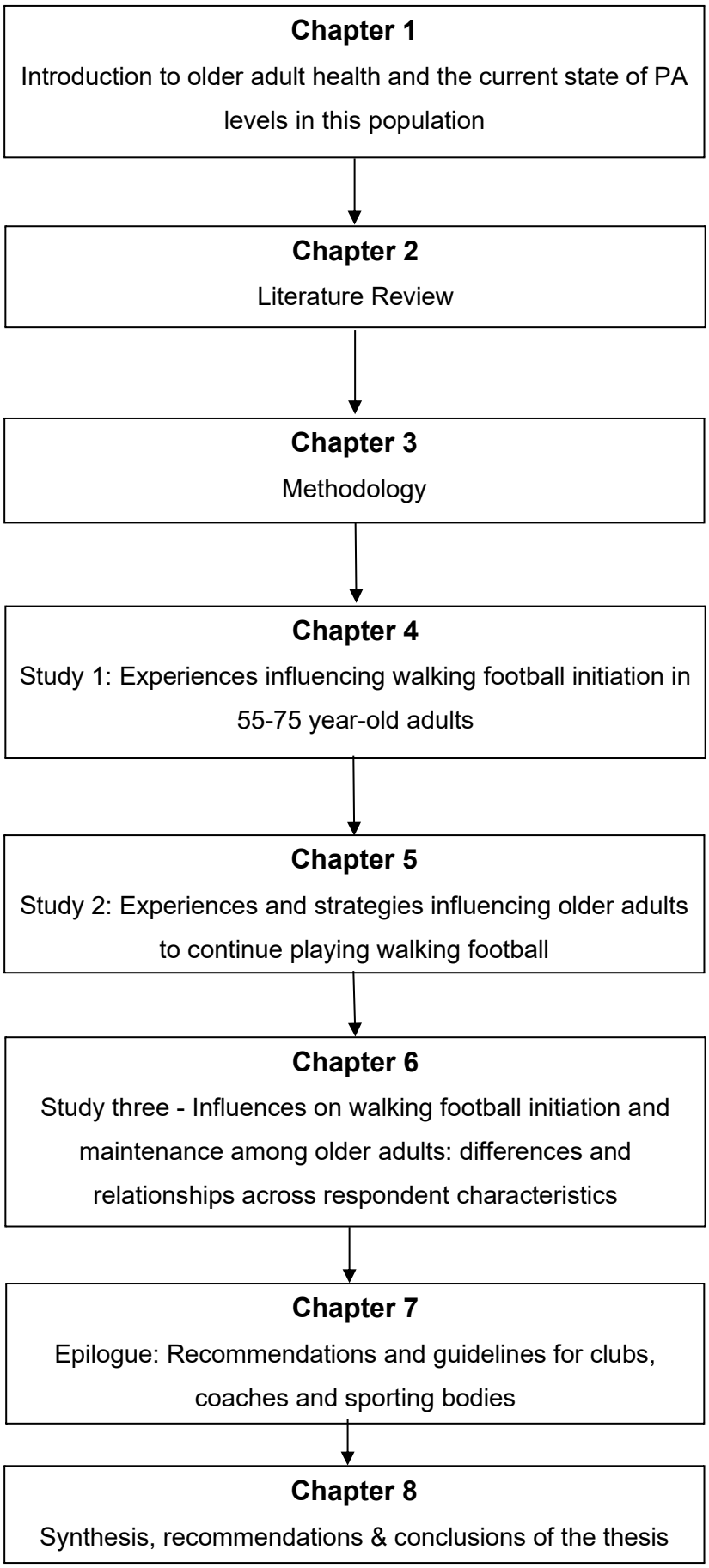


Figure 1.7.1. Structure of the thesis.

Chapter 2: Literature Review

2.1 Introduction to the chapter

The introduction to this thesis highlighted the current state of physical and mental health amongst older adults, and how Healthy Ageing initiatives, including the use of PA, are attempting to increase the quality of life in older adulthood. Despite these initiatives, older adults are still the largest inactive group in the UK (Sport England, 2018). Research has started to explore ways to reduce inactivity within this population not only through generalised PA, but also assess the positive aspects of taking part in physical activity and mainstream sport in older adulthood and, more recently, adapted sports, such as walking football. This chapter will discuss and critique behaviour change theory related to health behaviours, and previous research relating to PA and sport participation in older adults. Recent research focusing on adapted and walking sports for older adults will be reviewed. Based on limitations identified in the literature, suggestions for areas that warrant further research will be discussed.

2.2 Literature search method

Due to past research using PA, exercise and sport participation as interchangeable terms, as highlighted in section 1.3, the researcher wanted to ensure that a broad literature search was performed. For this literature review, literature searches were performed using online scientific journal databases, in order to comprehensively search the topics and identify gaps in the evidence base. The search was used to gain an understanding of behaviour change in PA and sport participation, including understanding the current literature on adapted sport, specifically walking football, for older adults. An initial literature search was performed in August 2018 using different literature databases; PsycInfo, SportDiscus, and Medline (see appendix 2.1). During this literature search, 118 academic papers, reports and grey literature were identified for consideration of use in the literature review. A further database search was conducted in September 2020, to search for any papers which had been published since the previous search and not been identified through

subsequent grey literature searches. In addition to PsycInfo and EBSCO Host (SportDiscus/Medline) databases being used, Web of Science was also added to broaden the search. Further keywords were also added to the search to broaden the literature search, to widen the search to further behaviour change theory and research within exercise and PA (see appendix 2.2). Following this process, a further 58 papers were identified for consideration in the literature review. Checking through bibliographies of already highlighted literature was also conducted, especially systematic reviews, where good quality studies had already been identified. Throughout the PhD programme, the researcher was subscribed to alerts from journals of interest, and frequently reviewed Google Scholar and further grey literature (e.g. new reports and conference proceedings), to keep up to date with relevant literature.

Types of literature included in the literature review included journal articles, reports, conference proceedings and books. Whilst a structured quality appraisal of the available evidence was not sought, the researcher did critically appraised the literature with regards to the following; appropriateness of study design to the research objective, risk of bias, choice of outcome measure, statistical issues, quality of reporting, quality of the intervention and generalisability. Regarding checking quality of literature included, the researcher ensured journal articles were from peer-reviewed journals, books were published by reputable publishers, and reports used were published by nationally or internationally recognised organisations (e.g., Age UK & The Football Association). Due to theories relating to behaviour change gaining traction since the 1970s (Janevic & Connell, 2018), and developmental literature concerning older adults also developing at this time (Neugarten, 1974), a date range of 1970 to the present was used, so relevant behaviour change theory and lifespan development literature could be identified. In order to gain an overview of older adult physical activity before narrowing the literature review to focus on walking football, general inclusion criteria for the literature included the literature referring to physical activity, exercise or sport participation in older adults. Where necessary, papers relating to physical activity, exercise or sport in the general population were also used to provide a comparison or general understanding of the topic. Where the title of the literature in question was relevant, the researcher read the abstract or

introduction to determine further relevance, and if deemed relevant, was added to a reference manager (Mendeley, 2020). Using the same reference manager, duplicates of any literature were removed.

2.3 Theories and models of behaviour change

As mentioned during chapter one in section 1.4.1, research has heavily focused on exploring factors relating to PA behaviour change, due to the reduction of PA levels seen in many populations globally. Behaviour change is important to understand, in order to identify the effective components which lead to individuals making positive lifestyle choices (Michie et al., 2018).

Stage-based theories of health behaviours were first considered in the 1980s, in such theories such as the Transtheoretical Model of Health Behaviour Change (TTM), developed by Prochaska and DiClemente (1983; 2009). The TTM posits that people move through certain stages when changing their behaviour, and particular processes are apparent within each stage, for example an increase in confidence when reaching the maintenance stage of behaviour change. This model has been used in many health behaviour contexts, for example diet, PA and interventions with patients with chronic disease, and tested with large sample sizes, showing some efficacy of the model in some health behaviour contexts (Hashemzadeh et al., 2019; Tseng et al., 2017). Furthermore, interventions based on the TTM have been found to have a positive effect in older adults' adherence to PA and exercise (Chen et al., 2020; Kosma & Cardinal, 2016). These studies highlight some uses of the TTM and stages of change across a number of health contexts. However, despite widespread use of the TTM, researchers have criticised it for being too linear or rigid in nature, instead saying that individuals may come back to certain stages later on after adoption of a behaviour, or may rate themselves at being at a certain stage, when in fact they may be in another stage entirely (Adams & White, 2005). Additionally, it is stated that the TTM was developed to change cessation behaviours, such as smoking and alcohol, rather than adopting positive behaviours such as diet and PA, and may not explain the different mechanisms involved in adoption of a new behaviour, versus cessation (Taylor et al., 2006). Lastly, variation amongst different studies has been found in systematic reviews

investigating the efficacy of the TTM, highlighting the broad nature of the model and the need to investigate complex behaviours that were not considered in the initial development of the model (Janevic & Connell, 2018). Whilst the TTM highlights additional constructs such as processes of change (i.e. what activities people engage in to elicit positive behaviour change), self efficacy (the belief a person has to carry out a task successfully) and decisional balance (the perceived benefits and downsides to changing the behaviour) as being important components of the model, research has generally focused on stages of change as being the dominant component, with little use or understanding of the other components involved (Hutchison et al., 2009).

Despite the criticisms of the TTM, further research argues that understanding different phases of health behaviours, especially in the adoption of positive health behaviours such as PA, is still important. Studies have found that long-term benefits of health behaviours are only seen when maintaining activities for a prolonged time frame, in some cases for more than six months, (Conner & Norman, 2006; Laitakari et al., 1996; Roberts et al., 2017). In this case, the phase of initiation (normally until six to eight months) may not be enough time for these health benefits to be observed. In addition, behavioural strategies seen amongst populations maintaining health behaviours, such as planning for relapse, have been linked to stronger PA adherence (Kahn et al., 2002). Therefore, understanding the theory and processes linked to initiating and ultimately maintaining health behaviours has been the focus for many researchers and is important to understand.

Broader theories explaining behaviour change since the TTM have been developed, such as Self Determination Theory, or SDT (Ryan & Deci, 2000) which highlights the importance of an individual's intrinsic or extrinsic motivations and regulation of a behaviour, alongside their competence, autonomy and relatedness (feeling connected to others). Furthermore, the 'COM-B' model of behaviour (further explained in chapter four and five) suggests that particular behaviours will only occur if an individual has the capability and opportunity to perform the behaviour, alongside a higher level of motivation to do so (Michie et al., 2011). Such theories capture the importance of external influences on individual behaviour change, including social,

environmental and policy influences. Further stage-based theories such as the Model of Behaviour Maintenance and Habit Formation (Lally & Gardner, 2013; Rothman et al., 2009) have provided alternative views on the adoption and maintenance of positive health behaviours across populations. Definitions relating to adopting behaviours (instead of the cessation of negative health behaviours, such as smoking) have subsequently been developed. Initiation of specific health behaviours has been defined as "the period in which people start being more physically active", normally from initial adoption, up to six months after the initial action (van Stralen et al., 2009, p. 149). Maintenance of health behaviours has been defined as a "sustained behaviour during the period of observation that meets a threshold believed to be necessary to improve health or wellbeing within a given population"(Seymour et al., 2010, p. 667). Research suggests a specific behaviour is normally said to reach the maintenance stage from six to eight months after adopting the behaviour (Lally et al., 2010; Marcus et al., 2000; van Stralen et al., 2009). Whilst the exact time frame of when a behaviour is maintained may differ, researchers have mostly agreed that initiated behaviours need to be repeated multiple times, or for a particular duration, before a person reaches maintenance of a behaviour (Kumanyika et al., 2000; Marcus et al., 2000). For the purposes of this thesis, the above definitions of initiation and maintenance will be used.

A body of work suggests that when the general population adopt positive health behaviours (such as PA and positive dietary changes), psychological processes and behavioural strategies may change between different stages of initiation and maintenance (Kiernan et al., 2013; Rothman et al., 2009; Voils et al., 2014). These theories and studies highlight differences, such as different sources of social support, different sources of self-efficacy, which is defined as a person having the belief to "successfully execute the behavior required to produce the outcomes" (Bandura, 1977, p.193). Further differences include the positive expectations of the behaviour in initiation, and the subsequent satisfaction with the outcomes of that behaviour change in maintenance (Rothman et al., 2009). Equally, it is important to note any similarities that may also arise between the two stages. Research into PA initiation and maintenance has suggested that individual factors such as previous exercise behaviour and physical health status are equally important in both initiation and maintenance (van Stralen et

al., 2009, 2010). Furthermore, one systematic review and meta-regression analysis within overweight and obese adults, investigating adherence to PA and diet interventions setting out to change and maintain behaviour, suggested that applying a strategy of goal setting explained much of the variance (58.8%) in the short term (Samdal et al., 2017). As these differences and similarities are seen throughout the literature, understanding factors relating to the two stages of behaviour change remains important. If there are distinguishing factors that can be identified in certain contexts and populations, research can help to inform future interventions and policy reports, relating how to engage individuals throughout both initiation and maintenance stages of behaviour change.

However, despite many behaviour change theories offering potential answers to how we encourage individuals to maintain health behaviours, predicting behaviour change is complex. Research has found that the differences of each stage of initiation and maintenance have not been incorporated into one model in previous studies, therefore further research looking into how this is presented amongst different health behaviours and contexts is warranted (Voils et al., 2014). By conducting work into the nature of what motivates people and any pressures or barriers acting upon individuals, the support for behaviour change is said to be easier to provide (Kelly & Barker, 2016). There has also been some critique of using specific and prescriptive theories within health behaviour change. Hilton and Johnston (2017) argue that unlike in other sciences, applying set theory and standardisation of human behaviour is not possible due how complex human behaviour is. Similarly, Ogden (2016) highlights that by applying one set theory to every individual reduces and ignores patient variability, and that “theory variability is necessary for the health and wellbeing of a discipline” (p.245). As a result, other researchers such as Laverack (2017) have highlighted the importance of moving on from interventions targeting a particular behavioural risk, and looking to invest in policy frameworks creating a supportive environment for those changing health behaviours, as well as providing people with the empowerment for people to take control of their own health.

The papers discussed in the previous paragraph suggest systemic change, such as buy in from government and bodies to develop policy (Laverack, 2017),

and development of the way behaviour change approaches are delivered by practitioners to clients (Hilton & Johnston, 2017). As a result, moving away from specific behaviour change models and frameworks and exploring specific settings for behaviour change, with the aim of policy and practice change, is needed within subsequent research. In this thesis, a theoretically flexible approach was taken when conducting the studies outlined, in order to thoroughly investigate how human behaviour manifests in this specific setting, without applying a set theory or model.

The next section explores the literature relating to PA initiation and maintenance specifically within the older adult population.

2.4 Physical activity initiation and maintenance in older adulthood

As discussed in chapter one, inactivity in older adults is more prevalent than in any other age groups. Reports suggest that 48% of adults over 75 years-old are inactive, compared with 22% of 25 to 54 year-old adults (Sport England, 2018). Additionally, this inactivity gap widens from early adult life until approximately age 85, and shows the largest difference in those 10 years post-statutory retirement age (Farrell et al., 2014). Inactivity has been linked to an array of health issues within older age, including cardiovascular disease, dementia and frailty (Guzman-Castillo et al., 2017). Conversely, community-based PA programmes have been found to enhance older adults' physical abilities, such as flexibility and mobility (Hambrook et al., 2020). Health needs (e.g. hospital visits and care home admittances) of those who are inactive are suggested to be higher than in those that are physically active (Age UK, 2018; Guzman-Castillo et al., 2017). As a result, exploring the PA participation of older adults and the barriers and motivators to PA are important questions to explore.

Within the UK, many PA activities have been shown to engage the older adult population. The Sport England Active Lives Report (2018) highlights that within the UK, certain types of physical activities are more popular in adults aged above 55 years old. These activities ranged from walking and cycling for leisure, swimming and bowls. One further paper highlights an interest in walking amongst older adults, and that this population prefers to take part in PA lasting

approximately 30 minutes (Amireault et al., 2017). Certain activities such as running, climbing and hillwalking were less common within this age group, however 882,300 and 695,400 people were still taking part in these activities in older age, respectively (Sport England, 2018, p. 4). Considering the trends associated with these particular activities, Sport England highlights the need to consider what factors play a part in making certain activities popular within older adults, and also how accessible particular activities are to this age group.

Exploring the reasons for older adult PA participation is important to understand, so researchers and policy makers can manipulate these factors and provide opportunities to maximise participation. In addition, reducing barriers that may cause older adults to avoid PA is central to this understanding. A body of literature has explored these barriers and motivators to older adults initiating and maintaining PA, highlighting further similarities and differences at these stages specific to the context of PA.

Several studies over the past two decades have highlighted determinants and barriers related specifically to PA initiation in older adults. Burton and colleagues (1999) found that good current health, a lower age of the participant and positive beliefs, related to the importance of PA to the participant's health, were all determinants of initiation of PA. Van Stralen and colleagues' (2009) literature review focusing on initiation determinants highlighted a wide range of determinants found by previous literature, including similar individual factors as in Burton and colleagues' (1999) research, such as having good physical health. Further individual determinants of PA initiation included psychological factors, such as a higher level of PA knowledge and higher self-efficacy. Further research has explored the influence of previous sport and exercise experience on PA later in life, and findings have reported associations between playing sport in high school during teenage years, and higher levels of PA 50 years later (Dohle & Wansink, 2013). Social and environmental determinants were also identified, such as receiving social support from significant others and perceived access to PA facilities, highlighting the importance of social and environmental factors within the stage of initiating PA. van Stralen and colleagues' (2009) review indicates that there are many different factors motivating initiation of PA, which span different domains. These findings are

also present across health conditions in older adults, with older adults managing dementia and their carers reporting that social connectedness was a motivator of PA (Farina et al., 2020).

These findings support ecological theories to PA behaviour change, which includes many domains being involved in the process of behaviour change, from individual to environmental factors, or micro to macrosystems (Sallis et al., 2012; Spence & Lee, 2003). Further research from a Delphi study performed by Van Stralen and colleagues (2010), within a population of experts experienced in health behaviour or PA determinants, show these determinants being echoed by health academics and professionals. This research suggests that physical health status and self-efficacy are important individual determinants to PA, as well as perceived access to facilities being an important environmental determinant in the stage of initiation. Equally, the data found by researchers such as van Stralen et al. (2009, 2010) and Burton (1999) are corroborated by other previous behaviour change initiation theories such as Voils and colleagues' (2014) theory of behaviour initiation and maintenance, highlighting similar factors such as self-efficacy as being a driver in initiation of lifestyle behaviours. This research highlights the stage of initiating health behaviours such as PA as being multi-faceted, and research considering multiple influences affecting positive behaviour change in older adults is warranted.

In addition to the determinants of PA in older adults, barriers to PA initiation found in research included individual factors such as older age and poorer health, and factors related to social and environmental domains, such as a lack of company during PA activities and cost (Burton et al., 1999; Miller & Brown, 2017; Moschny et al., 2011). A recent narrative review into barriers to exercise in healthy older adults supported these findings, suggesting that poor health is an important barrier to exercise in older adults, as well as highlighting further factors related to a lack of time, personal appearance and lack of a safe place to take part in exercise (André & Agbangla, 2020). Again, this research shows the wide ranging factors across different domains which can relate to the reasons why some older adults may not participate or initiate in PA. Equally, it is important to note specific life circumstances that may have a negative effect on older adults' ability to participate in PA; uncontrollable circumstances such as

being widowed were found as being a deterrent, or being negatively associated to regularly participating in PA in a number of studies (Miller & Brown, 2017; Oman & King, 1998; Wilcox & King, 2004).

Whilst reasons for PA participation in the older adult population is important to understand, gaining knowledge on the forms of PA which aid the older adult population to maintain PA long-term is important. As mentioned in section 2.3, many benefits of PA are seen beyond six months after the adoption of the behaviour, such as reduced psychological distress (Laitakari et al., 1996; Roberts et al., 2017). Despite these benefits being reported, research has found that older adults struggle to maintain moderate to vigorous PA after completing a 24-week programme (Kendrick et al., 2018), with only one trial (the Falls Management Exercise programme, or FaME trial) showing an increase in moderate to vigorous PA after two years. Further research suggests that of 12 effective PA programs in older adults, the mean percentage of participants who completed programmes lasting 3 or more months was 71.3%. Studies on PA and exercise programs in the general population have shown dropout levels ranging from 20% to 50% within the first 3–6 months (Dishman, 1991; Van Der Deijl et al., 2014). As the challenge of maintaining physical activity over a sustained time is seen in not only the general population but also continuing into older adulthood, understanding the influences, motives and barriers to PA maintenance is important to investigate at different ages.

Within the stage of PA maintenance, several similarities and differences to factors occurring in initiation have been found. Maintenance determinants found in Burton and colleagues' study (1999) also included age, current health status and health and PA beliefs, as found in initiation. In addition to these factors, Burton and colleagues found higher education and the absence of emotional distress to be additional factors related to maintenance of PA. Additional individual factors aiding PA maintenance in older adults include the perceived physical and emotional benefits, being able to schedule a PA routine, enjoyment of the PA programme, and capability to carry out exercise (Huffman & Amireault, 2019; Maula et al., 2019; Timmons et al., 2020). Further behaviour change techniques seen during maintenance include coping skills when faced with potential PA relapse (van Stralen et al, 2010), highlighting the importance

of planning for relapse and considering theories such as the relapse prevention model (Marcus et al., 2000; Marlatt & Gordon, 1985), developing coping skills to aid PA maintenance. Whilst many individual factors were found to play a role in maintenance of PA, other factors such as social interaction with other programme participants, and 'key influencers' from within the community (e.g., local doctors), aided maintenance within this age group (Maula et al., 2019).

Similar to the stage of initiation, facilitating factors surrounding individual, social, and environmental domains were highlighted by older adult participants. This stressed the importance of both interpersonal and external factors having importance when older adults continue to maintain PA. Equally, other studies such as van Stralen and colleagues' review and Delphi study (van Stralen et al., 2009, 2010) highlight differences in factors seen in initiation and maintenance. Certain behaviour change techniques, such as goal setting, and the conscious intention to take part in PA was considered important in facilitating initiation, whereas not considered to be a key feature of the maintenance phase. This highlights the importance of different phases presenting different factors, and the subsequent need to study these phases individually.

Many theories have echoed these maintenance factors within PA contexts (Lally & Gardner, 2013), and other lifestyle behaviours, such as diet (Rothman et al., 2009). Whilst Rothman and colleagues' Model of Behaviour Maintenance (Rothman, 2000; Rothman et al., 2009) focuses on primarily diet behaviour change, both this theory and later theories further focused on PA behaviour change such as Habit Formation Theory (Lally & Gardner, 2013) acknowledge different factors being present at initiation and maintenance of a health behaviour. This includes, at initiation, reflective and automatic processes such as social norms and implicit attitudes towards the health behaviour being present, also seen as determinants in other research (van Stralen et al., 2010). Further different factors are also noted at the maintenance phase, such as automatic habit-forming processes (e.g., repeated performance of healthful responses). In contemporary studies, a PA routine has been noted as an important factor in maintenance (Huffman & Amireault, 2019; Maula et al., 2019), highlighting crossover between theory and previous studies, and the differences seen between initiation and maintenance.

Many papers report different factors and influences across the stages of initiating and maintaining a positive health behaviour generally, however, similarities include the general domains (individual, social, and environmental) that these broader factors fit into. These factors transfer to PA initiation and maintenance, and research suggests that behaviour change within this context is made up of a combination of intrapersonal, interpersonal and external (e.g., environmental) factors.

Research and recent reports suggest that PA levels differ within levels of deprivation at the older adult level and can be seen when comparing gender and SES. Regarding gender, women aged 75 and over are the most likely to be inactive (59%), compared with 45% of men of the same age (Centre for Ageing Better, 2019). Further evidence found that women over 60 were over twice as likely to be inactive as men of the same age in other populations aside from England (Murtagh et al., 2015). Regarding SES, studies such as Kamphuis and colleagues' survey study (2009) have reported less activity, such as recreational walking, in older-adult lower SES groups, compared with their higher status counterparts. As a result, understanding the different PA experiences and determinants by gender and SES is important to understand so different forms of PA can be tailored and targeted to suit both men and women, and become accessible to all older adults from differing socio-economic backgrounds. By targeting older adults from all SES backgrounds, health inequalities relating to all cause mortality and preventable disease can be addressed (Diez Roux & Mair, 2010; Zhang et al., 2019).

Research into understanding gender differences in PA behaviour change predictors has been conducted. Recent findings in older adults taking part in bicycling found that social promoters (e.g. having a family member or friend who also cycled) was associated with greater levels of PA involvement in both genders (Grimes et al., 2020). The same study, however, also highlighted women as perceiving more environmental barriers than men (e.g. potential for crime and motorist behaviour). Furthermore, personal barriers such as the concern over appearance and personal safety were higher in women than men. This study highlights potential differences and perceptions of risk between men

and women when taking up certain forms of exercise and PA. Further studies have highlighted changes in behaviour between PA initiation to maintenance in older adult women. Findings reported that initiation of PA in women was best predicted by the intention and readiness to change the behaviour, with maintenance being predicted by exercise self-efficacy and social support (Litt et al., 2002).

However, in some cases, there were similarities between genders when measuring behaviour change in older adults. Beauchamp and colleagues (2018) found no difference in placing participants in either a same gender and mixed gender group, when measuring exercise adherence over 24 weeks to a standard group-based exercise programme. In another study evaluating personal characteristics influencing exercise behaviour of older adults, gender was ranked as having the lowest influence, when rated by 18 exercise professionals (50% of whom were female) who frequently interacted with older adults and provided exercise counselling, and two studies which used the Physical Exercise Profile (PEP), assessing determinants which are most important for exercise initiation and adherence (Boyette et al., 2002). These studies suggest that whilst some differences may be observed between men and women participating and initiating PA, (e.g., utilising social support), there may be some factors which do not have as much of an effect on PA behaviour, such as the gender allocation of an exercise group.

Regarding PA participation amongst older adults in differing SES groups, Gray and colleagues' (2016) qualitative research interviewed 32 participants, finding differences between high and low SES groups, high SES group participants recruited from the University of the Third Age (U3A) and low SES participants attending a healthy living centre in Northern Ireland. Motives to taking part in PA that were similar across SES groups included anticipated health benefits and psychological wellbeing, however motives differed in some areas, with high SES participants stating that PA was motivated by taking part in PA in their youth, alongside rehabilitation from health conditions and motivation from seeing PA in the media. Further findings from the same study showed that barriers to PA were more common amongst the low SES participants. The most salient barriers to PA in the low SES group were existing health conditions,

neighbourhood safety, and PA guidelines knowledge. The high SES participants reported time as being the biggest barrier to participation. Similarities amongst the two SES groups were also found, with many participants stating that a lack of recreational facilities within the locality was hindering the opportunity to participate in PA, and in some cases, a lack of transport to areas where PA offerings were available. Gray and colleagues' (2016) study not only highlights the differences between the two socio-economic groups but highlights the need to consider the wider system of influences, for example facilities, neighbourhood safety and transport. The research also further reinstates the need to tailor interventions and policy to account for these differences amongst differing SES.

It is important to note the limitations of the behavioural studies conducted, to build on previous research in future studies. Most papers that were reviewed studied many different activities and forms of PA. Previous research has suggested that different environmental, personal and social contexts are crucial in understanding PA choices amongst adults (Humpel et al., 2002; Standage et al., 2003). Therefore, it is important to consider that different types of PA (e.g. walking compared to a sporting activity, such as football) may have individual sets of factors related to the initiation and maintenance stages. Is it also important to stress that many of the interventions reviewed consisted of the formal exercise programmes being supervised and mostly lab-based (McAuley et al., 2003; Timmons et al., 2020). Whilst randomised controlled trials and interventions are the gold standard when gaining physiological and psychological data, such programmes with this level of supervision and structure may not be considered real-world or a representative design (Pinder et al., 2011). As a result, exploring different PA contexts, such as sport participation, alongside real-world situations would increase knowledge in PA initiation and maintenance within the older adult population, and can lead to developing practical implications for specific sporting bodies in how to engage and keep older adults interested in various forms of PA.

2.5 Mainstream sport participation in older adulthood

Sport participation in older adulthood has been deemed an alternative option to conventional forms of PA advertised to older adults, such as brisk walking, water aerobics or dancing (National Health Service, 2019). Sport participation that has already been recommended in current guidelines includes doubles or singles tennis and martial arts (National Health Service, 2019). In many countries, a 'Sport for All' or 'Sport for Life' concept is encouraged, which highlights that the practice of sport is a human right, and sport as a form of PA can provide multiple benefits to individuals and society (Horton et al., 2018). These concepts have been part of policy in many countries across Europe, Canada and Australia for many years (van Tuyckom & Scheerder, 2010). Sport has been suggested to be a useful way of promoting a wide range of health behaviours, due to providing activities for many different populations and abilities, and providing a wider social role in the community (Donaldson & Finch, 2012; Skille, 2010).

A large body of sport participation research suggests there are many physical and psychological benefits to playing sport in older adulthood. Previous research has explored the use of sport participation in improving physical health markers. Longitudinal research has suggested an indirect relationship between sports club membership and frailty, mediated by PA (Watts et al., 2017). This study suggests that being a member of sports clubs in older adulthood may have effects on managing frailty, both directly and indirectly through PA. Research has also explored the use of sport participation in improving cognitive health markers in older adults. For example, research conducted by Pesce and Audiffren (2011) has suggested that older adults who have gained cognitive expertise from practicing a cognitively challenging sport (e.g., orienteering or football) had reduced 'switch costs' (the time taken to switch between two tasks, testing a participant's executive function) on a high demanding cognitive task. This was compared to older adults taking part in low cognitively demanding sports (e.g., running or swimming). These results suggest increased cognitive flexibility in older adults taking part in sports which have a strategic element. Considering cognitive flexibility generally declines in older adults (De Luca et al., 2003; Fjell et al., 2017) and performance on physical function tests such as

gait speed and the timed-up and go (TUG) have been associated with executive function (Berryman et al., 2013), strategically-based sport may help some adults retain cognitive resources into older age, and help older adults retain basic movement and mobility.

Additionally, mental wellbeing markers such as depression and anxiety have also been suggested to improve through sport participation. Research examining differences in HRQoL between sport club members, gymnasium members and walkers found significant differences in most areas linked to HRQoL with sport club members generally having higher, more positive scores linked to vitality, social functioning and general health compared to the other groups tested (Eime et al., 2010). Furthermore, the mean difference in the mental health component score (measured by the SF-36 questionnaire) specifically showed a higher significant difference than other scores between the sport club members and other groups, suggesting a "clinically significant difference in mental wellbeing" (Eime et al., 2010, p. 1026). This finding indicates the added value of sport participation on mental wellbeing in older adults. Cumulatively, recent research has highlighted the effect of sport participation on a wider scale, relating to health care costs. The study, analysing both men and women taking part in sport, found that higher levels of participation in sport are associated with lower healthcare costs in an older adult population (Codogno et al., 2020). This highlights a positive impact of sport participation on not only individual physical and mental health, but also wider healthcare systems.

A body of evidence (Baker et al., 2010; Dionigi, 2006; Gard et al., 2017) has explored the use of sport participation in older adults' negotiation of older adulthood. The majority of emergent themes suggested positive views of ageing and taking part in sport, with themes pertaining to redefining the self and what old age means, alongside adapting and accepting older age (Gayman, Fraser-Thomas, Dionigi, et al., 2017). The work undertaken stipulates that sport participation can help manage an ageing identity for older adults, empowering participants to have a sense of control over ageing mechanisms and encourage them to either begin, restart or continue sport participation (Baker et al., 2010). Conversely, some themes, such as the avoidance of old age and competition in

mainstream sport, have also been presented as challenges for some older adults (Dionigi et al., 2013). This highlights certain negative aspects to mainstream sport, and the need for further research exploring different narratives of those experiencing sport in older adulthood.

Recent studies into behavioural outcomes of sport participation have suggested that those participating in competitive sport spent less time taking part in sedentary behaviours, such as watching television and computer use (Gayman, Fraser-Thomas, Spinney, et al., 2017). These behavioural outcomes are important to highlight, as research has found that all-cause mortality is reduced when older adults spend less than eight hours per day sitting (Martínez-Gómez et al., 2013). Gayman and colleagues' (2017) study highlights that sport could be a useful tool to tackling sedentary behaviours in older adults. Not only have less sedentary behaviours been observed in those taking part in competitive sport in older age, but factors linked to long term maintenance of PA have been observed through team sport. In particular, Pedersen and colleagues (2017) found that a group of participants taking part in team training or resistance training, markers relating to psychological wellbeing and QoL remained similar, however team sport training participants were motivated more by intrinsic factors (e.g. enjoyment) and internal regulation of exercise behaviour (e.g. via social interactions during the programme), than those in the resistance training group, who were motivated by more "utilitarian" factors, such as losing weight (Pedersen et al., 2017, p. 857). As factors relating to intrinsic motivation and internal, autonomous regulation of exercise behaviour have been suggested to facilitate longer term participation in PA (Teixeira et al., 2012), team sports encouraging these experiences may provide the chance for older adults to engage in PA for longer, reaping benefits of PA for a longer length of time.

Despite sport participation offering benefits to both physical and mental health in older adults, playing sport has been found to have the biggest decline over the lifespan. Sport participation trends have been compared with those undertaking PA, such as walking for health, and sport participation has seen a more progressive decline than these simpler forms of PA (McPhee et al., 2016). Similar patterns have been noted in other countries, for example Australia,

where sport participation has seen a steady decline, reaching equality at around age 60 (Eime et al., 2016).

To help understand how to offset the decline in sport participation in older adulthood, research within the field of psychology and behaviour change has started to explore the determinants and barriers associated with sport participation. Studies have found multiple factors related to participation in sport, often involving individual level influences, social facilitators and environmental factors (Faß & Schlesinger, 2019; Henderson et al., 2012; Jenkin et al., 2017; Kolt et al., 2004; Stenner, Buckley, et al., 2020). The state of participants' health and the use of sport to negotiate the ageing process (e.g. fighting back against negative stereotypes of ageing) were two prominent individual factors noted in a recent systematic review conducted by Jenkin and colleagues (2017). Previous sporting experience and a preference for certain sport types (e.g., individual or team sports) were also notable individual influences highlighted by the study. Equally, social factors such as the sporting community, and environmental factors such as socio-demographic determinants (e.g., gender and socio-economic status) were also discussed as potentially influential on sport participation, however the study notes that there were limited papers focusing on “gender, ethnicity and parity on older adult sport participation” (Jenkin et al., 2017, p. 15). The paper concludes by highlighting the need for organisations to cater for older adults who have health limitations, so older adults can still enjoy sport and participate as they age. This paper is supported by further contemporary research on determinants of sport participation in older age, conducted by Faß and Schlesinger (2019).

Further exploration into the negotiation of ageing processes in older adults participating in sport found that a positive age perception was related to sports participation. This supports Dionigi and colleagues' (2013) qualitative research concerning positive age perceptions in those playing sport. A positive age perception was reported alongside 'positive health capital', which included factors such as positive self-rated health. An abundance of socio-economic resources (e.g., high level of education and low level of income poverty) were also related to sport participation, highlighting the importance of catering for those from lower socio-economic status (SES) groups, and making sport

accessible for all SES backgrounds. Further research has supported these determinants of sport participation in older adults, with maintaining health and feeling part of a community being two significant motivators for participation (Stenner, Buckley, et al., 2020).

Equally, gender differences related to sport participation should not be ignored. Qualitative research by Eman (2012), exploring sport participation and processes of ageing, reported differences in gender when older adults continued to practice competitive sports. Whilst some participation reasons remained similar, such as performance, differences arose around health and ability. Men tended to discuss the importance of competition, physical appearance, and health, which contradicted earlier research, suggesting that ageing women were more focused on appearance (Calasanti, 2005; C. Reed & Cox, 2007). Differing from the men who were interviewed, women athletes discussed the importance of their performance, personal success, personal development, and improving their ability. Within Stenner and colleagues' latest study (Stenner et al., 2020), women golfers placed more importance on fun and a pleasant playing environment and being part of a community more than men who played golf. Despite this, across both genders, non-health-related factors (e.g., fun and competition) were generally more important than health-related factors such as physical and cognitive health.

Some of the study findings within sport participation are similar to gender differences in PA behavioural research, for example appearance being a barrier to cycling in older women, and also in women participating in forms of sport participation (Calasanti, 2005; Grimes et al., 2020; C. Reed & Cox, 2007). However, it is evident that different factors relating to participation in a sport participation context are seen, such as performance concerns and improving ability, as well as the aspect of competition. This collective understanding of determinants of sport participation so far highlight the need for understanding gender differences and needs in sport for men and women, how sport affects genders differently, and the different reasons for which older men and women become involved in sport.

Following on from understanding determinants of sport participation, it is therefore important to further understand potential barriers, as well as influences, to sport participation in older adulthood, and within sub-groups occurring within this population, such as by gender and socio-economic background. This understanding of barriers to sport participation is important, due to the dropout seen in sport participation for older adults, compared with general forms of PA (McPhee et al., 2016). Jenkin and colleagues' research (2018) into benefits and barriers of sport participation highlight main barriers seen within an older adult population. Barriers included the state of participants' physical health, with sport participation potentially increasing the risk of injury in older age, as well as people leaving the sport due to physical limitations. Some societal barriers were also discussed, including others' perceived expectations on PA at older age, as well as anxiety for a new player to enter an unfamiliar club environment. Wider organisational factors were also highlighted, which included a lack of sporting opportunities when reaching older age and a lack of awareness about available sport programmes for older populations (Jenkin et al., 2018a). Some of these themes were echoed in Faß and Schlesinger's quantitative research (2019), highlighting bad self-rated health as having a relation to not participating in sports. Interestingly, it was also found that those with the lowest mean health motivation do not take part in sports, highlighting the importance of increasing motivation to look after individual health in older adults. Further investigation into SES groups found that the highest proportion of people who never participate in sports focused within the lowest social status group. Therefore, is it imperative that further work needs to be conducted in order to work with those of lower SES, to access sport appropriately.

In addition, much mainstream sport can be moderate to vigorous and may not be suitable for those with underlying health issues, hence health being one of the main predictors of not taking part in sport in older age. Equally, whilst gender differences in sport participation determinants have been uncovered in the last decade of research (Eman, 2012; Stenner et al., 2020), less is understood about the barriers to sport participation for different genders. Jenkin and colleagues' (2018) sample included 85 per cent of the focus group participants being men, which may have influenced the focus groups' responses. Understanding women's participation experiences in different

sporting contexts is important to understand, due to reports suggesting that much less women are seen taking part in sport than men (Sport England, 2018).

Despite this body of research, it is also important to note that the majority of studies reviewed focus on exploring participation versus non-participation. Limited research has explored experiences of participants that play sport for longer-term periods of time, and less is known about the processes involved in sport initiation and maintenance, despite a body of research highlighting differences between these two phases of participation within PA contexts, within general populations and older adults (van Stralen et al., 2010; Voils et al., 2014). It is also important to state that it is has been reported in PA research with older adults, that a large number of participants fail to maintain PA longer-term (Sherwood et al., 2008). Further research has reported that older adults also struggle to maintain moderate to vigorous PA after completing a 24-week programme (Kendrick et al., 2018), and states that more research needs to consider exploring maintenance in groups least likely to maintain PA. Therefore, as many physical and mental benefits (e.g. reduced psychological distress) deriving from PA are seen over a longer period of time (Laitakari et al., 1996), focusing not just on participation, but the experiences of older adult sport participation over different lengths of time, is important to consider exploring.

Whilst contemporary research has uncovered many new determinants and barriers related to sport participation, understanding the processes involved at different stages of sport participation, as seen in PA research, should be investigated. Additionally, exploring SES and gender differences in more detail, as well as different sporting contexts is needed, in order to reduce health inequalities and preventable disease (Zhang et al., 2019). Research exploring how best to increase levels of inclusive sport and appropriate playing opportunities for older adults is needed, in order to develop suitable and viable sporting opportunities for the ageing population. Furthermore, research has found barriers to many older adults taking part in sport participation including accessibility to sport due to health conditions (Jenkin et al., 2018a), further research exploring inclusive sport and appropriate playing opportunities for older adults is important to explore.

2.6 Adapted sport and community-led football programmes

As previously mentioned, the 'sport for all' or 'sport for life' concept has been adopted in many countries. Despite the many physical, mental and social benefits arising from sport participation, some researchers argue that mainstream sport may not be accessible to everyone, and that benefits vary according to age (Gard & Dionigi, 2016). Some major barriers to PA and sport in older age have been due to the physical limitations in advanced age, for example, multiple operations or a fear of falling (Franco et al., 2015). As a result, other research has suggested that sports that can be adapted may attract long-term participation, for example golf, where play is adapted taking into consideration the ability of the player (Stenner et al., 2016). As part of the adapted sport movement mentioned in the introduction (section 1.5), many new alternatives to mainstream sport are emerging, specifically targeted towards the older adult population. ‘Walking sports’ have developed and risen in popularity over the past decade, and examples of such sports include walking football, walking netball, and walking basketball. Walking sports see similar characteristics to their mainstream counterparts, however, are played at walking speed, and some rules of the game altered to make playing these sports at walking speed accessible. In a report commissioned by Basketball Victoria (Jenkin et al., 2018a), walking basketball participants reported a host of perceived physical benefits, including the sport being good for the upper body and aiding coordination.

Mainstream football is a very popular sport in the UK and Europe. The sport gains the highest participation rates out of any team sport across England, with Sport England reporting that approximately 1.8 million people had played football twice in the past 28 days before surveying, between May 2019 and May 2020 (Sport England, 2020a). The sport was formally organised via the Football Association in 1863, and throughout the years, from the first World Cup in 1930, to the wider media coverage of games in the 1970s, involvement in the game (via participation or spectatorship) has grown (Cleland, 2015). In recent years, European leagues such as the English Premier League, Germany’s Bundesliga and Italy’s Serie A are some of the most supported leagues in worldwide football (Kennedy & Kennedy, 2012). In the UK, the English Premier League is

suggested to have had approximately 14.5 million spectators in 2019 (Lange, 2020).

Regarding age, a survey by the English Football League into supporter demographic information suggests respondents between the ages of 45-54 and 55-64 accounted for 41% of the total sample, suggesting a high number of middle-aged and older adults that form the English football fan base (English Football League, 2019). Not only do middle aged and older adults form a sizeable proportion of this fan base, but when fans were asked about the role of football in their lives, respondents answered that their football club played an important role in the community, and also in family life (83% and 76%, respectively). As a result, using the game of football and football clubs as a vehicle for social and health change within families, and especially among middle to older aged adults, may be beneficial in creating social and health change on a wider scale.

Football has, in the 1950s and 60s, been more recognised as a working class man's sport (Cleland, 2015), however after 1990 where England established the Premier League, media coverage of football increased, and England reached the World Cup semi-finals in Italy, it has been suggested that the UK saw an increased middle class interest in football (Cleland, 2015; Pope, 2015). This research suggests a wide ranging spectatorship and cultural significance of football for different SES backgrounds. This reach to different people from SES backgrounds, linked with the unprecedented coverage of a sport (live spectatorship and by media), highlights that football occupies a unique space, with many clubs having a role as "hubs at the heart of their communities" (Martin et al., 2016, p.176).

Furthermore, regarding gender, female participation and involvement in football has been historically low due to lack of accessibility for women (including a ban by the Football Association on women's football from 1921 to 1971), and also negative societal views of women taking part in football (Caudwell, 1999; Williams, 2003). In recent decades, however, there has been growth in women taking part in the sport, with reports from 2020 highlighting that over 3.4 millions girls and women are participating in football, and a 54% increase in affiliated

women's and girls' teams (Wrack, 2020), The same survey by the English Football League, as mentioned above, has suggested that the numbers of female fans have increased, with a 21% increase in female fans' involvement in the sport (English Football League, 2019). Due to this growth in female players and fans, it would be advantageous for sporting bodies to continue to explore ways to include women in football, to ensure future growth of the game for this demographic.

In order to promote social and health change, many football clubs in the UK have charity and community foundation arms, operating with a purpose to improve football's corporate social responsibility and deliver awareness and change on many social issues. These include education, crime reduction, and notably, health improvement (Martin et al., 2016). Health improvement has spanned all age groups from grassroots youth sport (Fenton et al., 2015) to adult men's health fitness programmes (Bingham et al., 2014). Studies such as these have highlighted positive findings linked to these types of initiatives, for example improved vigorous PA levels in youth from weekend football games, to applying health messages in a non-intimidating manner through 'Fit Fans' initiatives for adults, improving engagement in healthy behaviours (Gray et al., 2013). On a national level, research into grassroots projects has found a positive association between individuals playing regular football and their general health, compared to others who do not play football (The FA, 2019). In monetary terms, this has been said to equate to an average annual income boost of approximately £1,385 per person. These programmes suggest the usefulness of linking health improvement with local football clubs, with a view to provide an accessible way to improve health and fitness in the local community. As a result, community-led football programmes are important to consider, when considering improvement of health and PA levels in the UK population.

2.7 Walking football

One emerging football initiative, known as walking football, has grown and risen in popularity in the UK since the early 2010s. One governing body of the sport claimed there were approximately 1200 locations across the UK offering the sport, as of 2018 (Walking Football Association, 2018). Walking football is

considered in most areas a small-sided game, played in semi-formal groups at (or close to) walking pace (Reddy et al., 2017). Whilst some rules remain like mainstream football, such as the overall aim of the game to score in the opponents' goal, some core rules differ. These include players not being allowed to tackle other players, the ball height must never be over the goal's crossbar height, and players must have one foot in contact with the ground at all time when moving around the pitch, so to enforce walking speeds (The FA, 2018b).

Research has begun to uncover the benefits of walking sports, with walking football and walking basketball being the focus of studies and reports. Physical benefits to playing walking sports has been recorded qualitatively and quantitatively. Recent research in the past five years have uncovered physical benefits to walking football, with Hubball and Reddy (2015) finding that walking football could be played in a more frequent manner and with less strain than regular football. Further research has found significant differences in mean arterial blood pressure after 12 weeks of walking football, and evidence through mean heart rate, blood lactate and blood pressure, to suggest that walking football can be considered a moderate to vigorous intensity activity in populations of older men (Harper et al., 2019; McEwan et al., 2019; Reddy et al., 2017). Arnold, Bruce-Low & Sammut (2015) also contributed to the body of literature surrounding physical benefits linked to walking football. This research found a significant difference in the time to volitional exhaustion in participants, and further recent research highlights the benefits of walking football, relating to increased heart rate and walking distance, compared to walking, although may be less effective compared to mainstream football (Madsen et al., 2020). Furthermore, specific research into walking football interventions with those managing specific health conditions have been conducted. Research assessing the feasibility and safety of walking football for those with type II diabetes has also been conducted and suggested high levels of adherence and enjoyment over 12 weeks, as well as physiological recordings highlighting that walking football was providing moderate-vigorous intensity for the participants (Barbosa et al., 2020). Another study assessing the role of walking football in recovery from serious mental health conditions found that participation was fuelled by competition and collaboration related aspects of the game (Lamont et al.,

2017), highlighting the importance of social connections whilst managing long-term health conditions. As a result, walking football may be suggested as a safe and feasible mode of PA for those with certain non-communicable diseases and managing mental health conditions, and providing an opportunity to foster relationships and gain support from others.

Such research is beginning to show the positive physical impact that moderate to vigorous walking football may have on an older adult population, but it is important to note that many of the studies exploring walking sports examine males who are playing as a majority, and many results are emergent and contain small participant numbers. Studies that contain mostly players who are men may downplay the effects, or different effects, that walking football may have on women. For example, within the only recorded walking football intervention conducted with solely women players, participants were found to record slightly higher heart rates, and suggests lower fitness (measured through walking distance) during a 30-minute match compared with previous research into players who were men (Heil et al., 2018). In addition, previous sociological research highlights the discrepancies between men and women's experiences in playing football, highlighting that women have less experience in playing football formally, due to the fact that it was not until 1970 that women's football was accepted by national football federations (Pfister, 2015). Since this acceptance of the women's game, women's teams have grown, and women's football has increased in popularity, however in many cases women players were often not considered serious players (Fan & Mangan, 2004). This history of women having limited exposure and the toleration rather than acceptance of women's football is worth considering, when assessing the engagement and retention of current women players in team sports in later life. Further work into walking sports should therefore aim to recruit women players to assess any differences seen and experienced from playing the sport.

Additionally, the emergent studies are both pilot studies, and contain small sample sizes of 20 or less participants, which may be inadequately powered and not scalable to a larger population. Further research in larger groups of participants would be desirable in order to scale findings to a larger population. Lastly, whilst the length of interventions in the studies reported were considered

average length within the field of sport science, studies ran for 8-12 weeks, and only one follow up with participants were noted in the study manuscripts. As mentioned in section 2.4, many benefits of PA are seen after six months (Laitakari et al., 1996), and therefore understanding longitudinal experiences playing walking football, and the perceived benefits from participating long term is worth exploring.

Qualitative findings also support claims of physical and psychosocial benefits of participation in walking football. Within Reddy and colleagues' (2017) research, qualitative findings of participation included the ease of playing walking football on previous injuries and medical conditions, however it is important to note that participants also found that pain and stiffness were prevalent in initial sessions. Further research into experiences of engagement in the sport have been reported, which included reasons such as improving fitness and health, and to participate in football again after a sustained break from play (McEwan et al., 2019). Psychosocial benefits from Reddy and colleagues' research included the simple enjoyment of playing walking football, and an improvement of confidence in the ability to be competing. Social benefits included players meeting new people and the development of new friendships, which was echoed in different walking sport contexts, such as Jenkin, Hilland and Eime's (2018) walking basketball report. In this study, participants reported that the program was an "opportunity to meet new people and 'reduce isolation" (p.19). Again, this links back to psychosocial benefits seen in mainstream sport in section 2.5, highlighting the importance of social interaction in sporting activities for older adults.

However, whilst research has explored psychosocial determinants of walking sport participation (Arnold et al., 2015; Jenkin, Hilland, et al., 2018; Lamont et al., 2017; McEwan et al., 2019; Reddy et al., 2017), it is important to note that the research into walking football is still in its infancy, and there has been limited research into understanding the sport thus far (Corepal et al., 2020). Less detail has focused on experiences of the processes of participation, specifically related to different stages relating to the initiation and maintenance of walking sports. As highlighted in section 2.4, different stages of participation, such as initiation and maintenance stages, may yield different experiences and

determinants to why participants take part in PA and sport. The studies focusing on walking sports such as walking football and basketball have explored participation as a whole and outcomes relating to participation, however there is a dearth of research exploring the determinants of play at different stages of participation. Understanding the processes and experiences of players at different stages of walking football participation would allow for further actions by clubs and sporting bodies to tailor sports for the older population, both physically and mentally, enhancing experiences for these players.

Considering the current research within adapted and walking sports, especially walking football, research is therefore warranted to explore psychosocial determinants of initiation and maintenance of adapted sports. The focus should include experiences of older adults' engaging or initiating the sport, and how older adults are encouraged to participate long-term or maintain play, thus increasing understanding of how to promote such sports to an older population.

2.8 Summary of the literature review

This literature review has considered and critiqued the key papers available relating to phase or stage-based behaviour change theories, PA initiation and maintenance in older adulthood, initiation and maintenance influences in older adult sport participation, and lastly, the recent research focusing on walking football. Altogether, these studies suggest a large number of factors involved in older adult PA and sport participation behaviour change, ranging from individual factors such as health and previous sport experience or PA involvement, to environmental factors such socio-demographic differences (e.g. gender and deprivation status). Even though many factors contribute to older adult sport participation on an individual, social and environmental level, there is still a gap in the literature investigating determinants to behaviour change in novel sporting contexts, such as emerging walking sports for older adults.

There is an increase in papers relating to walking sports and specifically walking football. The physical and mental benefits of walking football have been demonstrated by intervention research. However, these benefits of PA are often felt after a long time of engaging in the behaviour. There is therefore a

significant gap in the literature for understanding the reasons why players initiate and maintain walking sports such as walking football. Further research is needed to understand in more detail this specific PA context, and what factors contribute to successful initiation and continued maintenance of the sport and how these may differ by gender and SES. Sustained PA within activities such as walking football may then lead to physical improvements and a reduced risk of a person suffering from negative health consequences, or the ability to manage present health conditions. Exploring the salient influences related to initiation and maintenance of walking football would also then inform the selection of an appropriate theory to underpin further work in the area.

Chapter 3: PhD Methodology

3.1 Introduction to the chapter

Crotty (1998) highlights four questions to answer when developing a research proposal, which includes what methods the researcher proposes to use, what methodology directs the choice of methods, what theoretical perspective lies behind the methodology, and what epistemology informs the theoretical perspective.

Within this thesis, an atheoretical pragmatic approach, with exploratory sequential mixed methodology was used. This chapter will explain the research paradigm (including the epistemological and ontological standpoint taken), and the reasons for choosing exploratory sequential mixed methods and subsequent study designs.

3.2 Philosophical stance and research paradigm

Within scientific enquiry, it is important to consider the philosophical stances that the researcher takes, in order to inform the research paradigm used. Guba and Lincoln (1994) defined a research paradigm as a basic worldview that guides scientific research or an investigation. Philosophical stances are rooted in common elements, two of which are ontology and epistemology. Ontology is defined as an individual's assumptions about the nature of reality, and epistemology is defined as assumptions about how we gain knowledge and how we come to know the world (Kaushik & Walsh, 2019).

The research within this thesis was underpinned by the philosophical assumptions of pragmatism, which is defined as "focusing on 'what works' rather than what might be considered absolutely and objectively 'true' or 'real' (Weaver, 2018, p. 1288). Pragmatism does not subscribe to an absolute school of thought when referring to realist (that reality is independent of individuals) or constructivist (reality is determined by knowledge and experiences of an individual) ontological standpoints. Pragmatism allows for single or multiple realities to be open to investigation (Creswell & Plano Clark, 2007) and

researchers following pragmatism mostly agree that knowledge is socially constructed. A pragmatist approach assumes that “reality is actively created as individuals act in the world, and it is thus ever changing, based on human experience, and oriented toward solving practical problems” (Weaver, 2018, p. 1288). The researcher’s philosophical stance is that single and multiple realities should be open to investigation, hence both qualitative and quantitative studies being selected (detailed in section 3.4) and that reality is ever changing, depending on the individual who is experiencing the world.

One key feature of pragmatism is the emphasis on the research methods being driven by the research question, and produce findings which are useful and practical (Onwuegbuzie & Leech, 2005). Furthermore, sport and exercise psychologists are adopting a pragmatic standpoint on a more frequent basis, arguing that pragmatism reduces the gap between academia and the world of applied sport and exercise psychology (Giacobbi et al., 2005). A pragmatic stance was further deemed acceptable for this research, as the research aims to be useful and practical for stakeholders in walking football. The research in this thesis provides an empirical basis for providing guidelines for clubs, coaches and sporting bodies, relating to the engagement, initiation and maintenance of walking football in older adulthood (see chapter seven).

As a pragmatist standpoint advocates for research to be driven by the research question, pragmatism is congruent with many types of research design, unlike a staunchly positivist or constructivist stance. As there is currently modest amounts of research focusing on walking football, and little behavioural theory attached to the context of sport participation in older adulthood, the researcher wanted the research question to guide the research methods used, rather than previous theory. Furthermore, the researcher wanted the research to provide a holistic understanding of the initiation and maintenance process of walking football participation. Therefore, prolonged engagement with the population, through mixed methods research over three years, was considered important to conduct. The research remained theoretically flexible, and an exploratory, sequential mixed methods research design was chosen, as the method of investigating the research question.

3.3 Mixed methods research design

For this thesis, the researcher followed a mixed methods research design. Mixed methods research is defined as research where qualitative and quantitative approaches are used in a single line of inquiry, integrating the findings and drawing conclusions, using both sets of data (Tashakkori & Creswell, 2007). The American Psychological Association (APA) developed five pillars, typifying mixed methods research as "(a) gathering and analysing qualitative and quantitative data in response to overarching research aims; (b) using rigorous methods for both qualitative and quantitative research; (c) mixing two forms of data with an intention to generate new insights through data integration; (d) framing the distinct methodology through mixed methods research design or procedures; and (e) using philosophical assumptions or theoretical models to inform the designs" (Levitt et al., 2018, p. 40). 'Mixed methods' is considered a research design which is close to what is actually practised among researchers and aims to bridge the gap between qualitative and quantitative research methods. Due to this, mixed methods research is often described as 'the third research paradigm' and seeks to bring together similarities from both quantitative and qualitative research positions, for example using empirical data, and minimising confirmation bias (Burke Johnson & Onwuegbuzie, 2004).

Within sport and exercise psychology, mixed methods research has increasingly been used in the past two decades (Moran et al., 2011; Ryba et al., 2020). Mixed methods has been criticised by some researchers for competing philosophical assumptions (Moran et al., 2011; Sparkes, 2015), but its strength is in providing balanced evidence and greater understanding of the phenomenon. Equally, mixed methods research can also uncover contradictions between findings from qualitative and quantitative data, providing information to drive the research in a focused way. Due to little understanding of walking football currently, and wanting to achieve a balanced and in-depth understanding, mixed methods was therefore chosen by the researcher as a suitable approach to answering the thesis research questions and aims.

There are many different formats of mixed methods research, which were considered when reviewing the thesis aims. The timing of conducting the qualitative and quantitative phases of the research is important to consider, as it can have implications on the knowledge gained. For the research in this thesis, an 'exploratory, sequential mixed methods' approach was chosen as the most suitable design to answer the thesis aims (see figure 3.3.1). Exploratory sequential mixed methods research includes an initial phase of qualitative data collection and analysis, which is used to determine the quantitative research (as highlighted in section 3.4). This is then used to test or understand the qualitative findings on a larger scale (Schoonenboom & Burke Johnson, 2017). Exploratory sequential mixed methods also places more importance, or weight, on the qualitative portion of the programme of research. One specific feature of sequential mixed designs is that the procedures from the later phase of research emerge based on the initial studies and that research questions for the programme of research are connected (Schoonenboom & Burke Johnson, 2017).

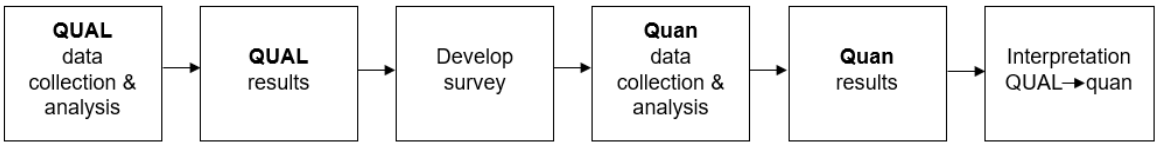


Figure 3.3.1. Diagram outlining exploratory sequential mixed methods. (Adapted from Creswell & Plano Clark, 2007). Reproduced with permission from Sage Publications.

Advantages of an exploratory sequential mixed methods approaches include the ability to measure important variables in a population that have not been studied in detail previously (Creswell & Plano Clark, 2007). An exploratory approach was deemed suitable for this thesis, as little research on the topic of walking football had been conducted, alongside previous concerns over the generalisation of theories to specific contexts (Hilton & Johnston, 2017; Laverack, 2017; Ogden, 2016) which is explained further in section 2.3. Furthermore, an emphasis on the qualitative aspect of the research was congruent with the researcher's beliefs in that both single and multiple experiences of a phenomenon exist and may differ depending on the individual experiencing the concept under exploration. In addition, a sequential approach was used, so the findings from the initial qualitative phase could inform the

latter, quantitative phase of research, ensuring that the research remained exploratory in nature, but also practical and applicable, as a pragmatist standpoint stresses (Onwuegbuzie & Leech, 2005).

3.4 Methods used to answer research questions

Schoonenboom and Burke Johnson (2017) highlight in some cases, the need to understand the 'theoretical drive' of mixed methods research. As this research was primarily to explore the novel context of walking football participation in older adulthood, an 'exploration-description' theoretical drive was chosen. Furthermore, understanding whether the mixed methods research is 'emergent' or 'planned' is also important to explore when considering the research question (Creswell & Plano Clark, 2011). An emergent design was chosen, as the findings of the qualitative research (chapters four and five) were not known at the time of formulating the research question, and an emergent approach allowed for to the outcomes of the qualitative data to drive the second phase of quantitative work (chapter six).

Qualitative methods were chosen as the first phase of research, to explore the experience of walking football initiation and maintenance among 55–75-year-old adults. As little research had focused on this age group and PA context previously, an inductive approach was appropriate (Braun & Clarke, 2006; Thomas, 2006). An inductive approach, via thematic analysis, was used to allow for the data to shape the findings, rather than being driven by a predetermined theory. However, it is important to note that despite the work being considered inductive, some bias may remain, due to the researcher's epistemological standpoints and previous theoretical knowledge in behaviour change and walking football. Further details of reflexivity and the researcher's standpoints can be seen in section 3.5. The inductive approach shaped how the interview guide was formed and how themes were conceptualised (Braun & Clarke, 2006). Adding a behavioural framework was discussed, however whilst behaviour change theories are a large part of behaviour change literature currently, research has been published discussing the limitations of such frameworks. Such limitations of frameworks include the application of behaviour

change theory varying widely across different contexts, and is explained further in section 2.3 (Hilton & Johnston, 2017; Laverack, 2017; Ogden, 2016).

Quantitative methods were chosen as the second phase of research (see chapter six). Whilst the qualitative data phase was used to explore the in-depth experiences of older adults playing walking football, quantitative methods (specifically the development of an empirically-grounded survey) was chosen to scale up the findings from the qualitative data to a larger sample involved in playing walking football. This was deemed necessary, so to look at the findings within a larger number of players. It was decided that, as the weight of the qualitative data would be higher due to the exploratory nature of the work, the data from the initial phase would inform the development of the second, quantitative phase of research. As this programme of research was deemed ‘emergent’ (Schoonenboom & Burke Johnson, 2017), the qualitative data was collected and analysed, and the second, quantitative phase of the research decided upon, driven by the findings emerging from the qualitative phase of the research. One distinguishing characteristic of mixed methods research is the ‘point of integration’, where the qualitative and quantitative stages are combined (Schoonenboom & Burke Johnson, 2017). This comes in many forms, such as “merging the two data sets, connecting from the analysis of one set of data to the collection of a second set of data, embedding of one form of data within a larger design or procedure, and using a framework (theoretical or program) to bind together the data sets” (Creswell & Plano Clark, 2011, p. 76). The type of mixed methods integration seen in this thesis is the 'building' approach, where the set of data from one study informs how the data is collected in the subsequent study (Fetters et al., 2013). The quantitative survey phase (chapter six) was empirically-grounded by the phase one findings, which guided the development of the quantitative survey. This incorporation of the two data sets during the survey development provided the ‘integration’ point of the mixed methods research (see Figure 3.3.1).

3.5 Reflexivity

Reflexivity is an important part of qualitative research, and one key principle of phenomenology is that the researcher cannot be detached from his or her own

biases (Groenewald, 2004). The researcher acknowledges that as a sport and exercise psychology researcher, she may be biased in understanding certain theories and models, which may influence the way the research is conducted, despite aiming to work inductively during the qualitative research phase of the thesis. It is also important to note that the researcher has never played in a football league or learnt how to play football formally as part of a club or during school years. Therefore, the researcher's understanding of the rules and tactics of the sport was limited. Despite this, the researcher attempted to learn about the laws of football and walking football in order to understand participant experiences in a meaningful way, including understanding football jargon. Despite the lack of experience or extensive football knowledge, much debate has been had around whether it is useful for the researcher to be part of their population or not, and whilst the researcher may be considered an 'outsider' as she is not part of a football team, the researcher was invited to play in one walking football session with a group of women, whilst recruiting for the study. The researcher gained an understanding of playing walking football for the first time, including feelings and experiences attached to this. This allowed the researcher to occupy the space in between, to observe and participate for a short while, increasing her understanding of walking football (Corbin Dwyer & Buckle, 2018).

The researcher identifies as a woman, and the researcher's age when interviewing participants was 26 years old. Regarding gender, is is important to note that less women occupy the footballing space than men, and even though research has suggested that women's football is growing (Williams, 2003) research has found that between 2019 and 2020, 5.5% of male respondents took part in football, compared to 0.7% of women (Sport England, 2020). Therefore, the researcher was aware of her standing as a woman when undertaking the research in a field which has predominantly attracted male participants. As a result, the researcher wanted to make sure exploring experiences from different genders was part of the research, due to women's participation rates not only being lower in football, but older women's levels of physical activity being lower (Centre for Ageing Better, 2019). Regarding age, many participants were around 40 to 50 years older than the researcher. This is important to acknowledge, as the researcher may not have the same lived

experience in not only taking part in PA, but life experiences as older adults have had. Therefore, before undertaking the qualitative phase of the thesis, the researcher took time to speak to older members of her family and extended family, in order to understand lifetime sport experiences and taking part in PA and sport at an older age. This allowed the researcher to informally gain an insight into challenges and benefits relating to sport and PA as an older adult, with family members taking part in a range of other sports, from golf to skiing.

Lastly, it is important to highlight that the researcher came from a lower-middle class background, and was studying for a doctoral degree. As the research aimed to interview those visiting clubs from a range of SES areas with varying deprivation, it is important to acknowledge the privilege that the researcher holds when considering SES and education level, and the potential power imbalance this could cause (Råheim et al., 2016). As a result, the researcher attempted to build rapport with the participants as much as possible during the qualitative research, establishing common ground with interviewees, and the researcher aimed to use motivational interviewing techniques such as reflective listening, to understand and verify participant experiences as closely as possible (Passmore, 2011).

Where assumptions or expectations in interviews weren't met (e.g. experiences relating to women's accessibility to football in early life), or where parts of conversations were surprising (e.g., participants' lived experiences of health conditions or life events), the researcher made notes during the interview, and debriefed with the research team on a regular basis, in order to discuss participant experiences and gain different viewpoints. Furthermore, in studies one and two, transcripts were viewed by one early career researcher within the field of behaviour change, who was not directly involved in the research, allowing for the researcher to gain a different perspective on participant experiences.

3.6 Summary of methodology

In this chapter, the research paradigm and methods used to answer the research questions have been discussed. An exploratory, sequential, mixed

methods research design was used to answer the questions posed in chapter two (literature review and thesis aims), due to the novel context of the data and to provide an empirically-grounded approach to studying this area of behaviour change in older adults. An initial phase of qualitative research was conducted, using the data from this phase to inform the development of a survey, to understand experiences on a wider scale. The next chapter details the first study of the programme of research presented in this thesis. This study is a qualitative exploration of initiation experiences of 55–75-year-old adults playing walking football.

Chapter 4: Study one - Experiences influencing walking football initiation in 55–75-year-old adults

4.1 Introduction to the chapter

This chapter details the first study undertaken in the thesis, focused on initiation experiences of 55-to-75-year-old walking football players. The chapter will outline the literature background, aims of the study, the review of literature important to this study, methods used, the findings and brief policy/practice implications. The chapter will finish by concluding the work and how study one forms a basis for study two (chapter five), exploring influences on walking football maintenance in 55-to-75-year-old, or 'young-old' adults.

4.2 Background to the chapter

More people are reaching older adulthood in the UK (Randall, 2017). Despite this, adults over 55 are less likely to take part in PA, with the sharpest decrease evident from 75 years-old onwards (Sport England, 2020a). Sedentary lifestyles within older adulthood can contribute towards a higher risk of all-cause mortality and decreased levels of mental health (Gomes et al., 2017; Rezende et al., 2014).

Sport participation has been found to have the biggest decline over the lifespan, compared with those doing PA (McPhee et al., 2016). Research highlights multiple physiological and psychological benefits to taking part in PA in older adulthood, such as lower risk of cardiovascular disease, increased memory performance, and accepting ageing processes (Chapman et al., 2013; Dionigi et al., 2013; Earnest et al., 2013). Added benefits to taking part in sport participation include less frailty in those who are members of sport clubs, and improved cognitive health (Pesce & Audiffren, 2011; Watts et al., 2017).

To tailor sport successfully for older adults, understanding how best to first engage this population in sport is important to increase their likelihood to initiate change. Initiation of lifestyle behaviours, which are believed to occur up to six to

eight months after the adoption of the behaviour (Lally et al., 2010) are important to explore, as some influences may be present at initiation, but not later stages of participation, for example perceived access to facilities and goal setting (van Stralen et al., 2010). As long-term health benefits of PA and sport are seen when committing to activities for an extended period of time (Laitakari et al., 1996), it is important to understand underlying influences on PA behaviours prior to maintenance, and whether these are likely to differ.

Walking football is experiencing large growth in participation within the UK, with approximately 1200 locations offering the sport in the UK (Walking Football Association, 2018). Research suggests physical benefits of walking football such as significantly lower body fat mass and lower blood pressure (Arnold et al., 2015; Reddy et al., 2017). However, as populations included in previous literature span a large age range, future research may benefit from exploring the impact of walking football within specific age ranges, such as a young-old (55–75-year-old) population. Additionally, within the research focusing on walking football, most participants identified as male (Lamont et al., 2017; Reddy et al., 2017). As women tend to be more inactive than men, and less women take part in football in general populations (Centre for Ageing Better, 2019; Pfister, 2015), it is therefore important to understand gender differences within various sport contexts in order to tailor PA to specific genders. Equally, research suggests that different motives towards taking part in PA are apparent in those wih varying SES backgrounds (Gray et al., 2016). As it is understood that SES affects PA levels and the prevalence of non-communicable diseases (Diez Roux & Mair, 2010; Eime et al., 2015), understanding SES differences in influences relating to walking football initiation is therefore important to study.

Whilst maintenance of PA and sport participation is arguably important to investigate, initiation is important to understand prior to this, due to the similarities in influences found between PA initiation and maintenance, before promoting long-lasting PA in this age group. There is a need for research exploring initiation in newer, inclusive sports for older adults, such as walking football. Understanding how older age groups experience the uptake of walking football could inform promotion of walking football within this population and may help prevent decline of sport participation in older age.

As a result of reviewing the current literature, the aim of this study was to identify influences and experiences of walking football initiation in young-old adults (55-75 years old) maintaining walking football play over six months.

4.3 Methods

4.3.1 Study design

Following the methodology highlighted in chapter three, this study followed a pragmatic approach, emphasising the research methods being driven by the research question (Onwuegbuzie & Leech, 2005, p. 377) and an onus on the research being useful and practical. As this research was exploratory, and limited research has been conducted to understand experiences of walking football initiation in young-old adults, qualitative methods were used to address the aim of study one, understanding experiences in depth and providing detailed accounts of data. The study design was guided by basic key principles underpinning phenomenological research, which centred on the researchers aiming to understand phenomena from perspectives of those involved in such experiences (Groenewald, 2004). This was chosen as the population taking part in walking football, despite its growing popularity, is still small in nature and the researcher wished to understand lived experiences of this specific population.

4.3.2 Participant criteria

The study utilised purposive sampling for this study. The researcher recruited a sample of players from different walking football clubs across the UK. Participants were screened prior to interviewing according to the inclusion criteria. Inclusion criteria stipulated participants fall within the young-old bracket of 55-75 years of age (Neugarten, 1974). Participants were required to have taken part in walking football for six months or longer, in order to understand experiences of those that had satisfied the minimum term of initiation, in line with previous research (Lally et al., 2010; van Stralen et al., 2009). The study materials and interviews were only available in the English language. Whilst

language wasn't an explicit inclusion criteria, the study focused upon English speaking walking football players.

4.3.3 Participant recruitment

The recruitment strategy targeted participants from a range of organised walking sports clubs across the UK, between May and November 2018. Much of the participant recruitment took place via local football clubs in person, speaking to coaches and players and inviting them to take part. Further recruitment took place through social media, advertising the study on Twitter. This method of recruitment was chosen, so the researcher could reach out to underrepresented demographics not largely seen in local clubs, such as women taking part in walking football.

4.3.4 Participant demographics

Players were aged between 55 and 71 years (M^{age} = 64 years). Overall, 17 players in total were interviewed for the study. Nine participants interviewed were male and eight participants were female. The majority of participants interviewed had been taking part in walking football for less than two years at time of interviewing (n=11), with five participants taking part between two and five years, and one participant taking part in walking football for over five years. All but two participants (n=15) had over ten years of experience participating in sport across the lifespan, with two of the female participants having two to five years of sporting experience. Participants interviewed were from a range of clubs from different deprivation areas according to the English indices of deprivation (Department for Communities and Local Government, 2015) and Scottish Index of Multiple Deprivation (Scottish Government, 2016), gaining perspectives of participants across different socioeconomic backgrounds. Five participants interviewed played at a club located in an area containing the 20% least deprived population in the UK, five participants from a club located within the bracket of 40% most deprived UK population, and seven participants from a club located within the bracket of the 20% most deprived UK population.

4.3.5 Interview guide development

Interview guide questions were developed taking into consideration both the aims of the study, alongside previous research within the field, focusing on sport participation in older adults (Dionigi et al., 2013; Heo et al., 2013). The interview guide for this study used semi-structured, open questions. Questions included in the guide addressed areas such as what influenced players to take up the sport, whether any life events influenced initiation and who, if anyone, influenced initiation. Example questions from the interview included *'Prior to playing walking football, can you tell me about your involvement in any sports at a younger age?'*, *'Can you expand on what was going on in your life around the time you took up walking football?*', and *'What or who influenced your choice of sport?*'. Further questioning included specific questioning on added benefits the participant experienced during walking football, for example '*What do you feel you get from playing walking football than, for example, simply going for a walk or run?*'. Additional probing and follow-up questions (Roulston, 2008) were added to the interview guide, in order to attribute meaning to answers and assist with recall, in line with previous PA research and guidelines (McKenna et al., 2004; Wenger, 2011). These included *'How did they [influencer of sport participation] encourage you?*' and '*What did they do or say?*'. Prior to data collection, a pilot interview was conducted with an older-aged adult with a history of playing sport. The pilot interview highlighted administrative changes to the logistical aspects to the study, for example rewording of certain language when asking interview questions. Please refer to appendix 4.1 for the interview guide.

4.3.6 Procedure

The interviews took place one-to-one with participant and researcher via face-to-face and telephone interviews, between June and November 2018. Nine participants were interviewed face-to-face, and eight participants were interviewed over telephone. Both formats of interviews were pragmatically chosen by the research team, to aid reaching participants from further locations in the UK, and to ensure data collection was from a gender-balanced sample. Interviews were recorded using a digital sound recorder. Prior to interviewing,

players received an information sheet and a participant consent form, where informed consent was confirmed via writing or recorded verbal consent, in the case of telephone interviews. Players were asked about club location, and completed a brief questionnaire pre-interview, allowing for the researcher to obtain further demographic information from the participants (age, gender, sporting experience and time playing walking football). Club locations have not been disclosed to protect participant privacy.

Participants were also offered the opportunity to fill out a life grid to help improve recall (Parry et al., 1999). The researcher outlined that the lifegrid was available for participants to detail years relating to previous and current sport participation, ages they started sports, and any life events which coincided with sport participation in order to help improve recall. Despite offering the opportunity to fill in the lifegrid, no responses from participants were submitted, as some participants stated their recall around their walking football participation was sufficient, or did not wish to fill out the lifegrid during the interview. The mean interview time lasted 37 minutes. Where possible, notes and 'memoing' was used by the researcher alongside the interviews taking place, so to collect any notes and reflections on the interview which may be useful, but not evident in the interview transcripts (Miles & Huberman, 1994). Throughout the duration of the interviews, the interviewer summarised and reflected on the points participants discussed. This was to ensure that the interviewer had understood the participants' experiences and allowed for the participant to clarify if a point had been misinterpreted. After the interview, participants were debriefed and offered the chance to email or contact the researcher regarding the study or provide any information they had not discussed within the interview.

It is important to note the researcher's own biases that may impact upon findings (Groenewald, 2004). As highlighted in section 3.5, the researcher acknowledges that as a sport and exercise psychology researcher, she may be biased in wanting to see benefits to physical and psychological wellbeing in participants. However, the researcher has never played in a football league or learnt how to play football, therefore had no preconceptions or experiences of football having an impact on her own physical or psychological health.

Furthermore, the participant's age was very different to those who were being interviewed (40 or 50 years older than the researcher). As a result, life experiences may differ between the researcher and interviewees. Speaking to older family members, alongside undertaking a pilot interview with an older adult before interviewing, allowed the researcher to begin to understand older adults' lived experiences taking part in sport and physical activity in later life.

4.3.7 Ethical approval and data handling

Before any participants were recruited, ethical approval was obtained from the Sheffield Hallam University research ethics committee in May 2018 (ER6894807, Appendix 4.2). Once all interviews were transcribed identifiable information about the participant were removed to protect participant anonymity. Sensitive information was deleted and included the participant's names, any teammate, friend or relative's name, coaches' names, club names or locations of clubs, and locations of tournaments. Participants were provided with information sheets and consent forms before interviews took place. Participants were reminded that they did not have to answer all the questions asked by the researcher and that they would be able to withdraw from the study at any time during the interview.

4.3.8 Transcription and data analysis

Interviews were transcribed verbatim by the lead researcher, and personal details were removed from transcripts to protect participant anonymity. Member checks were offered to players to confirm participant experiences (Birt et al., 2016). Five players confirmed review of their transcripts, and one change was made to one transcript, regarding removing a specific anecdote of another walking football participant, as the interviewee wished to protect the player's anonymity further. This did not affect the participant in question's own account and experience of walking football.

Once all data was transcribed, transcripts were read multiple times until the content was familiar to the researcher and allowed for immersion in the research (Miles & Huberman, 1994). An inductive thematic approach was

implemented when coding raw data, as experiences of initiation in walking sports has not been previously researched extensively, and the authors aimed to allow the research findings and theory to develop from the significant themes in the raw data collected (Braun & Clarke, 2006; Thomas, 2006). It is important to note, however, that the inductive-deductive approach exists on a continuum, and due to the researcher not existing in a theoretical vacuum, some researcher bias may remain when analysing qualitative data (Braun & Clarke, 2020). As part of triangulating the findings, peer consultation of the data took place with two separate peers, one early career researcher within the field of behaviour change who was not directly involved in the research, and a member of the core supervisory team. This was to ensure the trustworthiness and quality of the analysis, and establish shared understanding and meaning across the themes (Lincoln & Guba, 1985). Peers independently read through transcripts and codes determined by the initial researcher were checked accordingly, to ensure clarity of the codes. Where any coding differences occurred between researchers, these were refined through discussion and alteration of the codes. After analysis of 15 interviews, new codes were generated less frequently by the researcher, and data saturation within the participant group was close to being reached (Guest et al., 2006). Two further interview transcripts were then analysed, and saturation was considered to be attained (Patton, 2003).

The final thematic findings were developed by analysing and collapsing the raw data themes into lower order themes, and further into higher order themes and global dimensions (overarching themes which lower order and higher order themes are collapsed into). The data analysis identified varied experiences of participation before and during walking football initiation, also highlighting positive and negative experiences. Additional discussion of the themes and subthemes took place with the whole research team. This was to ensure themes were concurrent with the raw data, and to reach consensus around meanings of the raw data themes, lower order, and higher order themes, to maintain analytic rigour (Tracy, 2010).

4.4 Findings

A total of 128 raw-data themes were generated from the analysis of the data. Further analyses of the raw-data themes generated six higher-order and eight lower-order themes that collectively represented the influences involved in walking football engagement. Eight higher order and ten lower order themes representing the influences involved in walking football initiation during participation were also generated, under global dimensions of positive and negative experiences. A breakdown of the higher-order, lower-order and raw data themes are seen in figures Figure 4.4.1 and Figure 4.4.2. Each of the higher order categories will be explained in detail below and where subtle differences arose between genders; these have been noted within the relevant theme. Within the figures provided, the gender split of each raw data theme has been recorded (e.g., 4/4, male to female respectively). Verbatim quotes are provided to demonstrate themes and to improve transparency of the meaning generated from the data, as well as providing context for each theme (Roulston, 2008; Tracy, 2010). These are labelled with a participant pseudonym, gender (e.g., M = male / F = female) and participant age (e.g., 71). A table containing participant characteristics is also included below (Table 1).

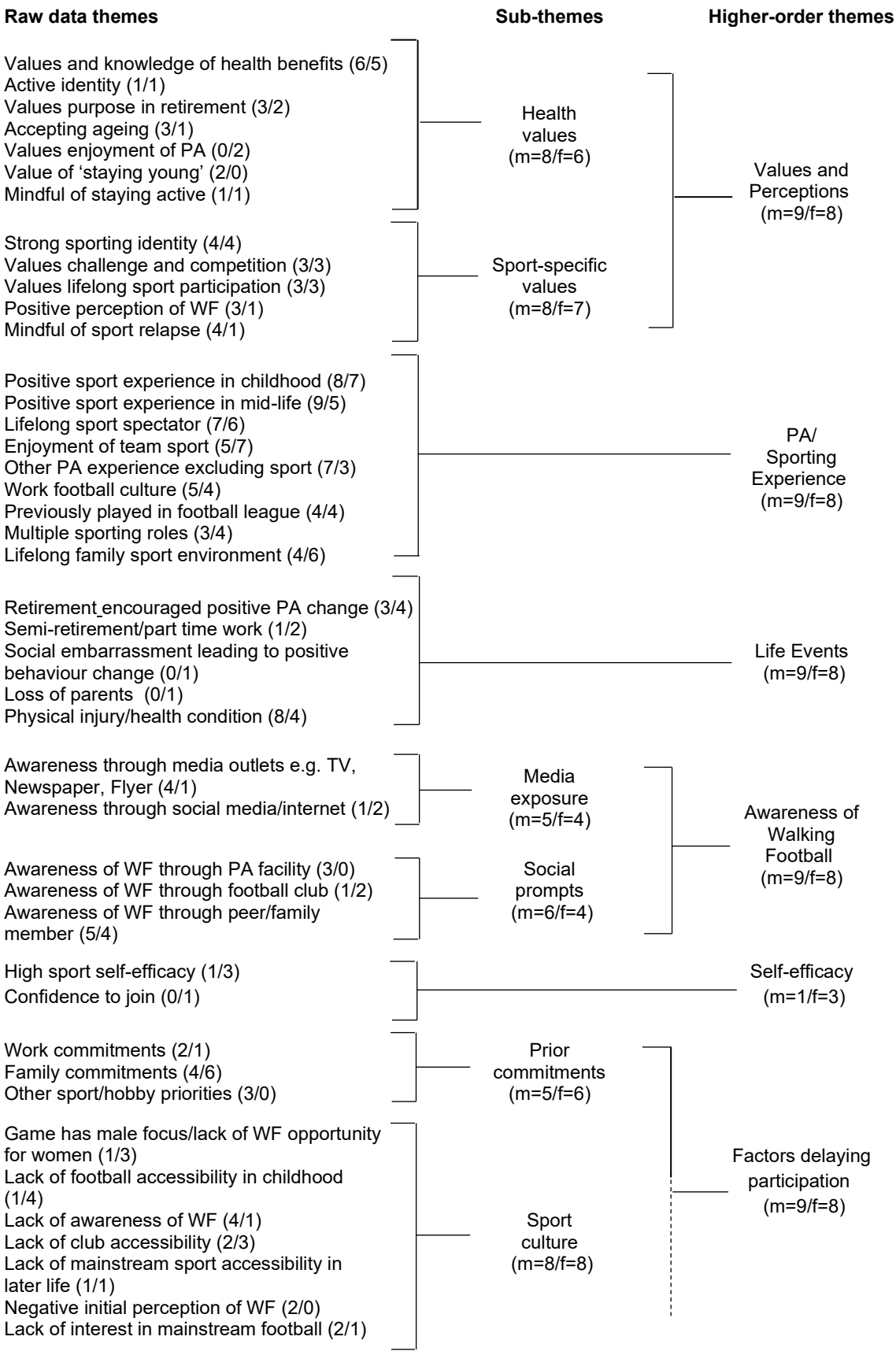
Table 4.4.1. Participant characteristics (study one).

Psudonym	Age	Gender	Telephone (T) or Face to Face (F) interview	Walking football duration	Lifetime sporting experience (years)	Club Deprivation Area (SES)
Jack	61	M	F	1-2 years	10+ years	20% least deprived
George	64	M	F	6-12 months	10+ years	20% least deprived
Jonathan	62	M	F	1-2 years	10+ years	20% least deprived
Chris	65	M	F	1-2 years	10+ years	20% most deprived
Joe	71	M	F	2-3 years	10+ years	20% most deprived
Michael	71	M	F	6-12 months	10+ years	20% most deprived
Jeffrey	71	M	F	1-2 years	10+ years	20% most deprived
Simon	63	M	F	6-12 months	10+ years	20% least deprived
Anne	65	F	T	5 years +	10+ years	40% most deprived
Thomas	65	M	F	2-3 years	10+ years	20% least deprived
Liz	60	F	T	1-2 years	3-5 years	40% most deprived
Mary	64	F	T	3-5 years	10+ years	40% most deprived
Kathleen	61	F	T	1-2 years	10+ years	40% most deprived
Irene	66	F	T	3-5 years	10+ years	10% most deprived
Rita	58	F	T	1-2 years	2-3 years	40% most deprived
Claire	58	F	T	2-3 years	10+ years	10% most deprived
Victoria	55	F	P	6-12 months	10+ years	10% most deprived

*Names have been changed to protect participant confidentiality.

4.4.1 Influences involved in walking football engagement

Higher order themes relating to walking football engagement were values and perceptions, PA and sporting experience, life events, awareness of walking football, self-efficacy and factors delaying participation. Please see Figure 4.4.1 for further information.


Raw data themes
Sub-themes
Higher-order themes
Values and knowledge of health benefits (6/5)
Active identity (1/1)
Values purpose in retirement (3/2)
Accepting ageing (3/1)
Values enjoyment of PA (0/2)
Value of 'staying young' (2/0)
Mindful of staying active (1/1)
Health values (m=8/f=6)
Strong sporting identity (4/4)
Values challenge and competition (3/3)
Values lifelong sport participation (3/3)
Positive perception of WF (3/1)
Mindful of sport relapse (4/1)
Sport-specific values (m=8/f=7)
Values and Perceptions (m=9/f=8)
Positive sport experience in childhood (8/7)
Positive sport experience in mid-life (9/5)
Lifelong sport spectator (7/6)
Enjoyment of team sport (5/7)
Other PA experience excluding sport (7/3)
Work football culture (5/4)
Previously played in football league (4/4)
Multiple sporting roles (3/4)
Lifelong family sport environment (4/6)
PA/ Sporting Experience (m=9/f=8)
Retirement encouraged positive PA change (3/4)
Semi-retirement/part time work (1/2)
Social embarrassment leading to positive behaviour change (0/1)
Loss of parents (0/1)
Physical injury/health condition (8/4)
Life Events (m=9/f=8)
Awareness through media outlets e.g. TV, Newspaper, Flyer (4/1)
Awareness through social media/internet (1/2)
Media exposure (m=5/f=4)
Awareness of WF through PA facility (3/0)
Awareness of WF through football club (1/2)
Awareness of WF through peer/family member (5/4)
Social prompts (m=6/f=4)
Awareness of Walking Football (m=9/f=8)
High sport self-efficacy (1/3)
Confidence to join (0/1)
Self-efficacy (m=1/f=3)
Work commitments (2/1)
Family commitments (4/6)
Other sport/hobby priorities (3/0)
Prior commitments (m=5/f=6)
Game has male focus/lack of WF opportunity for women (1/3)
Lack of football accessibility in childhood (1/4)
Lack of awareness of WF (4/1)
Lack of club accessibility (2/3)
Lack of mainstream sport accessibility in later life (1/1)
Negative initial perception of WF (2/0)
Lack of interest in mainstream football (2/1)
Sport culture (m=8/f=8)
Factors delaying participation (m=9/f=8)

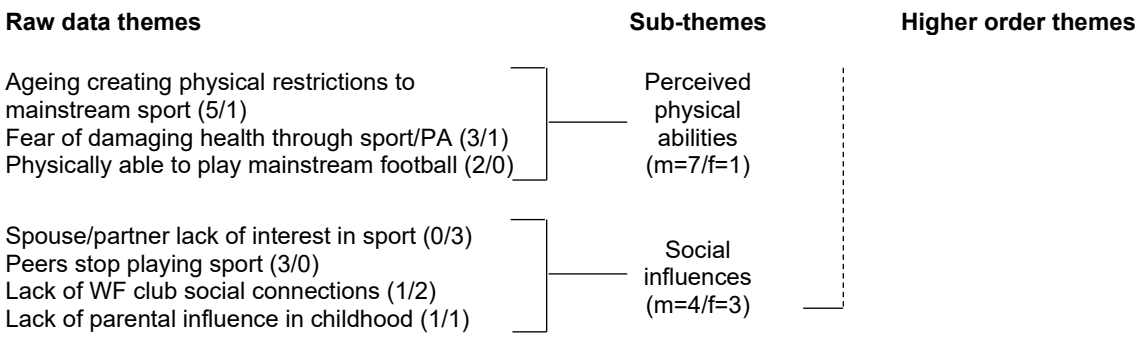


Figure 4.4.1. Factors influencing walking football engagement in 55-75 year-old players.

4.4.1.1 Values and perceptions

This higher-order category consisted of two lower-order themes: health values (e.g., knowledge of health benefits) and sport-specific values (e.g., holding a strong sporting identity, valuing lifelong sport participation). In many interviews, health and sport-specific values were given equal value, with some players feeling they benefitted from both simple PA and specific sporting activities:

> I think the running, playing sport and running benefitted me massively. And in fact, walking is important I do a lot, as much walking as I can do now, because physical exercise is key I think to maintaining a decent uh, decent health (Michael, M, 71)

Around half the players interviewed identified as a 'sporty' person and lifelong participation in a sport was valued and discussed as an important positive influence on participation:

> I think you know, if you're a sporty person you just love sport, and you just want to carry on as long as you, as you possibly can. Um, I go along mainly to keep fit, to keep the weight down (Mary, F, 64)

Additionally, a number of participants, a majority of these attending a club from the 20% least deprived areas, shared experiences of being mindful of their sport and PA relapse:

> Yeah, and maybe if we are getting deep, maybe there's a big regret in the gap where I didn't play [football], and I mentioned earlier where I said if anyone talks about football and they're thinking packing it in I'll say carry on while ever your legs are carrying, you carry on, cause I didn't. (Simon, M, 63)

4.4.1.2 PA and sporting experience

This higher order theme explores the prior experiences players had of both PA and sport. The majority of players had a positive sporting experience in childhood, and for some, mid-life sporting experiences (e.g., a work football culture) were an influence on walking football, with many players recounting fond memories of playing mainstream football or team sports:

> Yeah, I was, cross country and things like that at school, uh I did have an operation...after that I carried on playing football, carried on cross country, sports days were great at school, I left and I played football for a number of um, pub teams shall we call them, work teams, uh, managed to get, had a season in the county senior league so I thought I weren't bad [laughs] um, and I enjoyed it. (Simon, M, 63)

Previous participant involvement in sport tended to be in a number of different team sports (e.g. basketball and hockey), which influenced initiation in walking football, as some players felt previous team sports were similar to walking football. One player recounted:

> I loved hockey and I loved tennis. Um, and I think for me, because obviously hockey you play with a stick, but to me the um, the reason I like football is that it's almost the same as hockey (Irene, F, 66)

4.4.1.3 Life events

Over two thirds of players discussed life events as having an influence on engaging in walking football. A physical injury or health condition was the most reported life event to influence initiation, with players experiencing a forced transition from a higher intensity/higher impact sport to walking football. As one

player notes, the reason for participation in walking football was injury. “I was always hoping to go back to five a side but I’d got injured as I said about five and a half years ago and I now believe it’s a back injury, affecting my hips” (Jack, M, 61). A range of health conditions were discussed, including cancer, musculoskeletal injuries and heart conditions.

For players that had retired, the life event of retirement had encouraged positive PA change, and the need to replace work with other hobbies:

> Just totally linked to stopping work then looking for other things to do… I booked myself a few golf lessons as well…and I think you know, you indulge your hobbies. So it’s thinking what to do when after stopping working full on, five days a week or probably more, taking work home at weekends, to thinking to yourself right, what am I going to be doing now that I’m not working anymore (George, M, 64)

4.4.1.4 Walking football awareness

Awareness of walking football as a sport was discussed by many players, and lower-order themes included media exposure and social prompts. For many players, media outlets were participants' routes to an awareness of the sport. Awareness through media outlets was in some cases linked to awareness through social connections:

> And in there, was a little half page article by [club organiser], about [Walking Football club]…With a link to the website, um, and [friend] and whatever triggered the thought in your brain, was sort of like, oh, you know what, so I took the piece down to [friend] and said what do you think to this, shall we give it a go? “Yeah, let’s go up” (Jonathan, M, 62)

In a few cases, predominantly within those attending clubs with a higher deprivation score, awareness through PA facilities and local football clubs was an influence for players, with some players encouraged to play walking football with the programmes offered by the local football club they support. One player also recounted seeing the version of the game being played at a local club:

> Did see a little example of it uh, on half time at some [football club] match you know, or [football club] playing walking football or something, uh, so that's you know that's what I did know of playing walking football (Jeffrey, M, 71)

As well as retirement and health conditions, around half of the players reported that having a family member explicitly encourage participation was also an influence on initiation of walking football:

> People have said to me yeah, I've tried walking football, oh I've heard of that, you know, but I wouldn't have gone and looked into it, if my sister didn't say ooh, you know, come give it a try one day, come along (Rita, F, 58)

4.4.1.5 Self-efficacy

The concept of self-efficacy (defined by Bandura [1977, p.193] as a person's conviction that they can "successfully execute the behaviour required to produce the outcomes") was highlighted in discussions with some players, predominantly in female players, as an influence on engagement in walking football, as highlighted by one player:

> [I] said I can't be doing with the gym, I said it'd be like sticking pins, so then it made me look, and I thought well what can I do, I don't think I'm fit enough to run round doing badminton or squash, and I love football… I'd heard about walking football you know, it kept coming up on news programmes and stuff, so I sort of just googled, went onto google and put in walking football (Kathleen, F, 61)

4.4.1.6 Factors delaying participation

Amongst higher order themes exploring the influences in engagement of walking football, the players also highlighted some factors related to delayed participation. Lower-order themes within this category included prior commitments, sport culture, perceived physical ability and social influences. A prominent lower-order theme was sport culture, with players feeling that a lack

of awareness coupled with a lack of opportunity to participate in walking football inhibited participation. For female players specifically, a lack of opportunity and accessibility delayed participation:

> I live in a retirement apartment…one of the things that they mentioned was walking football and my ears pricked up at this point and I thought ooh that sounds interesting. Of course, what they also said was oh no, let me talk about this for the men, right okay fine but of course the interest had been uh twinged (Anne, F, 65)

Equally, a lack of interest in the game was mentioned by some participants, both male and female. When asked if anything would have stopped them from playing before they initiated walking football, one participant replied, “nothing stopped me, I just didn’t pay an interest” (Rita, F, 58).

Within the lower order theme of perceived physical ability, many male players felt that ageing created physical restrictions to mainstream sport, and thus a delay on participation at an older age. As one player noted; “I was always nervous about going back doing football full time at age 55 or something, probably earlier, fifties but not quite 55, in case it aggravated the back injury again” (Jonathan, M, 62).

Whilst individual barriers delaying participation are wide-reaching, social and environmental factors relating to work and family commitments were also discussed by participants. As the range of participants’ ages reached from 55-75 years-old, some participants were still working or were in part time roles, which had an impact on sport participation before walking football. Retirement was also discussed by some participants. One participant discussed the amount of free time they experienced after retiring, leading to making decisions about different hobbies and activities to initiate:

> So it’s thinking what to do when after stopping working full on, five days a week or probably more… thinking to yourself “right, what am I going to be doing now that I’m not working anymore" (George, M, 64)

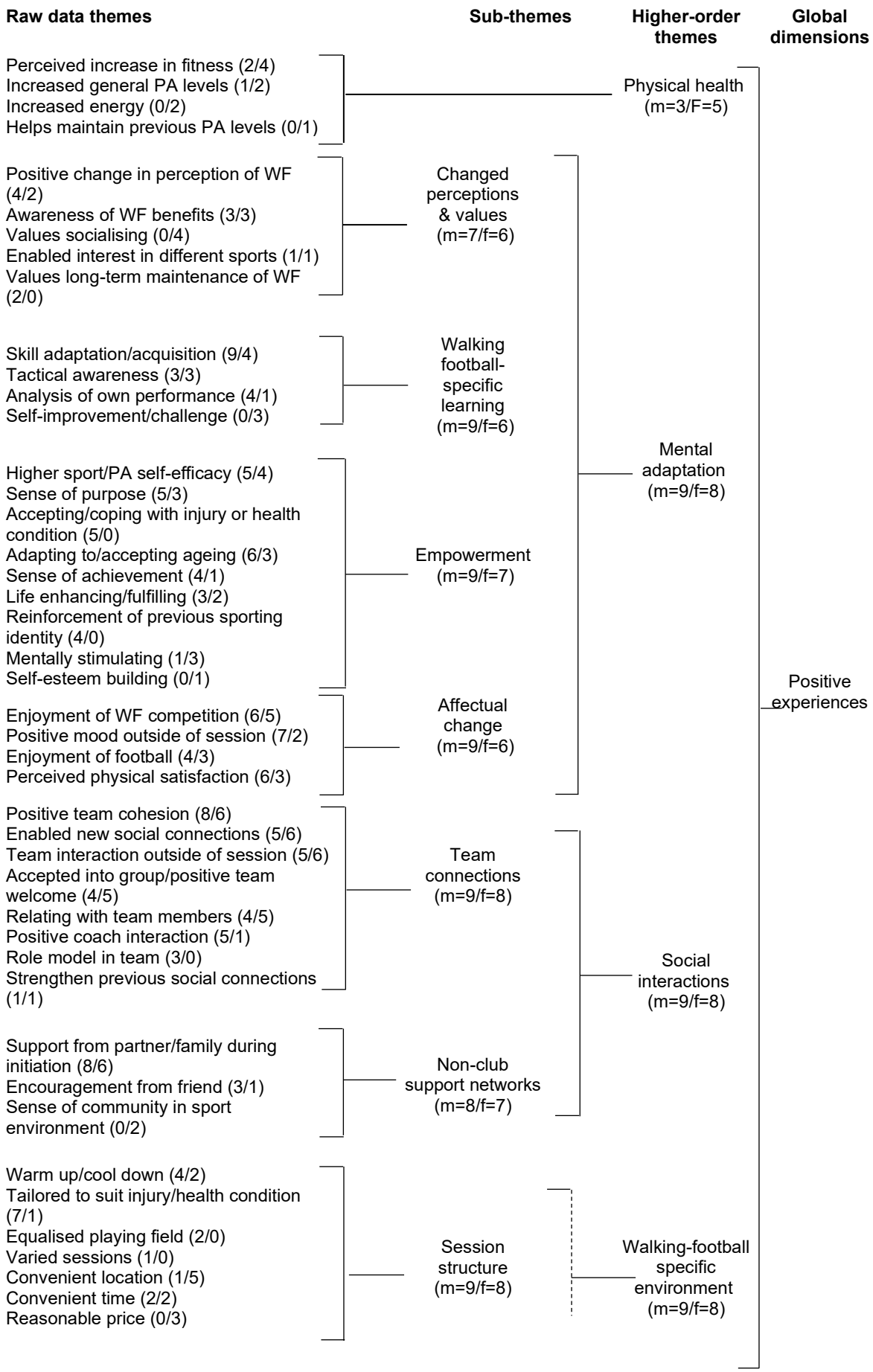
Family commitments delaying participation was discussed by some participants. Even though many of the participants' children were adults, caring responsibilities came in the form of looking after grandchildren, which meant that some participants, especially female players, had to find alternative forms of PA that could be fit in between caring duties. One participant discussed that they "used to walk at night, um cos I used to look after um, the eldest of my grandsons, when he was younger I used to look after him 5 days a week" (Irene, F, 66).

In addition to caring duties, one male and four female players mentioned the lack of accessibility to football and sport at younger ages. One female participant discussed the informal opportunities to play football at a younger age:

> They had, a few of the girls they used to play 5 a side against a local youth club, um so I used to do that from time to time, but no, nothing serious. And nothing organised other than that, because there just weren't the opportunities. (Anne, F, 65)

4.4.2 Positive experiences during walking football initiation

Higher order themes under positive experiences included physical health, mental adaptation, social interactions, and walking-football specific environment. See Figure 4.4.2 for further information.


Raw data themes
Sub-themes
Higher-order themes
Global dimensions
Perceived increase in fitness (2/4)
Increased general PA levels (1/2)
Increased energy (0/2)
Helps maintain previous PA levels (0/1)
Physical health (m=3/F=5)
Positive change in perception of WF (4/2)
Awareness of WF benefits (3/3)
Values socialising (0/4)
Enabled interest in different sports (1/1)
Values long-term maintenance of WF (2/0)
Changed perceptions & values (m=7/f=6)
Skill adaptation/acquisition (9/4)
Tactical awareness (3/3)
Analysis of own performance (4/1)
Self-improvement/challenge (0/3)
Walking football-specific learning (m=9/f=6)
Higher sport/PA self-efficacy (5/4)
Sense of purpose (5/3)
Accepting/coping with injury or health condition (5/0)
Adapting to/accepting ageing (6/3)
Sense of achievement (4/1)
Life enhancing/fulfilling (3/2)
Reinforcement of previous sporting identity (4/0)
Mentally stimulating (1/3)
Self-esteem building (0/1)
Empowerment (m=9/f=7)
Mental adaptation (m=9/f=8)
Enjoyment of WF competition (6/5)
Positive mood outside of session (7/2)
Enjoyment of football (4/3)
Perceived physical satisfaction (6/3)
Affectual change (m=9/f=6)
Positive experiences
Positive team cohesion (8/6)
Enabled new social connections (5/6)
Team interaction outside of session (5/6)
Accepted into group/positive team welcome (4/5)
Relating with team members (4/5)
Positive coach interaction (5/1)
Role model in team (3/0)
Strengthen previous social connections (1/1)
Team connections (m=9/f=8)
Social interactions (m=9/f=8)
Support from partner/family during initiation (8/6)
Encouragement from friend (3/1)
Sense of community in sport environment (0/2)
Non-club support networks (m=8/f=7)
Warm up/cool down (4/2)
Tailored to suit injury/health condition (7/1)
Equalised playing field (2/0)
Varied sessions (1/0)
Convenient location (1/5)
Convenient time (2/2)
Reasonable price (0/3)
Session structure (m=9/f=8)
Walking-football specific environment (m=9/f=8)

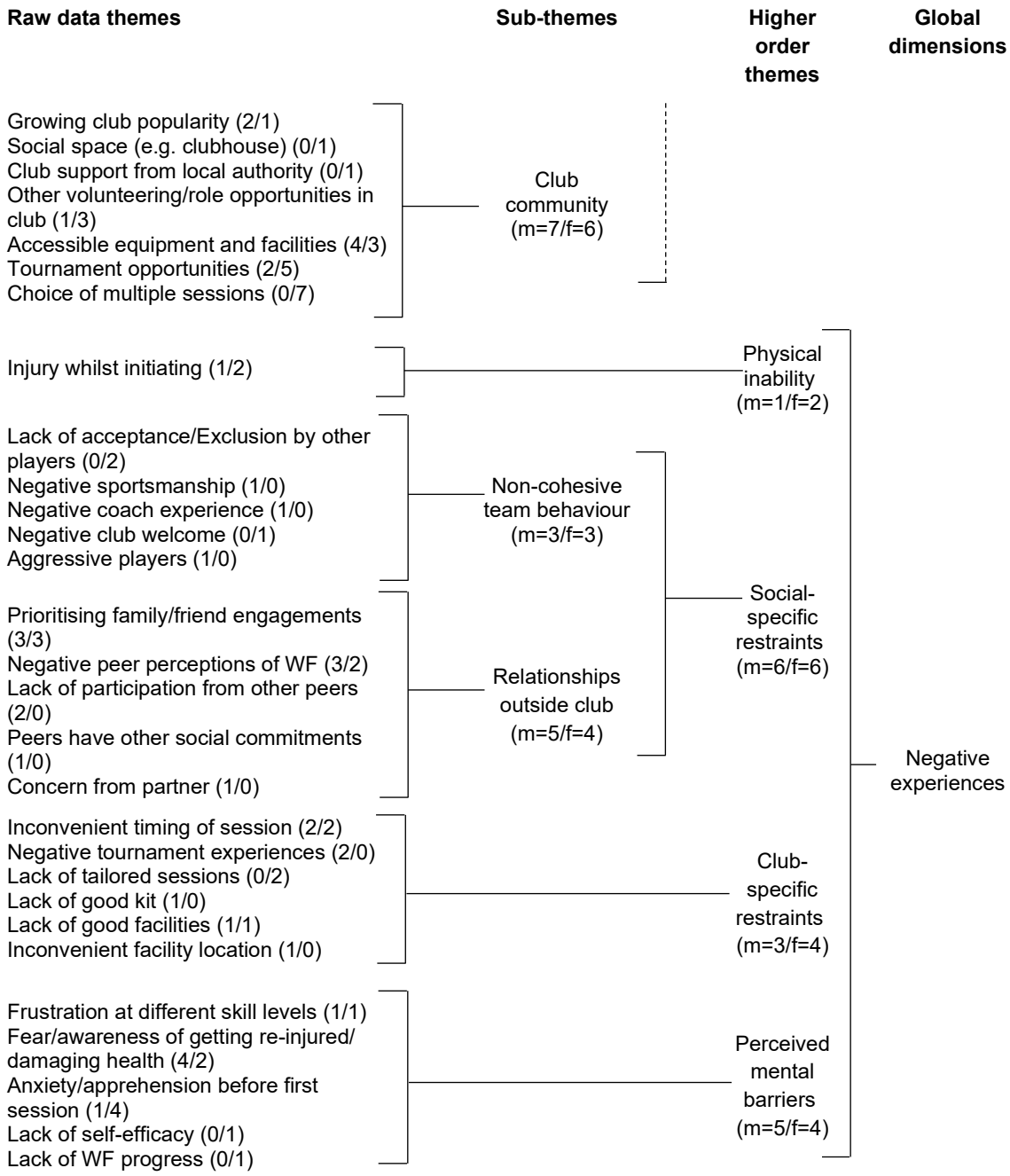


Figure 4.4.2. Factors influencing walking football participation during initiation in 55-75 year-old players.

4.4.2.1 Physical health

Many interviewees, especially female players, attributed an increase in fitness, PA levels and energy to their participation in walking football. As one player expressed, “you don’t come off feeling sluggish, like you do when you sometimes go on and everything and then, it’s just a massive turnaround” (Liz, F, 60). One participant also discussed the physical satisfaction, stating; “it

makes me feel like I've done something, brushed the cobwebs off, um, put a bit of a sweat on, and uh, feel a bit fitter I think" (Jack, M, 61).

One participant mentioned that walking football allowed them to maintain their previous levels of PA, stating "I'm quite active anyway so I think just maintained you know, my level of fitness really" (Victoria, F, 55). Additionally, some participants reported an increase in their overall PA levels, after initiating walking football. When asked about how walking football had influenced them as a person, one person discussed other forms of PA that were taken up after initiating the sport:

> Well I think there's a massive change in me, I'm a lot happier, look forward to football, I'm fitter, I do more things like I'm doing cycling, I'm doing up to two three cycle rides a week which is about 20 miles per ride... and I do boot camp… my friend and I, we've gotta be the oldest ones there and there are a lot of younger ones and we manage to do the whole things, and it seems the younger ones are struggling, so my fitness has gone up so much (Liz, F, 60)

4.4.2.2 Mental adaptation

This higher order theme comprised of four lower-order themes centred on positive mental experiences; changed perceptions and values, walking football-specific learning, empowerment, and positive affect. Within the lower order theme of changed perceptions and values, players talked prominently about positive changes in perceptions of walking football, alongside the awareness of the benefits of walking football. Most players discussed walking football-specific learning, especially skill acquisition, and the adaptation of previous sporting skills. One player highlighted the experience of adapting the tactics and skills required within walking football, compared with mainstream football:

> You can't, well when you pass the ball you can't pass it too far in front of somebody because you can't run to get it whereas in normal football you can pass way in front, run across and get it, and you have to have more precision than anything (Liz, F, 60)

Additionally, many players reported coping of ageing and health conditions, and also higher self-efficacy, not only in walking football but other areas of their lives. One player in particular felt that walking football elicited an increase in self-efficacy levels relating to other activities they took part in:

> Well I think there's a massive change in me, I'm a lot happier, look forward to football, I'm fitter, I do more things like I'm doing cycling, I'm doing up to two, three cycle rides a week which is about 20 miles per ride… when I rode my bike before I went out for five miles on my bike the first time, and I nearly had a seizure doing that as well [laughs] but now I'm [at] 20 miles I can do that so easily now (Liz, F, 60)

Enjoyment of walking football competition, increased positive mood outside of walking football sessions, and general physical satisfaction from playing walking football were all widely reported raw data themes within affectual change from both male and female players, as one female participant describes:

> I personally thrive off that challenge of my, I'm gonna get that ball before you or what have you, do you know what I mean it's, you need that I think cos it for me personally I always liked it, a challenge (Kathleen, F, 61)

4.4.2.3 Social interactions

This higher order theme comprised of two lower-order themes, based around positive experiences of team connections and non-club support networks. Positive team cohesion was reported by two thirds of the players, as well as new social connections being enabled by walking football:

> Everybody's very friendly, and they ask you your name, and they'll talk to you like they've known you forever. So it isn't one of these things were you're a you feel a bit of an outsider. You're in there from day one. (Chris, M, 65)

For those that had discussed managing health conditions, social interactions were also deemed important. One participant who played walking football in a

group with other people managing similar health conditions stated that within the sessions, there was a mutual understanding amongst players, and during initiation, they found it “very comforting to be in the company of other people doing the same thing, going through the same thing as myself...So you don’t feel that isolation” (Chris, M, 65).

Non-club support networks were also important. Support to play walking football by a family member or friend was reported by the majority of the participants. Many participants said that family accepting changes in routine and understanding reasons for playing walking football were important experiences during initiation:

> They are supportive because it does disrupt you know routine at home on a Thursday because you know it’s timing the meal and timing everything else so, you know, it does a little bit so you get that support but they understand why we’re doing it hopefully and what we doing (Jonathan, M, 62)

4.4.2.4 Walking football-specific environment

Factors relating to the walking football environment were also seen to be positive experiences during initiation, with lower-order themes of session structure and club community. Location of the walking football club was mentioned by a number of players, alongside the sessions being tailored to suit injury or health conditions mentioned by half of players interviewed. One player stated that “they tailor the session to look after everybody, so they don’t, it’s not geared for the person who’s the poorliest, it’s geared, they seem to be able to treat everybody differently and so everybody gets something out of it” (Chris, M, 65). Additionally, wider factors related to the club community were also important to some players, such as having the opportunity to play in tournaments, having a choice of available equipment and facilities, and also for many female players, the choice of multiple sessions to play at. Mixed responses came from female players regarding the type of walking football sessions they preferred, with some preferring ladies’ only sessions, for reasons such as the competitive atmosphere experienced during training sessions:

> So I said to [friend] I'm never going to mixed… Um, I think it's a much nicer atmosphere with the ladies, and I'm not being sexist here, I just think it is. They are competitive but not in that, like really nasty competitive in my opinion they just go a bit OTT [over the top], so I think again, I like women's football, the women's walking football, is getting stronger and stronger. (Kathleen, F, 61)

However, some women enjoyed the physical challenges of mixed sessions with male players. One female participant said they preferred the mixed sessions due to the higher skill level experienced in mixed sessions, stating "with the men's ones [sessions] I get fitter because they're all better than you [laughs]" (Claire, F, 58).

4.4.3 Negative experiences during walking football initiation

Higher order themes within negative experiences included physical inability, social-specific restraints, club-specific restraints and perceived mental barriers.

4.4.3.1 Physical inability

Despite most reported experiences from players being positive, there were some negative experiences described. Some players experienced physical inability during initiation, such as injury. As one player recalled, injury whilst initiation created shock and anxiety; "it was purely accidental, we just happened to be coming from two different directions heading for the same place, and collided, but I ended up in a heap on the floor, it shook me up quite a lot" (Anne, F, 65). Two female participants mentioned that this was experienced in initiation, but one male participant also experienced injury when initiating walking football:

> Yeah, calf, thigh, when I started here, cos you're using muscles that you haven't used for years and years and crikey, I've stretched this and it's okay going on the cross trainers and doing a little bit of weightlifting or whatever you do to try and keep fit but, it's different when you start competing, even at walking football. (Jeffrey, M, 71)

4.4.3.2 Social-specific restraints

Negative experiences related to social connections, comprised of non-cohesive team behaviour and out-of-club relationships were reported by players. Cases of negative sportsmanship and not feeling welcome were discussed, alongside a lack of acceptance from other players, which was experienced by female players. One player felt a case of exclusion when taking part in a mixed session and recalled that "funnily enough I went to a mixed session once, just to try it out, never again…the men cheat, they don't know what walking means, and they've been sinbinned every five minutes, plus they don't pass to you" (Kathleen, F, 61). Additionally, negative perceptions of walking football from peers outside the club were also mentioned by some players, with other peers not wanting to play the game:

> I mean the people I play golf with they laughed [scoffs], "you're playing walking football?", you know, they wouldn't dream of it, but um, I know two or three of them would probably enjoy it, I don't think they'd come to walking football though (Jack, M, 61)

Whilst some participants themselves felt comfortable to play, some participants' relatives conveyed different views around playing walking football, being wary of health conditions and injury. One participant describes their spouse having negative views of the sport, and expressed that they had previous views of wanting the participant to cease participation:

> I think she's a bit more amenable to it, yeah. She didn't, she stopped saying I shouldn't come [laughs] and, but she told me tonight to be careful and to take it easy if I wasn't feeling very well. And to opt out if needs be. (Michael, M, 71)

4.4.3.3 Club-specific restraints

Some club-specific restraints were noted by players, with lack of a tailored session mentioned by two players, and negative tournament experiences also taking place in initiation. Inconvenient timing of the sessions was also mentioned by some players, with mixed thoughts on when the best time for

sessions were. Timing of sessions were often inconvenient due to family commitments or events:

> It's like I gave up my other things, but if something else is on I give up the football, to do it you know because, for example I'm going to a wake and Fridays a lot of the time, Friday night's something's on, you know, it does have a knock-on effect because of the day that it's on (Rita, F, 58)

Negative tournament experiences were also mentioned by some male participants. One player mentioned the conduct of other teams tarnished the tournament experience for that player:

> There was blatant cheating going on, and there was some unnecessary and malicious tackling going off as well. So, um, there was an over 50s which we weren't in actually, we were seeing tackles going in thinking this is like 11 a side and so even that was over the top, we were thinking we don't want to be a part of this, this isn't what we're doing walking football for…There were a couple of teams where uh, they were running all the time. As soon as the referee wasn't looking they were running. They were deliberately doing it, and the whole sort of thing left a real sour taste, certainly in my mouth, about it. (Jack, M, 61)

4.4.3.4 Perceived mental barriers

Lastly, perceived mental barriers were highlighted as a negative experience by some players. Some players reported anxiety or apprehension before attending sessions during initiation, as one player recounts:

> So I eventually plucked up the courage to do it cos you know you're walking into something completely in a situation where you don't know anybody and you know it's quite can be quite a big deal, um, so you may have found this yourself at your age, I mean when you get older it becomes more difficult to do because it's all a confidence thing isn't it you know (Anne, F, 65)

Additionally, a prominent mental barrier for some players was the fear of getting injured, or negatively impacting their health condition. For those with diagnosed health conditions, injury was something on their mind throughout initiation, with one player stating they have “to be careful because my back... I lost two inches in height with this [health condition]... my bones are really badly damaged in the pelvic area, so I have to be careful, and my energy levels are not what they were” (Michael, M, 71).

In addition to these negative experiences, some players reported frustration at different skill levels, with one participant discussing the fact that “we try to have reasonably balanced teams but occasionally you can be on the, side of a team that’s unbalanced, and it got a bit frustrating” (Jeffrey, M, 71). A lack of self-efficacy and a lack of progress was also reported in detail by one female player, who perceived themselves to not be skilled at the game; “I don’t think I’m a good player, my sister says I’m good, you’re really good, you know, but I said I don’t understand football” (Rita, F, 58).

4.5 Discussion

The purpose of this study was to identify experiences influencing walking football initiation in young-old adults (55-75 years old). Findings indicated that the process of walking football initiation is multi-faceted, with some themes arising similar to mainstream sport participation, and newer, emergent themes representing the experiences of those initiating walking football specifically. Specifically, a range of factors and experiences perceived to influence engagement and during the initiation process were identified. The wide range of factors extend current research (van Stralen et al., 2009), highlighting emerging factors that need to be considered when older adults initiate a walking sport, such as walking football.

4.5.1 Previous sport experience, values, and initial awareness of walking football

The most discussed enablers to walking football engagement for this population were captured in the themes of PA or sporting experience, and awareness of

the availability of walking football. Most participants highlighted previous participation in sport, with many of these participants discussing their involvement in team sports when they were of a younger age. These raw data themes which were generated are consistent with previous research, highlighting the role of previous sporting experience in sport participation in later life (Jenkin et al., 2017). Whilst sport participation in earlier life was mentioned by many participants, it is important to highlight that some participants started playing walking football without any prior formal sport participation, corroborating with Jenkin and colleagues' (2017) statement that highlights prior sport experience may not always be important for current sport participation. It is also important to note the differences seen between male and female participants' experience of sport at younger ages. Relating to factors delaying participation, half the female participants interviewed highlighted a lack of accessibility to certain sports, especially football, at a young age (most commonly in childhood), whereas in contrast, the majority of male participants highlighted fond memories playing sport in childhood. For many participants who were male, this extended into middle age with opportunities to play in work football teams and football leagues. PA and sport research has studied the barriers relating to gender and less accessibility to sport in childhood to mid-life, and still exist, even with a higher abundance of opportunities for girls and women to take part in sport (Cooky, 2018). Despite walking football providing an inclusive atmosphere to play sport by offering a slower-paced version of the sport, there are still some barriers (systemic, cultural, and wide reaching) relating to women participation and less sporting opportunities when younger, influencing PA choices in later life.

New insights into values and perceptions of those taking part in walking football emerged, suggesting a high importance of a positive outlook on PA and previous sport participation as an enabler of walking football engagement. Values and perceptions congruent with forming positive habit changes, such as PA, have been found to increase the likelihood of PA and long-term behaviour change (Hutchison et al., 2013). This research therefore offers new understanding into values and perceptions from a sport-specific perspective, especially in a young-old population. Additionally, the mindfulness of activity levels and any sport relapse was reported by more participants from clubs in the

least deprived areas, further uncovering different values and perceptions arising amongst different SES backgrounds. Tailoring sports around differing values in certain locations may be an option to increase initiation within a young-old adult population.

The current research also suggests that awareness of walking football programmes may vary between locations of the clubs, with those attending clubs in higher deprivation areas being made aware of programmes through local PA facilities or local football clubs, whereas those from lower deprivation areas were more likely to be made aware of programmes through media outlets such as newspapers, or television. This highlights the need to consider the type of programme awareness and promotion offered in different locations.

4.5.2 Cognitive and social benefits during initiation

During walking football initiation, widely discussed positive experiences of players were captured in the theme of cognitive growth, such as walking-football specific learning and empowerment of individuals (e.g., sense of purpose and higher self-efficacy). Additionally, within the theme of social interactions, positive team cohesion and support from family and peers were widely discussed. Subthemes relating to the tailoring of the game to match health or ageing were also discussed, within the theme of the walking-football specific environment. Social connections and norms as a driver to positive lifestyle change has been highlighted amongst well-known behaviour change models, such as the COM-B ('capability', 'opportunity', 'motivation' and 'behaviour') model (Michie et al., 2011), which focuses on an individual's capabilities, opportunities and motivations, to influence behaviour and lifestyle change. Under the COM-B model, social opportunity sits within this section as being a driver for behaviour change, highlighting the importance of social norms and cues (such as support from family and friends, as seen in the present study).

Previous research within mainstream sport highlights competition and negotiation of the ageing process to be benefits of sport participation for some older adults (Dionigi et al., 2013; Jenkin et al., 2018a) and findings from the present study strengthens these findings, extending it to an adapted sport-

specific context, which has been previously under researched. Additionally, further research found socialising with others and learning new skills to be linked to the enjoyment of the sport (Gayman et al., 2017).

4.5.3 Importance of tailoring walking football for players

Research to date has shown that walking football can provide older adults with an enjoyable alternative to conventional types of physical activity (e.g., attending a gym), provide an opportunity to play sport with less intensity, and create opportunity for psychological growth, for example in player confidence (Reddy et al., 2017). The current study builds on previous literature and highlights new themes, relating to tailoring of the game to suit all abilities and genders. The tailoring of the game to suit each individual's physical state was a prominent theme and highlighted the importance of adapted sports matching older adult ability levels at the stage of initiation. This extended to providing women's sessions for female players, allowing for extra opportunities for adults in later life in addition to conventional gym or outdoor settings. This study's findings found that adapted sports, such as walking football, can offer a level of sport that caters to all abilities, allowing those with poorer health or mobility to participate. This study therefore builds on Jenkin and colleagues' research, which suggested barriers to sport participation such as poor health or fitness, with former club members ceasing participation in certain sports due to this reason (Jenkin et al., 2018a). In addition, the raw data theme of skill acquisition was discussed by many participants as being a positive experience during participation. Previous research conducted into sport practice and learning with older adults suggests that sport can offer cognitive flexibility and motor skills, such as positive changes in reaction times (Dascal & Teixeira, 2016; Lobjois et al., 2006). Therefore, tailoring sessions to focus on skill acquisition and/or improvement may encourage players to initiate walking football, and provide cognitive benefits to older adults playing the sport.

4.5.4 Physical and mental barriers during engagement and initiation

Whilst positive experiences during walking football initiation were widely discussed by the players, some themes were generated which focused on

negative experiences which players had encountered. Specifically, the themes of health conditions affecting the decision to engage in the sport, perceived mental barriers (e.g., fear of re-injury, and a sense of anxiety before initial walking football sessions) and social-specific barriers (e.g., negative peer perceptions of walking football) were highlighted. Physical limitations have been discussed within research into mainstream sport (Jenkin et al., 2018a), and this study supports previous research, with the data highlighting players managing a wide range of health conditions, such as cancer, heart conditions and musculoskeletal conditions. Discussions around fear of re-injury during the initiation of walking football highlights a new aspect to consider when considering players' initiation and ongoing participation of adapted sport, specifically walking football. In addition, the majority of players that expressed anxiety before initial sessions highlighted that social support was an important factor in influencing them to participate in walking football (e.g., peer attendance in the first sessions, or already knowing people at a club). This discourse clearly shows the importance and influence of social support on initiation of walking football within this particular age population.

This research adds to this body of work from a qualitative perspective, highlighting a positive response to tailoring the sport for older age and health conditions, and learning new skills within the remit of walking football. Whilst previous research has highlighted the challenges relating to a ‘sport for all’ social policy and questioning the effectiveness of sport to solve larger scale issues such as obesity (Gard & Dionigi, 2016), the findings presented indicate that adapted sport, such as walking football, may have positive psychosocial effects with older adults within different genders and socioeconomic statuses. The experiences conveyed suggest that walking football provides benefits at initiation such as changes in positive mood and social connections, at a tailored level of play that conventional, mainstream sport may not be able to offer.

4.5.5 Applied implications

From a policy perspective, as many walking sports such as walking football are being marketed to older adults (The FA, 2018a), it is necessary that sporting organisations recognise the experiences involved in the process of initiating an

adapted sport for older adults. Although many players had previously taken part in football, there were many cases of players that had moved from different sports, or not had extensive involvement in sport before. In light of this knowledge, sporting bodies' policies should attempt to introduce frameworks for players to easily move from playing mainstream sport into the adapted version of the sport and recognise walking football as an extension and natural progression of the mainstream version of the game, for those no longer able to play the full game. Additionally, it is important to note that predominantly female players experienced a prior lack of football accessibility and, in some cases, a lack of acceptance from other players. Marketing and promotion of walking football and other adapted sports should appeal to both male and female players and marketing materials should be altered (for example, an onus on social networking and physical benefits for women) to ensure the sport appeals to a vast range of potential players. Depending on the area and location of the club, the methods of programme promotion (either through media outlets, or from a club level such as showcasing walking football at half time) should be carefully considered in order to improve maximum awareness of such programmes.

On a practice level, making clubs and coaches aware of the process of initiation, alongside potential positive and negative experiences involved in walking football participation at older age is crucial. New themes such as values and perceptions of health and PA were widely reported, therefore it is important for coaches to understand, as stipulated by Hutchison and colleagues' (2013), individual players' values and what they expect from sessions on initiation of the sport. In addition, understanding the health capabilities of players and addressing any fears or anxiety prior to joining is important. Therefore, awareness of players' mental and physical state prior to joining, and introducing players to the team in a sensitive way, is recommended for coaches and walking football programmes to take into consideration when inviting new players to sessions. Sessions should be tailored suitably to address injury prevention (e.g., adequate time to warm up and cool down), and coaches may benefit from tailoring sessions to include some skill and competitive aspects, so players may learn skills related to walking football, alongside building on past skills learned during mainstream football play. This may promote self-efficacy

and enjoyment and retain participation from the stage of initiation and into maintaining the behaviour (Barz et al., 2016). Alongside this, the choice of multiple sessions for women was an important factor, having choice to play in a mixed or women's only sessions, for reasons such as appropriate levels of competition.

4.5.6 Strengths, limitations and future research

This study's strengths include that is it the first study to look at in-depth experiences into initiating walking football play, within an older adult age group. The study builds on the understanding around determinants and experience of sport before walking football participation had begun, gaining an in-depth insight into players' experiences and behavioural processes involved before initiation occurred. Alongside this, another strength includes that the specific age group of 55-75 years old was chosen, to understand the processes and experiences in walking football participation for young-old adults, allowing for tailoring activities to specific age groups (McPhee et al., 2016). The research also contained male and female players, to understand in depth experiences from both genders, which limited previous research has divulged. One limitation to note is that results are representative of the study players and therefore may not be representative of all young-old adults. Experiences of 55–75-year-old adults involved in other adapted sports, or those not taking part in sport at all, are not represented in the data. Further research exploring behavioural themes within other adapted sports, and also to explore and compare experiences of those who are not involved in adapted sport, may provide further understanding on how to encourage adapted sport initiation in older adulthood. Assessing the validity of behaviour change theories, such as theories relating to values and perceptions (Hutchison et al., 2013) within the context of adapted sports may also be warranted, in order to understand the transferability of such frameworks into a sporting context.

This paper extends previous knowledge around initiation of sport participation for older adults, such as the importance of previous PA and sporting values when initiating an adapted sport. Within behaviour change literature, limited research has explored initiation within these adapted sports (Jenkin et al.,

2018a), and this research provides further understanding concerning influences present during young-old adults initiating walking football, such as tailoring of the game to match health issues and positive team cohesion. This research also provides rich data (e.g., the role of previous team sport participation and different forms of walking football awareness) concerning sporting and PA experiences before walking football participation takes place. This adds to the body of evidence attempting to explain the gap between intending to and following through with positive lifestyle behaviours (Sniehotta et al., 2005), especially within the domain of sport participation in older adulthood.

However, whilst this study looks at the determinants and experiences involved in initiation of walking football, limitations include that the research is yet to explore determinants or strategies used to maintain adapted sport participation in young-old adults. Health benefits of PA are often seen when committing to activities for a long time period (Laitakari et al., 1996), and these benefits extend into older adults maintaining sport participation, for example improved reaction times (Dascal & Teixeira, 2016). Therefore, further research may involve exploring maintenance strategies in adapted sport participation, in order to provide a strong base of qualitative evidence into initiation and maintenance of adapted sport in older adulthood. As the offer of using life grids was not taken up by participants, recall focusing on previous sporting experience may not be completely accurate. Recall issues in older adults, plus the tendency of attributing a ‘rosy view’ to positive past experiences, may alter people’s perceptions of an experience being more positive than it was when it was originally experienced (Mitchell et al., 1997). Further use of timelines or life grids within qualitative research (Parry et al., 1999; Sheridan et al., 2011) may be prudent to consider when interviewing others on their past participation in sport and exercise, especially when encouraging recall, and further research may benefit from interviewing participants at the time of initiation, in order to compare initiation experiences from those taking part at the time, versus participants who are already maintaining. Opportunities to fill out life grids away from the interview, at a later stage, may encourage participants to fill out the document in their own time. Furthermore, despite gathering SES data relating to the club location, caution should be taken in the specific use of SES by proxy. Whilst this data can provide insight into the location surrounding the club, and

previous research suggests that a closer distance to exercise facilities encourages physical activity in participants of various ages, including adolescents and adults (Reed & Phillips, 2005; Sallis et al., 1990), there is the probability that participants may travel from more affluent areas to take part in less popular forms of activity, such as walking football. Future research should consider collecting SES data specific to the participants, for example postcodes to determine SES from the UK Indices of Multiple Deprivation (Ministry of Housing Communities and Local Government, 2019; Scottish Government, 2016), or other indicators related to deprivation, such as income and education level, which have been suggested to correlate with health status in older adults (Darin-Mattsson et al., 2017).

4.6 Conclusion

This research aimed to understand determinants and experiences of young-old adults (sample range of 55-71 years old) initiating walking football. With the rise in popularity of adapted sports and little evidence exploring behaviour change factors within walking football, it is important to understand older adults' experiences when initiating the sport. This research offers new knowledge highlighting values and perceptions and the awareness of walking sports as influences when initiating walking football in older adulthood. In addition, reporting a positive experience during the initiation phase, such as coping with ageing (including coping with health conditions) and empowering players to develop in older age cognitively and socially, were also important factors. There were also some negative experiences during initiation to consider, such as anxiety, fear of re-injury and negative team dynamics, in order to create an environment conducive to initiation and beyond. Coaches and walking football programmes should look to diversify marketing to include both men and women's experiences of play and understand players' values and perceptions surrounding PA and sport, to encourage positive habit change. Coaches may also benefit from tailoring sessions for different ability levels and genders and help to foster a positive team environment to encourage positive experiences in older adults initiating the sport. Future research should look to focus on long-term maintenance of adapted sports, and strategies used to maintain participation in older adulthood.

4.7 Basis for study two

Study one's findings highlight influences of initiation of walking football, focused across multiple levels, including individual, social, and environmental domains. Individual influences included previous sporting experiences and participants' current health status, alongside social influences including work culture and commitments in other areas of life (e.g., work and family) to be experiences influencing initiation of walking football. These themes are consistent with previous research (van Stralen et al., 2009, 2010) concerning determinants have also been identified for initiation for PA. The same research also indicates some of these determinants (e.g., health status, self efficacy and perceived benefits) are also prevalent in maintenance of PA in older adults. Study one's findings highlight that walking football aids participants in coping and accepting with health conditions, and fosters an increased awareness of perceived benefits of walking football, as well as some participants reporting increased self-efficacy. Therefore, further research into maintenance in walking football is warranted, to explore whether these same experiences garnered from initiation are discussed when considering maintenance of walking football. This work is also consistent with Stenner and colleagues' work (2016) into older adults and the adaptation of golf allowing players to participate long-term, despite encountering physical limitations. As study one's findings highlighted the experience of being able to adapt walking football to players' physical needs, this suggests there is a need to look at the adaptation of sport and its role in promoting long-term maintenance. As a result, the researcher decided to explore player experiences related to the maintenance of walking football. Please read chapter five, which details study two, focusing on maintenance experiences of walking football in 55-75-year-old adults.

Chapter 5: Study two - Experiences and strategies influencing older adults to continue playing walking football

5.1 Introduction to the chapter

This chapter first examines the literature surrounding the maintenance of PA and sport participation, the benefits of adapted sport and the literature regarding the maintenance experiences of participants within the context of sport, especially adapted sports, such as walking football. It then progresses to outline the study methods and findings, which focuses on exploring maintenance experiences in 55-75 year-old adults playing walking football. Finally, the chapter discusses the findings and provides recommendations and implications for practice and future research, and the basis for the final study of the thesis.

5.2 Background to the chapter

As discussed in the literature review (chapter two), in the United Kingdom (UK), adults of 65 years and older will represent a quarter of the population by 2046 (Randall, 2017). It has been reported that 2.8 million people aged over 65 years will require health and social care provision by 2025 (Guzman-Castillo et al., 2017). It has been shown that PA can improve physiological markers, provide a lower risk of all-cause mortality, and deliver psychological benefits (Rezende et al., 2014; Chapman et al., 2013), however, reports suggest that older adults are less likely to be active, with 42% of those over the age of 55 leading inactive or sedentary lives, compared with 29% of the general population (Sport England, 2018; 2020). Inactivity has been linked to the prevalence of non-communicable diseases (Lee et al., 2012), and specifically within the older adult population, risk of falls, cardiovascular mortality and mental conditions such as Alzheimer's disease and depression (Cunningham et al., 2020). Therefore, understanding how to increase and sustain PA in older populations is important to research.

5.2.1 Maintenance of health behaviours in older adults

Maintenance of a health behaviour has been defined as a "sustained behavior during the period of observation that meets a threshold believed to be

necessary to improve health or wellbeing within a given population" (Seymour et al., 2010, p. 667). Many theories, as discussed in the literature review (chapter two) have highlighted behavioural and affective aspects of initiation and especially maintenance. It has been suggested that predictions and theoretical explanations of maintenance should be examined across a variety of contexts and populations (Kwasnicka et al., 2016). Research has suggested that understanding maintenance of health behaviours holds importance, due to the health benefits seen after making positive lifestyle changes over a long period of time. Long-term health benefits of PA and sport are seen when older adults commit to activities for more than six months, and include elevated cardiovascular reserve and skeletal muscle adaptations, alongside reduced psychological distress (Awick et al., 2017; Laitakari et al., 1996; Roberts et al., 2017). Despite these benefits, less is known about how to support the maintenance of PA, especially sport participation, into older age.

Differences between initiation and maintenance phases of PA participation have been identified in research and theory, highlighting a discrepancy in factors and mechanisms present at different stages of this form of lifestyle change (van Stralen et al., 2010; Voils et al., 2014). Different factors regarding initiation, such as individuals' perceived access to facilities and functional limitations were not identifiable in maintenance, where other factors such as enjoyment of PA and having a sports partner were more prevalent (van Stralen et al., 2010). This suggests that initiation and maintenance may be considered as distinct phases in lifestyle change. Moreover, previous research examining sport participation specifically has focused on participation as a whole (Jenkin et al., 2017; Jenkin et al., 2018a), with less focus on participant experiences and influences of sport participation initiation and maintenance. Therefore, it is essential to explore factors that increase the likelihood of increased maintenance to adapted sports and how this might differ from the initiation phase, which may require different behaviour change techniques or interventions to increase sport participation in older adults (Michie et al., 2011).

It has been reported that older adults struggle to maintain PA in the long-term (Chao et al., 2000; Kendrick et al., 2018). As a result, research has found barriers to maintaining PA in older adults, which includes environmental barriers

such as access to facilities, alongside individual barriers such as health concerns (Franco et al., 2015). Therefore, finding strategies to continue to engage adults in activity as they reach later life is important, to increase physical and mental health markers, reduce care needs, and improve overall health-related quality of life (McPhee et al., 2016). Furthermore, there are links to lower PA levels in those with lower socioeconomic status (SES) and gender, within this age group (Stalsberg & Pedersen, 2018). As a result, it is important to consider the impact of various SES backgrounds and gender on PA levels in this population.

5.2.2 Walking football participation in older adults

One form of activity used to engage older adults in PA is through participation in sport. Studies have found multiple factors related to participation in various types of sport, which include previous sporting experience, physical health state and accessibility to sporting facilities (Jenkin et al., 2017). Despite this, much of the research into older adult sport participation has focused on participation as a general term, and there is less research that examines the various stages and processes which contribute to participation. As different experiences and influences between initiation and maintenance in PA in general is seen (see section 5.2.1), understanding various stages of sport participation and especially how to encourage long-term participation, is important to research. Furthermore, previous research suggests that barriers to playing sport include the lack of awareness about available sport programmes for older populations, and physical health state (Jenkin et al., 2018a). Research exploring how best to increase levels of sport participation and alongside this, research focusing on the available and appropriate playing opportunities for older adults is therefore needed (Jenkin et al., 2018a).

Adapted sport participation in older adulthood is an alternative option to conventional forms of PA advised for older adults, such as brisk walking, water aerobics or dancing (National Health Service, 2019). Walking football is one form of adapted sport, which approximately 40,000 people across the UK were estimated to take part in throughout 2019 (Lloyd, 2019). Research has started to explore the physical benefits arising from walking football, for example

significant reductions in body fat, alongside psychological aspects such as enjoyment and forming new social connections (Arnold et al., 2015; Harper et al., 2019; Reddy et al., 2017). As highlighted in study one (chapter four) of this thesis, the availability and choice of walking football sessions, and the acceptance of all ability levels (regardless of injury of health conditions) were also reported by participants as contributing influences when initiating walking football in the first six months of play. Conversely, negative experiences were also reported, relating to injuries or health conditions preventing play, and the experiences of wider football culture, especially in the availability and promotion of women's walking football.

Equally, it is important to note differences within certain subgroups of this population, notably those from different genders and SES. Study one highlighted differences in male and female participants, with more female players mentioning self-efficacy and a perceived increase in fitness as being important during the initiation phase and being able to fit walking football around caring duties for families. Males noted the perception of ageing creating barriers to PA and negative tournament experiences more than female players. In regards to SES, values and perceptions related to health and PA was reported by more participants from the least deprived areas. Collectively, research to date has highlighted the positive effects and antecedents of walking football initiation for older adults, but less is known about experiences of older adults considered to be continuing, or 'maintaining' walking football. Exploring the experiences of initiation and maintenance of adapted sports like walking football can inform the development of effective interventions and policies, aimed at encouraging older adults to continue to play long term.

In summary, there are many benefits that sporting activities, especially adapted sports, offer to older adults when continuing to play long term. Nevertheless, limited research has focused on the maintenance of sport participation in this population, especially in 'adapted sports' like walking football. The aim of this study was to build on study one, which explored initiation experiences in 55- to 75-year-old adults playing walking football. This study aimed to qualitatively explore participant experiences of continuing to play (maintaining) walking football longer term.

5.3 Methods

5.3.1 Research paradigm

As limited research has been conducted to understand older adults' maintenance experiences in adapted sport, a qualitative enquiry was used to explore and address the research question, as in chapter four (Braun & Clarke, 2006; Braun & Clarke, 2019; Clarke & Braun, 2013). As discussed in the methodology (chapter three), an inductive approach to answering the research question was used, due to the pragmatic stance being taken and the limited research in this area, to allow novel data to emerge in this context (Hilton & Johnston, 2017; Laverack, 2017; Ogden, 2016). This study was guided by underpinning principles of phenomenological research (Groenewald, 2004; O'Halloran et al., 2018), aiming to understand the phenomena from the perspective of those involved (Groenewald, 2004). This was used, again due to the limited research into this sporting context, and to explore rich descriptions and narratives with this specific population.

5.3.2 Participants

This study was the second part of a phase of qualitative research, into behaviour change within walking football players. The same participants were interviewed in two parts, exploring initiation and maintenance experiences of walking football, with this study reporting the second part of the interview (maintenance experiences). Part two of the interviews took place immediately after part one with each participant, so to reduce participant burden and provide a coherent account of walking football participation, from initiation to maintenance. As described/outlined in study one (chapter four), participants were recruited from different walking football clubs across the UK. Participants were screened prior to data collection to ensure they met the inclusion criteria for the study, detailed below. Inclusion criteria specified participants fell within the bracket of 55-75 years of age, and were required to have played walking football for six months or more, to ensure participants satisfied the minimum term of maintenance according to previous literature (Lally et al., 2010; van Stralen et al., 2009). Participant recruitment took place through visiting local

football clubs to promote the study, as well as promoting the research via social media channels.

5.3.3 Participant demographics

In total, 17 participants were interviewed (nine male, eight female). These were the same participants as in study one, in order to understand experiences in the same sample, moving from initiation to maintenance. Participants were aged between 55 and 71 years (Mean age = 64 years). Eleven participants had been playing walking football for less than two years at time of interviewing, five participants taking part between two and five years, and one participant taking part for over five years. Fifteen participants had over ten years of experience participating in sport across their lives, with two female participants having two to five years of sporting experience. Participants interviewed were from a range of clubs from areas representing different SES levels. SES was determined by the English indices of deprivation (Department for Communities and Local Government, 2015) and Scottish Index of Multiple Deprivation (Scottish Government, 2020). Five participants played at a club located in an area containing the 20% least deprived population in the UK (high SES), five participants from a club located in an area containing the 40% most deprived UK population (middle SES), and seven participants from a club located within an area containing the 20% most deprived UK population (low SES).

5.3.4 Interview Guide Design

The interview guide was developed acknowledging the research aims, as well as taking into account a review of previous literature within the area of sport participation (Heo et al., 2013; Simkin & Gross, 1994; Stenner et al., 2016). The interview guide applied semi-structured, open questions, addressing themes such as breaks in play, factors motivating continued participation and what may cause long-term breaks from walking football. Example questions from the interview included; *“Tell me about a time you have taken a break in playing walking football"*, *“What are the most important things about walking football that motivate you to continue to participate?”,* and *"What might make you completely stop playing walking football in the future?".* Follow-up questions

(Roulston, 2008) were also used, to attribute meaning to answers and assist participants with recall when being interviewed (McKenna et al., 2004; Wenger, 2011). These included, for example; (when discussing factors relating to continued participation) *"Why is/are that/they most important to you?"* and *"What encourages you to continue playing even when you don't feel like it?"* Prior to data collection, a pilot interview was conducted with an older-aged adult separate from the main sample, but with similar characteristics in age and sporting history. The pilot interview highlighted small, administrative changes to the study, for example rewording of certain language and using lay language (for example, 'staying in the sport' instead of 'maintenance') when asking interview questions. Please refer to appendix 4.1 for the interview guide.

5.3.5 Ethics approval

Ethics approval was obtained from Sheffield Hallam University Research Ethics Committee (ER6894807, May 2018, appendix 4.2). As conducted in study one, as this set of interviews were transcribed verbatim after study one's transcripts, all study two transcripts were transcribed separately and identifiable information about the participant were removed to protect participant anonymity. Sensitive information deleted included the participant's names, any name of any teammates, friend or relative's name, coaches' names, club names or locations of clubs, and locations of tournaments. At the beginning of the interview, participants were reminded that they did not have to answer all the questions asked by the researcher and that they would be able to withdraw from the study at any time during the interview. This was also reiterated at the end of the interview.

5.3.6 Procedure

One-to-one interviews took place face-to-face and via telephone with the lead researcher, who had no prior relationship to the participants interviewed. Nine participants were interviewed face-to-face, and eight participants were interviewed over telephone. The interviews were recorded using a digital sound recorder and the digital data file stored according to General Data Protection Regulation (GDPR) and SHU guidelines on a secure server. Telephone

interviews were chosen to reach participants from diverse locations across the UK. Before interviews, participants received an information sheet and a participant consent form, where informed consent was received via writing or recorded verbal consent, in the case of telephone interviews. Participants also completed a brief demographic questionnaire before the interview, either on paper if the interview was face to face or communicated verbally before the interview if by telephone. This allowed the researcher to obtain further demographic information from the participants (age, gender, sporting experience, and time playing walking football). Club locations have not been disclosed to ensure participant anonymity in line with GDPR guidelines.

As part two of the interview took place directly after part one (chapter four), participants were offered the opportunity to fill out a lifegrid (a hard-copy or digital grid). The researcher outlined that the lifegrid was available for participants to detail prevalent years relating to previous and current sport participation, ages they started sports, and any life events which coincided with sport participation) in order to help improve recall (Parry et al., 1999), however similar to study one, no participants chose to utilise this. The mean interview time was 27 minutes for part two of the interview. Where possible, 'memoing' was used and notes were taken by the researcher where possible whilst the interviews were taking place, to collect any useful reflections on the interview that may not have been explicit on the interview file (Miles & Huberman, 1994). Participants were debriefed immediately following the interview and offered the chance to email or contact the researcher regarding the study or provide any information they had not discussed within the interview. All participants were contacted and offered the chance to read transcripts as part of member checking (Birt et al., 2016); four participants confirmed reading transcripts with no changes to be made, with the others participants not responding to the email with any changes to be made.

5.3.7 Data analysis

Seventeen interviews were analysed and transcribed. One recording was made for both part one (chapter four) and part two of the interview, but transcription of part two of the interview, concerning maintenance, did not take place until after

part one (initiation) was analysed. The analysis for parts one and two of the interview were therefore entirely separate. Interviews were transcribed by the lead researcher with Microsoft Word and Audio Notetaker (Sonocent, Leeds, UK), and after all transcripts had been completed, personal details were removed from transcripts to protect participant anonymity. Once all data from recordings were transcribed, transcripts were read multiple times, allowing for immersion in the data (Miles & Huberman, 1994). The lead author coded the interviews using the NVivo software package (QSR International Pty Ltd, Version 11, 2017, Burlington, MA, USA). An inductive thematic approach was implemented when coding raw data, allowing for novel themes to be generated from the data collected (Braun & Clarke, 2006; Thomas, 2006). A pre-given framework was not assigned to the findings, in line with principles of phenomenology and to allow for a rich and in-depth account of individual experiences (O'Halloran et al., 2018). Peer review of the data occurred independently by a researcher within the field of behavioural psychology. The second researcher reviewed transcripts and codes determined by the initial researcher. Discussions between the two researchers resolved any coding differences.

5.3.8 Enhancing trustworthiness of the qualitative research

Steps to confirm trustworthiness within qualitative research is important to conduct, with the aim that the researcher's analysis reflects the lived experiences of participants as closely as possible (Kornbluh, 2015). As a result, the research has outlined below steps taken in order to ensure trustworthiness within this study. Additional discussion of the themes and subthemes took place within the wider PhD supervision team (all BPS Chartered Psychologists, with expertise in qualitative research and sport and exercise psychology), in order to reach agreement of the themes, generate meaningful understanding of the data and to maintain analytic rigour (Braun & Clarke, 2019; Tracy, 2010). Lastly, further discussion of the themes also took place with a 'critical friend', who reviewed the revised themes to ensure clarity of the theming undertaken by the researcher and the team. This provided the researcher with further reflections on the themes, and highlighted any potential bias (Marshall & Rossman, 2011, p. 262). The 'critical friend' was an academic colleague outside the field of

psychology and walking football, and therefore had a lay understanding of both fields and able to provide unbiased advice on the themes presented.

5.3.9 Follow-up survey

When analysing the interviews, it became apparent that session-specific factors (e.g., satisfaction with club location) and coach characteristics were important influences on walking football maintenance, discussed widely by the participants in the interviews. Therefore, it was decided that a follow up survey was to be developed, to gain further information relating to the synthesised, analysed data and confirm findings from participants' initial interviews (Birt et al., 2016; Persaud, 2010). Using a survey to collect this information was selected, so to follow a pragmatic approach and allow for practical relevance, gaining a more thorough understanding that would further inform recommendations for sporting bodies, clubs and coaches. The survey was also beneficial, in order to lessen participant burden of undertaking another interview due to time constraints.

Ethical approval was gained (ER6894807, Appendix 5.1) and the survey was implemented through the Qualtrics online survey platform (Qualtrics, 2020, Utah, USA). The same participants that took part in the qualitative interviews were invited to take part in the survey. Responses were anonymous, and participants were shown an information sheet and informed consent was gained before taking part in the survey.

Questions relating to findings of the interview were developed by the research team. The survey contained 14 questions and consisted of three sections; demographic information, questions focused on session structure and questions focused on coach characteristics (please see Appendix 5.2). For the session structure section, participants were asked how many walking football sessions they were currently attending and how many they would like to attend, current and ideal times spent on parts of the sessions (e.g. warm up, skills), and asked to tick the three most appealing factors about the session structure ("*What are the three most appealing things about the walking football sessions you attend*?"). For the coach characteristics section, participants were asked what

the three most desirable attributes of their coach are, which encourage them to attend their walking football sessions. A further question asking participants to tick the three most negative attributes of a coach which would deter participants from attending a walking football session was developed (‘*What three characteristics of a coach would deter you from attending a walking football session?’*). Open-ended questions were also developed for the session structure and coach characteristics sections (e.g., “*do you have any further comments about the coach who runs your session*?”).

5.4 Findings

5.4.1 Identified themes

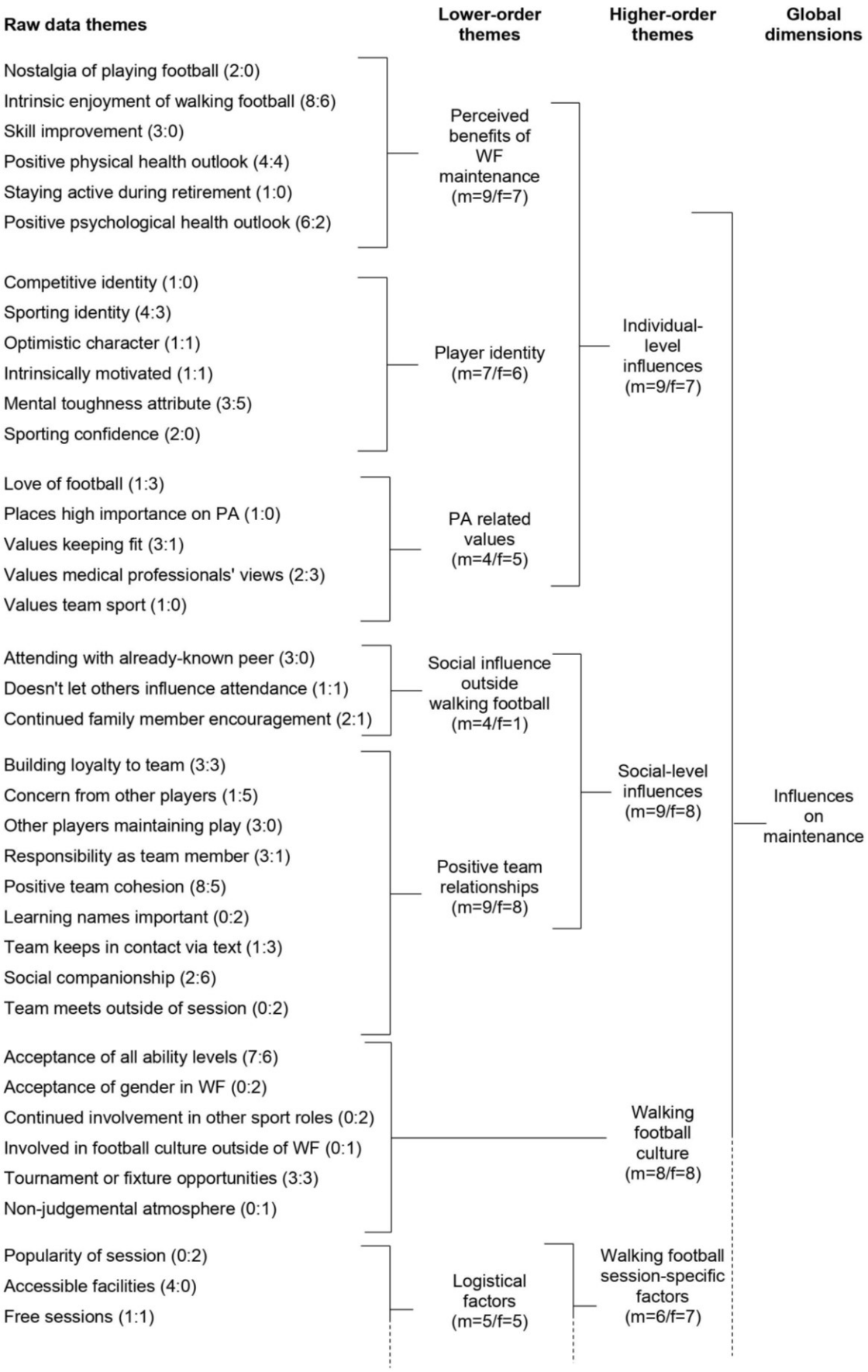
A total of 114 raw-data themes were generated from the analysis of the data. Further analyses of the raw-data themes generated five higher order and 10 lower order themes that collectively represented influences involved in participants’ walking football maintenance. Two higher order and four lower order themes represented the global dimension concerning mechanisms related to maintenance.

The full analysis of higher order, lower order and raw data themes can be seen in Figure 5.4.1. Each of the higher order themes will be explained in detail below and where subtle differences arose between genders and those from different socio-economic areas, these have been noted within the relevant theme. Within the figures provided, the gender split of each raw data theme has been recorded (e.g., 4/4, male to female respectively). Verbatim quotes are provided to demonstrate themes and are labelled with a player pseudonym, gender (e.g., M = male / F = female) and player age (e.g., 65). A participant characteristics table can be seen below (Table 5.4.1).

Table 5.4.1. Participant characteristics (study two)

Psudonym	Age	Gender	Telephone (T) or Face to Face (F) interview	Walking football duration	Lifetime sporting experience (years)	Club Deprivation Area (SES)
Jim	61	M	F	1-2 years	10+ years	20% least deprived
William	64	M	F	6-12 months	10+ years	20% least deprived
Theo	62	M	F	1-2 years	10+ years	20% least deprived
Frank	65	M	F	1-2 years	10+ years	20% most deprived
Charles	71	M	F	2-3 years	10+ years	20% most deprived
Timothy	71	M	F	6-12 months	10+ years	20% most deprived
Paul	71	M	F	1-2 years	10+ years	20% most deprived
Joseph	63	M	F	6-12 months	10+ years	20% least deprived
Alice	65	F	T	5 years +	10+ years	40% most deprived
Alfie	65	M	F	2-3 years	10+ years	20% least deprived
Nina	60	F	T	1-2 years	3-5 years	40% most deprived
Emily	64	F	T	3-5 years	10+ years	40% most deprived
Anna	61	F	T	1-2 years	10+ years	40% most deprived
Andrea	66	F	T	3-5 years	10+ years	10% most deprived
Heather	58	F	T	1-2 years	2-3 years	40% most deprived
Olivia	58	F	T	2-3 years	10+ years	10% most deprived
Florence	55	F	T	6-12 months	10+ years	10% most deprived

*Names have been changed to protect participant confidentiality.


Raw data themes
Lower-order themes
Higher-order themes
Global dimensions
Nostalgia of playing football (2:0)
Intrinsic enjoyment of walking football (8:6)
Skill improvement (3:0)
Positive physical health outlook (4:4)
Staying active during retirement (1:0)
Positive psychological health outlook (6:2)
Perceived benefits of WF maintenance (m=9/f=7)
Competitive identity (1:0)
Sporting identity (4:3)
Optimistic character (1:1)
Intrinsically motivated (1:1)
Mental toughness attribute (3:5)
Sporting confidence (2:0)
Player identity (m=7/f=6)
Individual-level influences (m=9/f=7)
Love of football (1:3)
Places high importance on PA (1:0)
Values keeping fit (3:1)
Values medical professionals' views (2:3)
Values team sport (1:0)
PA related values (m=4/f=5)
Attending with already-known peer (3:0)
Doesn't let others influence attendance (1:1)
Continued family member encouragement (2:1)
Social influence outside walking football (m=4/f=1)
Building loyalty to team (3:3)
Concern from other players (1:5)
Other players maintaining play (3:0)
Responsibility as team member (3:1)
Positive team cohesion (8:5)
Learning names important (0:2)
Team keeps in contact via text (1:3)
Social companionship (2:6)
Team meets outside of session (0:2)
Positive team relationships (m=9/f=8)
Social-level influences (m=9/f=8)
Influences on maintenance
Acceptance of all ability levels (7:6)
Acceptance of gender in WF (0:2)
Continued involvement in other sport roles (0:2)
Involved in football culture outside of WF (0:1)
Tournament or fixture opportunities (3:3)
Non-judgemental atmosphere (0:1)
Walking football culture (m=8/f=8)
Popularity of session (0:2)
Accessible facilities (4:0)
Free sessions (1:1)
Logistical factors (m=5/f=5)
Walking football session-specific factors (m=6/f=7)

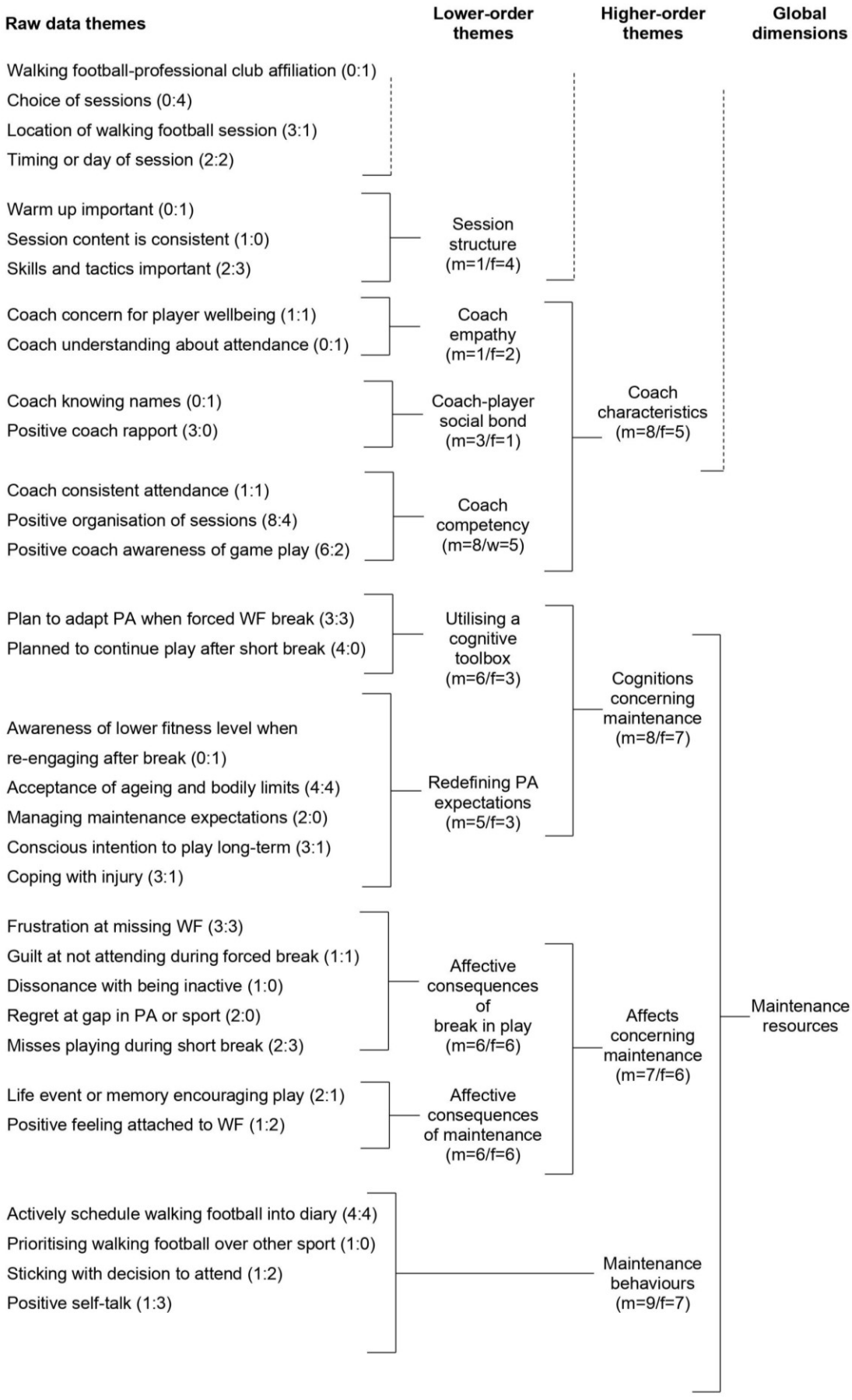


Figure 5.4.1. Experiences influencing maintenance in 55-75 year old walking football players

5.4.2 Influences on walking football maintenance

Higher order themes related to influences on walking football maintenance, which were aspects of a participant's life believed to encourage walking football for those continuing to play after six months. These included individual-factor influences, social-factor influences, walking football culture, walking football session-specific factors, and coach characteristics.

5.4.2.1 Individual-level influences

Three lower order themes were generated, creating the higher order theme of individual level influences. The three lower order themes were perceived benefits of walking football maintenance, player identity and PA related values. A positive physical and psychological health outlook was prominent amongst participants, and whilst both male and female participants acknowledged the physical benefits of taking part in the sport, noticeably more male participants reported the psychological benefits related to playing walking football. One participant discussed that walking football served as a respite from daily life, stating "yeah, you don't have anything else on your mind for that hour. No matter what's going on in your life." (William, M, 64). The intrinsic enjoyment (i.e., inherent enjoyment, rather than enjoyment for a particular outcome) of walking football was also important to two-thirds of participants, with one participant explaining that she never felt as though she did not want to attend football sessions, unlike more conventional types of exercise:

> When you question not going, sometimes I think oh no I'm not looking forward to this boot camp on Thursday, I never ever have that on the Monday or the Friday at football (Nina, F, 60)

Participants also reported that a strong sporting identity encouraged them to maintain play, with a large proportion of participant interviews reporting many years of sport involvement. One participant stated "I've always done something sporty. You know, almost always, apart from a gap when I hurt my back and I couldn't. So, there's always something that says you know, I want to do something, I want to do something" (Theo, M, 62). Experiences related to the

player's ability to persist and manage setbacks (i.e. mental toughness) was reported by approximately half the participants interviewed, which encouraged maintenance and helped overcome barriers to participation on a weekly basis. Many participants claimed that they did not avoid sessions due to bad weather, with one participant saying that they have “been out there in the rain before now, and played football and loved it and thinking yes, you know I ain't frightened of rain” (Heather, F, 58).

Long-term values and perceptions participants held around sport, health and exercise were also discussed as influential on maintenance. Overall, values relating to maintenance included the love of football. One participant expressed that “I love five a side and this [walking football] is to me my five a side now” (Jim, M, 61), highlighting the continuation of previous sport participation and team sport. In addition, many participants from varying SES levels valued medical professionals’ views on PA and sport, with some participants discussing that they would take medical professional recommendations seriously and consider ceasing walking football play if their doctor advised against playing walking football:

> I mean up till now, I've mentioned it to my doctors and what have you when I've been to whatever, they've been like oh no that's great, yes brilliant, exercise good for you, so. I think until somebody tells me you can't do that anymore then I'm gonna do it. (Alice, F, 65)

5.4.2.2 Social-level influences

Two lower order themes were identified as social-level influences on walking football maintenance: social influence outside walking football and positive team relationships. Positive encouragement from peers outside of walking football was believed to facilitate maintenance, and family members were also reported to actively encourage participants to maintain behaviour. One participant discussed her relative’s positive influence on attending walking football sessions, stating that “I think sometimes you do feel tired but then sometimes I even hear my sister's voice... you know because it's um, once you get out there, you get going again" (Heather, F, 58). Some participants also felt that attending walking football sessions with a peer encouraged maintenance, with one

participant discussing the influence his friend had on sporting activities throughout their lifetime:

> I've known [friend] um, thirty odd years, our wives used to work together, kids are same age, they grew up knowing each other so, you know there's a lot of interplay or whatever, and we just go, we are different people without a doubt but um, he's a bit older than me but um, we just do things whatever, we've played tennis in the past together, we've played cricket probably about three or four times together, um, but you know, it just works somehow. (Theo, M, 62)

As well as support from family and peers, the majority of participants widely discussed the importance of team relationships. Positive team cohesion was discussed by over two thirds of participants interviewed, particularly the camaraderie of the teams and encouragement given between team members, as well as one participant mentioning that “You feel as though you're part of a football team” (Charles, M, 71). One participant highlighted the importance of belonging to a walking football team who were managing similar health conditions, highlighting that they felt “happy and comfortable in the company with people who have got the same problems I've got.” (Frank, M, 65). Women participants also highlighted the support and specifically the concern from other members of the team if they had missed a session or injured themselves in play, as highlighted by one participant:

> You have the caring side where [teammate], I mean I don't think I've experienced it myself but she got a really bad cramp...and she could not get her knee back but, they all stopped and you have about four or five of them round her trying to help her and comfort her (Anna, F, 61).

Male participants also reported team connections, however, discussions focused more on responsibility of turning up to sessions, which aided maintenance in walking football for some participants. One participant talked of the responsibility to turn up so teams can be made up to play games, “just because I don't feel like it, it's not an excuse.” (Frank, M, 65). Women players

tended to also discuss the companionship gained in sessions, and that sessions offered more than a chance to play sport:

> The companionship…you've got the competitive edge of the game, but it's a chance to meet up with the girls and have a chat, and oh what have you been doing, and particularly, if the [professional club] have played or the other teams we go, oh [club] has finally won a game you know what I mean (Anna, F, 61)

5.4.2.3 Walking football culture

This higher order theme related to the culture surrounding walking football which influenced participants' continued engagement in the sport. Culture refers to "the values, ceremonies and way of life characteristic of a given group" (Jarvie, 2006, p. 5). Many participants described the acceptance of all ability levels within the club, with one participant discussing the opportunity to play with others who have varying mental and physical conditions:

> For me the important thing about those sessions is giving people who wouldn't normally get the chance to play at all, the opportunity to play, I mean there's one guy there who's got dementia, you know we don't change over at half time because it adds another aspect that you've got to focus on (Alice, F, 65)

Additionally, many participants were encouraged by the club providing opportunities to play in fixtures or tournaments. Several participants highlighted tournaments as an opportunity to bond with team members of all abilities, and participants expressed a general level of acceptance and team cohesion even if games were lost, "so long as we played our best as a team" (Jim, M, 61). One female participant also mentioned the positive nature of tournaments in relation to self-confidence and cultivating team connections:

> I never would have even contemplated doing [a tournament], but you know things like that, doing the football tournament to Spain, you know, I was the only woman in a bunch of like, 15 blokes, you know what, so

> what?... I tried, a couple in my closer friends from football were there and, you know it was great. (Alice, F, 65)

Lastly, some female players discussed the acceptance of their gender whilst playing walking football with male players. One female player discussed the acceptance of ability and skill level amongst the men in the club:

> We've got some women who played with us, and they are phenomenal… you hear the men talk about them, in such awe, saying oh wow, I'm not going in goal if she's shooting, you know things like that. And you think, yeah we're really accepted up there. (Nina, F, 60)

5.4.2.4 Walking football session-specific factors

This higher order theme consisted of two lower order themes, relating to logistical factors and session structure. Within the lower order theme of logistical factors, accessible and free sessions for those who may not be able to afford weekly sessions were discussed by some participants of varying SES levels, as well as female participants discussing the choice of sessions as being an important factor. One participant discussed the benefit of having access to multiple sessions, with different groups for different ages:

> There's so many different sessions that, not particularly different abilities but different age groups, to be able to, participate so, say, if, they've got an over 50s group, and I can go and play in that, just because it says over 50s, and you're over 60 doesn't mean you can't go to us, so it's such a great mix (Nina, F, 60)

In terms of the walking football session structure, both male and female participants discussed the ability to practice skills and tactics within sessions. One participant discussed that skills and tactics were only weaved into sessions when attendance had dropped, for example, over summer months, or when participants went away on holiday:

> Then when we first started, and it's like, three of us who've turned up, to one [session], and that can happen in the summer sometimes, when

> people go off on their holidays and some things, it, just been given little skills to practice and things (Andrea, F, 66)

Nevertheless, some participants felt that further emphasis on skills and tactics would be beneficial within sessions, in order to improve ability during maintenance:

> I think because, you know having played it for a year now and it, I'd say it's dropped hints to us about tactics or a couple you know, calling people's names and things like that when you go for the ball and telling them where you want it, but it's good to reemphasise that (Paul, M, 71)

5.4.2.5 Coach characteristics

This higher order theme relates to the coach characteristics which were highlighted by participants as important factors in their maintenance of walking football. Lower order themes included coach empathy, the coach-player social bond, and coach competency. Regarding coach competency, positive organisation of sessions and awareness of game play was highlighted by the majority of participants as important for walking football maintenance, with many participants praising the coach for enforcing correct walking football rules, as highlighted by one participant:

> [Coach] again, is very much on top of it, if you get, and we had one the other week, a guy started he was new, he was, possibly a bit younger than most of us cos it's any age group it's not whatever, he was 40s I suppose, and he was getting a bit keen and getting a bit kicky or whatever, yeah we don't do that, no. (Theo, M, 62)

Nevertheless, one participant noted confusion when it came to game play and rule interpretation. They said that “there's not an overall governing body that sets the rules… it sort of, lends itself to interpretation” (Florence, 55, F) and that there are concerns for when players are not penalised for running. Participants appreciated when the coach showed concern for team players’ well-being, and female participants often discussed the coach’s empathy if any injury issues were presented or reasons for missing a session. More male participants than

female discussed the social bond with the coach and the coach knowing the players' names was discussed, alongside positive coach rapport and 'pulling [coach's] leg a little bit' (Paul, M, 71), highlighting 'banter' shared between the team and coach.

5.4.3 Maintenance resources

The global dimension of maintenance resources refers to the cognitive, affective and behavioural processes which participants employed during maintenance of walking football, to manage behaviour and continue walking football play. Higher order themes within this global dimension included maintenance thought processes and maintenance behaviours.

5.4.3.1 Cognitions concerning maintenance

There were two lower order themes within this higher order theme, relating to thoughts participants experienced when considering how to maintain walking football. These themes were utilising a cognitive toolbox and redefining PA expectations. 'Utilising a cognitive toolbox' referred to the participants' thought processes when adapting PA activities, after being forced to take a break from walking football. One participant discussed the return to PA when taking a break from walking football due to medical reasons. They stated that when they returned, they were "taking it steady. Building up, and I did that at the gym, did that, I started gingerly playing golf again, going for walks, just gradually not throwing myself at it to get myself back to where I was" (Frank, M, 65).

The redefining of ageing and acceptance of bodily limits was discussed by half of the participants interviewed, when discussing maintenance experiences. One participant discussed the cognitive acceptance of bodily limits when ageing, in relation to injury whilst playing walking football:

> I hurt my foot, and it was like I can't I know I can't go but I've resigned to the fact yeah, it's okay so... I'll be back this week and back we go again, boom, gone. You know. You have to accept that that might happen, and it can happen and it probably will happen. You know, to people at our kind of age. (Theo, M, 62)

Alongside this awareness and acceptance of bodily limits, participants discussed the flexibility of walking football being beneficial for maintaining participation, especially when returning from injury. One participant discussed the flexibility of playing in different positions when returning from injury and if they have “just got another pain, um, and they'll just sort of stay in goal” (Emily, F, 64).

5.4.3.2 Affects concerning maintenance

Within this higher order theme, two lower order themes relating to affective consequences of break in play and affective consequences of maintenance were discussed. Participants talked about the affective consequences of small, planned and unplanned breaks in walking football (for example, through an injury or a holiday). Some participants expressed they missed playing the sport, with one player stating they “had to get back” (Olivia, F, 58). This was often paired with a dissonance of being inactive, or having guilt for not attending during a short break, as one player recalls when a break was forced, due to a medical procedure:

> I felt guilty not being here to be honest with you, it's a bit like when you go to work [laughs] you know when you go to work and you're off sick and you think I should be at work, what am I doing, I should be at work. It's a bit like that, so Wednesday nights came round and I was sending [coach] a text saying I'm a bit under the weather I don't think I can make it tonight, I actually felt I wanted to do it. (Frank, M, 65)

Further affective consequences of maintenance were discussed by participants, which related to the feelings some players had as a consequence of maintaining walking football play. Some participants shared their experiences of having positive feelings attached to walking football, with one participant recalling affects after the session has finished, stating “rarely you felt, oh I wish I hadn't come tonight” (Paul, M, 71). Another participant discussed that maintenance changed the feelings related to walking football, “because having done it so many times, you just know that you do feel better, after” (Emily, F,

64). In some participant experiences, a previous life event or memory encouraged ongoing play:

> It really does make you realise you know, I mean, I lost my partner, we'd been together [number] years…it brings it home to you, you know there's so many things that we talked about doing that we didn't, we never had the chance to do, we'll never have the chance to do, and it's true what they say, life's too short... And I'm gonna keep on doing it. (Alice, F, 65)

5.4.3.3 Maintenance behaviours

This theme relates to the behaviours participants actively employ to keep themselves playing walking football. Three of the most prominent behaviours discussed by participants were sticking with the decision to attend, actively scheduling walking football into a diary, and prioritising walking football over other sports and PA. Having walking football sessions as part of a weekly routine was believed to facilitate ongoing maintenance and help to overcome any potential barriers. Planning walking football into participants' schedules ensured that other commitments could be scheduled around the walking football, and that walking football is "habit, it's in my head, Thursday night, is walking football night, and I go, say it's freezing cold, chucking it down with rain, whatever, I will go, and there will always be somebody there" (Jim, M, 61). Other players discussing scheduling walking football around work commitments:

> And I will arrange work around, now you know, the more I can choose the easier it is, and I will choose to have, keep the Thursday free. So my strategy is keep Thursdays free for uh, walking football and every Thursday that I'm around I will play it, you know. (Jim, 61, M)

Some participants made sure on a weekly basis that commitments (e.g., part-time work, or social occasions) did not clash with walking football commitments and made "sure things work round" walking football (Charles, M, 71). One player discussed prioritising walking football over other activities, and stated that "if there's something [that] comes up that stops me from going I'm thinking I'd rather be doing that [laughs] I'd rather be playing football" (Alice, 65, F).

For a number of participants, committing to the decision to attend was important to maintaining walking football participation for some participants interviewed, both male and female. Participants expressed that “once I've made my mind up, to go, I tend to stick with that decision” (Timothy, M, 71). Positive self-talk was also discussed as a helpful maintenance technique. Positive self-talk was reported more by females and was said to facilitate motivation to attend sessions:

> You've gotta get up and get yourself motivated because you've gotta tell yourself, you've gotta talk to yourself and I do, I talk to myself, not out loud but I tell myself you lazy so and so, you know, get up (Heather, F, 58)

5.4.4 Follow-up survey findings

Out of the 17 participants who took part in interviews, 14 participants took part in the survey (an 82.4% completion rate). The participants took an average of 9 minutes and 54 seconds to complete the survey. Eight female participants and six male participants took part and were from a range of ages within the 55-75 year-old age bracket. 35% of participants took part in a men’s only walking football sessions, 35.7% took part in a women’s only session and 28.6% took part in a mixed-gender session.

Relating to session structure, participants highlighted that the current number of session per week they attended was the same as the ideal number of sessions per week that they would like to attend (one session). Regarding actual and desired time spent on various parts of the session (e.g., warm up, skills), overall, participants stated they would like to spend less time on games, and slightly more time on all other aspects of the session (warm up, skills, tactics and cool down). Participants reemphasised the need for more skills sessions and on average, when asked how many minutes they would like to spend on skills within a session, said approximately five minutes would be preferred. Participants were also asked to state the three most appealing factors of walking football sessions. Eleven participants listed good facilities as being an appealing factor of their sessions, followed by the time of session and the

chance to play in tournaments. Participants were also given the opportunity to write any further comments related to their walking football sessions, where positive comments relating to the ‘fun’ nature of the sessions, camaraderie amongst players and well organised sessions were all stated.

The survey section relating to coach characteristics reinforced initial themes discussed in interviews. Participants were asked to state the three most appealing coach characteristics that encouraged them to attend a session. Overall, welcoming new members, enforcing walking football rules and having a sense of humour were the most ticked responses by participants, stressing the importance of rapport amongst coach and players, but also the competency of the coach when it came to enforcing rules. Comments submitted about coach characteristics praised the efforts of the coach, and their effort to welcome all including newcomers, having a caring attitude and providing a professional session, as well as everyone’s opinion about the way the sessions are run being taken on board. Regarding coach characteristics that would deter participants from attending walking football sessions, the highest ticked responses were ‘doesn’t care about my wellbeing’, ‘doesn’t know my name’ and ‘doesn’t enforce walking football rules’. Some participants, when asked for comments, felt that coaches had a tendency to even up games if one team was falling behind, which one respondent felt was ‘treating them like kids’. One participant recorded that there were different coaches and felt it would be ‘good for the same coach to attend’.

5.5 Discussion

There are many benefits that PA offers to older adults when continuing to participate long term, namely reducing disease risk and maintaining, or improving, cognitive function (Rezende et al., 2014; Chapman et al., 2013). New research into sport participation contexts and adapted sport have highlighted the experiences of participation in mainstream sporting activities (Jenkin et al., 2018a), and the benefits that adapted forms of sport can bring (Reddy et al., 2017). There is a paucity of research focusing on the specific experiences of maintenance of sport participation, especially in 'adapted sports' like walking football. The purpose of this study was to explore the experiences

of those older adults (55-75) who were maintaining their participation in walking football. Findings from the current study have suggested that continued participation, or maintenance, in walking football are due to many factors and influences. Novel findings have been found within this study which specifically relate to walking football, as well as similar themes arising in previous mainstream sport participation literature.

5.5.1 The importance of individual factors

Individual level influences, such as perceived benefits of walking football maintenance were highlighted by the majority of participants, including the enjoyment of competition, the enjoyment of the game itself, and also the positive outlook of physical and psychological benefits. Similar themes have emerged in previous research, with Stenner and colleagues (2016) highlighting perceived benefits as being a reason for older adults' regular involvement in golf, alongside Jenkin and colleagues (2018) highlighting the importance of competition within walking basketball players. Rothman and colleagues (2009) Theory of Behaviour Maintenance highlights factors such as the importance of satisfaction of the behavior change, and making temporal comparisons, as being integral to behavior maintenance. This is seen in this study's findings, with participants highlighting the benefits gained from playing walking football (both physical and mental). van Stralen and colleagues (2010) also highlighted intrinsic motivation as being a driver for PA maintenance in people over 50 years. Self Determination Theory, coined by Ryan and Deci (2000), also highlights the importance of intrinsically focused goals in maintaining health behaviours such as PA.

Further research and systematic reviews have supported the positive relationship between intrinsic motivation and long-term exercise and PA adherence (Standage & Ryan, 2020; Teixeira et al., 2012). Despite these similarities to previous studies, the walking football players in this study discussed qualities of walking football that were sport specific, such as the ability to compete whilst playing in a safe environment. Walking football players tended to have a strong sporting identity, and walking football allowed players to continue playing sport where mainstream sport participation was not

possible, for example during injury or experiencing a health condition. This highlights the valuable use of adapted sports, allowing for those who may not be able to participate in higher intensity sports to maintain sport participation in older adulthood.

Values and perceptions of PA were also highlighted amongst participants. This supports previous research within sport and exercise psychology, into the importance of matching an individuals' core values to the PA behaviour, in order to create long-term change (Hutchison et al., 2013). Interestingly, a number of participants (both male and female, from varying SES levels) discussed their values relating to medical professionals' views on walking football and PA, with participants stating they would consider giving up walking football participation if a medical professional advised against play. Previous research has highlighted the importance of healthcare provider advice in relation to PA support (van Stralen et al., 2010), however no research has explored this within sport participation specifically. This research highlights the importance older adults place on their healthcare providers 'approving' their participation in walking football, and the influence this may have on players' continuation in the sport. Additionally, previous theories have discussed the benefits of implicit attitudes within the stage of initiation (Rothman et al., 2009), however this was not highlighted as salient in the stage of maintenance. This study suggests that values and perceptions relating to health and the behaviour still remain important in 55-75-year-old walking football players.

5.5.2 Walking football relationships and culture facilitating maintenance

Social influences within and outside the club environment were important in the maintenance of walking football. Whilst social influences outside of the club (such as support and encouragement from family members) were discussed, the majority of discussions focused on the walking football culture itself, from club culture, to coach characteristics and team connections. This research supports previous PA research in older adults, suggesting social support, such as from family members and peers, is important when maintaining PA habits (Maula et al., 2019; van Stralen et al., 2009; Wahlich et al., 2017), and previous

walking football research has highlighted the importance of team connections during interventions with older adults (Reddy et al., 2017). Current findings also draw parallels with other population groups, including youth sport and the notion of a positive 'social climate' influencing intention to continue, including relationships with parents, coaches and peers (Gardner et al., 2016). It is also important to note the different source of social support that participants discussed widely in study two (club and coach connections), compared to study one (outside club support). The change in significance of certain social connections as the participant moves from initiation to maintenance of walking football is supported by theories such as The Convoy Model (Antonucci et al, 2014), which posits that people have various friendship circles that have different significance to the individual at certain points in their lifespan. The theory highlights how social relationships change as someone ages, and could explain the change from participants looking to family members and friends outside the walking club for support in initiation (study one, chapter four), versus the support they receive from other players and coaches during maintenance of the sport.

In the current study, whilst some older adults simply went to play walking football and were not interested in forming new social connections, the majority of participants highlighted the importance of camaraderie, companionship, social connections, and having a good relationship with the coach. This theme was similar to themes found during experiences of initiation in study one (chapter four). These findings contradict previous research by Kinnafick and colleagues (2014), where relationships and ‘relatedness’ (as highlighted in Deci & Ryan’s [2000] Self Determination Theory) were found to be more important within the initiation phase and less so in the maintenance phase for women taking part in a walking intervention, and highlights the continuing need for positive social connections in sport throughout the life span in not only initiation, but also within the maintenance phase in specific contexts such as walking football.

Furthermore, players discussed the influence of having a responsibility to other team members, by attending walking football sessions. This was demonstrated by players suggesting that to make up enough players in the session to play

games, they would have to turn up to play as well. Similar approaches to behaviour change have been seen across other contexts, for example changing behaviours affecting the environment, where consumer conceptions of responsibility for causing and tackling climate change have been found to have a relationship with environment-related consumer behaviour (Wells et al., 2011). This influence highlights a novel way of looking at behaviour maintenance through a lens of responsibility that players attribute to being a team member.

Despite most social influences being centred around team members and the club, players often discussed the importance of a health care professional's (HCP) encouragement, such as from a general practitioner (GP) or nurse, when asked what would stop them from playing walking football. The importance of the opinion expressed by medical professionals when encouraging PA poses an important question around the referral and encouragement of various types of PA to older adults. Further qualitative research has found that HCPs described the need to offer patients a graded approach to increasing levels of PA (Speake et al., 2019). Walking football or other adapted sports may be one such example of activities that can be offered to patients as part of PA referral, which warrants further research, especially considering the encouraging findings seen in other walking football studies, with patients managing type two diabetes and serious mental health conditions (Barbosa et al., 2020; Lamont et al., 2017).

Themes from this study included the ongoing acceptance of all ability levels from a club culture level. By accepting older adults with varying levels of football, or indeed walking football experience, walking football may offer a more lenient atmosphere that mainstream sport with a higher intensity may not be able to offer. Again, similar parallels can be drawn to youth sport and the influence of an inclusive club culture (e.g. a 'caring climate') encouraging commitment to a sport (Newton et al., 2007). This study reinforces that a caring and inclusive club culture is important to cultivate, no matter the age of the players. One unique finding included the acceptance of people from both genders playing the sport together and the praise of women's skills and footballing technique, fuelling a culture of equality amongst genders.

5.5.3 The role of walking-football: session specific factors

Lastly, session specific factors were found to play a role in influencing walking football maintenance in older adults. Logistical factors such as the choice of different sessions to play at, alongside accessible facilities and in some cases free sessions were all related to ongoing maintenance of the sport. Previous research suggests that by giving players choice and accessibility to sessions, the initiation of PA and sport is encouraged (Jenkin et al., 2018a; Michie et al., 2011; van Stralen et al., 2009). Whilst many maintenance theories have focused on the individual and social aspects of maintenance, such as Rothman et al., (2000; 2009), some theories and models have explored environmental aspects on maintenance of health behaviours, such as access to facilities and the safety of such environments (Nigg et al., 2008; Sallis et al., 2012). These session-specific factors highlight the importance of keeping sessions accessible beyond the initiation phase (such as choice of sessions and good facilities), in order to influence further and longer-term engagement. This highlights how certain aspects of the walking football environment can encourage maintenance.

Furthermore, a skills and tactics portion of the session was deemed important by both male and female participants, highlighting the interest in learning skills alongside playing the game, which has been seen to aid positive development within older adulthood, both physical and psychologically (Baker et al., 2010; Pesce & Audiffren, 2011). One of the most discused components within models of behaviour change is self-efficacy, noted in such theories as Social Cognitive Theory (Bandura, 1997). Self-efficacy has been found in recent research to increase effectiveness in achieving maintenance of PA in young to middle-aged adults, at six to nine months from adopting the behaviour (Murray et al., 2017). This research highlights support for self-efficacy and the interest in skill-learning within a specific sporting context, in an older adult population. The findings from this study further the support for considering the importance of skill learning and self-efficacy on maintenance behaviour, in the novel context of adapted sport.

Overall, the identified influences on walking football maintenance can be supported by previous research (van Stralen et al., 2009) and established

ecological models relating to PA participation (Spence & Lee, 2003), which highlight a set of multilevel influences (intra- and extraindividual) on an individual's PA levels. Such influences included individual-level influences such as player identity, social support, and a suitable environment and culture on the ability to maintain walking football play. Nevertheless, new themes represented the added factors relating to adapted sport, such as the walking football specific culture, and coach specific characteristics, which suggest different factors to consider when examining adapted sport's ability to encourage PA maintenance in older adults.

5.5.4 The utilisation of individual maintenance resources

Cognitions, affects, and behaviours relating to walking football maintenance were discussed widely by participants. Some conversations surrounding this theme focused on the planning of breaks in play (e.g., holiday or injury) and in the cases of mostly female participants, the use of self-talk to encourage participation. The availability of 'maintenance resources' have been discussed in previous literature and suggest that the availability of these psychological and physical assets that can be drawn on during maintenance may affect the individual's ability to maintain the behaviour (Kwasnicka et al., 2016). Additionally, behaviours influencing walking football maintenance included embedding the routine of walking football sessions into the participants' lives and sticking with the decision to attend sessions. Cognitions experienced by the participants, especially the affective consequences of PA and planning for breaks in play, supports previous evidence relating to behaviour change and a repeated, consistent performance of the specific lifestyle behaviour that has been changed (Rothman et al., 2009; van Stralen et al., 2009). Furthermore, with participants stating their affective responses and use of maintenance resources when facing breaks in play such as a lapse (defined by Simkin and Gross [1994] as a 1-week break from exercise) or relapse (a 3-week or more break), this study supports previous research in the relationship between coping strategies and a positive exercise outcome in long-term exercisers (Stetson et al., 2005). This study further highlights the fluidity of behaviour change and , rather than appearing as structured stages as within theories such as the Transtheoretical Model (Prochaska et al., 2009).

Redefining of PA and bodily expectations was also discussed by half the participants from a range of SES levels, and highlights similarities between Rothman's theory of behaviour maintenance (2009), and 'shifting expectations' behaviour seen in the maintenance phase of a healthier lifestyle behaviour, suggesting this can be seen across different behaviours, from dietary change to PA. Narratives from the participants suggested that due to walking football's adaptive nature (such as the ability to change player positions and play at a gentler speed), the sport allowed time for injuries to settle and for players to adapt to a new sporting life in older age. This may suggest that walking sports such as walking football, may aid older adults to shift expectations in their PA ability as they reach older age.

Despite these similarities, Rothman and colleagues' study (2009) suggests planning and implementation intentions were primarily seen within the stages of initiation, whereas this study suggests that planning and intention to play long term is still important at the stage of maintenance, in relation to attending walking football sessions and with some players planning in their diary when to attend sessions. This highlights the need to consider the role of planning and implementation intentions when encouraging PA or sport maintenance in older adulthood and encouraging active planning of attending sessions into the maintenance stage. It is also important to note that whilst previous research has highlighted sport participation in later life to help older adults redefine and accept older age and bodily limitations (Dionigi, 2002; Dionigi et al., 2013) some research has reported that sport, in some instances, can hinder this and push older adults into denying ageing processes. One such example of an age process is degeneration (Dionigi et al., 2013), which could encourage ignorance of injuries in this population. This knowledge provides an understanding into how adapted sport can provide older adults with a form of PA, while allowing players to accept bodily limits and adapt play to suit this, as an alternative to mainstream sport.

5.5.5 Applied implications and future research

Much of the analysis into walking football maintenance highlights the use of the sport to encourage continued sport participation and on a broader level, PA participation. Many conversations related to cognitions and behaviours concerning maintenance provide insight into relapse prevention, for example the affective response to missing walking football sessions, players planning walking football into schedules, and the adaptation of PA when experiencing a short break from play. These findings echo previous research outlining the core facets of relapse prevention interventions, which include the use of skills training, cognitive restructuring, and lifestyle balancing (Larimer et al., 2003). It is therefore advised that coaches and clubs increase their awareness of those returning from injury or planning to go on holiday, encouraging walking football play on return.

Within the interviews, the participants' respect and reliance on medical professionals' opinions concerning taking part in PA and sport was evident, across SES levels and gender. It is therefore important that health professionals understand the benefits and risks of walking football play, so they can appropriately advice activities to those looking to increase PA levels. With much recent research highlighting the benefits of a whole system approach and the need for preventative medicine (Brannan et al., 2019), further education for medical professionals on the scope and range of different types of PA is essential. Environmental, session-specific factors should also be taken on board, such as accessible facilities and choice of sessions, in order to give older adults, the biggest opportunity to maintaining play.

Lastly, the influence of the walking football coach should not be underestimated. The coach characteristics were repeatedly highlighted by participants as influencing their behaviours and subsequent maintenance. This included both their motivational behaviours and their technical and games-based knowledge. Managing group dynamics and promoting a safe playing culture is important to consider when considering motivational behaviours, alongside demonstrating an empathetic approach to players, when concerns regarding ability and understanding of the game are expressed by team

members. When considering technical and games-based knowledge, coaches should organise sessions as much as possible to include not only game play, but aspects of tactics and skills which may help players improve and progress over time. Furthermore, a firm grasp of the walking football laws of the game, as well as enacting these laws when refereeing, is important to consider alongside promoting a safe-playing culture among team members.

In terms of future research, as the majority of work into psychosocial and behavioural aspects of adapted sports has been largely explorative until now, further research to assess the effectiveness of individual, social and environmental factors on adapted sport maintenance would be advised, and may include exploring the fit of behaviour change frameworks into this context. Further research may include prospective cohort studies to understand the key ingredients and outcomes of adapted sport maintenance. The findings may also be used to inform the development of programmes or strategies to enhance the ongoing participation of older adults in sport. Further research into behavioural aspects of other emerging adapted sports, such as walking netball and walking rugby, would also be recommended.

5.5.6 Strengths and limitations

This study furthers understanding concerning experiences of maintenance of adapted sport, which had not been studied previously. The use of in-depth qualitative analysis enabled an understanding of motivations to maintain walking football to understand the mechanisms involved in this phase of participation, and strategies used to continue play. There is still limited research in the maintenance and relapse prevention of PA and differing PA contexts (Kinnafick et al., 2014; Kwasnicka et al., 2016). This study aims to provide more information in reasons for, and how older adults have maintained a specific context of PA (walking football), so relevant approaches to tailoring PA for this age group can be achieved. Further strengths, as in study one (chapter four), include a balanced gender sample so female experiences in walking football could be recorded, which has not been prioritised in previous walking football research. Recording club location to understand experiences from clubs situated in different SES areas, and a range of participants from across England

and Scotland were also used to achieve a balanced sample as possible across the UK.

The main limitation of this study is that it presents the view of currently active players only. Limited research has explored the reasons for relapsing or dropping out of PA, and quantitative data rather than qualitative are often presented as part of large-scale interventions, rather than gaining in-depth qualitative data (Kinnafick et al., 2014). Further research exploring perceptions of walking football from those that have dropped out of the sport and the views of other stakeholders, such as coaches, may provide additional insight into the challenges posed when maintaining sport participation. Furthermore, other PA contexts, even in the case of other walking sports, may generate different experiences and themes, therefore future research should explore other walking sports available (e.g. walking netball, walking tennis) to compare and contrast with the data collected in this study. As with study one, club location used as a proxy for SES should be taken with consideration, as players from more affluent areas could travel to other areas to play walking football, if a club is not present in their area. In future research, data should be collected to represent individual participant SES, for example postcode data or data relating to health status (e.g. income level, or educational level).

5.6 Conclusion

This research aimed to understand experiences and influences of older adults, between 55-75 years old, continuing walking football play. Whilst maintenance has been heavily documented within PA research, maintenance of sport participation from the perspective of older adults, especially within walking football, is less understood. This research offers new knowledge highlighting the ongoing awareness of walking football benefits, maintaining play after injury or a short break, and social influences such as coach and team influence on player maintenance. Furthermore, a positive walking football culture is an important influence when maintaining walking football play. Additionally, maintenance mechanisms such as cognitions (e.g., redefining PA expectations) and behaviours, (e.g., planning walking football into schedules) are important to players when maintaining play. Policy and practice suggestions include coach

awareness of players returning from illness or injury and wider awareness amongst healthcare professionals, of walking football as alternative PA for older adults. The findings can be used to inform the development of programmes or strategies to enhance the ongoing participation of older adults in sport.

5.7 Basis for study three

The qualitative findings from studies one and two provide a basis for understanding the initiation and maintenance experiences of 55–75-year-old adults. The following section summarises the previous two studies and the basis for the final study in this thesis (chapter six).

5.7.1 Study one and two summary

In summary, the qualitative data previously conducted suggests a number of experiences when engaging, initiating, and maintaining, an adapted sport in older adulthood, such as walking football. Studies one and two also provides an understanding into similarities and differences seen between the initiation and maintenance phases in walking football participation.

Within study one (chapter four), experiences during engagement, such as health conditions, previous sporting experience and the awareness of walking football sessions, play a part in the initiation process. Whilst the awareness of the sport seems to be an important influence, values and perceptions linked to health and exercise were discussed widely when referring to the initiation stage. Other main factors during initiation, such as the walking football environment, the social aspect of playing sport and individual factors such as learning new skills and increasing confidence were identified.

Many individual experiences discussed in the initiation of walking football play were also identified within the maintenance stage during interviews. A player's sporting or exercise identity were noted as having an influence at the maintenance stage, as well as the perceived benefits of playing the sport, such as increased energy or health. Social influences were frequently discussed as an influence during the maintenance phase, as well as continued attention

towards the walking football environment (such as time and availability of sessions) and a continued sense of having a supportive walking football culture and community.

Separate experiences not discussed as frequently when considering the period of initiation, were aspects such as coach characteristics, health professional engagement and also the use of what we have defined as ‘maintenance resources’ (Kwasnicka et al., 2016). During maintenance, the relationship with the coach and also the encouragement (or discouragement) of a health professional such as a GP seemed to have an influence on maintenance. Furthermore, maintenance resources such as making time for playing walking football by scheduling sessions into diary, considering the affective consequences of maintenance (or conversely, a break in play), and sticking with the decision to attend are all aspects discussed during the maintenance phase specifically. Therefore, despite some deep-rooted influences seen through both initiation and maintenance, separate aspects are suggested to have an effect when continuing play long term.

5.7.2 Research progression into study three

Studies one and two (chapters four and five) used qualitative methods to explore experiences influencing walking football initiation and maintenance. Less research has quantitatively investigated factors influencing participation in the sport. Furthermore, individual differences in sample characteristics were discussed in the qualitative studies (e.g. players of different genders and those with varying health conditions), and a large number of influences were experienced by participants. Therefore, it is important to understand differences between initiation and maintenance across the characteristics of those who maintain walking football, in order to identify factors which could aid the development of initiatives that may foster or encourage initiation and maintenance of walking football (Fraser & Galinsky, 2010). Further quantitative work surrounding walking football initiation and maintenance will allow for the findings from study one and two to be scaled to a larger population and identify important factors related to the uptake and continuation of walking football among older adults.

The final study was conducted, to quantitatively investigate differences in walking football initiation and maintenance influences across key characteristics, and examine the relationships of these key variables and influences on the intention to return to play after a forced break (in this specific case, Coronavirus-19 restrictions). These variables included gender, socio-economic status (SES), health conditions and weekly PA levels, and the study assessed the findings from studies one and two (chapters four and five) quantitatively and at scale. This was achieved by conducting a cross sectional study, comprising of an empirically grounded survey, developed from the two previous studies on walking football initiation and maintenance. Chapter six outlines the survey development, methods, and findings of study three.

Chapter 6: Study three - Influences on walking football initiation and maintenance among older adults: differences and relationships across respondent characteristics

6.1 Introduction

This chapter details the final study conducted in the thesis (study three). The first aim of this study was to investigate differences in the influences impacting upon the initiation of walking football (herein referred to as 'initiation influences') across groups defined by SES, gender, number of health conditions and weekly PA levels. The second aim of this study was to investigate influences impacting upon the maintenance of walking football (referred to as 'maintenance influences') across groups defined by the same characteristics. The third aim of this study was to examine which factors contribute most to the intention to play walking football after COVID-19 restrictions ease. These aims were developed to test, at scale, the findings from studies one and two (chapters four and five). The background to the study is presented and details the survey development procedure, in line with mixed methods research guidelines. Results from the data analysis are discussed, and discussion points are highlighted, as well as strengths, limitations, and future research directions.

6.2 Background

Research has shown that PA improves physiological and psychological health markers in older adults (Chapman et al., 2013; Rezende et al., 2014), however recent reports suggest that older adults in particular (compared with the general population) are more likely to lead inactive lives (Sport England, 2018). Furthermore, research shows that older adults were less likely to maintain PA long-term (Kendrick et al., 2018). Sport participation in older adulthood offers additional psychological and physical benefits in older age, including less total sedentary behaviour, quicker reaction times, and better self-reported health related quality of life than those that do not play sport (Gayman et al., 2017; Pesce & Audiffren, 2011). Despite these benefits, research reports a number of barriers to sport participation in older age, including a lack of accessible sport

programmes (e.g., inappropriate facilities or lack of senior competitions) for those aged over 55 years (Jenkin et al., 2018a). Therefore, it is important to understand what forms of activity can help increase and maintain older adult PA levels.

Research into walking football, a popular form of football among older adults (Lloyd, 2019) highlights physiological and psychological benefits to playing the sport for those 50 years old and over, including reducing blood pressure and forming new social connections (Arnold et al., 2015; Reddy et al., 2017). Furthermore, the qualitative research conducted in studies one and two of this thesis (chapters four and five) has furthered understanding of psychosocial and behavioural aspects of initiating and maintaining walking football play in older adults. These studies have highlighted influences on initiation (e.g., health status, values and perceptions) and influences on maintenance (e.g., team connections and availability of maintenance resources). The studies also highlight that whilst some influences are present across both initiation and maintenance (e.g., sporting experience and a supportive walking football culture), some influences also differ across initiation and maintenance, such as the importance of a supportive coach figure, and the presence of maintenance resources to aid long-term participation.

Not only do influences seem to differ across behaviour change phases, but these influences were found to differ across gender and SES. In study one (chapter four) the awareness of walking football sessions differed between those from clubs situated in high and low SES areas, with those playing at clubs situated in low SES areas stating awareness through PA facilities and local football clubs. Furthermore, in study two (chapter five), female players primarily mentioned using self-talk in the maintenance of walking football. In addition, health status and various health conditions were discussed as being reasons for delaying participation and causing breaks in play. This data supports previous research highlighting the importance of health status, with poor health being a barrier to sport participation among older adults (Jenkin et al., 2017).

Many participants in studies one and two (chapters four and five) also discussed the influence of sport and PA experience, highlighting the impact of

previous PA experience, and some participants described how walking football helped maintain previous PA levels. These findings are supported by previous research, which shows that previous and sustained activity behaviour can be an important influence on the maintenance of sport participation (Stenner, Buckley, et al., 2020; van Stralen et al., 2010). This evidence suggests that personal characteristics of the player may influence their participation in walking football and other sports in older adulthood. Therefore, the role of respondent characteristics on initiation and maintenance influences in walking football should be investigated, so walking football sessions and marketing can be tailored to target audiences, with the aim of encouraging the uptake and maintenance of walking football participation among diverse groups. These groups may include both male and female, and those with varying SES, health status and PA levels.

A large number of influences on the initiation and maintenance of walking football among older adults were identified in studies one and two (chapters four and five) demonstrating the wide range of experiences older adults encounter when initiating and maintaining walking football. Whilst it was important to understand the rich experience of walking football, it makes it difficult to assess what the most influential factors on these phases are, and whether these differ between respondent characteristics. To further knowledge, understanding and make wider generalisations, it is important to understand what the most salient influences are at each phase of play for different population groups. This would provide clubs and sporting bodies with further information to tailor marketing campaigns and walking football club resources which can maximise impact, and interventions and programmes can be designed in a way that best encourages initiation and maintenance of walking football in older adults.

6.2.1 Aims of the study

The aims of the study are as follows:

1. To investigate differences in influences of walking football initiation across SES, gender, health conditions and weekly PA

2. To investigate differences in influences of walking football maintenance across SES, gender, health conditions and weekly PA
3. To examine which characteristics, initiation and maintenance influences contribute most to the intention to continue playing walking football after COVID-19 restrictions ease.

This study used the generated themes from the qualitative data in studies one and two (chapters four and five) to inform the development of an empirically-grounded survey, to achieve the aims of this study. As discussed in section 5.7.1.2, the survey provides the integration point of the mixed methods exploratory sequential design of this thesis (Schoonenboom & Burke Johnson, 2017), using the qualitative data from studies one and two (chapters four and five) to inform and guide the quantitative survey development.

6.3 Methods

This section details the design of the survey and study procedure, with the reporting of the study adhering to the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) guidelines (Eysenbach, 2004).

6.3.1 Respondents

Respondents were 439 older adults (392 male and 47 female) between 50 and 75 years, recruited from UK walking football clubs. Purposive sampling was conducted to recruit respondents. Recruitment was conducted solely online due to the COVID-19 pandemic, using social media, and contacting clubs via email, to advertise the survey to their players. Further snowball sampling was used, with players being asked at the end of the survey to advertise to other players. It became apparent in the previous studies that female participants tended to have experienced a lack of accessibility to mainstream football in earlier life, therefore prompting an uptake of walking football at a slightly younger age than male players. Therefore, setting the inclusion criteria age to 50-75 years-old instead of 55-75 years old provided a better overall representation of walking football players. To complete the survey, respondents were required to have at least six months' experience playing walking football, to ensure participants satisfied the minimum term of maintenance according to previous literature

(Lally et al., 2010; van Stralen et al., 2009), not including any time where clubs were suspended during the COVID-19 pandemic. Respondents were recruited if they had started playing walking football on or before the 23rd September 2019 (six months prior to the UK COVID-19 lockdown). The respondents were also required to be of UK residence, so postcodes for SES data could be recorded. Respondents were also requested to provide information around their lifetime sport experience (types of sport played, years played and days per week played) and how they became aware of walking football to gather further information, as participants in studies one and two (chapters four and five) widely discussed previous sport experiences through adolescence and middle age, and their awareness of walking football within interviews.

6.3.2 Sample size

G*Power 3 was used to calculate a sample size for the cross-sectional survey (Faul et al., 2007), based on a medium effect size of d = 0.5 (f^2 = 0.15) and estimated power of 0.90. The suggested total sample size was n=96, however the researcher aimed to recruit at least 300 participants in order to account for dropout and to produce scalable findings, as well as aiming for similar sample sizes as previous studies. Previous papers with similar purposes (Ashford et al., 1993; Ashton et al., 2017; Ryu et al., 2018) used sample sizes of 339, 282, and 153 participants, respectively.

6.3.3 Survey development

An empirically grounded survey was designed by the researcher to achieve study three's aims. Mixed methods research criteria states that it is important to consider an 'integration' point between the qualitative and quantitative data, where the intent is to bring the data together, to provide insight and enhance the value of mixed methods research (Fetters et al., 2013). Within an exploratory sequential design, as highlighted in the methodology section (chapter three), the researcher collects and analyses qualitative data, which then informs the quantitative data collection phase. The method of using qualitative data to inform survey development has been used in previous relevant research, where initial qualitative analysis was used to develop a

survey from the themes generated, so key concepts from the qualitative phase could be subsequently measured with a larger population (Gould et al., 2002; Wallace et al., 2012). This study followed a similar methodology, and took an empirically grounded approach to developing the survey, meaning the findings from the qualitative studies (chapters four and five) directly informed the content of the survey. This meant the new survey was context-specific to walking football, and allowed the experiences discussed in the semi-structured interviews to be quantified, to understanding differences across sub-groups of the walking football population and test findings in a larger sample. Furthermore, due to breaks in play during maintenance being discussed by participants in studies one and two, a further section on the intention to play after a forced break, such as the COVID-19 restrictions, was added. It was necessary to develop a new survey, due to the lack of existing instruments to assess walking football participation, and to ensure the survey was context specific and suitable for the respondents.

The survey development involved three rounds of design plus refinement after the pilot survey, routinely reviewed by the supervisory team. The first round of design involved taking the higher order themes from the qualitative studies and forming survey subscales, using the lower order themes contained in each higher order theme. The second stage of survey development involved researching whether any existing surveys or questionnaires contained questions that addressed the topic. If so, questions were extracted from the existing survey or questionnaire subscales, and the researcher decided whether any amendments to the wording were needed to make the question appropriate for the walking football context. For example, a lower order theme in social level influences from study two was positive team relationships, so an appropriate question drawn from the Physical Activity Group Environment Questionnaire (Estabrooks & Carron, 2000) was “I have good friends in this walking football group”. If no suitable survey question already existed, new questions were developed by the researcher and behaviour change literature was used to aid any item development, observing similar language used in previous questionnaires and surveys. For example, one lower order theme was session structure from the higher order theme of walking football environment in study one, but the researcher did not find an existing survey question that addressed

this topic, so created a new question, “The location of the walking football club was suitable for me”. See section 6.3.3.1 for a description of all the measures used in the survey.

The third round of survey development involved formatting them within the online survey software Qualtrics (Provo, UT, 2020). When structuring the survey, the researcher randomised survey items in the initiation and maintenance sections of the survey to eliminate order bias (Bishop, 2011). Additional adaptive questioning was added to the survey on some questions (e.g., perceived change in PA during COVID-19 restrictions), to reduce the number of items respondents had to complete. There were 18 pages or web screens of items. The survey was developed so respondents were able to review or change their answers, via a back button on the survey.

Using a combination of existing and bespoke questions was a pragmatic choice. Both techniques were empirically grounded in the data from the qualitative studies. With the existing questions, question clarity and understanding has been examined in previous literature validating questionnaires, for example the Behavioural Regulation in exercise Questionnaire (BREQ) which has been tested in multiple populations (Markland & Tobin, 2004). This approach also follows similar mixed methods research in sport and health domains, which has used combinations of previously published surveys and developed questions to answer the research aims (Ashford et al., 1993; Crowther et al., 2017; Hwang et al., 2020; Rice et al., 2019).

6.3.4 Measures

The survey structure is presented in appendix 6.1, and the full survey, as well as copyright permissions are found in appendix 6.2.

6.3.4.1 Measures to assess initiation influences

18 items measured influences on walking football initiation, based on the previous themes from study one (chapter four). The subscales for initiation were psychological influences, social influences and walking football environment. The wording of items were based on a combination of published questionnaires

and surveys, and data from studies one and two (chapters four and five), to generate a robust survey that met the aims of the overall thesis. Respondents were expected to answer each of the items on a 5-point Likert scale, ranging from ‘not true of me at all’ to ‘extremely true of me’.

The first four items were adapted from a self-assessment tool developed to measure older adults’ perceptions of PA and exercise (Devereaux Melillo et al., 1997) which covers the lower order theme of perceived improvement of physiological and psychological health. A further two items were adapted from the Behavioural Regulation of Exercise Questionnaire (BREQ-2, Markland & Tobin, 2004), which covered the lower order theme relating to values and perceptions. Wording for a further two items were adapted from the Sport Motivation Scale (SMS), by Pelletier and colleagues (1995, 2013), which covers the theme of walking football specific learning. Two items were adapted taking into consideration the item wording in the Physical Activity Group Environment Questionnaire (Estabrooks & Carron, 2000), and two items relating to the non-club support network theme were adapted from a survey focusing on social support for exercise (Anderson et al., 2016), covering the theme of social interactions. Taking into account the theme on walking football environment, the club community was assessed via two items from the Caring Climate Scale (Newton et al., 2007). A further two items were developed by the researcher from the quotes in study one, based on the subtheme of empowerment, focusing on confidence and purpose. Two further items assessing session structure were developed by the researcher, asking questions relating to the location of the club, and specific session structure.

6.3.4.2 Measures to assess maintenance influences

35 items were used to measure influences on walking football maintenance.The subscales for initiation were psychological influences, social level influences, walking football culture, coach characteristics, walking football session-specific factors, and availability of maintenance resources. Respondents were again expected to answer each of the items on a 5-point Likert scale, ranging from ‘not true of me at all’ to ‘extremely true of me’. Please refer to appendix 6.2 for the table of questions used.

Relating to the higher order theme of psychological influences from study two (chapter five), the same two items for 'values and perceptions' in the initiation section of this survey were used for the maintenance theme of values and perceptions. The same four items for perceived physical and psychological benefits of walking football in the initiation section of the survey were also used in the maintenance section. A further two items relating to sporting identity, based on participant quotes from study two (chapter five), were developed by the researcher.

Relating to the social level influences higher order theme from study two (chapter five), items were worded taking into consideration six validated questionnaires. The same two items for team relationships in the initiation section were used in this subscale. The same two items relating to the theme of social influences outside walking football in the initiation section, were used. A further two items surrounding health professional encouragement were adapted from the Athletic Identity Questionnaire (Anderson, 2004). Six items focusing on the coach characteristics lower order theme in study two (chapter five) were adapted from the Barrett-Lennard Empathy Scale (Barrett-Lennard, 1962), the Coach-Athlete Relationship Questionnaire (CART-Q) by Jowett & Ntoumanis (2004), and from Myers and colleagues' (2006) survey questions concerning coach competency.

Relating to the higher order theme of walking football culture in study two (chapter five), two items were adapted from the Caring Climate Scale (Newton et al., 2007). Relating to the walking football session-specific higher order theme in study two (chapter five), three items were developed by the researcher to assess logistical factors and two items developed to assess session structure. Questions were developed to assess respondents' availability of maintenance resources, as highlighted in study two (chapter five). Two items assessed the affective consequences of a break in play, two items assessed the affective consequences of maintaining the sport, two items investigated redefining PA expectations in older age, and two items assessed maintenance behaviours.

6.3.4.3 Intention to continue after Coronavirus-19 restrictions ease: survey measures

Six items formed the intention to continue section of the survey. The Coronavirus-19 (COVID-19) pandemic, during the data collection phase of study three, had a direct effect on walking football clubs not being permitted to run, as heavy restrictions were placed on grassroots football and sports clubs were suspended (The FA, 2020b). As breaks in play due to illness, injury and holidays were widely discussed throughout studies one and two (chapter four and five), questions surrounding COVID-19 were added to the survey in order to understand respondents' experiences during a forced break from the sport. Two items were developed by the researcher to ascertain whether clubs had resumed at the time of answering the survey (September-November 2021), and if the respondent had returned to walking football. A further two items then measured the intention to play once walking football clubs had reopened, and wording was adapted from a previous survey, assessing tai-chi participation behaviour and psychological wellbeing in elderly adults (Li et al., 2019). As a pragmatic approach was taken throughout the study, these questions would provide practical guidance in the 'return to play' phase for walking football clubs, after COVID-19 restrictions eased. Therefore, a further two items eliciting reasons influencing or deterring a return to play after COVID-19 restrictions had eased were adapted from Sport England's (2020b) COVID-19 report.

6.3.5 Procedure

Following ethics approval (Ethics ID: ER25811320, see appendix 6.3), a pilot survey was sent to walking football players fitting the inclusion criteria in August 2020, to assess survey usability. Pilot data was collected on Qualtrics (Provo, UT, 2020). The pilot survey was conducted with 12 respondents (10 male, two female) over two weeks. The respondents were invited to take part in the pilot survey after being previously involved in studies one and two (chapters four and five). A further survey section containing questions related to the survey process were asked at the piloting stage (e.g., "The time taken to fill out the survey was acceptable"). The median completion time for the pilot was 17 minutes. Minor changes were made to the survey after piloting, such as

formatting and rewording some questions for clarification. When asked if the time to complete the survey was acceptable, all respondent selected ‘yes’.

The main survey was refined, and data were again collected on Qualtrics (Provo, UT, 2020). Recruitment and data collection took place online between September and November 2020, during the COVID-19 pandemic and whilst local restrictions were still present (The FA, 2020a). The web link to the survey contained a welcome page with a participation information sheet and consent form, and the survey was in an open format, meaning that it was not password protected. Those who provided consent, respondents were screened for their eligibility to take part in the survey. This was achieved by asking for respondents’ approximate age in five-year categories, from ‘Less than 50 years old’, 50-54, 55-59, 60-64, 65-69, 70-75 and 75 years plus. They were also asked how long they had been playing walking football for, either under six months or over six months. If respondents met the screening criteria, they were directed towards the main survey. Respondents could exit the survey at any time by closing the web browser, however were informed via the information sheet that partially completed surveys were withheld for analysis (with consent). Respondents could withdraw their data at any time by contacting the research team, up to two weeks after the survey closed. After this time, the researcher would be unable to distinguish individual participant data.

After completing the survey, respondents were shown a debrief form. To increase participation rates, upon completion of the study, respondents were also asked if they wished to enter a raffle to win one of two gift vouchers. These were funded by the university and the process adhered to the ‘Incentives to Research Participants’ guidelines (Sheffield Hallam University, 2015). Where a participant wished to be entered into the survey, an email and contact telephone number was collected, so the researcher could contact the respondent if successful. A separate survey was used and contact details were kept separately from study data, so no contact details from the raffle were linked back to the main survey.

6.3.6 Data analysis

Data files were downloaded from the Qualtrics platform and converted to Microsoft Excel format (Microsoft, 2016). Data were kept on Qualtrics for four months after the survey closed, in case the researcher experienced data corruption. The researcher assigned each respondent a numerical ID before analysis and remained anonymous. Before analysis took place, data files were cleaned to identify missing data and ensure as accurate data analysis as possible (Fritchoff Davis, 2012). Duplicated survey responses, identified through IP address, were removed. Once completed, a criterion for including partially completed surveys was devised by the researcher. Any survey response which did not meet 67% completion was discounted completely, due to insufficient amounts of data for the analysis. Those who did not complete above 82% and or did not provide a valid postcode, were not included in the initiation statistical tests. Those who did not complete above 95% and/or did not provide a valid postcode were not included in the maintenance statistical tests. Survey completion up to 99% was needed for results to be included in the regression analyses. Successful respondents in the raffle were chosen at random using a randomised number generator and contacted via the information inputted on the separate survey.

In total, 514 respondents filled the survey either to full or partial completion. A recruitment rate is not reported, as due to the methods of recruitment (via walking football clubs distributing the survey, and via social media), calculating how many people received the survey was not possible. 75 survey responses were excluded from analysis due to insufficient response completion, duplication of respondents, or not meeting the inclusion criteria. Four hundred and thirty nine responses were used to analyse descriptive statistics. A further two responses were discounted from the maintenance MANOVA analyses, due to insufficient completion. A further four responses were discounted from the regression analyses due to insufficient completion of the part of the survey. Gender was assigned to either ‘male’ or ‘female’ and postcodes were used to assess SES, via the Indices of Multiple Deprivation (IMD) ranks of each country. The IMD database was chosen, as IMD scores represent specific area-level measures of relative deprivation based on ten factors, including measurements

of income, education, and health and disability. These scores are then combined, and areas (known as Lower Super Output Areas) are assigned a rank based on deprivation, with higher deprived areas receiving lower scores. IMD scores are provided by each country; England, Scotland, Wales and Northern Ireland (Department for Communities and Local Government, 2015; Northern Ireland Statistical Research Agency, 2017; Scottish Government, 2020; StatsWales, 2019). For this survey, respondents' postcodes were used to determine Lower Super Output Areas, which are given IMD rankings from one to 32,844. The rankings were then divided into two groups, high and low SES; if a participant's postcode ranking was more than 16,422 they would be assigned to the high SES group, if less they would be assigned to the low SES group.

The first research aim was to investigate whether there were any differences in walking football initiation influences across SES, gender, number of health conditions, and weekly PA level. Differences according to gender and SES in the three dependent variables (psychological influences, social interactions and walking football environment) were examined using Hotelling's T^2 test. Gender was assigned 1 for male respondents and 2 for female respondents. SES was similarly assigned (1 = high SES, 2 = low SES). For the Hotelling's T^2 test, Bonferroni-adjusted alpha levels of .017 were used to correct for the increase in Type I errors from the multiple individual tests. Differences according to health conditions (no health conditions, one health condition or two or more health conditions) and weekly PA levels (0-1 days, 2-4 days and 5+ days) were investigated using a one-way multivariate analysis of variance (MANOVA) via SPSS 26 (IBM, 2019). Where significant results occurred, post hoc tests were run.

The second research aim was to investigate whether there were any differences in walking football maintenance influences across SES, gender, reported number of health conditions, and weekly PA level. Differences according to gender and SES in the five dependent variables (psychological influences, social influences, walking football culture, session specific factors and maintenance resources) were examined using Hotelling's T^2 test. Gender was assigned 1 for male respondents and 2 for female respondents. SES was similarly assigned (1 = high SES, 2 = low SES). For the Hotelling's T^2 test,

Bonferroni-adjusted alpha levels of .017 were used to correct for the increase in Type I errors from the multiple individual tests. Differences according to health conditions (no health conditions, one health condition, or two or more health conditions) and weekly PA levels (0-1 days, 2-4 days and 5+ days) were investigated using a one-way multivariate analysis of variance (MANOVA) via SPSS 26 (IBM, 2019). Where significant results occurred, post hoc tests were run.

The third research aim was to examine whether there were any variables which contributed most to the intention to play once COVID-19 restrictions had eased. A multiple regression analysis was performed via SPSS 26 (IBM, 2019). Thirteen independent variables were examined. These were gender, SES, number of reported health conditions, weekly PA levels, perceived change in PA since COVID-restrictions, and the three subscales from the initiation (psychological influences, social connections and walking football environment) and five subscales maintenance survey sections (psychological influences, social-level influences, walking football culture, walking football session-specific factors, and availability of maintenance resources).

6.4 Results

Table 6.4.1 displays the characteristics of the respondents, and further charts can be seen in Appendix 6.4. The sample consisted of 439 older adults who had played walking football for over six months. Out of the sample, 392 respondents (89.3%) were male and 47 (10.7%) were female. There were 297 respondents (67.7%) from high SES areas and 142 (32.3%) from low SES areas. The majority of respondents were from England (91.3%). Number of health conditions varied, 151 respondents (34.4%) reported one health condition and 99 (22.6%) respondents reported two or more health conditions. 189 respondents (43.1%) reported no health conditions. Prevalent health conditions reported included diabetes (10%, n=44), heart disease (9.6%, n=42), depression and/or anxiety (9.3%, n=41) and osteoarthritis (8.9%, n=39). Weekly PA levels also varied, with 46 respondents (10.5%) reporting low active levels (30+ minutes on 0-1 days per week). Regarding perceived change in PA over the COVID-19 UK restrictions, 182 respondents recorded ‘Less’ (41.5%), 123

respondents recorded the same (28.0%), and 134 respondents recorded 'more' (30.5%). Regarding lifetime sport experience, the respondents' mean days per week playing sport tended to decrease over the lifespan, from 3.68 days (SD= 1.58) in adolescence to 2.47 days (SD=1.30) between 35-54 years old. When respondents were asked about how they became aware of walking football, being made aware via a friend was the most common amongst all players (33.7%, n=148). Social media (12.8%, n=56), local flyers or posters (13.0%, n=57), or a newspaper (11.4%, n=50) were also mentioned. Other common modes of awareness included TV Adverts, awareness through local football teams, or through internet searches.

Table 6.4.1. Respondent characteristics.

		SES Classification	
		High	Low
Gender	Male	264 (60.1%)	128 (29.2%)
	Female	33 (7.5)	14 (3.2%)
		Frequency	Percent
UK country of residence	England	401	91.3
	Scotland	35	8.0
	Wales	1	0.2
	NI	2	0.5
Health Conditions	0 HCs	189	43.1
	1 HC	151	34.4
	2+ HCs	99	22.6
Weekly PA (days)	0-1 day	46	10.5
	2-4 days	235	53.5
	5+ days	158	36.0
Perceived change in PA COVID-19	Less	182	41.5
	Same	123	28.0
	More	134	30.5
Awareness of walking football	Local flyer/poster	57	13.0
	Local/national newspaper	50	11.4
	Half time during a game	4	0.9
	Social media	56	12.8
	Radio	2	0.5
	Friend told me about the sessions	148	33.7
	Other	122	27.8
		Mean	SD
Mean years playing sport between ages 12-18		5.58	1.18
Mean days per week playing sport between ages 12-18		3.68	1.58
Mean years playing sport between ages 19-34		12.44	3.92
Mean days per week playing sport between ages 19-34		2.86	1.32
Mean years playing sport between ages 35-54		13.97	6.01
Mean days per week playing sport between ages 35-54		2.47	1.30

6.4.1 Main effects of gender, SES, number of health conditions and weekly PA level on walking football initiation influences

To address the first research aim, Hotelling's T^2 tests were conducted to investigate the differences in initiation influences across gender and SES, and two one-way MANOVA tests were conducted to investigate the differences in initiation influences across health conditions and weekly PA. Descriptive statistics for differences in initiation influences on walking football play for gender, SES, health conditions and weekly PA are shown below. Means, standard deviations and F scores are shown for each dependent variable (see table 6.4.2 and table 6.4.3).

When conducting the Hotelling's T^2 tests, three measures of initiation influences were assessed; psychological influences, social interactions and walking football. Preliminary assumption checking revealed that data was normally distributed, as assessed by Q-Q plot. There were univariate and multivariate outliers as assessed by boxplot and Mahalanobis distance, however due to no measurement or input errors, it was decided that these scores would remain in the analysis. There were linear relationships, as assessed by scatterplot; no multicollinearity ($|r| < .9$); and there was homogeneity of variance-covariance matrices, as assessed by Box's M test ($p>0.001$ for both gender and SES). For gender, males rated social influences higher than females, where females rated psychological influences and walking football environment higher than males. The differences between gender on the combined dependent variables was not statistically significant, $F(3, 435) = 1.942$, $p= .122$, Wilks' $\Lambda = .987$; partial $\eta2 = .013$. This suggests that when assessing gender, there were no differences in influences upon initiation of walking football. When assessing SES, low SES respondents reported psychological influences, social interactions and walking football environment as being more influential on walking football initiation than high SES counterparts. The differences between high and low SES respondents on the combined dependent variables was not statistically significant, $F(3, 435) = 1.096$, $p= .351$, Wilks' $\Lambda = .992$; partial $\eta2 = .008$. This suggests there were no differences in influences upon initiation of walking football between high and low SES respondents.

Table 6.4.2. Descriptive statistics on initiation influences across gender and SES.

	Gender					SES				
	Male		Female			High		Low		
	Mean	SD	Mean	SD	*F*	Mean	SD	Mean	SD	*F*
Psychological Influences	3.69	0.74	3.74	0.87	0.18	3.67	0.78	3.75	0.70	1.26
Social Interactions	3.23	0.85	3.17	0.82	0.20	3.17	0.86	3.32	0.79	2.97
Walking football environment	3.97	0.70	4.16	0.68	3.28	3.98	0.71	4.02	0.70	0.37
*p<0.05										

Table 6.4.3. Descriptive statistics on initiation influences across number of health conditions and weekly PA level.

	Health conditions							Weekly PA						
	0 HCs		1 HC		2+ HCs			0-1 Days		2-4 Days		5+ Days		
	Mean	SD	Mean	SD	Mean	SD	*F*	Mean	SD	Mean	SD	Mean	SD	*F*
Psychological Influences	3.64	0.86	3.77	0.66	3.70	0.67	1.25	3.53	0.70	3.67	0.72	3.78	0.81	2.11
Social Interactions	3.11	0.84	3.23	0.84	3.43	0.82	4.88*	3.21	0.80	3.23	0.83	3.21	0.89	0.42
Walking football environment	3.95	0.71	4.05	0.73	3.98	0.65	0.84	3.86	0.75	4.00	0.70	4.02	0.70	0.86
*p<0.05														

One-way MANOVA was run to determine the effect of number of health conditions and weekly PA on walking football initiation influences. Again, three measures of initiation influences were assessed; psychological influences, social interactions and walking football. Respondents were split into three groups based on the number of health conditions reported (no health condition, 1 health condition, 2 or more health conditions), or weekly PA levels (0-1 days, 2-4 days, 5+ days). Preliminary assumption checking revealed that data was normally distributed, as assessed by Q-Q plot; as there were univariate or multivariate outliers (as assessed by boxplot and Mahalanobis distance) these were again retained in the analysis as there were no measurement or input error. There were linear relationships, as assessed by scatterplot, no multicollinearity, and there was homogeneity of variance-covariance matrices, as assessed by Box's M test ($p>0.001$ for both health conditions and weekly PA).

Regarding weekly PA, those who did weekly PA for 5 or more days per week rated the highest on psychological influences and walking football environment, and those doing PA for 2-4 days per week rated highest on social interactions. The differences between the level of weekly PA on the combined dependent variables was not statistically significant, $F(6, 868) = 1.092$, $p= .365$, Wilks' $\Lambda = .985$; partial $\eta 2 = .007$. This suggests there were no differences in influences upon initiation of walking football between respondents with different levels of

activity. When assessing number of health conditions, those with no health conditions rated all initiation influences lower than those with one health condition, or two or more health conditions. The differences between the number of health conditions on the combined dependent variables was statistically significant, $F(6, 868) = 2.563$, $p < .05$; Wilks' $\Lambda = .965$; partial $\eta 2 = .017$; $d = 0.21$. Follow-up univariate ANOVAs showed that social interactions ($F(2, 436) = 4.882$, $p < .01$; partial $\eta 2 = .022$; $d = 0.27$) were statistically significantly different between respondents with different numbers of health conditions, using a Bonferroni adjusted α level of .017. Tukey post-hoc tests showed that for the influence of social interactions, respondents with two or more health conditions had statistically significantly higher mean scores than respondents with no health conditions ($p < .005$). No significant differences were observed for either psychological influences or walking football environment. These results show that those with a higher number of health conditions rate social interactions as being more influential on the initiation of walking football. See figure 6.4.1 for further information.

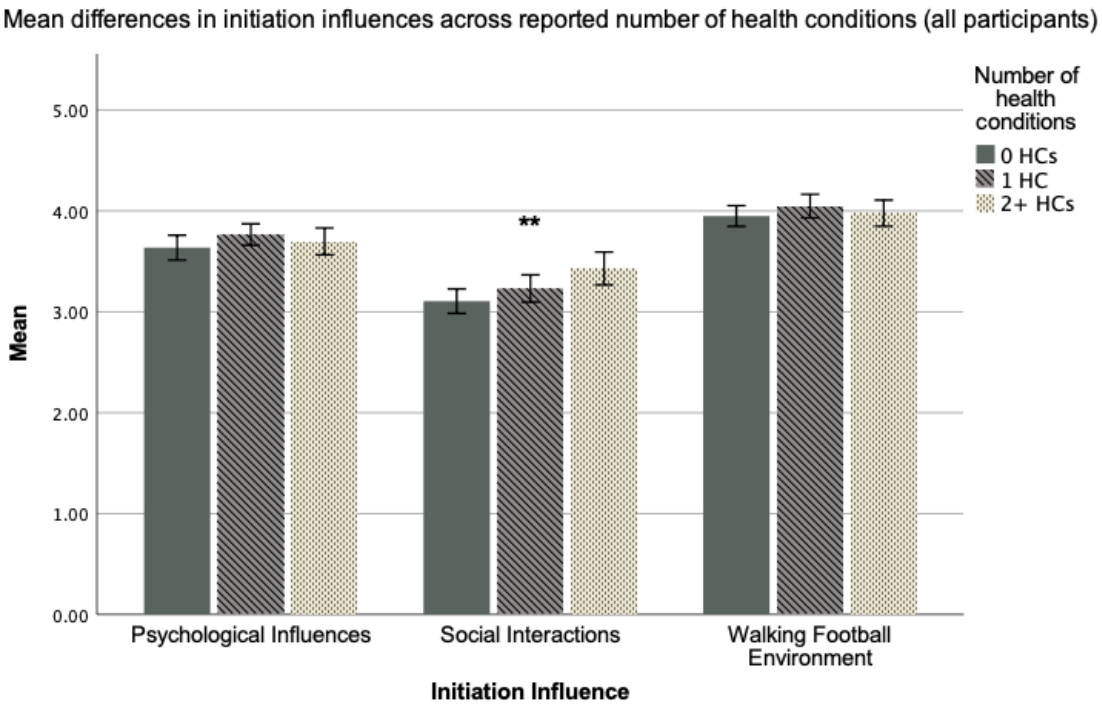


Figure 6.4.1. Means of initiation influences across number of health conditions. **p<0.01. HC = Health Condition.

6.4.2 Main effects of gender, SES, number of health conditions and weekly PA level on walking football maintenance influences

To address the second research aim, Hotelling's T^2 tests were conducted to investigate the differences in maintenance influences across gender and SES, and two one-way MANOVA tests were conducted to investigate the differences in maintenance influences across health conditions and weekly PA. Descriptive statistics for differences in maintenance influences on walking football play for gender, SES, health conditions and weekly PA are shown below. Means, standard deviations and F scores are shown for each dependent variable (see table 6.4.4 and table 6.4.5).

For the Hotelling's T^2 tests, five measures of maintenance influences were assessed; psychological influences, social influences, walking football culture, session specific factors and maintenance resources. Preliminary assumption checking revealed that data was normally distributed, as assessed by Q-Q plot. There were univariate and multivariate outliers as assessed by boxplot and Mahalanobis distance, but it was decided that these scores would remain in the analysis due to no measurement or input errors. There were linear relationships, as assessed by scatterplot; no multicollinearity ($|r| < .9$); and there was homogeneity of variance-covariance matrices, as assessed by Box's M test ($p>0.001$ for both gender and SES). For gender, males rated psychological influences higher than females, where females rated social influences, walking football culture, session specific factors and maintenance resources higher than males. The differences between gender on the combined dependent variables was not statistically significant, $F(5, 431) = 1.703$, $p= .133$, Wilks' $\Lambda = .981$; partial $\eta 2 = .019$. This suggests that when assessing gender, there were no differences in influences in maintenance of walking football. When assessing SES, low SES respondents reported psychological influences, social influences, walking football culture and session specific factors as being more influential on walking football maintenance than high SES counterparts, but those from high SES areas rated maintenance resources as being more of an influence in maintenance than low SES counterparts. The differences between high and low SES respondents on the combined dependent variables was not statistically

significant, F(5, 431) = 0.637, p= .672, Wilks' Λ = .993; partial η2 = .007. This suggests there were no differences in influences in the maintenance of walking football between high and low SES respondents.

Table 6.4.4. Descriptive statistics on maintenance influences across gender and SES.

	Gender					SES				
	Male		Female			High		Low		
	Mean	SD	Mean	SD	*F*	Mean	SD	Mean	SD	*F*
Psychological Influences	4.24	0.59	4.18	0.75	0.41	4.21	0.63	4.27	0.57	0.73
Social Influences	3.09	0.86	3.19	0.82	0.55	3.07	0.87	3.16	0.83	0.87
Walking football culture	4.20	0.83	4.46	0.79	3.89	4.24	0.85	4.21	0.77	0.09
Walking football session specific facto	3.89	0.75	3.97	0.76	0.45	3.88	0.75	3.94	0.74	0.70
Maintenance resources	4.44	0.52	4.53	0.56	0.27	4.45	0.53	4.45	0.51	0.25
*p<0.05										

Table 6.4.5. Descriptive statistics on maintenance influences across number of health conditions and weekly PA level.

	Health conditions							Weekly PA						
	0 HCs		1 HC		2+ HCs			0-1 Days		2-4 Days		5+ Days		
	Mean	SD	Mean	SD	Mean	SD	*F*	Mean	SD	Mean	SD	Mean	SD	*F*
Psychological Influences	4.20	0.66	4.29	0.53	4.20	0.62	1.24	4.11	0.64	4.21	0.60	4.29	0.61	1.80
Social Influences	2.95	0.82	3.15	0.88	3.30	0.83	6.01*	3.04	0.82	3.11	0.83	3.10	0.90	0.13
Walking football culture	4.24	0.83	4.19	0.87	4.26	0.76	0.26	4.03	0.83	4.24	0.79	4.26	0.87	1.45
Walking football session specific factors	3.87	0.79	3.96	0.71	3.87	0.73	0.72	3.69	0.84	3.90	0.73	3.96	0.75	2.31
Maintenance resources	4.43	0.54	4.45	0.50	4.49	0.53	0.37	4.44	0.52	4.44	0.51	4.47	0.56	0.10
*p<0.05														

One-way MANOVA was run to determine the effect of number of health conditions and weekly PA on walking football maintenance influences. Again, five measures were assessed; psychological influences, social interactions and walking football. Respondents were split into three groups based on the number of health conditions reported (no health condition, 1 health condition, 2 or more health conditions), or weekly PA levels (0-1 days, 2-4 days, 5+ days). Preliminary assumption checking revealed that data was normally distributed, as assessed by Q-Q plot; as there were univariate or multivariate outliers (as assessed by boxplot and Mahalanobis distance) these were again retained in the analysis as there were no measurement or input error. There were linear relationships, as assessed by scatterplot, no multicollinearity, and there was homogeneity of variance-covariance matrices, as assessed by Box's M test (p>0.001 for both health conditions and weekly PA level).

Regarding weekly PA, those who did weekly PA for 5 or more days per week rated the highest on psychological influences, walking football culture, walking

football session specific factors and maintenance resources. Those who did weekly PA for 2-4 days per week rated the highest on social influences. The differences between the level of weekly PA on the combined dependent variables was not statistically significant, $F(10, 860) = 1.042$, $p = .405$, Wilks' $\Lambda = .976$; partial $\eta 2 = .012$. This suggests there were no differences in influences upon maintenance of walking football between respondents with different levels of weekly activity. When assessing number of health conditions, those with two or more health conditions rated the highest on social influences, walking football culture and maintenance resources, where those with one health condition rated the highest on psychological influences and session specific factors. The differences between the number of health conditions on the combined dependent variables was statistically significant, $F(10, 860) = 2.583$, $p < .05$; Wilks' $\Lambda = .943$; partial $\eta 2 = .029$; d=0.21. Follow-up univariate ANOVAs showed that social interactions ($F(2, 434) = 6.014$, $p < .01$; partial $\eta 2 = .027$; $d = 0.30$) were statistically significantly different between respondents with different numbers of health conditions, using a Bonferroni adjusted α level of .01. Tukey post-hoc tests showed that for social influences, respondents with two or more health conditions had statistically significantly higher mean scores than respondents with no health conditions ($p < .005$). No significant differences were observed for either psychological influences or walking football environment. These results show that those with a higher number of health conditions rate social influences as being more important in the maintenance of walking football. See figure 6.4.2 for further information.

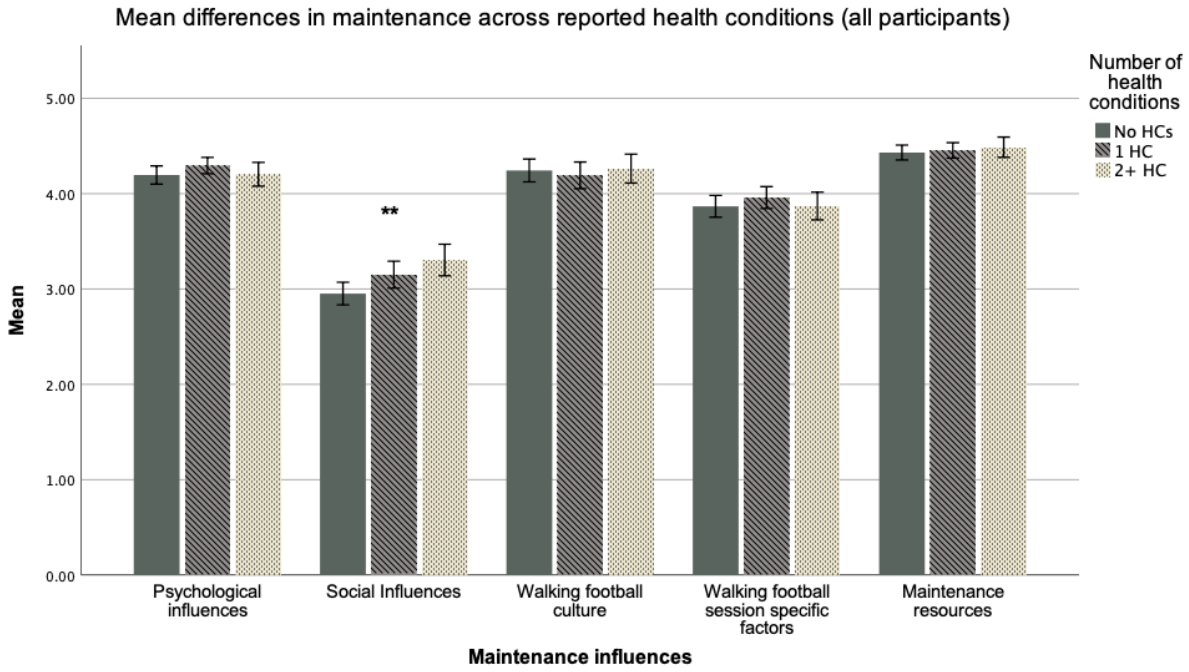


Figure 6.4.2. Means of maintenance influences across number of health conditions. **p<0.01. HC = Health Condition.

6.4.3 Contributors to intention to return to play

To address the third research aim, examining which influences contributed to the intention to return to play after COVID-19 restrictions, multiple regression analysis was conducted. Independent variables were gender, SES, number of health conditions, weekly PA level, the three factors from the initiation survey section (psychological influences, social influences, walking football environment), and five factors from the maintenance section (psychological influences, social influences, walking football culture, session specific factors, maintenance resources). Normality checks were conducted and it was found that the assumption of normality was not met, as assessed by a Q-Q Plot. Running log transformations on the dependent variable and removing outliers made negligible difference to the reported values, therefore original data was used, however a smaller alpha level was set (p<0.01) to provide more accurate interpretation of results.

Bivariate correlations are presented in Table 6.4.6, and regression coefficients are shown in table 6.4.7. The (1) intention to play was significantly and positively associated with one initiation variable, (3) Psychological Influences, and all maintenance variables, including (6) Psychological Influences, (7) Social

Influences, (8) Walking Football Culture, (9) Walking Football Session Structure, and (10) Maintenance Resources. The multiple regression model statistically significantly predicted intention, $F(13, 419) = 10.942$, $p < 0.001$, adj. $R^2 = 0.23$. The model accounted for 23% of the variance (adj. $r^2 = 0.23$), which is considered a medium effect size (Cohen, 1988). Two variables from maintenance, walking football culture (8), and availability of maintenance resources (10), added statistically significantly to the regression, $p < 0.01$. The regression coefficient for walking football culture indicates that a point increase in the walking football culture mean score was associated with an increase of 0.100 in intention to play walking football after COVID-19 restrictions had eased. The regression coefficient relating to maintenance resources indicates that a point increase in availability of maintenance resources mean score was associated with an increase of 0.399, in intention to return to play walking football. These results suggest that the more positive the perceived walking football culture, the more likely players intend to return to walking football. Results also suggest that the more maintenance resources a player perceives themselves to have available to use, the more likely they are to intend to play after COVID-19 restrictions ease.

Table 6.4.6. Descriptive Statistics and Bivariate Correlations among Study Variables.

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Intention to Play	4.86	0.42	1													
2. Gender	1.11	0.31	-0.01	1												
3. SES	1.32	0.47	-0.07	-0.01	1											
4. Number of health conditions	1.80	0.79	-0.04	-0.04	0.14**	1										
5. Weekly PA	2.26	0.63	0.04	-0.05	-0.04	-0.09	1									
6. Perceived change in PA over COVID-19	1.89	0.84	0.09	0.05	-0.04	-0.10	0.25	1								
7. Initiation - Psychological influences	3.70	0.76	0.13**	0.02	0.06	0.04	0.11	0.02	1							
8. Initiation - Social interactions	3.22	0.84	0.05	-0.02	0.09	0.14**	0.01	-0.10	0.47**	1						
9. Initiation -Walking football environment	3.99	0.71	0.09	0.09	0.04	0.02	0.06	-0.01	0.46**	0.51**	1					
10. Maintenance - Psychological influences	4.23	0.61	0.22**	-0.03	0.04	0.02	0.09	-0.03	0.71**	0.43**	0.45**	1				
11. Maintenance - Social influences	3.10	0.86	0.13**	0.04	0.05	0.17	0.02	-0.01	0.45**	0.63**	0.50**	0.43**	1			
12. Maintenance - Walking football culture	4.23	0.83	0.24**	0.10	-0.01	0.00	0.06	0.00	0.34**	0.40**	0.56**	0.37**	0.50**	1		
13. Maintenance - WF session specific facto	3.90	0.75	0.14**	0.03	0.04	0.01	0.09	0.06	0.47**	0.44**	0.64**	0.46**	0.56**	0.48**	1	
14. Maintenance - Maintenance Resources	4.46	0.52	0.44**	0.05	-0.01	0.36**	0.03	-0.01	0.53**	0.34**	0.36**	0.59**	0.35**	0.32**	0.40**	1

**p<0.01

Table 6.4.7. Multiple regression coefficients and standard errors for intention to play.

Multiple regression results for intention to play							
Intention to play		99.0% Confidence Interval for B			Standardized Coefficients	R^2	ΔR^2
	B	Lower Bound	Upper Bound	Std. Error	β		
Model						0.25	0.23
(Constant)	3.28	2.77	3.80	0.20			
Gender	-0.06	-0.22	0.09	0.06	-0.05		
SES	-0.04	-0.14	0.06	0.04	-0.04		
Number of health conditions	-0.01	-0.08	0.05	0.02	-0.03		
Weekly PA	0.00	-0.07	0.08	0.03	0.00		
Perceived change in PA over COVID	0.04	-0.02	0.10	0.02	0.08		
Initiation: Psychological Influences	-0.07	-0.17	0.02	0.04	-0.13		
Initiation: Social Interactions	-0.05	-0.13	0.03	0.03	-0.10		
Initiation: Walking Football environment	-0.06	-0.15	0.04	0.04	-0.09		
Maintenance: Psychological influences	0.02	-0.10	0.14	0.05	0.03		
Maintenance: Social influences	0.02	-0.06	0.10	0.03	0.03		
Maintenance: Walking football culture	0.10***	0.03	0.17	0.03	0.20***		
Maintenance: Walking football session specific factors	-0.01	-0.10	0.08	0.03	-0.02		
Maintenance: Maintenance resources	0.40***	0.29	0.51	0.04	0.50***		

Note: Model = 'Enter' method in SPSS statistics; B = unstandardized regression coefficient; CI = confidence interval; R^2 = coefficient of determination; ΔR^2 = adjusted R^2. ***p<0.001.

6.5 Discussion

This chapter had three aims; firstly, investigate the differences in influences of walking football initiation between SES, gender, number of health conditions and weekly PA and secondly, to investigate the differences in influences of walking football maintenance between SES, gender, number of health conditions and weekly PA. The third aim was to examine which characteristics, initiation, and maintenance influences contribute most to the intention to play walking football after COVID-19 restrictions ease. This was investigated in a sample of older adults between 50 and 75 years old.

The respondent sample was mostly males from a high SES area. Nevertheless, this sample represents a similar ratio of male to female participating in walking football in the general population, as a recent walking football survey undertaken by a sporting body (Walking Football Association, 2020) asked *"what percentage of your members are female?"* to 1339 walking football players, and the majority responded with "10%" (87.1% of respondents).

Therefore, there is a current understanding that around 10% of the walking football population in the UK identify as female. This also supports previous research highlighting gender differences seen in sport participation, with players more likely to be male (Breuer et al., 2011). Further reports concerning SES also highlights that those from higher SES areas tended to take part in more PA per week (Sport England, 2020a).

The results of this study also show a range of health conditions amongst the sample, with diabetes, heart disease, mental health conditions, and musculoskeletal conditions most commonly reported. This broadly reflects the reported common health conditions in the general population (Steel et al., 2018). The weekly PA levels within the sample were varied, however, it is important to note that over 40% of respondents perceived a decrease in PA over the COVID-19 pandemic. This is consistent with reports from Sport England (2021), highlighting that a similar amount of the population perceived themselves to be doing less physical activity than usual throughout 2020 (≈40%). As many participants in studies one and two discussed injuries in the context of breaks from play during initiation and maintenance, it is important to consider the level of PA that players may be currently engaging in and provide adequate support for players returning to walking football from a long period of less activity. Lastly, sport participation from adolescence to middle age saw a decrease, which is again consistent with reporting from previous reports and literature, stating a similar decline in both PA and sport participation (McPhee et al., 2016; Sport England, 2020a).

6.5.1 Differences in walking football initiation and maintenance influences across gender, SES, number of health conditions and weekly PA level

To satisfy the first aim of the study, to assess differences in walking football initiation influences across gender, SES, number of health conditions and weekly PA levels, Hotelling's T^2 tests and MANOVA analyses were conducted.

No evidence was found to suggest that initiation influences differ across gender, SES or weekly PA levels, but significant results were found when assessing

initiation influences by number of health conditions. Regarding SES, gender and weekly PA results, this contradicts previous research into sport participation in older adults, specifically concerning gender differences and SES differences which have previously been seen amongst those participating in older adulthood (Faß & Schlesinger, 2019). Possible explanations for the inconsistency between previous research and this study may lie in the group characteristics, the sport context assessed, and the imbalance between male and female respondents. Firstly, within this population influences of walking football initiation may not be affected by gender, SES level or weekly PA level, as it may be in other contexts. Secondly, walking football is a newly developed and recently popular adapted sport, and it is possible that sport type and intensity may provide less variation in the influences assessed among these groups. This may be especially prominent when assessing influences by the level of weekly PA performed, and due to the walking nature of the sport, walking football is more accessible to those of varying PA levels.

Furthermore, the age range for this survey did not include players over 75 years old. Whilst this age range was chosen to look at 'young-old' respondents, due to specific needs of those in this age group (highlighted in chapters one and two), further variation may occur in a broader age range. Therefore, extending the age range in future studies may have an effect on the variation of influences between SES, gender and weekly PA level. Thirdly, although results were nonsignificant when assessing initiation and maintenance influences between SES and gender, caution should be taken when interpreting this result and the sample size recruited. Whilst the proportion of females in the survey sample was believed to be representative of the known population of walking football players in the UK (Walking Football Association, 2020), the sample of responses from females was still low (n=47). A different outcome may be seen between gender and SES with a larger sample of female players. Furthermore, the majority of responses were from those playing in English clubs, compared to the other home nations. Further variation could be seen with equal responses from clubs in different parts of the country.

Despite the nonsignificant results across SES, gender and weekly PA when assessing initiation influences, significant differences were found when

investigating the number of health conditions. Post-hoc tests found that those with two or more reported health conditions rated social interactions higher than those with no health conditions, suggesting that those with more health conditions find social interactions a more important influence upon initiation of the sport. The findings are in line with previous literature, where social support from both significant others and group members have been considered important in initiation of PA, and sport is important in fostering social connections (Jenkin et al., 2017; van Stralen et al., 2009), highlighting the importance of social interactions within this phase of sport participation. Furthermore, recent research into walking football interventions with older adults highlights the importance of social interactions amongst other players, and is recorded as a key theme (Lamont et al., 2017; McEwan et al., 2019; Reddy et al., 2017). Specifically relating to health conditions, this finding supports previous work conducted in study one (chapter four), where some participants highlighted the importance of social connections when managing a health condition, and feeling less isolated due to being surrounded with people who have similar health conditions.

This study's findings, coupled with previous research, highlights the importance of social interactions during initiation on those with a larger number of health conditions, and further research may consider investigating the use of walking football in improving social connections within those with health conditions. Despite the significant results, however, it is important to consider the small effect size, and in practice, social interactions may just be one influence involved in initiation for those with a larger number of health conditions.

When investigating the second aim of the study - assessing differences in maintenance influences - nonsignificant results were found between SES, gender and weekly PA levels when investigating maintenance influences. Similar issues relating to the nonsignificant differences, sample size, and the context of walking football as discussed in section 6.5.1 should be considered when interpreting these findings. As with initiation, variation may occur in a larger sample size, broader age range and by recruiting a larger sample of female players.

During analysis of the number of health conditions, however, significant differences were found in social influences, and those with two or more reported health conditions rated social influences higher than those with no health conditions. This suggests that those with more health conditions find social influences more important during maintenance of the sport. This follows similar findings from the initiation section of this study, and also supports the qualitative data from study two (chapter five), where participants highlighted that playing walking football with those who are managing similar health conditions is an influence on maintenance of walking football (see section 5.4.2.2). In a PA context, social support from group members has been found to have a positive effect on maintenance in older adults (van Stralen et al., 2009). As the findings suggest that those with more health conditions tend to find social interactions as more important than those without, considerations should be made as to how peer support can be utilised for those who are managing health conditions whilst playing walking football.

6.5.2 Relationship between initiation and maintenance influences and returning to play after COVID-19 restrictions ease

For the third aim of the study, which examined relationships between factors of initiation and maintenance and the intention to play after COVID-19 restrictions ease, multiple regression was conducted. The multiple regression results indicate that there are two contributors to the intention to play once COVID-19 restrictions had eased. The significant contributors to a higher intention to return to play after restrictions eased included two influences from maintenance, which were a positive walking football culture (e.g., players respecting and accepting one another), and higher use of maintenance resources (e.g., behaviours, such as scheduling in sessions on a weekly basis). To the researcher's knowledge, little research has directly assessed the importance of a caring climate in older adults, within a sport context, however results regarding a positive walking football culture and 'caring climate' have been found in youth sport participation, with caring climates having an effect on motivational outcomes and enjoyment of the sport (Gerabinis et al., 2018). Furthermore, previous research has highlighted the importance of maintenance resources (e.g. action planning, coping planning) in long-term behaviour change in a general population

(Kwasnicka et al., 2016; Peels et al., 2020). Whilst direct parallels cannot be drawn to other breaks in play such as injury or holidays, the ceasing of walking football sessions due to COVID-19 restrictions provides a similar context where there was a forced break in play for all walking football players.

It is important to note that despite these influences significantly contributing to the intention to return to play, results should be taken with caution. It is important to recognise that correlation may not equal causation, and whilst no differences in gender, SES, number of health conditions and weekly PA were seen as having an effect on intention to play in this data, characteristics may need to be controlled for in future research. This may provide further understanding into factors that predict intention to play after a forced break.

6.5.3 Implications for future research

To the researcher's knowledge, this is the first study of its kind to assess influences for initiating and maintaining walking football play in older adults. This study will inform future research within the walking football context and help to examine the mechanisms involved in long-term behaviour change within this population. The research highlights the importance of the walking football culture, as well as the use of maintenance resources (e.g., scheduling sessions, redefining PA expectations). Future research may consider refining the survey questions used and running further analysis (e.g., factor analysis) to assess model fit and the reliability of the constructs further. Furthermore, research focusing on the effects of a positive walking football culture on older adult sport maintenance may be considered, to build on the regression results further, and assess any differences in a larger sample. The same applies to the use of maintenance resources, and further research including investigation of the types of maintenance resources used with older adult populations may be useful in understanding the mechanisms of maintenance in more detail, so older adults can be adequately supported in positive PA behaviour change. Further research may use intervention methodology to investigate the use of maintenance resources and the effect on intention to continue playing walking football, so techniques effective in positive behaviour change can be isolated and encouraged among players.

6.5.4 Implications for policy and practice

The findings can inform future policy surrounding walking football, and initiatives to support older players in maintaining the sport. Relating to the results around health conditions and social influences, policies around peer support systems, for example buddy schemes (pairing a new player with an experienced player), could be implemented. In some cases, providing funding to set up clubs for those who manage certain health conditions may allow players to benefit from appropriate levels of play, and enhanced peer support. It is also important to consider the effects of a caring climate and a positive culture in the intention to continue playing walking football, which seems to be evident in older adults playing the sport. Sporting bodies and coaches may consider encouraging a caring culture through marketing campaigns conveying messaging around understanding players' ability levels, and introducing a code fostering an inclusive playing environment, may encourage positive club culture.

Further practice implications include considerations for the coach and individual clubs to consider. Regarding club practice, tailoring club environments and actively fostering a positive culture through fair refereeing and accepting all abilities into the club, may provide opportunities for long-term continuation in walking football. Regarding coach practice, training courses focusing on the key principles of creating a caring and positive culture, alongside working with players to use maintenance resources, is important to consider. This may include encouraging players to schedule sessions in advance and sticking with the decision to attend, despite weather changes. Further recommendations are presented in the epilogue (chapter seven).

6.5.5 Study strengths and limitations

Key strengths of the study include that this is the first known survey assessing influences of walking football initiation and maintenance in older adults. The online survey was developed using the qualitative data from studies one and two (chapters four and five), assessing multiple influences that were discussed by participants directly in studies one and two (chapters four and five). Another strength of the study includes responses from a large sample (n=439) of

walking football players between 50-75 years old, and large sample sizes from both high and low SES areas. A further strength includes the study findings relating to health conditions and differences between those with varying numbers of health conditions when examining the influences of social influences, which highlighted the importance of social connections for those playing walking football with more health conditions. This is supported by the qualitative data in studies one and two, and provides evidence for stakeholders in providing options to socialise for those who may be managing certain health conditions.

The findings should be considered in light of the following limitations. The sample of female players, even though this was considered representative of the walking football population, was low. Despite this low number of women taking part in the survey, results from this sample suggest similarities with previous research on the number of females taking part in walking football, the number and types of health conditions in older adults, and weekly amounts of PA (Salive, 2013; Sun et al., 2013). Furthermore, a larger overall sample may yield different statistical results, as well as improving effect sizes. Therefore, it is recommended that larger samples be collected in future research to assess the replicability and accuracy of the study. This could be achieved by using varied survey formats, for example both online and paper surveys, to increase the chance of those with low digital literacy taking part. Self-reporting and retrospective recall were also expected of the respondents, especially due to walking football clubs not playing due to the COVID-19 pandemic during survey distribution. Retrospective recall as far back as childhood may not be accurate for some (Wingfield & Kahana, 2002), therefore the results regarding sport experience may need to be taken with some caution. Future research should attempt to survey those that are currently initiating the sport, in order to capture live initiation data, as well as those who are also currently maintaining the sport also, so comparisons can be made between two groups who are actively experiencing each phase. Lastly, whilst SES data were collected, it is important to acknowledge that some IMD LSOAs can include affluent and less affluent areas. In future research, other measures of SES may be considered to establish deprivation and health status, for example, income level and educational level, which has been shown to correlate with older adult health

(Darin-Mattsson et al., 2017).

6.5.6 Conclusion

This study aimed to (a) to investigate differences in influences of walking football initiation across SES, gender, health conditions and weekly PA, b) to investigate differences in influences of walking football maintenance across SES, gender, health conditions and weekly PA, and c) to examine which characteristics, initiation and maintenance influences contribute most to the intention to continue playing walking football after COVID-19 restrictions ease. Whilst this study leaves some questions to be answered regarding the mediators of gender, SES and weekly PA levels, those with two or more health conditions rated social interactions as being more important to both initiation and maintenance than those with no health conditions. Furthermore, significant contributors related to the intention to continue playing include walking football culture and the availability of maintenance resources. The results of this study have identified influences of behaviour change, and the role of coaches, sporting bodies and clubs in walking football delivery. Together, these factors should allow for consideration, in more detail, the importance of delivering a positive and inclusive walking football culture. In addition, coaches should work towards encouraging the use of maintenance resources in players. Further research is needed to continue examining what prominent factors in the walking football environment may contribute to a higher motivation to maintain the sport. Intervention research may be warranted, to test utilisation of maintenance resources on further intention to play walking football.

Chapter 7: Epilogue - policy and practice recommendations for 50–75-year-old adults initiating and maintaining walking football

7.1 Background to this chapter

This chapter provides practical recommendations on how to aid the engagement, initiation, and maintenance of older adults in walking football. These recommendations are intended for sporting body policy makers, individual clubs, coaches, and the players themselves.

This programme of research contains three studies, which uncovered individual, social, and environmental level influences on older adults initiating and maintaining walking football. This was achieved by qualitatively analysing walking football players' experiences and integrating these findings to create a data-driven survey, to scale to a larger population and assess any differences by gender and SES.

The chapter will therefore follow the following structure. Three phases of participation will be discussed as follows:

- Engagement – before walking football participation
- Initiation – first six months of walking football participation
- Maintenance – beyond six months of walking football participation

Two levels of recommendations will be given, within each phase:

- Policy – guidelines for sporting bodies (e.g. The FA, The Walking Football Association)
- Practice – guidelines for coaches and walking football clubs

Whilst these guidelines are based on previous research, and studies contained in this thesis, it is important to note recommendations may need to be individualised to specific clubs or areas where they are being implemented. Previous research suggests that a tailored approach to PA participation can be effective, and different strategies may work for different individuals (Müller & Khoo, 2014; S. N. Walker et al., 2009). Therefore, it should be at the coaches,

clubs and sporting bodies' discretion as to what changes are feasible for different clubs and individual players, and use the recommendations as a framework to promote positive behaviour change in walking football players.

7.2 Recommendations for older adult walking football engagement phase

This section provides recommendations for player engagement, based on the thesis findings (see chapter four) and previous research (van Stralen et al., 2009, 2010).

7.2.1 Policy recommendations: engagement

7.2.1.1 Understanding potential players' previous sporting experiences

Studies one and two (chapters four and five, see sections 4.4 and 0) highlighted the importance of prior sporting experience (from childhood and mid-life) on influencing engagement in walking football. Study three (chapter six) highlighted several sports which participants took part in during teenage years and mid-life, including football, racket sports and cricket. Therefore, sporting bodies who wish to increase participation in this age group should consider funding the promotion and development of further adapted or walking sports, which older adults may express interest in. Other walking team sports are currently being researched, such as walking basketball (Jenkin, Hilland, et al., 2018) and netball (Mulvenna & Leslie-Walker, 2020), which have shown similar findings to that of studies one and two in this thesis (e.g., experienced health benefits, enjoyed the competitive nature of the sports and promoting a sporting identity), and are building on the current research into adapted sports. Walking racket sports are also being developed and walking tennis has recently created an association for the sport (the Walking Tennis Association), however to the researcher's knowledge, there is no published research within this specific context. As racket sports were a common response amongst participants, funding the development of walking racket sports, (e.g., walking tennis) may be an additional option for sporting bodies to consider when developing policies

related to older adult PA. Overall, making sure that there are a variety of walking sport opportunities for older adults to take part in, may aid engagement.

Previous research suggests that sport experience in younger years (e.g., teenage years) may influence PA and sport participation in later life, therefore offering opportunities to play different adapted sports may provide older adults with the opportunity to re-engage in sports they played as children, or in mid-life. This is especially the case for women, where it was discussed that the accessibility of football across the life course was low, and other sports for women such as netball and hockey were more common amongst this population. The female players currently taking part in walking football discussed the inaccessibility to participate in football in childhood (e.g., in leagues), compared to males (see section 4.4). Therefore, funding and prioritising development of women's walking sport and targeting sports played in childhood for this population may provide more sport accessibility for women in older adulthood.

7.2.1.2 Increasing awareness of walking football

The findings from study one (chapter four) highlight the importance of becoming aware of walking football through social means, and discussion through peers is of current importance in promoting awareness of the game. Furthermore, the importance of peer influence on sport and PA engagement has been discussed in both adolescent and older adult PA literature (Franco et al., 2015; King et al., 2008). As a result, sporting bodies may prioritise the promotion of the sport through peers. Developing socially based initiatives to encourage play (e.g., a nationwide 'bring a buddy' initiative, for existing players to bring a friend along to taster sessions), which may aid improved engagement in the game (Cress et al., 2005). It is also important to acknowledge differences in how players become aware of walking football across SES backgrounds. Awareness of walking football sessions through PA facilities and local football clubs were seen in those attending clubs in areas with higher deprivation. Clubs and sporting bodies may benefit from working with, and funding PA promotion through local fitness facilities, developing partnerships with fitness brands to increase awareness of adapted sports for older adults.

It is also important to note that there were many other forms of awareness mentioned in study three (chapter six). The importance of social media in becoming aware of walking football, especially for female palyers, was stated within the studies in this thesis. Within study one (chapter four), some female players discussed that they did not have any personal connections with walking football clubs, therefore other methods of promotion are important. Out of the sample who identified as female in study three, awareness through social media was common, therefore sporting bodies should consider widespread promotion of the sport to women through social media platforms, to engage this specific population of potential walking football players. Furthermore, through the qualitative and quantitative phases, television adverts were also mentioned by players. Sporting bodies may consider developing initiatives to promote the sport through targeted advertisement on TV, or further coverage through prominent football-related TV programmes.

7.2.1.3 Managing negative perceptions and integrating a walking football pathway

Within study one (chapter four), participants discussed that one delay to walking football participation was based around the negative perceptions of the sport, with many players alluding that others' perceptions of the sport were that it was slow-paced, and an 'old man's sport'. This highlights the importance of sporting bodies portraying a positive image of the game. Working to change the current perceptions of the sport may help dispel some of the common misunderstanding of the sport relating to physical intensity, such as looking to change the imagery of advertisements and providing taster sessions for communities, as well as focusing on the benefits of the sport (e.g., adapting previous walking football tactics and skills) and testimonials relating to the ability to adapt intensity at which players can play the sport. Furthermore, within study one (chapter four), participants stated not being able to physically play at the level of younger players in leagues and was a cause of some players taking a break from sport in mid and later life. Sporting bodies should consider the integration of walking football as a natural progression from mainstream football leagues, and the creation of a pathway leading into walking football. This pathway may allow players to advance to walking football in an easy and effective manner and provide an established opportunity for players to progress.

This may not only provide the opportunity for players to stay in the sport, but also normalise walking football as an advancement from mainstream leagues and help dispel negative perceptions of the game.

As previously discussed, in study one (chapter four), female players reported not having the same opportunities as males to play football in earlier life, and women tended to take part in less sport throughout the lifespan, as seen in study three (chapter six). Therefore, to promote a lifelong involvement in sport and PA for women, sport participation needs to be encouraged from a young age and throughout women's lives, to promote inclusion in later years. Creating inclusive and tailored environments for women to play football (e.g., women's only sessions, and suitable timing and location for sessions), increases the likelihood of a life-long involvement in walking football.

Lastly, many participants discussed the values and perceptions of PA (placing importance on health, fitness and enjoyment of sport, as well as valuing competition) as a reason for engagement in walking football. Previous research has highlighted the use of 'values matching', (i.e., matching values of participants with the health behaviour in question) in sustaining PA long-term (Hutchison et al., 2013). Sporting bodies promoting walking football should create policies and promotional strategies appealing to the values stated by specific populations. For example, both male and female players, within study one, discussed the value of good health and benefits of remaining physically active, however males from a higher SES discussed being mindful of relapse and not staying physically active. Some participants also found purpose in retirement through walking football. Promoting marketing materials which emphasise these values relating to the sport, may encourage potential players to engage in walking football. Being aware of the values which match specific populations may aid increased engagement, with a goal of long-term participation.

7.2.2 Practice recommendations: engagement

7.2.2.1 Empowering potential players' self-efficacy and perceived physical ability

Similar to recommendations in the policy section, clubs being aware and knowledgeable of the local walking football population is important. The reasons for engaging in walking football may potentially differ from area to area, depending on the SES level and gender of the potential players, therefore actively promoting the sport in a specific manner towards those in the local area is important to reflect on. Clubs may benefit from surveying the local walking football population and finding out the most popular reasons for engaging in walking football in their area and creating a sporting environment to reflect this is important. As those from higher SES background tended to discuss relapse from PA and sport, providing educational materials and club sessions aiming to aid potential players in regaining fitness may be beneficial for those players who have relapsed from PA. This may prepare those potential players with means to improve fitness in a safe environment, if not physically ready for the intensity of walking football. One example is the Fan Fit (FFIT) exercise initiative now offered by many football clubs across the country, and has had benefits of improving blood pressure, body fat and weight markers in a general population of 35–65-year-olds (Wyke et al., 2015). Redirection to initiatives like FFIT might be beneficial for people who are interested in walking football but are looking to increase their health and fitness first.

Within study one (chapter four), female players specifically expressed having the confidence in their ability to play football as part of the reason why they engaged in the sport. Therefore, it may be beneficial to provide preliminary skills or tactics sessions to women who are new to walking football. As many female players may have not engaged in mainstream football previously compared to male players, skills in football may not be as developed. Previous research has suggested that self-efficacy can be a facilitator in PA engagement, especially in women (Morris et al., 2008; Warner & French, 2018), therefore optional skills sessions or an introduction to football may be beneficial to those players which haven't previously learnt these skills or knowledge.

Male players specifically tended to express, within study one, the awareness of ageing creating physical restrictions. This has been presented in previous research in similar contexts in older adulthood, with participants finding factors such as delays to injury recovery a barrier to PA in older age (Jenkin et al., 2018a). Clubs therefore should consider reassuring and promoting the benefits to health to potential players, alongside an emphasis on a safe playing environment (e.g., trained first aider, smaller pitch, warm up and cool down). To allay worries to potential players, clubs may consider offering potential players an opportunity to spectate on a session before involvement in the sessions, for the potential player to assess whether this type of activity is suitable for them. Furthermore, showcasing walking football at local football games (as discussed in section 4.4) may provide potential players with the opportunity to understand the game, not only alleviating any worries about the physical intensity of the game, but also aiding to dispel any negative perceptions of the game.

7.2.2.2 Encouraging initiation through already-established social connections

Clubs and coaches should consider the impact of social influences on the engagement phase and develop methods of engaging players through social initiatives. As mentioned in chapter four, female palyers felt they had fewer social connections within walking football. In addition to sporting bodies considering promotion initiatives to potential women players, clubs should consider having open days to prospective football players, as well as clubs providing exposure to walking football in half time periods of mainstream games. A ‘bring a buddy’ initiative may be considered by individual clubs and coaches for female players, for players to feel socially accepted and increase walking football connections amongst women. Furthermore, clubs promoting a ‘bring a buddy’ initiative may also benefit prospective male players. As male players stated a drop off in friends playing sport in later life (as discussed in section 4.4) as well as participants in study three playing less sport through the life course, already established players inviting friends to play walking football may increase engagement and help re-engage those who have previously dropped out of sport.

Please see Table 7.2.1 for the consolidated recommendations for the engagement phase of walking football.

Table 7.2.1. Consolidated recommendations for engagement of walking football.

Walking Football Engagement Recommendations	
Policy (sporting bodies)	**Practice (clubs and coaches)**
• Fund the promotion and development of further adapted, walking sports that older adults may express interest in, have childhood experience in (e.g., racket sports) • Fund and prioritising development of women's walking sports and develop sports played in childhood for this population • Prioritise the promotion of the sport through peers. • Develop socially-based initiatives to encourage play (e.g. a nationwide 'bring a buddy' initiative, for existing players to bring a friend along to taster sessions) • Work with and fund physical promotion through local fitness facilities, to promote awareness • Promote walking football through targeted advertisement on TV, or further coverage through football-related TV programmes • Work to change the current perceptions of walking football, to dispel some of the common misunderstandings of the sport, through advertisements and taster days. • Creation and integration of a pathway into walking football as a natural progression from mainstream football leagues. • Fund clubs to create inclusive and tailored environments for women to play football (e.g., women's only sessions, and suitable timing and location for sessions)	• Survey the local walking football population to find out most popular reasons for engaging in walking football in their area • Provide educational materials and club sessions to aid potential players in regaining fitness (e.g., Fan FIT) • Provide optional skills sessions or an introduction to football for those who haven't previously learnt these skills or knowledge. • Promote the benefits to health to potential players, alongside an emphasis on a safe playing environment (e.g., trained first aider, smaller pitch, warm up and cool down). • Offer potential players to spectate a session before involvement in the sessions • Showcase walking football at local football games/open days to prospective football players • Consider using a 'bring a buddy' initiative to encourage others to engage in walking football

7.3 Recommendations for older adults initiating walking football

The studies in this thesis are supported by previous research, when suggesting that the first few months of positive health behaviour change may present its own influences and challenges (Rothman et al., 2009; van Stralen et al., 2009, 2010). Therefore, this section presents practical recommendations for the first few months of walking football (i.e. the initiation phase).

7.3.1 Policy recommendations: initiation

7.3.1.1 Managing game and tournament laws to protect players

Many participants in study one (chapter four) discussed experiencing injury during initiation during sessions, and some instances of aggressive play during tournaments, as negative experiences during initiation of walking football (see section 4.4). Whilst injury and aggressive play cannot be completely prevented, policy can help protect players from injuries relating to aggressive play and socially undesirable behaviours during tournaments. The players interviewed also reported some ‘grey areas’ in the tournament rules, especially relating to running and tackling which can be different from club to club, as highlighted in study one (chapter four). Therefore, sporting bodies relating to walking football (e.g., The FA, The Walking Football Association) should aim to regularly enforce laws of the game consistently across clubs and tournaments, to protect players’ physical and mental health.

Many players are of older age and reported taking longer to recover from injuries in this research, and previous research exploring mainstream sport (Jenkin et al., 2018a). Therefore, the laws and rules of walking football should be regularly emphasised by sporting bodies to protect, as much as possible, the occurrence of injury. An emphasis on the non-contact rules of walking football (e.g., standardised rules when considering tackling other players) should be considered to provide a safe playing environment for all abilities and genders. As many laws of the game are currently interpreted as necessary at the coach or referee’s discretion, introducing, and promoting a code of good sportsmanship (e.g., taking into account any considerations of players’

conditions or injuries) may encourage fewer negative experiences around aggressive play, especially considering many age and health discrepancies amongst players.

7.3.1.2 Creating policy to protect players with health conditions

As studies one and three suggest, there are an array of type and number of health conditions and injuries that players experience throughout initiation (and maintenance). Furthermore, the results of study three highlight the importance of social connections for those with more health conditions, as an influence on walking football initiation. Firstly, sporting bodies should create a club framework to ensure that coaches and referees are appropriately trained in first aid, to provide a first response if any players were to experience injury or illness during play. As fears of re-injury and illness were expressed by players, especially females playing walking football (see section 4.4), making sure coaches are offered and trained in appropriate strength and conditioning or exercise qualifications for this age group is advised, for example the Level 3 Exercise for Older Adults qualification (Health and Fitness Education, n.d.). Sessions can be tailored effectively, with the aim of keeping people playing for longer. Secondly, a further option to help increase initiation may be to encourage and help fund clubs to host specific sessions for those managing conditions. As highlighted in study one, players felt encouraged when making social connections with others who were managing similar health conditions. Therefore, providing the space to foster social connections and level of play for those managing conditions may be beneficial in encouraging initiation. Further practice recommendations relating to health conditions are outlined below, in section 7.3.2.1.

7.3.2 Practice recommendations: initiation

7.3.2.1 Managing individuals with health conditions and low PA levels

As previously mentioned, there are many health conditions that players experience upon initiating walking football and is common within other PA and sporting contexts in this population (Jenkin et al., 2018a). As a result, it is important for clubs and coaches to consider the benefits versus the risks of

players taking part in walking football, especially those managing health conditions. In addition to sporting bodies providing opportunities for coaches to be appropriately first aid trained, individual clubs and coaches should be aware of different health conditions of players and understand player fitness levels upon initiation of the sport. This will allow players to have confidence in clubs and coaches' ability to administer first aid in relation to certain conditions, and appropriately manage first aid incidents. This may also encourage coaches to tailor session structure for players who may not be as physically able as others within the group. Furthermore, clubs may seek to provide sessions which cater to specific health conditions, so players can build social connections with those who are experiencing similar health issues.

If certain clubs are primarily made up of those with a specific health condition (e.g., cancer, or heart disease), the understanding of certain treatments and ailments related to that condition may help coaches understand their player base further, and adapt sessions specifically (e.g., a gentler warm-up for those returning from treatment, avoiding raising heart rate excessively). Such qualifications as the British Association for Cardiovascular Prevention and Rehabilitation (BACPR) Specialist Exercise Instructor Cardiac Qualification, or CanRehab Level 4 Cancer and Exercise Rehabilitation, are examples of specialised qualifications which may be considered (BACPR, n.d.; CanRehab, n.d.). Not only are practice recommendations important for clubs and coaches, but aiding players to understand their own health conditions within a club context may help manage their own expectations upon joining walking football sessions. Some players within studies one and two mentioned the importance of starting walking football with less intensity, especially when health conditions are apparent, and a mutual understanding between the coach and player may allow for players to voice concern if they feel the intensity of the session is too high.

7.3.2.2 Creating a positive walking football initiation environment

The importance of tailoring the club environment for players should not be underestimated by clubs and coaches. In study one (chapter four), the importance of the club environment was discussed and reported by players as being important in initiating walking football, as well as being discussed in

previous research as having an important impact on older adults playing sport (Jenkin et al., 2018a).

Firstly, some female players discussed experiencing anxiety relating to attending the initial session of walking football. Clubs and coaches should consider taster or beginner sessions to ease in new players who may be anxious. Furthermore, clubs may consider providing women's only sessions, as this may create an opportunity to help women enjoy walking football and experience less anxiety during the initiation period. Previous research into women's only sessions suggest mixed responses to taking part in single sex or mixed sessions (Beauchamp et al., 2018). Study one (chapter four) highlights similar findings, with some female players preferring single sex sessions, and others preferring the competitive element of playing with men. As a result, women should be presented with a choice of sessions (mixed or same gender) to suit their preference and skill level.

Walking football session accessibility, especially in the case of logistics (e.g., location, time) and the structure, is important to consider. Players interviewed in study one considered timing and choice of sessions to be important during the stage of initiation. Clubs may benefit from eliciting player preferences (e.g. a survey) for the most suitable times and days for a session to take place, and trialling certain times, receiving feedback where necessary. Furthermore, regular communication with players in the club as to whether the time and day of sessions is working and may change depending on circumstances should be considered. Additionally, many players discussed the enjoyment and importance of learning walking football related skills and tactics during initiation (section 4.4). Clubs should consider providing players with options for learning skills and tactics, especially newcomers to the sport. If there is no time in the session to implement this, or the majority of players do not wish to learn new skills, clubs and coaches could implement a 'homework' based task for those that are interested in learning further skills. Online videos, for those that can access the internet, may also be another option to provide players with guidance in skills and tactics.

As many players enjoyed the opportunity to play in walking football tournaments, clubs should consider having intra- or inter-club friendly tournaments, for those who are interested in taking part. As many players discussed having a competitive identity and enjoying the competitive aspect of playing sport, tournaments would provide a competitive atmosphere and provide a goal for players to work towards. Goal setting has been suggested to motivate those making behavioural changes (Lee et al., 2017; Samdal et al., 2017). Therefore, implementing seasonal tournaments may encourage players to work on goals, towards certain tournament dates.

7.3.2.3 Encouraging positive social connections

Social influences (both within club and outside club) were deemed important by players in study one (chapter four), as having influence on initiation and playing walking football in the first six months. This is again supported by previous research within sporting contexts (Jenkin et al., 2017; Stenner et al., 2020). Team cohesion was also discussed by many players as a positive experience during this phase of behaviour change. Therefore, coaches should seek to facilitate a positive and fair atmosphere within sessions and especially during games, for example through enforcing fair refereeing and good sportsmanship. Clubs should consider providing players with opportunities to meet before and after games where possible, which could be a club or social space near where the sessions are held. The studies found that whilst some players deemed the social aspect to be important, some did not. For those that found social interactions to be important, bonding with other players and making social connections were discussed by players in studies one and two (chapters four and five). Therefore, it may be beneficial to offer a space locally for meeting, particularly during the first six months, to elicit continued participation during initiation. Please see Table 7.3.1 for recommendations linked to the initiation stage of walking football participation.

Table 7.3.1. Consolidated recommendations to encourage initiation in walking football.

Walking Football Initiation Recommendations	
Policy (sporting bodies)	**Practice (clubs and coaches)**
• Regularly ensuring consistent and fair implementation of existing rules, in order to protect player physical and mental health • Promote a code of good sportsmanship to encourage less experiences around aggressive play • Create a club framework and funding to ensure that coaches and referees are appropriately trained in first aid • Assist with funding health-condition specific walking football sessions.	• Be aware of different health conditions of players, understand player fitness levels upon their initiation of the sport • Educate coaches in first aid, treatments and ailments related to specific health conditions and adapt sessions specifically (e.g., BACPR Specialist Exercise Instructor Cardiac Qualification, or CanRehab Level 4 Cancer and Exercise Rehabilitation qualifications may be beneficial). • Consider setting up a health-condition specific sessions where possible, so those with health conditions can socially connect • Encourage players to consider their health conditions and share with the coach and club, in order to create clear communication between club and player, upon joining walking football • Provide women with a choice of sessions, signposting to women's only sessions when asked • Elicit player preferences for suitable times and days for a session to take place, trialling certain times, and engaging in regular communication with players as to whether the time and day of sessions is working • Provide players with options for learning skills and tactics (e.g. 'homework' based tasks for those interested in learning further walking football skills). Online videos, for those with internet access, may be another option to provide players with skills and tactics guidance. • Facilitate a positive and fair playing atmosphere within sessions and especially during games • Provide players with opportunities to meet before and after games where possible, to foster team connections and bonding.

7.4 Recommendations for older adult walking football maintenance phase

As players move into playing walking football longer-term, similarities and differences between the initiation phase are seen, supporting previous research that there may be some differences between certain phases of behaviour change. Supported by the evidence in this thesis, it is important for sporting bodies and clubs to not only consider strategies to encourage initial participation, but how these groups of stakeholders can encourage continuation of walking football long term.

7.4.1 Policy recommendations for walking football maintenance

7.4.1.1 Facilitating the benefits and values relating to walking football participation

During interviews with participants in study two (chapter five), players discussed the ongoing perception of benefits gained from longer-term participation in walking football. These benefits highlight players valuing long-lasting effects of PA and sport participation, and both male and female players tended to report a perceived increase in fitness. In addition, male participants reported perceived psychological benefits related to walking football play. Sporting bodies should consider funding promotional initiatives not only to those just engaging in the sport, but to encourage long-term participation, a longer-term initiative involving reminding established players of the physiological and psychological benefits of walking football may encourage continued participation.

Furthermore, values and perceptions were also discussed by participants in the maintenance stage of participation. Players discussed valuing the opinions of medical professionals, expressing that the encouragement of a medical professionals would be influential on whether they continued to play long-term. This is similar to previous research conducted in older adults, suggesting the impact that the influence of a medical professional can have on adopting positive health behaviours (Rhodes et al., 1999). With the rise and reported positive effects of exercise referrals from medical professionals within the UK

(Giné-Garriga et al., 2017; Morgan et al., 2020; Rowley et al., 2018; Speake et al., 2016), encouragement to continue adapted sports should be considered alongside other established PA programmes. Medical professionals should be provided with resources on adapted sports, and link in with community organisations and providers of walking football, in order to make informed decisions for patients who are continuing play, in order to assess the benefits versus the risks of continuing play long term.

7.4.1.2 Policy recommendations to encourage the formation of a positive walking football culture

As discussed in chapters five and six (sections 0 and 6.4) the walking football culture has been suggested as important when considering players' intention to continue playing the sport. Previous research within organisational psychology has highlighted that positive perceptions of an organisation's culture has been linked with employee retention (Anitha & Begum, 2016). This may be similar when assessing commitment and success in sporting contexts (Wagstaff & Burton-Wylie, 2018). This thesis further suggests that a positive walking football culture is related with the intention to continue participation in the sport (see study three, chapter six), therefore it is imperative for sporting bodies to consider the impact they have on providing a positive sport culture, in a top-down approach, with actions from the level of the sporting body influencing club level

Previous studies have suggested that strong leadership, embedding new values into an organisation, and producing systems of shared meanings, (e.g., creating common understanding), are important factors to consider when implementing a positive organisational culture (Maitland et al., 2015). As there are many sporting bodies currently responsible for the governance of walking football nationally (within the UK), agreement between sporting bodies on key issues surrounding walking football (e.g., tournament structure, laws of the game) is important to enact. When embedding new values into an organisation, sporting bodies should consider the values that players consider to be the most important (e.g., health and enjoyment) and match these values when, such as the development of the laws of the game, for example monitoring and revising running and tackling rules, if necessary. Lastly, strong leadership of the sport is

important when enacting a positive organisational culture. Governance of the sport should be clearly delegated within the various sporting bodies involved in walking football, to avoid conflict and confusion.

7.4.2 Practice recommendations for walking football maintenance

7.4.2.1 Encouraging a positive culture and social influences within clubs

As suggested in studies two and three (chapters five and six), walking football culture has been found to have an impact on players' intention to continue. As a result, it is not only important for sporting bodies to implement a positive organisational culture, but a level of responsibility also lies with local clubs. Clear and strong leadership from the head of the club and coaches involved in sessions should be emphasised, with coaches promoting good sportsmanship, restating values of the club, and promoting a general acceptance of varied abilities and different genders. At an individual level, players have a role themselves in promoting a positive culture, by accepting fellow players' health conditions and level of ability, and being good role models to other players, especially to those who are engaging in the sport for the first time.

Social influences within walking football maintenance are important to consider. Many players within study two (chapter five) discussed the influence of the coach on players' continuation of the sport, as well as the impact of the team connections and cohesion, when compared to outside peer and family influences in study one (chapter four). This suggests that the coach's influence on players is particularly important. It is advised that walking football coaches reflect on the influence they may have on players, and seek to demonstrate encouraging and understanding characteristics when interacting with players. Coach empathy and the understanding of players' ability levels are important. This, alongside adapting sessions and adopting a sense of creativity to make the sessions enjoyable for everyone could be beneficial in creating a positive walking football environment for all players (e.g., tactical changes during game play to challenge more experienced players, changing warmups for those less able). When focusing on the impact of team connections, coaches and players equally should facilitate creating a positive team environment for everyone. Like

creating a positive sport culture, players and coaches should work together to be clear on good sportsmanship. They should seek to create a preventative approach to aggressive play, for example by reminding players of walking football rules were necessary, and enforce rules if game play becomes more aggressive. Additionally, coaches may consider providing opportunities to socialise outside of the session time for those that wish to be involved.

Furthermore, in study three (chapter six), those with more health conditions rated social connections as being a significantly higher influence on maintenance than players with no health conditions. Implementing an ongoing 'buddy system' (as mentioned in section 7.2) specifically for those experiencing a health condition, may be beneficial in fostering social connections and encouraging maintenance of the sport. Providing appropriate social spaces for those with certain health conditions (e.g. alcohol-free events) to meet before and after sessions may also encourage players to socially connect with one another.

7.4.2.2 Session-specific recommendations to aid maintenance in walking football players

Within study two (chapter five), influences related to session-specific factors (e.g., logistics, session structure) were discussed by participants. Themes that arose within discussions included providing free or discounted sessions for those who may not be able to afford it, providing skills and tactics sessions for those that wish to improve, and the location and timing of sessions. Environmental aspects, such as accessibility to sporting activities, have been suggested to have an impact on participation of sport (Jenkin et al., 2017), therefore clubs should consider how practical and representative their sessions are for their players' needs. As suggested, clubs may consider offering, if possible, a discount scheme or free sessions to those that may not be able to afford full-price weekly sessions. Furthermore, periodically reviewing the location and timing of sessions, as in the initiation phase, may help players continue participation in walking football, when considering changing timetables (e.g., childcare for women) and life changes (e.g., retirement). Furthermore, location in various seasons is important to consider. An indoor or sheltered pitch

may be considered in winter where possible, especially for those who exhibit certain health conditions and may struggle to participate in adverse weather.

7.4.2.3 Recommendations to aid players to increase maintenance resources

Studies two and three highlighted the availability of maintenance resources (e.g., affects relating to relapse or taking a break, scheduling sessions) as being an important aspect in the continuation of walking football long-term. Furthermore, previous research supports the availability of maintenance resources (automatic and reflective processes) within positive health behaviour change (Kwasnicka et al., 2016; Rothman et al., 2009). Both clubs and coaches, as well as players themselves, can work to increase the availability of maintenance resources. As study two (chapter five) suggests, many players respect the coach who runs the sessions, therefore the coach plays a valuable role in reinforcing maintenance resources. Practice recommendations include sending a weekly reminder (e.g., a scheduled email reminder) informing players of the weekly sessions, and the implementation of a buddy system (potentially a progression of the 'bring a buddy' system, as seen in the engagement recommendations) to help players feel accountable to attend sessions. Furthermore, buddy systems may allow players to check up on those who may not have attended for some time.

The player also has autonomy in managing their own availability of maintenance resources. Players in study two discussed resources that allowed them to maintain walking football participation. These included setting a weekly schedule which included walking football, as well as preparing for the session (e.g., preparing kit the night before). Recommendations may include laying out correct kit the night before, and notifying family or spouse of the intention to attend walking football sessions. Many female players discussed self-talk when maintaining sessions, such as sticking with the decision to attend and telling themselves to "get up and go". Previous research has found that positive self-talk is important in processes relating to participation in PA (O'Brien Cousins & Gillis, 2005), therefore practising positive self-talk in relation to maintenance of the walking football behaviour may be beneficial, particularly for female players.

7.4.2.4 Supporting players during breaks from play (e.g., COVID-19)

Finally, it is important to consider those who have taken a break or relapsed from the sport during either the initiation or maintenance period, and how to re-engage participation. In study three (chapter six), walking football culture and maintenance resources were significantly related with the intention to continue. Therefore, maintaining a positive walking football culture (as discussed in section 7.4.1.2) and encouraging the utilisation of maintenance resources (section 7.4.2.3) are important to consider, when encouraging players to return. Furthermore, in study three (chapter six, see appendix 6.4), reasons for a decrease in PA during COVID-19 restrictions included not having anyone to exercise with, and not having their usual activity available to them. Clubs should therefore consider encouraging households exercising together and providing exercise sessions virtually, to encourage the continuation of PA over enforced breaks in play. Clubs should encourage players to continue learning tactics and could offer to lend players a ball to practise skills and 'homework', whilst clubs are not able to provide group sessions. Lastly, consistently informing players of the ongoing benefits they will experience when continuing PA, related to values and perceptions expressed in chapters four and five (e.g., increase in fitness, psychological benefits) may encourage those to continue other forms of PA during forced breaks.

Upon returning to walking football after forced breaks, respondents in chapter six (see appendix 6.4) highlighted that the social aspect was an influence in the return to play. As a result, clubs should consider promoting the social aspect of sessions and may provide a good opportunity to implement a 'buddy system', to encourage accountability in their players returning to sessions. Given the concerns with injury in studies one and two (chapters four and five), attention should also be given to injury prevention in the return to play after a prolonged break, and provide ample warming up time before game play in session.

See Table 7.4.1 for walking football maintenance recommendations.

Table 7.4.1. Consolidated recommendations to encourage maintenance in walking football.

Walking Football Maintenance Recommendations	
Policy (sporting bodies)	**Practice (clubs and coaches)**
• Fund promotional initiatives encouraging long-term participation, reminding established players of the physical and mental benefits of walking football • Campaign for the referral of adapted sports from medical professionals. Medical professionals should be provided with knowledge surrounding adapted sports, so to make informed decisions and referrals to patients • Consider values that players consider to be the most important (e.g. surrounding health and enjoyment) and match values when considering organisational matters, such as the development of the laws of the game. • Delegate clear leadership within various sporting bodies involved in walking football.	• Promote strong leadership and role-models from the head of the club and coaches involved in sessions • Encourage players to be part of the promotion of a positive culture (e.g., accepting fellow players' health conditions and level of experience) and work together to be clear on good sportsmanship • Understand players' ability levels, alongside adapting sessions • Offer a discount scheme or free sessions to those that may not be able to afford weekly sessions • Periodically review the location and timing of sessions • Consider an indoor or sheltered pitch in winter where possible, especially for those who exhibit certain health conditions • Provide a scheduled email reminder informing players of the weekly sessions available • Create an ongoing buddy system (potentially a progression of the 'bring a buddy' system) to help players stay accountable, especially for those with health conditions • Provide suitable and health-condition appropriate social opportunities for players • Encourage players to set a reminder or a physical entry into a calendar or diary to remind them of the commitment to attend • Encourage practising positive self-talk in relation to maintenance of the walking football behaviour • Encourage households to exercise together outside of walking football sessions, and provide exercise sessions virtually where possible • Encourage players to continue learning skills outside of sessions, and offer lending players a ball to practise with • Inform players of the ongoing benefits they will experience when continuing PA outside of session time.

7.5 Communication and implementation of guidelines

Regarding the communication of the recommendations, researchers, sporting bodies and clubs may consider communicating the recommendations within the format of a coach education programme. Research has shown that many coaches felt education programmes should be mandatory, and that interacting with other coaches is important to developing coaching practice (Maclean & Lorimer, 2016). Further research in elite coaching suggests that coach education is beneficial when identifying and managing coaching processes instead of education on technical aspects, for example tactics and technique (Cassidy et al., 2006). Therefore, informing coaches of walking football engagement, initiation and maintenance may be beneficial being shared in a group format, where coaches can discuss best practice and discuss what the best routes are to implementing the recommendations outlined. It is also recommended that coaches regularly reflect on their coaching practice in relation to the recommendations, so development can continue (Silva et al., 2020).

Regarding the implementation of the guidelines in clubs, it is important for the researcher to work with stakeholders in order to clarify the most important and realistic recommendations to implement. Co-creation of PA interventions has been suggested to be important to address real-world problems and make sure certain recommendations are viable (Popp et al., 2021). Further work to ensure that the research is translated into practice in the best possible way is advised. Examples of this could include holding interviews, focus groups, or a survey with sporting bodies, clubs and players to assess the financial and logistical viability of recommendations, as well as initial interest in certain recommendations from individual players (e.g., a buddy system). Such work would allow for a better understanding of appealing strategies, and recommendations can be tailored accordingly.

7.6 Conclusion to recommendations

This chapter has outlined specific policy and practice recommendations when encouraging the engagement, initiation and maintenance of walking football in

50–75-year-old adults. As briefly mentioned in the recommendations, feedback and evaluation is important to improve various initiatives (Clarke et al., 2019). Clubs and coaches are encouraged to elicit feedback from players on any changes to sessions and any initiatives that are implemented, to provide an encouraging environment for walking football engagement, initiation and maintenance in players of this age group, and constantly provide a tailored environment for players to participate long-term.

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Chapter 8: Research implications and conclusions

8.1 Background to the chapter

This thesis aimed to explore the influences related to initiation and maintenance of walking football in older adults, driven by a knowledge of determinants of participation in wider PA and sporting contexts (Jenkin, Eime, et al., 2018; van Stralen et al., 2009). The findings in studies one and two (chapters four and five) led to the development of an empirically grounded survey, which investigated differences in initiation and maintenance influences across key respondent characteristics, which were gender, SES, weekly PA level and number of health conditions (chapter six). The following chapter synthesises the findings from the three studies in this thesis and assesses the contribution this body of work has made to the current literature examining sport participation in older adults. Recommendations for future research are also presented, alongside strengths and limitations of the thesis, and a critical reflection of the research process.

8.2 Synthesis of findings and general discussion

8.2.1 Summary of qualitative phase of research (studies one and two)

When examining existing literature, the literature review (chapter two) identified a multitude of determinants and barriers related to older adults remaining active in later life. However, the review also identified a lack of evidence surrounding engagement, initiation and maintenance within sporting contexts, especially in adapted sports, which are novel and fast becoming a popular alternative to conventional PA choices in the older adult population (Jenkin, Eime, et al., 2018; Lloyd, 2019). Therefore, studies one and two aimed to explore the experiences and influences on walking football initiation and maintenance, specifically within 55–75-year-old adults.

Previous research into the determinants of PA and sport participation in older adulthood had reported that a number of individual, social and environmental factors were found to be related to influencing engagement and initiation, such

as previous sport experience, a feeling of community, and self-efficacy (Jenkin et al., 2017; Jenkin et al., 2018a; van Stralen et al., 2009). This has been further supported by the findings of study one (chapter four), which found individual and social factors such as sport experience in childhood and mid-life, a sense of empowerment and self-efficacy, and positive team cohesion were important influences related to initiation. In addition, understanding individual factors of walking football initiation found differences relating to SES, with those from a higher socio-economic background discussing being more mindful of relapsing from PA or sport. Further findings suggested novel individual and environmental influences related to this population, such as positive values and perceptions of PA in a walking football population and tailoring the sport to match ability levels (see section 4.4). These findings offer new insights into walking sports and influences related to walking football specifically.

It is also important to consider the barriers to initiating in walking football. One of the more prominent factors apparent during initiation included the lack of sport accessibility for women in earlier life. This lack of sport accessibility for women is still existent and has been recorded in previous research, despite increased sport participation in women and girls in recent decades (Cooky, 2018). Furthermore, physical limitations and fear of injury during initiation were a negative experience related to the first six months of play, mirroring previous research into sport participation (Jenkin et al., 2018a). Creating suitable options for PA, for older adults that may be limited by health conditions and previous accessibility, is important to consider.

The findings of study two have supported and extended previous research into PA and sport participation in older adulthood. Previous research discussed in the literature review (chapter two) and study two (chapter five) highlights the importance of individual factors (such as health and PA beliefs, perceived PA benefits), social factors (such as interaction with others participating) and environmental factors (such as socio-economic status) on the influence to maintain PA and sport in older age (Faß & Schlesinger, 2019; Jenkin et al., 2017). Study two strengthens previous research by finding similar influences in individual (e.g. perceived benefits of walking football), social (e.g. team connections) and environmental domains (e.g. club culture, choice of sessions).

The research builds upon previous research by finding new themes representing the adapted sport context, such as the walking football specific culture, and coach-specific characteristics. These influences suggest different, sport-specific factors to consider when examining the walking football environment and social aspects encouraging PA and sport maintenance in older adults. It is also important to note the similarities between initiation and maintenance phases of behaviour change in studies one and two (chapters four and five), with some themes recurring in both phases of participation. Perceived physical and mental benefits of walking football, alongside continued positive values around health and PA were discussed in both initiation and maintenance. Social interactions and influences were also discussed in both phases, however a focus on support outside the club was more apparent in initiation, whereas a focus on the within-club support was discussed more when players were discussing maintenance. This highlights that whilst some influences across behaviour change phases remain similar, slight differences within certain domains (e.g. social influence shifts) can be seen.

Furthermore, the use and availability of maintenance resources among older adult walking football players were said to encourage continued participation of the sport (e.g. planning for returning after a break in play, redefining of physical ability and expectations, scheduling in sessions weekly). There were some gender differences seen within this theme, with female players specifically discussing self-talk as a method of encouraging maintenance of attending walking football sessions. These types of resources are highlighted in previous behaviour change theories in other health behaviour contexts (Rothman et al., 2009), demonstrating the use of maintenance resources across various health behaviours. It is important to note that deriving from discussions in study two (chapter five), walking football's adaptive nature (e.g. playing at a gentler speed), allowed players to adapt to PA in later life. This presents new evidence that adapted sports such as walking football may help older adults to develop certain maintenance resources (e.g. shift expectations in their PA ability as they reach older age). This highlights the need to consider the resources players have to aid their own maintenance of walking football participation, in addition to the previously mentioned factors discussed.

Overall, the qualitative phase of this study highlights a multitude of domains involved in the initiation and maintenance and explores differences between gender and SES. In addition to supporting previous research within PA behaviour change and sport participation, this research highlights factors relating to initiation and maintenance within the specific context of walking football, and details the benefits on individual, social and environmental levels of adapting sport for older adults.

8.2.2 Summary of quantitative phase of research (chapter six)

As highlighted in the previous section, the findings in studies one and two (chapters four and five) have found that there are many factors influencing walking football initiation and maintenance on individual, social and environmental levels. This phase of research therefore highlighted the need for further investigation into the experiences discussed by participants, and in line with mixed methods research practice, provide convergence in findings and explore qualitative results in further detail (Hesse-Biber, 2010; Schoonenboom & Burke Johnson, 2017). As there are many factors related to walking football initiation and maintenance that have been identified in previous research, study three aimed to identify important influences and scale findings related to walking football initiation and maintenance in older adults. This was achieved by conducting a cross sectional study, comprising of a data-driven survey developed from the two previous studies.

The overall results show general support for, and some differences, in walking football maintenance influences in 50–75-year-old adults. The multivariate analyses showed no significance when assessing influences across gender, SES, or weekly PA, which may suggest that influences to play the sport remain relatively similar across these three variables. Despite this, the analysis did show significance when investigating initiation and maintenance influences across health conditions, and when assessing the univariate analyses, social interactions and influences in both phases were significant. Furthermore, post hoc tests suggest that those with more health conditions (2+) rate social interactions more highly than those without any health conditions. This supports previous research highlighting positive experiences of social connections and

interactions in older adults who play mainstream sport (Jenkin et al., 2017; Stenner et al., 2020). However, it is important to note that the results had a small effect size, therefore other factors (e.g., walking football environment, the introduction and encouragement of utilising maintenance resources) should not be discounted when marketing and designing initiatives to encourage walking football initiation and maintenance in older adults.

The multiple regression analyses highlighted significant findings related to the intention to continue play after a forced break, which for many players at the time of writing, was restrictions on walking football play related to the COVID-19 pandemic. Factors depicting walking football culture and maintenance resources significantly contributed to the intention to continue, after COVID-19 restrictions are eased. Similar research has posited the importance of a 'caring climate' and the availability of maintenance resources on motivation in sport and PA contexts (Gerabinis et al., 2018; Kwasnicka et al., 2016). This research not only supports the previous research mentioned above, but extends the research to different age groups and contexts (e.g. walking football environment, caring climate in an older age group) that to the researcher's knowledge, had not been investigated previously. These findings highlight important and novel, urgent actions for clubs and sporting bodies that can be deployed in such situations where restrictions impose on regular play, supporting players to continue play once it is safe to do so (recommendations can be found in chapter seven).

Furthermore, the descriptive statistics relating to the sample characteristics of the population highlight important findings relating to the type of walking football player that are currently seen engaging in the sport. The majority of players were male, a range of health conditions were reported, days of sport per week played declines over the lifespan, and players were often made aware of walking football via a friend. The findings detailed here, in terms of health conditions and previous sporting experience, have been reported in previous research in older adult PA and sport participation (Jenkin et al., 2017; Jenkin et al., 2018a; Lang et al., 2009; Steel et al., 2018), and again provides a lens of understanding the walking football population specifically. These demographic data highlight the importance of understanding how to tailor the sport for various health conditions or physical limitations, and also the ability levels depending on

previous sport experience. This is especially the case for women, who may not have had as extensive experience in mainstream football in earlier years. Not every player engaging will have the experience within the sport, therefore creating an environment conducive for learning and play for all abilities is important, supported in mainstream sport (Jenkin et al., 2018a).

Overall, to the researcher's knowledge, this study was the first to quantitatively assess influences on initiation and maintenance of walking football within this population. Significant contributions to intention to continue play lie within the walking football culture and availability of maintenance resources for players. Changes relating to promoting a positive and clear walking football culture and encouraging players to broaden their maintenance resources (e.g. planning sessions and considering the effects of a break in play), are recommended to influence further walking football maintenance within this population.

8.3 Theoretical implications and future research suggestions

The theoretical implications of the work are important to consider, in relation to the current behaviour change literature. Firstly, the research undertaken supports the idea that multiple influences are present when older adults are participating in sport (Jenkin et al., 2018a). Similar influences such as history of sport experience, health conditions and social connections have all been recorded in studies one and two (chapters four and five), strengthening the previous body of behaviour change research, but within a specific sport context. Furthermore, as this research found culture and maintenance resources as contributors to intention to continue, the research broadly supports the use of individual and environmental approaches to encouraging positive behaviour change and maintenance within this population. Previous research within behaviour change has encouraged the importance of maintenance resources and environmental factors in PA change (Kwasnicka et al., 2016; Spence & Lee, 2003), and this research strengthens the use of a multi-faceted approach to achieving behaviour change, rather than isolating and focusing on one particular factor. Many themes apparent in studies one and two also highlight similarities with behaviour change theories such as SDT and Rothman's theory of behaviour maintenance, but within a novel context (Michie et al., 2011;

Rothman et al., 2009). As a result, this research may strengthen the case for further research into walking football based on the behaviour change models mentioned.

It is important to note that this research builds upon previous research into walking football feasibility (Reddy et al., 2017) and supports the use of walking football as an alternate form of PA, from a behaviour change perspective. Whilst the previous studies employ intervention methods to assess the feasibility and sustainability of walking football as exercise for older adults, studies one and two from this programme of research highlighted clear discussions relating to the sport being tailored to cater for many players of differing abilities and experiences. Therefore, the research in this thesis builds upon the previous research, using mixed-methods in order to build the case for walking football as a sustainable and feasible form of PA for this age group.

There are several avenues of further research which could be pursued in future work. Firstly, although this thesis highlighted prominent influences when older adults initiated and maintained walking football, there is still a need for further investigation in this area, in terms of age range and gender. Whilst the three studies provided an understanding into the context-specific influences within an older adult population, the studies represented a specific age range (50–75-year-old adults). Whilst there was justification for using this population, regarding the specific issues the young-old population encounter (see section 1.2), a broader age range play walking football and has been researched in other walking football studies and in mainstream sport (Arnold et al., 2015; Jenkin et al., 2018a; Reddy et al., 2017). Therefore, further studies examining the full age range of walking football players, which can include above the age of 75, would be beneficial, and comparing influences related to certain ages may also be a useful research avenue to explore. Furthermore, it is important to note that female players only made up ten percent of the population sampled in study three (chapter six). Despite this being, to the researcher's knowledge, representative of the population that play walking football, further research into women's experiences of walking football may be beneficial. As study one highlighted different experiences related to sport participation between male and female counterparts, understanding women's' walking football experiences

further may allow for additional practical recommendations to be implemented, specifically related to engaging more women in the sport.

Another consideration for future research would be to investigate walking football player experiences in ethnic minorities. The research in this thesis focused on respondent characteristics such as gender, SES, weekly PA level and number of health conditions. The research highlighted potential differences between gender and SES within the qualitative research (e.g., how a player became aware of the sport, and values and perceptions relating to PA) and differences between the perceived number of health conditions (e.g. the influence of social connections) within the survey research. Research suggests that lower PA levels are seen within ethnic minority communities (Sport England, 2020a). Due to the growing popularity of walking football, including walking netball and walking basketball (Jenkin et al., 2018b; Kinnafick et al., 2018) future research should prioritise the investigation of what, and how walking sports could be utilised to engage, and aid older adult ethnic minority populations start and stay physically active.

Further research could consider different adapted sport contexts, and whether the influences discussed in this thesis are shared across various sports. Walking netball is becoming a popular walking sport and research is emerging in this area related to the engagement of women in this area (Kinnafick et al., 2018), however there are still other sports, such as walking tennis, which are yet to be researched. Further investigation into the influences of taking up other, walking sports may allow sporting bodies to understand the benefits of an array of walking sports for older adults, investigate similarities and differences across sports, and look at how generalisable the findings are across different sports.

Future research avenues may focus on either the replication of the survey, or further developing an intervention to test these influences. Regarding the replication of the survey, future work may involve recruiting a larger population, especially more women players, to understand whether the same results are seen. Replication of results in scientific fields, and especially psychology, is becoming an important point of discussion (Shrout & Rodgers, 2018), therefore understanding whether these results are seen in a different sample may be

important to explore. Furthermore, regarding the significant contributors to intention to continue playing, an intervention study focusing on creating a positive walking football culture, or education on maintenance resources in players, may be important to conduct. The research in study three especially set out to find key factors relating to walking football initiation and maintenance, and now that these have been initially identified, further work into confirming whether culture and maintenance resources have an active role in players' intention to continue playing walking football would be a useful research avenue to pursue.

Lastly, this thesis focused on a specific group of walking football players, those that had played over six months and were deemed to be successfully maintaining. Further research may include exploring the experiences of those currently initiating, as less recall (as discussed in section 8.4) would be required. Furthermore, exploring the experiences of those who had dropped out of walking football, or those who have never played the sport in the first place, would be important to explore. As many sports see a large drop out rate once adults reach older age (McPhee et al., 2016), understanding why older adults have dropped out of walking football, or why they do not want to participate in walking football, would gain valuable insights into how sporting bodies and clubs can re-engage and help those who are more likely to do so.

8.4 Strengths and limitations of the thesis

This section will focus on the strength and limitations of the thesis. Specific strengths and limitations related to studies one to three were addressed individually and can be found in chapters four, five and six (sections 4.5.6, 5.5.6, and 6.5.5).

The research benefitted from a mixed-methods approach, and utilised both qualitative and quantitative research to understand walking football initiation and maintenance in older adulthood. This allowed for a clearer picture of player experiences throughout the specific phases of initiation of new behaviours, allowing the researcher to develop guidelines related to these phases of behaviour change. Furthermore, the research weighted the qualitative phase of

the research as more dominant than the quantitative phase, due to the exploratory nature of the mixed-methods approach and a lack of previous research into behaviour change in this context. Previous research into sport participation primarily focused on an array of different sports which were not adapted, and where walking football has been conducted, this has mostly focused on quantitative measures relating to participation, with qualitative aspects being a secondary method to main statistical results (McEwan et al., 2019; Reddy et al., 2017). This research therefore aimed to take a more detailed approach into understanding participation experiences through a qualitative lens.

Another strength of the research is focusing on the behaviour change processes related to walking football participation. Previous research into older adult sport participation and walking football participation had previously investigated participation as a whole. As previous research into PA highlights different stages associated within behaviour change (van Stralen et al., 2009, 2010), it was felt necessary to explore these stages of participation but within a specific PA context. As a result, this research brings in new knowledge surrounding differences and similarities related to the initiation and maintenance stages of walking football, allowing for practical recommendations so sporting bodies and clubs can support those at initiation and maintenance stages, with tailored initiatives.

It is important to note that the studies used purposive sampling, recruiting older adults aged 50-75 years (55-75 years for the qualitative phase), who had played walking football for six months or more. This was to understand the experiences of those who had ‘successfully’ maintained walking football play. Experiences of those who were initiating or were unsuccessful at initiating or maintaining the sport, may be different to those who have been successful. As a result, further exploration of those in other stages of participation and also those who have dropped out is needed. Furthermore, the age range for this study may not provide all experiences from the walking football community, as there are many players who are under the age of 50 and over the age of 75. In terms of this research and justification for using the specific age range, as mentioned previously in section 8.3, a steep decline in PA and sport

participation is seen in later life (McPhee et al., 2016). Understanding the experiences of this specific age group and what activities encourage positive health behaviours are therefore important to understand, including what the specific drivers for PA and sport participation are, and what we can do to increase positive, long term behaviour change. Despite there being players above 75 years-old participating in walking football, taking a preventative rather than reactive approach to reducing older adults care needs and improving PA is important to consider, in line with Government plans to improve preventative healthcare (Department of Health and Social Care, 2019). Understanding the reasons for this age group, in different genders and backgrounds, is one way to understand further how to increase long term behaviour change, and mitigate any non-communicable disease which could otherwise be prevented by increasing PA levels in adults between 50-75 years old. Future research to understand whether there are any differences in initiation and maintenance influences between age groups, including a broader age range, may be needed to understand how we can support older adults in more detail.

Lastly, the studies asked participants to utilise recall, when answering questions in the qualitative and quantitative phases, in order to understand experiences of those who were already successfully maintaining the sport (not considering the forced break due to COVID-19). Despite offering participants the option to fill out a life grid in order to aid recall in chapters four and five (see sections 4.3 and 5.3), older adult recall has been the subject of much debate in the scientific community (McKenna et al., 2004; Wenger, 2011). As a result, further work with those actively initiating the sport, between one and six months, is needed in order to understand experiences without the need for recall and may be used to support or debate findings from the research in this thesis.

8.5 Self-reflection on the research process

Reflexivity, particularly within qualitative research, has been deemed an important part of research practice (Watt, 2007). It creates an opportunity for the researcher to capture the complex nature of the research process through an individual lens, identifying areas to improve, and provide an opportunity to reflect.

As briefly mentioned within study one, I had little experience of playing football or walking football, but my research experience and understanding is centered around physical activity behaviour change, and I keep physically active through other activites and sports (e.g. running, climbing). As a result, having this lived experience of taking part in physical activity may have influenced my approach to this research, especially when it came to the benefits gained from taking part in physical activity. This research has shaped my understanding of physical activity in older age, and as a result of the research process, my own goals and values relating to staying physically active long-term have changed, and now focus more on enjoyment and injury prevention than performance metrics.

The most enjoyable part of the research process has been talking to participants throughout the PhD programme, and understanding the older adult population on a deeper level. There is often, in UK society, a general disconnect from younger and older generations. Before this research (not including grandparents) there would be very few times I would come across and speak to people from older generations, and this research has changed my perceptions when considering ways to remain active and healthy in later years. This was further amplified through seeing the care home crisis during the COVID-19 pandemic and further understanding that older adults are still individuals with lives to enjoy, despite the negative perceptions of older adulthood cultivated in western society (Kite et al., 2005). Furthermore, I have also enjoyed discussing my work with relevant stakeholders. The goal for this thesis was to provide practical and usable recommendations for clubs and sporting bodies to implement, therefore opening doors to interact with sporting bodies and clubs has been deeply important. I have had many conversations with local clubs, steering groups, walking football players and other universities interested in disseminating the research, and I'm happy that I am starting to drive impact with the research I've conducted. I hope that this thesis provides a deeper understanding on the vibrant and fulfilling nature of sport in older adults' lives and provides clubs and sporting bodies with straight-forward initiatives to enact, enough to see a shift in how older adults take part in sport in future.

A challenge I have faced over the course of the PhD has been working in a mixed methods and data-driven manner, relying on emergent research in chapters four and five to guide my final phase of research. As there were many directions the work could have developed into (e.g., an intervention, as discussed in future research), synthesising the vast amount of data from the qualitative phase, and understanding the most practical direction to go in (in order to write practical recommendations) was a challenge. This programme of research required me to overhaul my previous experience of project management and designing studies from the outset and allow emerging data to guide viable further research options, as is practiced in mixed methods research frequently. It is also important to note that another challenge was the COVID-19 pandemic. As the pandemic progressed whilst I was in the development stages of my final study (chapter six), I had to adapt to a new way of working quickly, and reconsider aspects of my study (e.g., moving the survey completely online, and managing all recruitment online rather than visiting clubs in person to promote). Despite this upheaval, it has also been a rare opportunity to assess behavioural aspects of 'forced breaks' on a large population. Whilst in the first two studies, participants were relying on recall or hypothetical strategies they may use to play walking football again, this survey was released in a time of uncertainty, where some clubs were open and some were closed. This therefore allowed me to ask specific questions about their intention to play again after restrictions have been eased. I have learnt a lot through having to adapt my research, and also showed me the ability to assess a population through a different lens as a result.

Throughout the PhD process I have learnt a great deal about the research process and various types of research that could be conducted in order to answer the research question. Applying a mixed methods approach and using statistical methods in the final study was an area I was looking to improve in, and I have expanded my skill set as a result. The statistics I used in the final study were different to previously learned skills, therefore pushing myself outside of my comfort zone was a valuable lesson. I am confident that through conducting mixed methods research and enhancing my skills in both qualitative and quantitative research, I have learnt a variety of skills to take with me into future roles.

8.6 Concluding remarks

This thesis advances understanding of behaviour change in older adulthood, especially within the context of an adapted sport such as walking football. The thesis proposes practical recommendations to encourage participant engagement, initiation, and maintenance of the sport long-term. The following conclusions can be drawn:

- This thesis makes a unique contribution through exploring older adult experiences of initiating and maintaining walking football, a specific PA context which has not been investigated previously through a behaviour change lens.

- This body of work demonstrates that adopting an adapted sport such as walking football, in older adulthood, is a complex behaviour influenced by multiple factors on individual, social and environmental levels. Future research should consider investigating the key factors highlighted, especially around walking football culture and maintenance resources, in encouraging older adults to initiation and maintain adapted sports (e.g. through a complex intervention)..

- Study one (chapter four) was the first study to explore influences of walking football initiation with 55–75-year-old players. Study one's findings highlight key individual influences, including previous sporting experiences and current health status, alongside social influences including work culture and commitments in other areas of life (e.g. work and family) to be determinants influencing initiation of walking football. This research offers new knowledge highlighting values and perceptions and the awareness of walking sports as influences when initiating walking football in older adulthood. In addition, having a positive experience during the initiation phase, such as coping with ageing (including coping with health conditions) and empowering players to develop in older age cognitively and socially, were also important factors. Coaches and walking football programmes should look to diversify marketing to include both men and women's experiences of play, and

coaches may also benefit from tailoring sessions for different ability levels and genders.

- Study two (chapter five) aimed to understand experiences and influences of older adults (55-75 years old) continuing walking football play. This research offers new knowledge highlighting the ongoing awareness of walking football benefits, maintaining play after injury or a short break, and social influences such as coach and team influence on player maintenance. Furthermore, a positive walking football culture should not be discounted as an important influence when maintaining walking football play. Additionally, maintenance mechanisms such as cognitions (e.g. redefining PA expectations) and behaviours, (e.g. planning walking football into schedules) are important to players when maintaining play. Policy and practice suggestions include coach awareness of players returning from illness or injury and awareness amongst health professionals (e.g. GPs) of walking football as alternative PA for older adults. The findings can be used to inform the development of programmes or strategies to enhance the ongoing participation of older adults in sport.

- Study three (chapter six) aimed to investigate the differences in walking football initiation and maintenance influences in 50–75-year-old adults, across gender, SES, weekly PA level and number of health conditions, scaling the findings from previous qualitative research. Whilst no gender, SES or weekly PA differences were found, when investigating intention to continue, walking football culture and the availability of maintenance resources are highlighted as significant contributors to the intention for players to continue play after COVID-19 restrictions are eased. Coaches should work towards improving maintenance resources in players, as well as players themselves being aware of the thoughts and behaviours that can be used to maintain sport participation. Further research is warranted to continue examining what prominent factors in the walking football environment may contribute to a higher motivation to maintain the sport, and sporting bodies and clubs should aim to foster a caring

and positive culture within the sport.

- Findings from this thesis helped suggest practical implications for sporting bodies and clubs to consider when encouraging engagement, initiation, and maintenance of older adult walking football players (chapter seven). It is important for future research to consider multiple policy and practice approaches to encourage continuation of walking football play. These should be a culmination of individual, social and environmental initiatives, including a positive walking football culture and the encouragement of players to utilise maintenance resources.

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Appendices

Appendix 2.1. August 2018 search keywords to retrieve literature

Searched within '*Title & Abstract*'

Group 1:
Socio-psychological
Psychological
Psychosocial

AND

Determinants
Predictors
Strategies
Strateg*
Predict*

AND

Sport partic*
Sport

Group 2:
Sport
Sport participation
Sport partic*
physical activity
Adapted sport
Walking football

AND

Older adults

Older adult*

Elderly

Advanced age

Once the two groups had been searched separately they were combined and searched on the same databases.

Database	**Results**	**Sent to Mendeley**	**Duplicates Removed**
PsycInfo	594	64	31
Medline/SportDiscus	2003	235	87
Total	*2597*	*299*	*118*

Appendix 2.2. September 2020 search keywords to retrieve literature

Searched within '*Title & Abstract*'

Group 1:

Socio-psychological
Psychological
Psychosocial

AND

Determinants
Predictors
Strategies
Strateg*
Predict*

AND

Sport partic*
Sport

Group 2:

Sport
Sport participation
Sport partic*
physical activity
Adapted sport
Walking football

AND

Older adults

Older adult*
Elderly
Advanced age

Group 3:

Behaviour*
Initiation
Maintenance

AND

Older adult*

AND

Sport participation
physical activity

Groups 1 & 2 were searched in August 2018, and September 2020 with date range 'After August 2018' (date of last search). Group 3 was searched with longer date range. Once the groups had been searched separately they were combined and searched on the same databases.

Database	**Results**	**Sent to Mendeley**	**Duplicates Removed**	**Papers added**
PsycInfo	538	77	42	35
EBSCOHost (SportDiscus/Medline)	727	126	108	18
Web of Science	928	54	49	5
Total				*58*

Appendix 4.1 – Interview guide for qualitative phase

Introduction

Just to remind you of the background of the conversation, we are going to be chatting about your experiences taking part in walking football. This will include your experiences taking part in sport and what motivated you to take part in older age and also later on, the strategies you use to keep participating.

Remember to ask for consent – all information and names will be kept anonymous, raw data will be analysed, then destroyed. You have a right to withdraw until a month after the interview is completed, after which the data will be transcribed and anonymised and (we won't be able to find your data). Just to confirm, are you happy to continue (yes or no)?

Part one - better understand the socio-psychological determinants of sport participation in older adults. We are specifically interested in those involved in long-term participation in 'adapted sport'

1. Can you confirm your age?

2. Can you tell me a bit about yourself, including your interests and hobbies aside from walking football?

3. Prior to playing walking football, were you involved in any sports at a younger age?
   - If so, tell me about that sport
   - If so, what age did you carry on playing until? Why did you stop?
   - What was your attitude towards sport when you were younger?

Factors influencing initiation of sport

4. Tell me a bit about your walking football including when you first started playing.

- *If not answered in previous question, probe with: What age did you get involved in walking football?*
- *How does playing walking football make you feel?*

5. Coming back to walking football, what was going on in your life around the time you took up walking football?
   - *If not answered, probe with: Were there any life events that influenced taking up walking football?*
   - *Why did you decide to take up walking football at [age] specifically?*
   - *What stopped you taking part before the age of [age]?*

Socio-psychological determinants influencing sport participation

6. What or whom influenced your walking football participation, if any?
   - *If they answer about a person/people, explore further - what did they do/say? How did they encourage you? How important was that for you?*
   - *How much has your involvement in walking football changed your social life?*
   - *How much of an influence have your friends or family had on your participation in walking football? How important was this for you?*

7. How has your involvement in walking football influenced you as a person?
   - *If not answered fully, probe with physical and mental benefits.*
   - *How does playing walking football make you feel? What is your mood like after you have played? Has this always been the case?*

8. What do you feel you get from playing walking football than, for example, simply going for a walk/run?

9. Apart from friends and family, and yourself, what else influenced your choice of sport?
   - *How have external factors (probe: could be location, finance) had an influence on choosing walking football?*

Part two – better understand the strategies used in long-term sport participation in older adulthood.

Sport participation re-initiation

1. a) Have you taken any breaks (e.g., 2 weeks or longer) from walking football?
   - Probe if not: why not?
   - Probe if so: tell me about that - emotional aspects - how did that make you feel?
   - If so, what or whom influenced you to re-join walking football?

   b) If you were to take another break from walking football, what strategies would you use to get re-involved in walking football again? *Probe: it might be friends to get you involved, mental skills you've learnt…*

Sport long-term maintenance

2. What are the most important things about walking football that motivate you to continue to participate?
   - Probe: Why is/are that/they most important to you? Has that/they always been important to you?

3. If you aren't feeling as motivated to go to a sport session, what do you say to yourself or what strategies do you use to get you out the door?
   - Probe: What encourages you to continue playing even when you don't feel like it?
   - Probe: why do you think that is?

4. What might make you completely stop playing walking football in the future?

5. Is there anything else you would like to say about your participation in walking football?

Part three – intervention questions – what would an intervention look like?

So, our research is hopefully going to be a precursor to designing an intervention, to encourage older adults to get involved in sporting activities. With that in mind, I've got a couple more questions for you:

1. If you were to start playing walking football again from scratch, what would you change?

2. What about the sessions worked well when you first started? *Probe: Could be location, value, etc.*

3. What advice would you give to others who would like to continue their sport participation as they mature into older adults?

4. Do you have any other questions for me before we finish?

Thank you for your time.
[End of interview]

Appendix 4.2 – Ethics approval and amendments for qualitative phase

Cholerton, Rachel

From: converis@shu.ac.uk
Sent: 24 May 2018 15:18
To: Cholerton, Rachel
Subject: Converis - Ethics Review - Approval

Dear Rachel

Title of Ethics Review: Sport participation and transitions to older adulthood: determinants, antecedents and outcomes

Ethic Review ID: ER6894807

The University has reviewed your ethics application named above and can confirm that the project has been approved.

You are expected to deliver the project in accordance with the University's research ethics and integrity policies and procedures: https://www.shu.ac.uk/research/ethics-integrity-and-practice.

As the Principal Investigator you are responsible for monitoring the project on an ongoing basis and ensuring that the approved documentation is used. The project may be audited by the University during or after its lifetime.

Should any changes to the delivery of the project be required, you are required to submit an amendment for review. Wishing you success you with your study

Appendix 4.3 – Information sheet for qualitative phase

Title of Study: Sport participation and transitions to older adulthood: determinants, antecedents and outcomes

Supervisor:	**Email:**	**Phone:**
Dr. Joanne Butt	hwbjb@exchange.shu.ac.uk	01142252317
Researcher:		
Rachel Cholerton	Rachel.c.cholerton@student.shu.ac.uk	07809 758 605

We would be grateful to you if you could assist us by participating in our study, aiming to explore long term sport participation in older age. The study will look at what different factors influence sport participation in older age, what benefits you gain from your sport, and what factors and strategies keep you motivated and involved in your sport. Your participation will take approximately 90 minutes; during which time you will be asked to fill out a brief questionnaire, and discuss with the researcher your experiences of sport participation since 55 years old.

Your data will be kept confidential and securely stored, with only an anonymous number identifying it. Information linking that number to your name will be stored securely and separately from the data you provide us. All information collected for the project will be destroyed after a period of 6 months from the completion of the project has elapsed. Taking part in this study is completely voluntary; you may withdraw at any time without having to give any reason. Please feel free to ask any questions that you may have about this study at any point.

This application has been reviewed by the University Research Ethics Committee and has been given a favourable ethical opinion for conduct

Thank you in advance for your help.

Rachel Cholerton

Appendix 4.4 – Consent form for qualitative phase

TITLE OF RESEARCH STUDY: Sport participation and transitions to older adulthood: determinants, antecedents and outcomes

Please answer the following questions by ticking the response that applies

	YES	NO
1. I have read the Information Sheet for this study and have had details of the study explained to me.	☐	☐
2. My questions about the study have been answered to my satisfaction and I understand that I may ask further questions at any point.	☐	☐
3. I understand that I am free to withdraw from the study within the time limits outlined in the Information Sheet, without giving a reason for my withdrawal or to decline to answer any particular questions in the study without any consequences to my future treatment by the researcher.	☐	☐
4. I agree to provide information to the researchers under the conditions of confidentiality set out in the Information Sheet.	☐	☐
5. I wish to participate in the study under the conditions set out in the Information Sheet.	☐	☐
6. I consent to the information collected for the purposes of this research study, once anonymised (so that I cannot be identified), to be used for any other research purposes.	☐	☐

Participant's Signature: _____ Date: _____

Participant's Name (Printed): _____

Date Of Birth:_____

Contact email: _____

Contact telephone:_____ _____

Researcher's Name (Printed): Rachel Cholerton

Researcher's Signature: _____

Researcher's contact details:

Name: Rachel Cholerton

Email: Rachel.C.Cholerton@student.shu.ac.uk Phone Number: 07809758605

Please keep your copy of the consent form and the information sheet together.

Appendix 4.5 – Demographic questionnaire for qualitative phase

Participant number (for office use only):

Age: _____

Sex:

Male ☐
Female ☐
Prefer not to say ☐

What sport do you play? _____

How long have you been playing sport (in general) for?

2-3 years ☐
3-5 years ☐
5-7 years ☐
7-9 years ☐
10+ years ☐

How long have you been playing this specific sport for?

0-6 months ☐
6-12 months ☐
1-2 years ☐
2-3 years ☐
3-5 years ☐
5+ years ☐

Appendix 4.6 – Debrief sheet for qualitative phase

Title of study: Sport participation and transitions to older adulthood: determinants, antecedents and outcomes

Many thanks for taking part in this study, aiming to explore long term sport participation in older age.

In the interviews, you were asked to fill out a brief questionnaire, and discuss with the researcher your experiences with sport participation, including what different factors influence sport participation in older age, what benefits you gain from your sport, and what factors and strategies keep you motivated and involved in your sport.

If you are interested in more information regarding sport participation, physical activity and its benefits on wellbeing in older age, please visit Sport England's website:
https://www.sportengland.org/our-work/health-and-inactivity/active-ageing/

Alternatively, if you have any further questions, please do not hesitate to get in contact with the researcher using the below contact details.

Again, many thanks for your time and taking part in our study.

Rachel Cholerton

Email: b6034624@my.shu.ac.uk
Phone: 07809 758 605

Appendix 4.7 – Recruitment poster for qualitative phase

Sheffield Hallam University

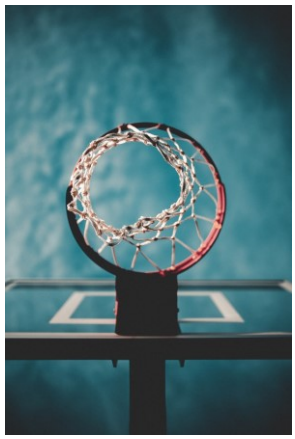
Are you participating in a walking sport? We want to hear about your experiences!

Sheffield Hallam University is currently undertaking an exciting new study into older adults' experiences in sport participation, specifically adapted sports, such as walking football.

We are looking for participants between the age of 55-75, now playing an adapted sport to hear your experiences and views on sport participation, and what keeps you playing your chosen sport.

The aim of the study is to understand how participation in adapted sports may affect psychological wellbeing, to encourage more older adults into participating in sport.

If you are interested, please get in contact with researcher Rachel Cholerton by emailing rachel.c.cholerton@student.shu.ac.uk, or by calling 07809 758 605.



Appendix 4.8 – Recruitment email to clubs during qualitative phase

Dear [coach name],

I hope you're well.

My name is Rachel Cholerton and I am a PhD student at Sheffield Hallam University, currently studying sport and psychological wellbeing in older adults, specifically within adapted sport environments. The work I'm undertaking aims to look at what keeps older adults in sport long-term, and how we can also help to encourage sport participation in older adults. It would be really appreciated if I were able to join you for a club night and explain more about my study, with the hope of speaking to some of your players (with their informed consent) about their experiences and views of taking part in walking football.

Thanks for your time and I look forward to hearing from you.

Best regards,

Rachel Cholerton

Rachel Cholerton BSc, MSc, MBPsS
Doctoral Student, Centre for Sport and Exercise Science

Appendix 5.1 – Ethics approval for follow up survey

Cholerton, Rachel

From:	converis@shu.ac.uk
Sent:	25 September 2019 15:58
To:	Cholerton, Rachel
Subject:	Converis - Ethics Review - Amendment Outcome

Dear Rachel

Title of Ethics Review: Sport participation and transitions to older adulthood: determinants, antecedents and outcomes
Ethic Review ID: ER6894807

Amendment 1 Title: Addition of questionnaire for member checking purposes

The amendment to the Ethics Review named above has been

reviewed and the outcome is: Amendment Approved

Please log back into the P12 tab to see any feedback.

If you have a query regarding this, please contact your Faculty Ethics

Administrator in the first instance. HWB - hwbethics@shu.ac.uk
STA - STAfrec@shu.ac.uk

SBS - sbsethics@shu.ac.uk

SSH - SSH-ResearchEthics@shu.ac.uk

Kind regards,

Ethics Research Support

*** This is an automatically generated email, please do not reply ***

Appendix 5.2- Follow up Walking Football questionnaire (Qualtrics)

SECTION 1: Information and consent form

Q1 Thank you for your interest in taking part in this short questionnaire, which has been designed to further understand your experiences of playing walking football, including the structure of your sessions, and coach characteristics.

The questionnaire should take approximately 8 minutes to complete. Please view the study's information sheet via the following link (please click here). If you have any further questions, please do not hesitate to contact the researcher, Rachel Cholerton, via R.Cholerton@shu.ac.uk or via telephone: 01142254423.

Before completing the questionnaire, we need to ask for your consent to take part. By consenting to take part, you agree to the following:

1. I have read the Information Sheet for this study and have had details of the study explained to me.

2. My questions about the study have been answered to my satisfaction and I understand that I may ask further questions at any point.

3. I understand that I am free to withdraw from the study within the time limits outlined in the Information Sheet, without giving a reason for my withdrawal or to decline to answer any particular questions in the study without any consequences to my future treatment by the researcher.

4. I agree to provide information to the researchers under the conditions of confidentiality set out in the Information Sheet.

5. I wish to participate in the study under the conditions set out in the Information Sheet.

6. I consent to the information collected for the purposes of this research study, once anonymised (so that I cannot be identified), to be used for any other research purposes.

You should contact the Data Protection Officer if:

you have a query about how your data is used by the University
you would like to report a data security breach (e.g. if you think your personal data has been lost or disclosed inappropriately)
you would like to complain about how the University has used your personal data
DPO@shu.ac.uk

You should contact the Head of Research Ethics (Professor Ann Macaskill) if:
you have concerns with how the research was undertaken or how you were treated

a.macaskill@shu.ac.uk

Postal address: Sheffield Hallam University, Howard Street, Sheffield S1 1WBT
Telephone: 0114 225 5555

- o I consent to taking part in this follow up study
- o I do not consent to take part in this follow up study

SECTION 2: Demographic information

Q1 What is your gender?

- o Male
- o Female
- o Prefer not to say
- o Prefer to self-describe (please enter text)

Q2 What is your age?

- o 55-59
- o 60-64
- o 65-69
- o 70-75
- o 75+ (75 or under at time of interview - in Summer 2018)

Q3. Please provide your 6 or 7 digit postcode (e.g. S10 3FU or EH20 5PH)
(Please note: your postcode will be kept strictly confidential and the raw data will not be used within any publication of the research. Your postcode will not be passed onto any third parties, only being used for the purposes of this research)

Q4 What is the highest degree or level of school you have completed?o No schooling completed

- o GCSE/O-Level or equivalent
- o A-Level or equivalent
- o Trade/technical/vocational training
- o Associate degree
- o Bachelor's degree
- o Master's degree
- o Professional degree
- o Doctorate degree

SECTION 3: Session Structure

Q5 What type of walking football session do you currently attend?

(If more than one type, please pick the session you attend the most)

- o Men's only session
- o Women's only session
- o Mixed-gender session
- o Disability session

Q6 How many walking football sessions a week do you currently attend?

- o Less than 1 session a week (1)
- o 1
- o 2
- o 3
- o 4+

Q7 In a typical week, how many sessions would you ideally like to attend?

Less than 1 session a week (5)

- o 1
- o 2
- o 3
- o 4+

Q8 Assuming your walking football club session lasts an hour (60 minutes), how many minutes of your session do you currently spend doing the following:

Please make sure your total adds up to 60 minutes.

Warm up : _____
Skills : _____
Tactics : _____
Games : _____
Cool down : _____
Total : _____

Q9 Assuming your walking football club session lasts an hour (60 minutes), how many minutes of your session would you like to spend doing the following:

Please make sure your total adds up to 60 minutes.

Warm up : _____
Skills : _____
Tactics : _____
Games : _____
Cool down : _____

Total : _____

Q10 What are the most appealing things about the walking football sessions you attend?
Please select the three most important choices.

- ☐ Affiliation with home club
- ☐ Good facilities
- ☐ Choice of training sessions in a week
- ☐ Chance to play in tournaments/league games
- ☐ None of the above
- ☐ Play indoors
- ☐ Play outdoors
- ☐ Kit (e.g. bibs) is provided
- ☐ Time of session (time of day)
- ☐ Day of session
- ☐ Other:

Q11 Do you have any further comments on the structure of your walking football sessions?

For example, how your walking football sessions are run and what aspects you like/dislike the most.

_____

SECTION 4: Coach Characteristics

Q12 Thinking about the coach who runs your session, s/he:

Please select up to three of the most desirable characteristics that encourage you to attend your walking football session.

- ☐ Knows my name
- ☐ Concerned about my wellbeing
- ☐ Cares about the progress of the team
- ☐ Encourages me to attend sessions
- ☐ Welcomes new members to the team
- ☐ Asks if I'm coming to the session during the week
- ☐ Leads the session well
- ☐ Enforces walking football rules

- ▢ Has a sense of humour
- ▢ Is professional
- ▢ Makes me feel welcome

Q13 What three characteristics of a coach would deter you from attending a walking football session?

Please select up to three options which would deter you most from a walking football session.

- ▢ Is late to the session
- ▢ Doesn't attend every week
- ▢ Doesn't know my name
- ▢ Doesn't care about my wellbeing
- ▢ Doesn't offer a component of the session that I've asked for
- ▢ Doesn't enforce walking football rules
- ▢ Doesn't suggest walking football tournaments
- ▢ Picks the walking football teams poorly

Q14 Lastly, do you have any further comments about the coach who takes your walking football session?

Please note that all comments will be anonymised and will not be traced back to your details.

Appendix 6.1. Final iteration of survey structure

Survey section	Items in section	Rationale
Section one: Information and consent	Information sheet	To inform respondents and gain consent
	Consent form	
Section two: Respondent screening	Age	To screen for correct sample (50-75 years, UK-based, played walking football >6 months)
	Length of walking football play	
	Gender	
	Postcode	
Section three: Group characteristics	Health conditions	To answer first research aim - based on engagement themes from study one and pragmatic questions relating to COVID-19 pandemic (Ch.4)
	PA levels over past week	
	Change in PA levels since COVID-19 UK restrictions	
	Sport experience across the lifespan (type and length)	
	Awareness of walking football sessions	
Section four: Influences on initiation	Psychological influences	To answer second research aim - based on initiation themes from study one (Ch.4)
	Social interactions/ social-specific restraints	
	Walking-football specific environment	
Section five: Influences on maintenance	Psychological influences	To answer second research aim - based on maintenance themes from study two (Ch.5)
	Social level influences	
	Walking football culture	
	Walking football session-specific factors	
	Availability of maintenance resources/toolkit	
Section six: Intention to continue playing	Intention to play after COVID-19 restrictions ease	To answer third research aim - based on discussions in breaks in play in study two (Ch.5)
	Reasons or deterrents to playing after COVID-restrictions ease	
Section seven: debrief and invitation to raffle	Debrief sheet	Debrief respondents and offer raffle for taking part.
	Link to survey raffle form	

Appendix 6.2. Survey questions and permissions

Part 1: Demographics				
Theme	**Subtheme**	**Questions**	**APA Reference and DOI/URL**	**Licensing/permissions**
1.1 - Age		What is your current age?	Developed by researcher – screening purposes	
1.2 - Length of walking football play		"How long have you been playing walking football for (please note: we are looking for your length of participation in walking football pre-UK COVID-19 lockdown. This is how long you had been playing up until the 23rd March 2020)"	Developed by researcher – screening purposes	
1.3 - Gender		To which gender do you most identify with?	Developed by researcher – screening purposes/answering gender difference research aim	
1.4 - Socio economic status		Please type in your postcode (please note this information will be treated as sensitive. It will be encrypted and kept in a secure university-owned digital drive)	Developed by researcher - – screening purposes/answering SES difference research aim	
1.5 - Health conditions		"Do you currently have a health condition/illness?"	Potter, C. M., et al. (2017). Long-Term Conditions Questionnaire (LTCQ): Initial validation survey among primary care patients and social care recipients in England. BMJ Open, 7(11), 1–12. https://doi.org/10.1136/bmjopen-2017-019235	This is an Open Access article distributed in accordance with the terms of the Creative Commons Attribution (CC BY 4.0) license, which permits others to distribute, remix, adapt and build upon this work, for commercial use,

			provided the original work is properly cited.
1.6 - Current PA levels	In the past week, on how many days have you done a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate. This may include sport, exercise, and brisk walking or cycling for recreation or to get to and from places, but should not include housework or physical activity that may be part of your job.	Milton, K., Bull, F. C., & Bauman, A. (2011). Reliability and validity testing of a single-item physical activity measure. British journal of sports medicine, 45(3), 203–208. https://doi.org/10.1136/bjsm.2009.068395	Use of the IPAQ instruments for monitoring and research purposes is encouraged.
1.7 - Lifelong sport/PA experience	From the ages of X-X years old, did you do any regular sports in a competitive or strenuous nature?/Can you identify your sport amongst these? If not what other sports did you do between the ages of X-X years old?/For how many years did you do this sport and on average how many hours per week?	Besson et al. (2010) - Validation of the historical adulthood physical activity questionnaire (HAPAQ) against objective measurements of physical activity. https://doi.org/10.1186/1479-5868-7-54	The open access articles published in BMC's journals are made available under the Creative Commons Attribution (CC-BY) license, which means they are accessible online without any restrictions and can be re-used in any way, subject only to proper attribution (which, in an academic context, usually means citation).

1.8 - Walking football awareness		"How did you find out about your walking football sessions?"	Developed by researcher - based on study one experiences relating to walking football awareness (lower order theme)	
Part 2: Influences on initiation (<6 months)				
Theme	**Subtheme**	**Questions**	**APA Reference and DOI/URL**	**Licensing/permissions**
2.1: Psychological influences	Perceived improvement in physical health	“It gave me more energy”	Devereaux Melillo, K., Williamson, E., Futrell, M., & Chamberlain, C. (1997). A self-assessment tool to measure older adults' perceptions regarding physical fitness and exercise activity. Journal of advanced nursing, 25(6), 1220–1226. https://doi.org/10.1046/j.1365-2648.1997.19970251220.x	Permissions granted through RightsLink
		“It was good for my heart”		
	Perceived improvement in psychological health	“It kept my mind active”		
		“It helped my spirits”		
	Values and perceptions	"I got restless if I didn't exercise regularly"	Markland, David, and Vannessa Tobin. "A modification to the behavioural regulation in exercise questionnaire to include an assessment of amotivation." Journal of Sport and Exercise Psychology 26.2 (2004): 191-196. https://psycnet.apa.org/doi/10.1123/jsep.26.2.191	On obtaining permission to use the scales - This is simple. If you are using the scales for research purposes you do not have to ask for permission! You are free to use the scales, adapt them, translate them or do whatever you like with them, provided, of course, that any publications that ensue include appropriate citations to their source.
		"It's always been important to make the effort to exercise regularly"		
	WF specific learning	"It was very interesting to learn how I could improve"	Pelletier, L. G., Rocchi, M. A., Vallerand, R. J., Deci, E. L., & Ryan, R. M. (2013). Validation of	Permissions granted through RightsLink

		"I found it enjoyable to discover new walking football strategies"	the revised sport motivation scale (SMS-II). Psychology of sport and exercise, 14(3), 329-341. https://doi.org/10.1016/j.psychsport.2012.12.002. Pelletier, L. G., Tuson, K. M., Fortier, M. S., Vallerand, R. J., Briére, N. M., & Blais, M. R. (1995). Toward a New Measure of Intrinsic Motivation, Extrinsic Motivation, and Amotivation in Sports: The Sport Motivation Scale (SMS). *Journal of Sport and Exercise Psychology*, *17*(1), 35–53. https://doi.org/10.1123/jsep.17.1.35	
	Empowerment	"My confidence in my ability to play walking football increased" "It gave me a sense of purpose"	Developed by researcher based on study one: Confidence: “It sort of took a while to get in then, then I sort of you know realised I put a few good passes together…and it was nice just to think “yeah, hang on, I can do this” (P2, S1) Sense of purpose: “I’ll actually feel like I’ve participated and done something worthwhile on a footballing front” (P4, S1)	
2.2: Social interactions	Team connections	"The walking football group was an important social unit for me"	Estabrooks, P. A., & Carron, A. V. (2000). The Physical Activity Group Environment Questionnaire: An	APA - Permission Is Not Required for the Following: A maximum of three figures or

		"I liked meeting the people who come to the walking football group"	instrument for the assessment of cohesion in exercise classes. Group Dynamics: Theory, Research, and Practice, 4(3), 230. DOI: 10.1037/1089-2699.4.3.230	tables from a journal article or book chapter; Single text extracts of less than 400 words; Series of text extracts that total less than 800 words
	Non-club support networks (e.g., family, friends)	"My relatives/friends encouraged me to stick with walking football"	Anderson, P. J., Bovard, R. S., Wang, Z., Beebe, T. J., & Murad, M. H. (2016). A survey of social support for exercise and its relationship to health behaviours and health status among endurance Nordic skiers. BMJ open, 6(6), e010259. https://doi.org/10.1136/bmjopen-2015-010259	This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/
		"My relatives/friends reminded me to go to walking football"		
2.3: Walking-football specific environment	Session structure	"The location of the walking football club was suitable for me"	Developed by researcher based on study one: Location: “For some to drive it’ll take them about an hour, to get to walking football, but for me I’m just lucky that that’s where it is” (P11, S1) Warmup/cool down: “There’s a lot of old bodies out there and so our warm up is quite critical for us” (P10, S1)	
		"the warmup and cool down were an important part of the session for me"		

	Club community	"I felt welcomed every session"	Newton, M., Fry, M., Watson, D., Gano-Overway, L., Kim, M. S., Magyar, M., & Guivernau, M. (2007). Psychometric properties of the caring climate scale in a physical activity setting. Revista de Psicología del Deporte, 16(1). https://revistes.uab.cat/rpd/article/view/22	
		"the team members were treated with respect"		
Part 3: Influences on maintenance (>6 months)				
Theme	**Subtheme**	**Questions**	**APA Reference and DOI/URL**	**Licensing/permissions**
3.1: Psychological influences	Perceived physical benefits of WF	"It gives me more energy”	Devereaux Melillo, K., Williamson, E., Futrell, M., & Chamberlain, C. (1997). A self-assessment tool to measure older adults' perceptions regarding physical fitness and exercise activity. Journal of advanced nursing, 25(6), 1220–1226. https://doi.org/10.1046/j.1365-2648.1997.19970251220.x	Permissions granted through RightsLink
		”It is good for my heart”		
	Perceived psychological benefits of WF	“It keeps my mind active”		
		"It helps my spirits”		
	Player identity	"Playing sport is a big part of my life"	Developed by researcher Sporting identity:	

		"I am a competitive person"	“If you play sport to a relatively high level I think you have to have a mental toughness… you don't lose that, you develop a mental capacity, for that. Um, and I think wherever you play sport you keep that (P10, S2) Competitive identity: “You want to win, of course you do, my wife would tell you I'm too competitive” (P3, S2)	
	PA related values	"It's important to me to exercise regularly" "I enjoy my walking football sessions"	Markland, David, and Vannessa Tobin. "A modification to the behavioural regulation in exercise questionnaire to include an assessment of amotivation." Journal of Sport and Exercise Psychology 26.2 (2004): 191-196.	On obtaining permission to use the scales - This is simple. If you are using the scales for research purposes you do not have to ask for permission! You are free to use the scales, adapt them, translate them or do whatever you like with them, provided, of course, that any publications that ensue include appropriate citations to their source.
3.2: Social level influences	Social influence outside walking football	"My relatives/friends encourage me to stick with walking football" "My relatives/friends remind me to go to walking football"	Anderson, P. J., Bovard, R. S., Wang, Z., Beebe, T. J., & Murad, M. H. (2016). A survey of social support for exercise and its relationship to health behaviours and health status among endurance Nordic skiers. BMJ open, 6(6), e010259. https://doi.org/10.1136/bmjopen-2015-010259	This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited

				and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/
	Positive team member relationships	"I have good friends in this walking football group"	Estabrooks, P. A., & Carron, A. V. (2000). The Physical Activity Group Environment Questionnaire: An instrument for the assessment of cohesion in exercise classes. Group Dynamics: Theory, Research, and Practice, 4(3), 230. DOI: 10.1037/1089-2699.4.3.230	APA - Permission Is Not Required for the Following: A maximum of three figures or tables from a journal article or book chapter; Single text extracts of less than 400 words; Series of text extracts that total less than 800 words
		"The social interactions I have in my walking football group are important to me"		
	Health professional encouragement	I receive encouragement from my GP/nurse for playing walking football	Anderson, C. B. (2004). Athletic identity and its relation to exercise behavior: Scale development and initial validation. Journal of sport and exercise psychology, 26(1), 39-56. DOI: 10.1123/jsep.26.1.39	Permissions granted through RightsLink
		"My GP/Nurse is enthusiastic about any effort/progress I make concerning walking football"		
	Coach characteristics	EMPATHY "my coach understands me"	Barrett-Lennard, G. T. (1962). Dimensions of therapist response as causal factors in therapeutic change. Psychological monographs: General and applied, 76(43), 1. DOI: 10.1037/h0093918	APA - Permission Is Not Required for the Following: A maximum of three figures or tables from a journal article or book chapter; Single text extracts of less than 400 words; Series of text extracts that total less than 800 words
		EMPATHY "my coach tries to see things through my eyes"		
		SOCIAL BOND "I like my coach"	Jowett, S., & Ntoumanis, N. (2004). The coach–athlete relationship questionnaire (CART-Q):	Permissions granted through RightsLink. Also obtained permission from author.

		SOCIAL BOND "I trust my coach"	Development and initial validation. Scandinavian journal of medicine & science in sports, 14(4), 245-257. 10.1046/j.1600-0838.2003.00338.x	
		COMPETENCY "My coach instils an attitude of fair play among their players"	Myers, N. D., Feltz, D. L., Maier, K. S., Wolfe, E. W., & Reckase, M. D. (2006). Athletes' evaluations of their head coach's coaching competency. Research quarterly for exercise and sport, 77(1), 111-121. http://dx.doi.org/10.1080/02701367.2006.10599337	Taylor & Francis is pleased to offer reuses of its content for a thesis or dissertation free of charge contingent on resubmission of permission request if work is published.
		COMPETENCY "My coach promotes good sportsmanship"		
3.3: Walking football culture		"Everyone likes the team members for who they are"	Newton, M., Fry, M., Watson, D., Gano-Overway, L., Kim, M. S., Magyar, M., & Guivernau, M. (2007). Psychometric properties of the caring climate scale in a physical activity setting. Revista de Psicología del Deporte, 16(1). https://revistes.uab.cat/rpd/article/view/22	The texts published in this journal are – unless indicated otherwise – covered by the Creative Commons Attribution-Share Alike 4.0 international licence. This permits commercial use of the work and possible derived works, the distribution of which is only permissible under a license identical to the license that governs the original work. The full text of the licence can be consulted here: https://creativecommons.org/licenses/by-sa/4.0/.
		"Team members are treated with respect"		
3.4: WF session-	Logistical factors	"I consider the number of walking football sessions available to me to be suitable"	Developed by researcher Number of sessions: “I'll go to football Monday night, go to the caravan	

specific factors		"The time my walking football club session is on fits with my schedule" "The location of my walking football club is suitable"	Tuesday morning then come back Friday afternoon, and go to football Friday night. So it gave me the opportunity to do both." (P9, S2) Time: "Thursday always seems to be my training night, forever. Um, if they changed the night, um, so if it was Tuesday or a Wednesday that would impact me .... So I'd have to go and look for another walking football (P1, S2) Location: "Yeah it does help, that you're only five minutes away. You haven't got to drive half an hour at some silly time of night" (P3, S2)	
	Session structure	"Focusing on skills and tactics in the walking football sessions I attend encourages me" "Having a warmup at the beginning of my session encourages me"	Developed by researcher Skills and tactics: "I've still got the desire to get better. To, improve to a level that some of the guys that are at here, that they've been doing it for years" (P8, S2) Warmup: "We do a good warm up" (P12, S2)	
3.5: Availability of maintenance	Affective consequences of break in play	"I miss walking football when I cannot attend a session" "I get frustrated when I cannot attend a walking football session"	Developed by researcher Missed WF: "I missed it, I knew, I was always looking to get back" (P1, S2)	

resources/toolkit	Affective consequences of maintenance	"because playing weekly makes me feel happy" "I would feel sad if I had to stop playing walking football"	Frustration: “When I was injured it was frustrating for me, I wanted to come.” (P8, S2) Positive/negative affect: “Because having done it so many times, and like, you just know that you do feel better” (P12, S2)	
	Redefining PA expectations	"It makes me realise I can still play sport in older age" "It helps me understand my limits when it comes to being physically active"	Developed by researcher Can still play: “When I first came here, I thought well I can do this, like I said earlier, I can do this, but it ain't easy so yeah maybe it said, just manage your body the right way” (P8, S2) Understand limits: “Especially when you get to our age. You know, probably do all sorts of things but yeah. I'm, you do have to watch it…your body tells you when no, give it a miss” (P3, S2)	
	Maintenance behaviours	"I schedule the session into my diary every week" "Once I have made my mind up, I stick with the decision to attend"	Developed by researcher: Scheduling: “So my strategy is keep Thursdays free for uh, walking football… I arrange my diary for work you know… when I agree to see them, it will be Monday Tuesday Wednesday, not Thursday or Friday” (P1, S2)	

			Stick with decision: “I think once I've made my mind up, to go, I tend to stick with that decision.” (P6, S2)	
Part 4: COVID-related questions (relapse prevention/understanding lapse in play)				
Theme	**Subtheme**	**Questions**	**APA Reference and DOI/URL OR Study quote**	**Licensing/permissions**
4.1 COVID-19/Relapse	PA frequency over lockdown	Has your physical activity increased, decreased, or stayed the same, compared with the physical activity you were taking part in before the UK lockdown on 23rd March 2020?	Developed by researcher: Based on pragmatic decision to discuss physical activity levels in COVID-19, based on discussions in S1+2 on PA levels increasing due to walking football.	
		If you feel your physical activity has decreased during lockdown, what are the reasons for this?	Sport England (2020) - COVID 19 briefing: Exploring attitudes and behaviours in England during the COVID 19 pandemic. https://indd.adobe.com/view/793b48d5-bbcd-4de3-a50f-11d241a506b3	Material on the site may be reproduced free of charge in any format or medium for research, private study and personal non-commercial use. This is subject to the material being reproduced accurately and not used in a misleading context.
		If you feel your physical activity has increased during lockdown, what are the reasons for this?		
	Intention to play after lockdown	When your government eases restrictions..."I will continue to play walking football in the future"	Adapted from Li, J.; Hsu, C.-C.; Lin, C.-T. Leisure Participation Behavior and Psychological Well-Being of	MDPI - everyone is free to re-use the published material if

		When your government eases restrictions... "I will play walking football routinely"	Elderly Adults: An Empirical Study of Tai Chi Chuan in China. Int. J. Environ. Res. Public Health 2019, 16, 3387. https://doi.org/10.3390/ijerph16183387	proper accreditation/citation of the original publication is given
	Reasons for playing/not playing after lockdown	What would influence your decision to play walking football after lockdown has eased?	Sport England (2020) - COVID 19 briefing: Exploring attitudes and behaviours in England during the COVID 19 pandemic. https://indd.adobe.com/view/793b48d5-bbcd-4de3-a50f-11d241a506b3	Material on the site may be reproduced free of charge in any format or medium for research, private study and personal non-commercial use. This is subject to the material being reproduced accurately and not used in a misleading context.
		What would influence you not to play walking football after lockdown has eased?		
Part 5: PILOT ONLY - Structure/clarity of questions				
Theme	**Subtheme**	**Questions**	**APA Reference and DOI/URL**	**Licensing/permissions**
5.1 Info sheet and consent form		The information sheet was easy to understand	Developed by researcher – to assess survey usability	
		If no, please provide further feedback on why this was the case	Developed by researcher – to assess survey usability	
		The consent form was clear and easy to understand	Developed by researcher – to assess survey usability	
		If no, please provide further feedback on why this was the case	Developed by researcher – to assess survey usability	
5.2 Survey structure	5.2.1 Survey length	The time taken to complete the survey was acceptable	Developed by researcher – to assess survey usability	
		If no, please provide further feedback on why this was the case	Developed by researcher – to assess survey usability	
	5.2.2 Survey clarity	The questions were easy to understand	Developed by researcher – to assess survey usability	

		If no, please provide further feedback on why this was the case	Developed by researcher– to assess survey usability	
		The response options were easy to understand	Developed by researcher – to assess survey usability	
		If no, please provide further feedback on why this was the case	Developed by researcher – to assess survey usability	
5.3 Written additional feedback		Do you have any further comments or feedback	Developed by researcher – to assess survey usability	

Appendix 6.3. Ethics approval for quantitative phase

Cholerton, Rachel

From:	**converis@shu.ac.uk**
Sent:	**21 August 2020 15:05**
To:	**Cholerton, Rachel**
Subject:	**Converis - Ethics Review - Approval with Advisory Amendments**

Dear Rachel

Title of Ethics Review: Examining factors influencing walking football initiation and maintenance in 55-75 year-old adults
Ethic Review ID: ER25811320

The University has reviewed your ethics application named above and can confirm that the project has been approved.

The following advisory amendments were suggested, which you may wish to address:

This application presents a sound rationale for a study which builds upon existing research. The terms of reference, data collection processes and proposed analysis are outlined clearly and methodically, with sufficient detail to allay most concerns regarding participation, data protection, and researcher conduct.

On the whole, the proposed methodology appears to conform to the university's ethics policies and procedures, and there is evidence that issues of informed consent have been given good consideration by the researchers. Given the age of the participant cohort, I would suggest however that some thought be given to the impact of age-related conditions (e,g. vascular dementia, Alzheimer's Disease, etc.) on a) participants' ability to give full informed consent, and b) their ability to participate fully in the research. This need not prevent the study from proceeding however.

Subject to these minor concerns being addressed, I am minded to give ethics approval.

David Barrett.

If this is a second resubmission, the Lead reviewers comments will appear below:

You are expected to deliver the project in accordance with the University's research ethics and integrity policies and procedures: https://www.shu.ac.uk/research/ethics-integrity-and-practice.

As the Principal Investigator you are responsible for monitoring the project on an ongoing basis and ensuring that the approve documentation is used. The project may be audited by the University during or after its lifetime.

Should any changes to the delivery of the project be required, you are required to submit an amendment for review.

If you have a query regarding your application, please contact your Faculty Ethics Administrator in the first instance.

HWB - hwbethics@shu.ac.uk

STA - STAfrec@shu.ac.uk

SBS - sbsethics@shu.ac.uk

SSH - SSH-ResearchEthics@shu.ac.uk

Wishing you success with your study

Kind regards,

Ethics Research Support

***** This is an automatically generated email, please do not reply *****

Cholerton, Rachel

From:	**converis@shu.ac.uk**
Sent:	**10 September 2020 13:53**
To:	**Cholerton, Rachel**
Subject:	**Converis - Ethics Review - Amendment Outcome**

Dear Rachel

Title of Ethics Review: Examining factors influencing walking football initiation and maintenance in 55-75 year-old adults
Ethic Review ID: ER25811320

Amendment 1 Title: Minor amendment to debrief sheet (snowball sampling)

The amendment to the Ethics Review named above has been reviewed and the outcome is:

Amendment Approved

Please log back into the P12 tab to see any feedback.

If you have a query regarding this, please contact your Faculty Ethics Administrator in the first instance.

HWB - hwbethics@shu.ac.uk
STA - STAfrec@shu.ac.uk
SBS - sbsethics@shu.ac.uk
SSH - SSH-ResearchEthics@shu.ac.uk

Kind regards,
Ethics Research Support

***** This is an automatically generated email, please do not reply *****

Cholerton, Rachel

From:	**converis@shu.ac.uk**
Sent:	**14 September 2020 09:50**
To:	**Cholerton, Rachel**
Subject:	**Converis - Ethics Review - Amendment Outcome**

Dear Rachel

Title of Ethics Review: Examining factors influencing walking football initiation and maintenance in 55-75 year-old adults
Ethic Review ID: ER25811320
Amendment 2 Title: Minor amendment to debrief

The amendment to the Ethics Review named above has been reviewed and the outcome is:

Amendment Approved

Please log back into the P12 tab to see any feedback.

If you have a query regarding this, please contact your Faculty Ethics Administrator in the first instance.

HWB - hwbethics@shu.ac.uk
STA - STAfrec@shu.ac.uk
SBS - sbsethics@shu.ac.uk
SSH - SSH-ResearchEthics@shu.ac.uk

Kind regards,
Ethics Research Support

***** This is an automatically generated email, please do not reply *****

Cholerton, Rachel

From:	**converis@shu.ac.uk**
Sent:	**15 October 2020 10:18**
To:	**Cholerton, Rachel**
Subject:	**Converis - Ethics Review - Amendment Outcome**

Dear Rachel

Title of Ethics Review: Examining factors influencing walking football initiation and maintenance in 55-75 year-old adults
Ethic Review ID: ER25811320

Amendment 3 Title: Amendment to age criteria of survey

The amendment to the Ethics Review named above has been reviewed and the outcome is:

Amendment Approved

Please log back into the P12 tab to see any feedback.

If you have a query regarding this, please contact your Faculty Ethics Administrator in the first instance.

HWB - hwbethics@shu.ac.uk
STA - STAfrec@shu.ac.uk
SBS - sbsethics@shu.ac.uk
SSH - SSH-ResearchEthics@shu.ac.uk

Kind regards,
Ethics Research Support

***** This is an automatically generated email, please do not reply *****

Cholerton, Rachel

From:	**converis@shu.ac.uk**
Sent:	**02 November 2020 15:28**
To:	**Cholerton, Rachel**
Subject:	**Converis - Ethics Review - Amendment Outcome**

Dear Rachel

Title of Ethics Review: Examining factors influencing walking football initiation and maintenance in 55-75 year-old adults
Ethic Review ID: ER25811320
Amendment 2 Title: Extension to proposed end of data collection

The amendment to the Ethics Review named above has been reviewed and the outcome is:

Amendment Approved

Please log back into the P12 tab to see any feedback.

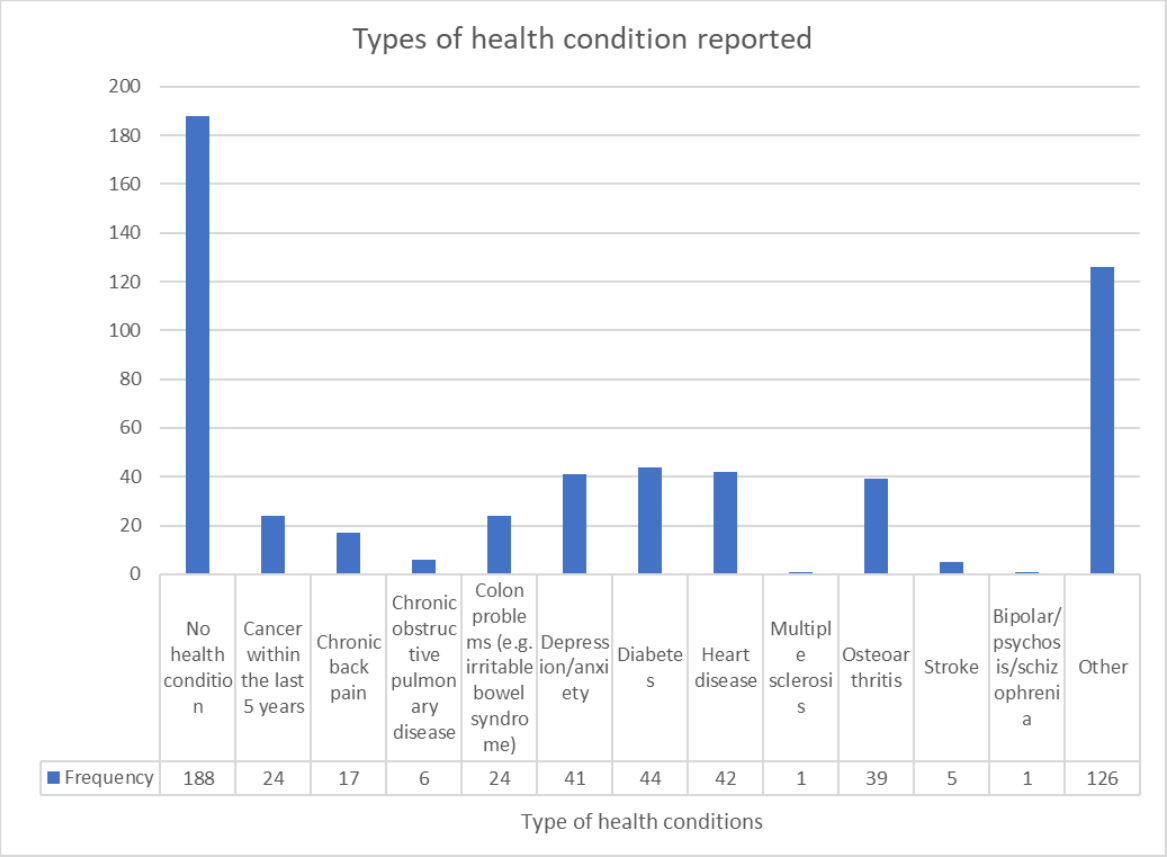
If you have a query regarding this, please contact your Faculty Ethics Administrator in the first instance.

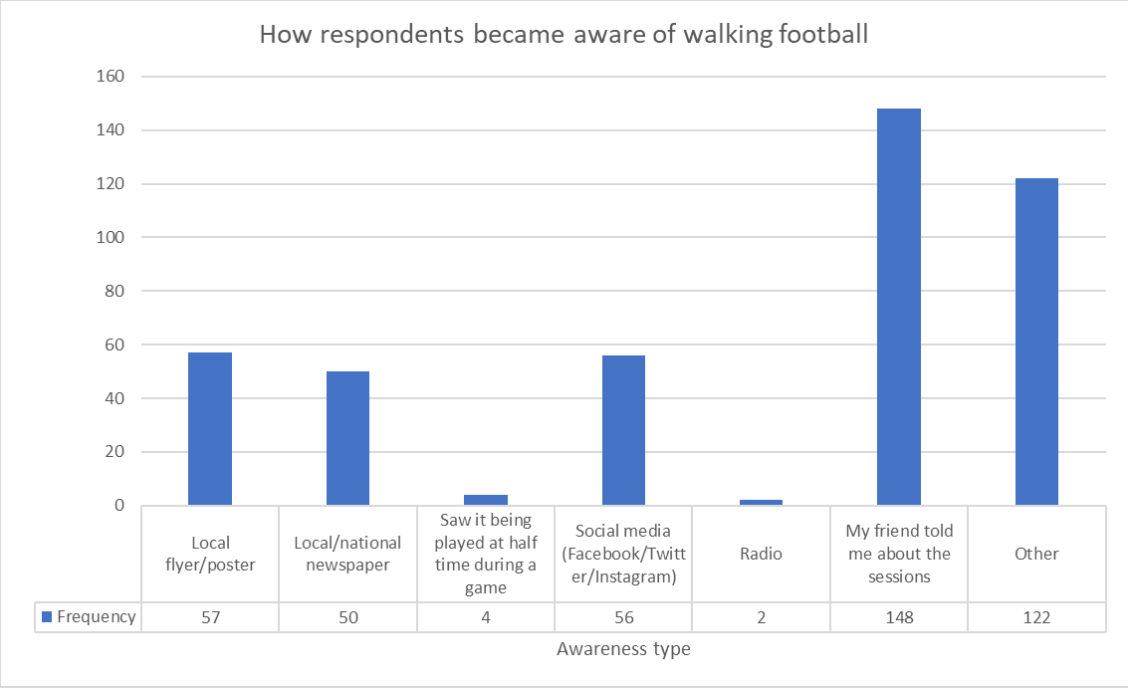
HWB - hwbethics@shu.ac.uk
STA - STAfrec@shu.ac.uk
SBS - sbsethics@shu.ac.uk
SSH - SSH-ResearchEthics@shu.ac.uk

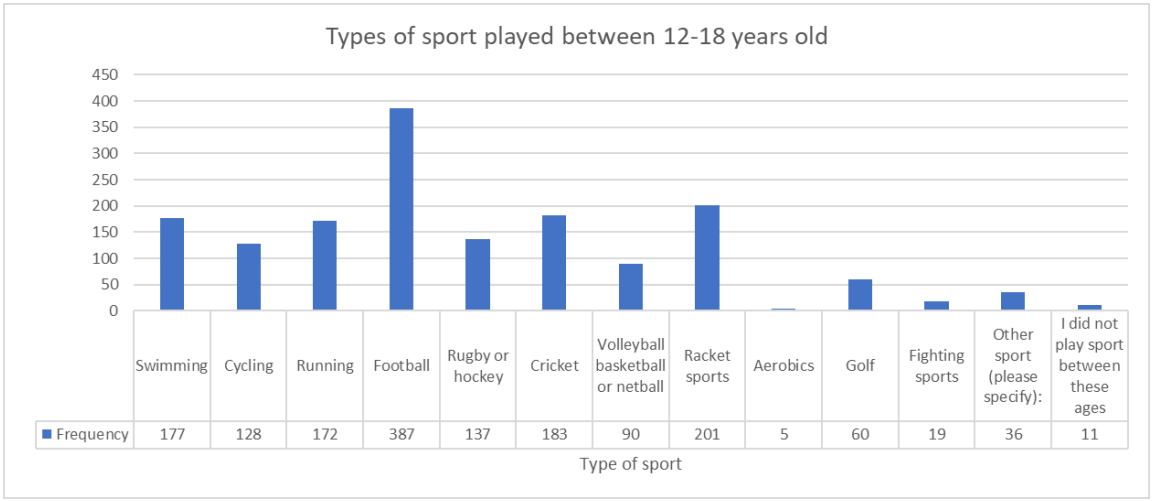
Kind regards,
Ethics Research Support

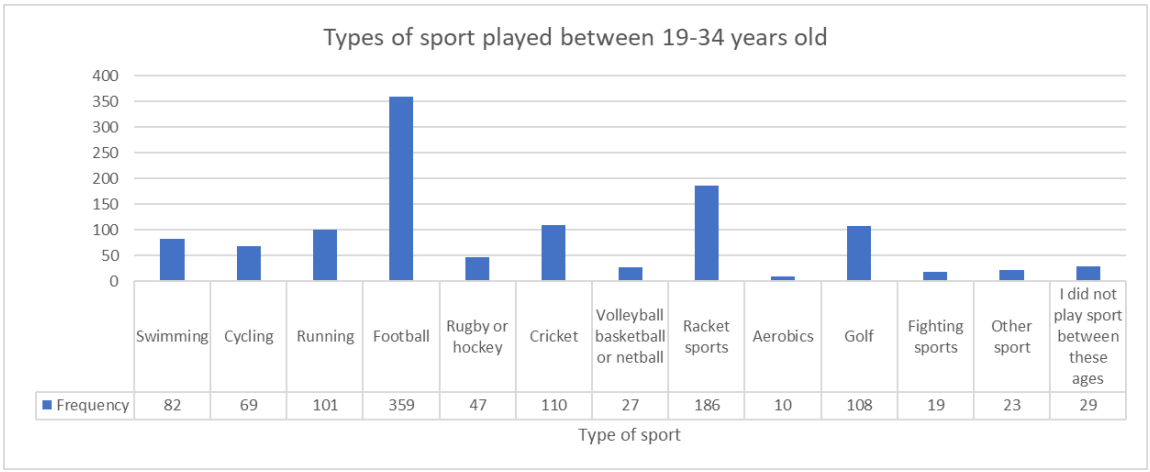
***** This is an automatically generated email, please do not reply *****

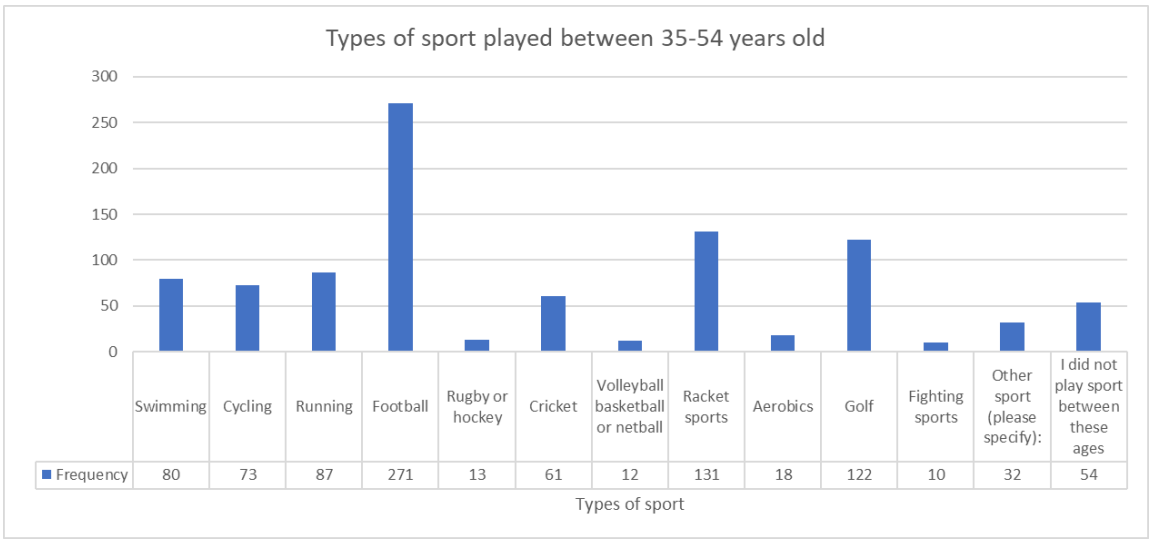
Appendix 6.4. Charts outlining group characteristics

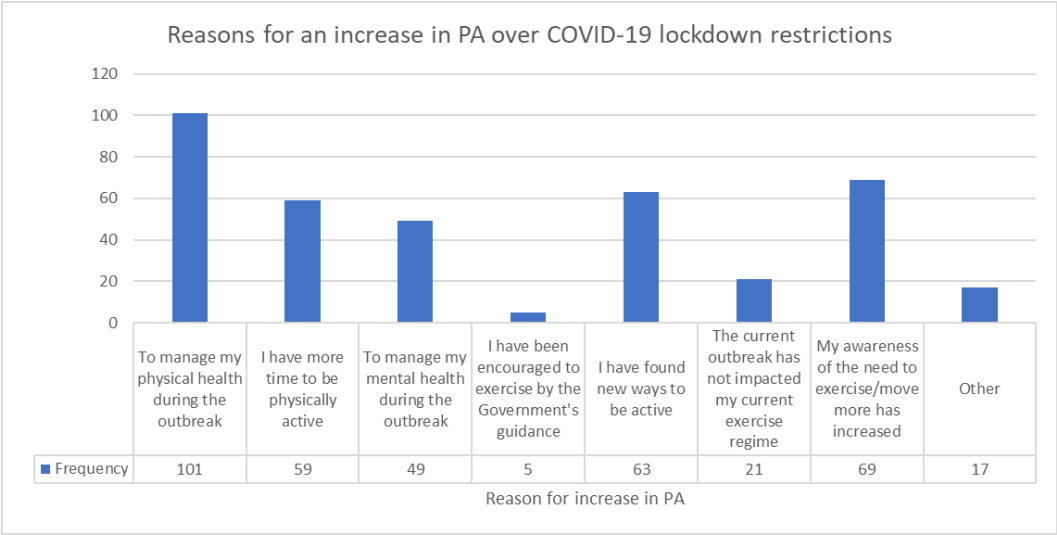


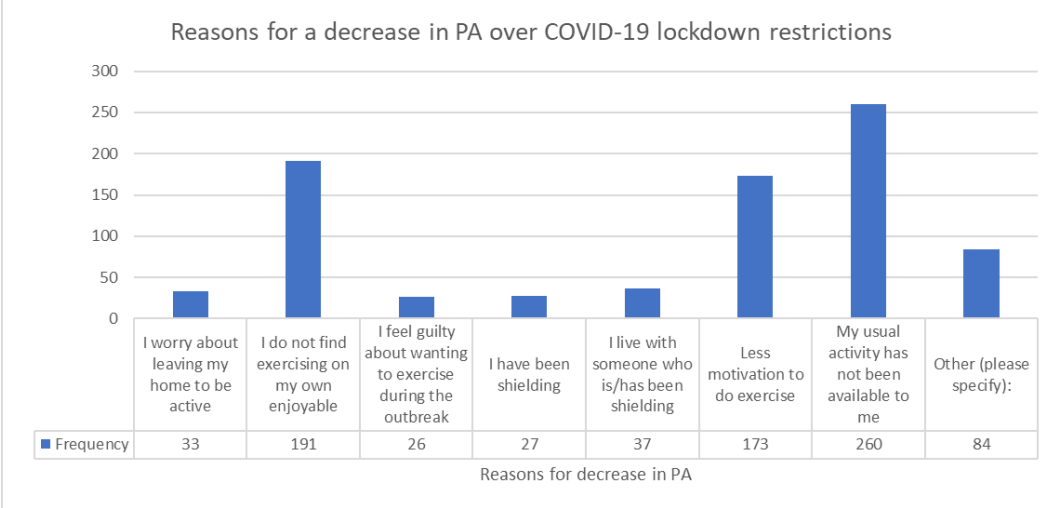


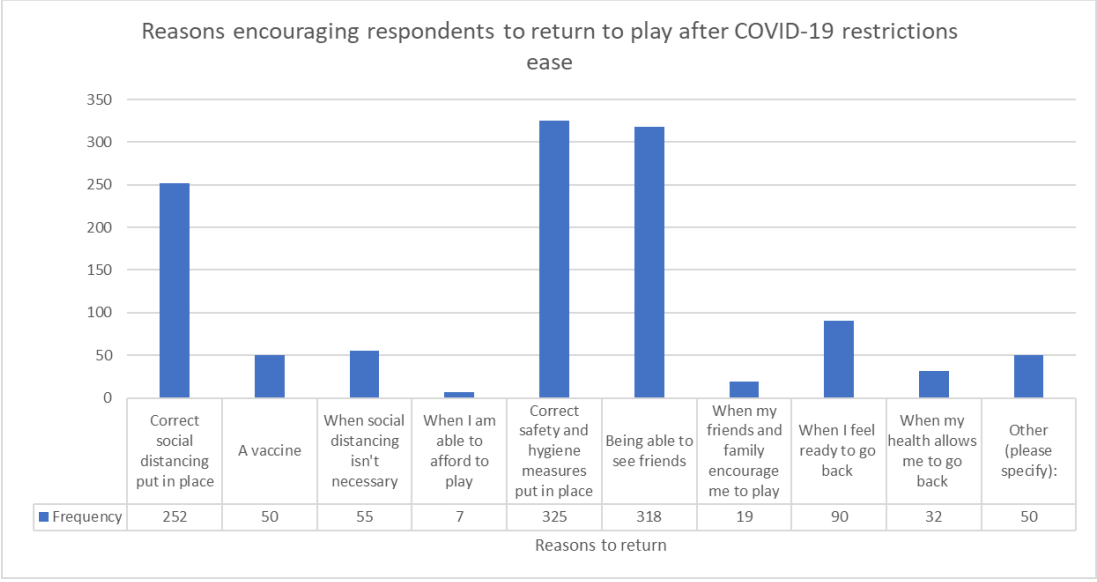

Types of sport played between 12-18 years old
450
400
350
300
250
200
150
100
50
0
Swimming
Cycling
Running
Football
Rugby or hockey
Cricket
Volleyball basketball or netball
Racket sports
Aerobics
Golf
Fighting sports
Other sport (please specify):
I did not play sport between these ages
Frequency
177
128
172
387
137
183
90
201
5
60
19
36
11
Type of sport

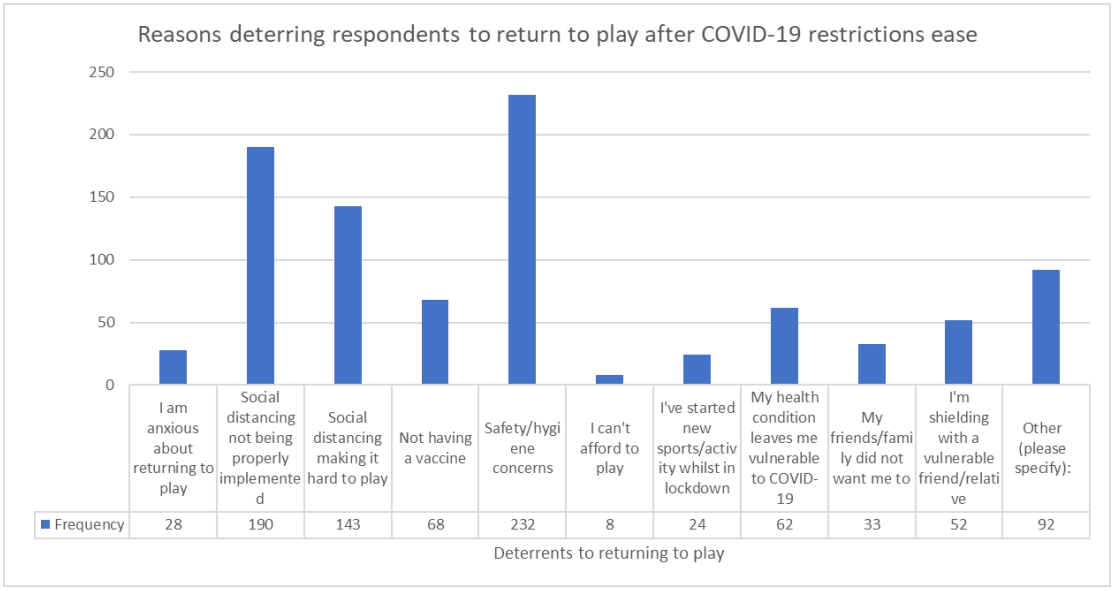

Types of sport played between 19-34 years old
400
350
300
250
200
150
100
50
0
Swimming
Cycling
Running
Football
Rugby or hockey
Cricket
Volleyball basketball or netball
Racket sports
Aerobics
Golf
Fighting sports
Other sport
I did not play sport between these ages
Frequency
82
69
101
359
47
110
27
186
10
108
19
23
29
Type of sport


Types of sport played between 35-54 years old
300
250
200
150
100
50
0
Swimming
Cycling
Running
Football
Rugby or hockey
Cricket
Volleyball basketball or netball
Racket sports
Aerobics
Golf
Fighting sports
Other sport (please specify):
I did not play sport between these ages
Frequency
80
73
87
271
13
61
12
131
18
122
10
32
54
Types of sport


Reasons for an increase in PA over COVID-19 lockdown restrictions
120
100
80
60
40
20
0
To manage my physical health during the outbreak
I have more time to be physically active
To manage my mental health during the outbreak
I have been encouraged to exercise by the Government's guidance
I have found new ways to be active
The current outbreak has not impacted my current exercise regime
My awareness of the need to exercise/move more has increased
Other
Frequency
101
59
49
5
63
21
69
17
Reason for increase in PA


Reasons for a decrease in PA over COVID-19 lockdown restrictions
300
250
200
150
100
50
0
I worry about leaving my home to be active
I do not find exercising on my own enjoyable
I feel guilty about wanting to exercise during the outbreak
I have been shielding
I live with someone who is/has been shielding
Less motivation to do exercise
My usual activity has not been available to me
Other (please specify):
Frequency
33
191
26
27
37
173
260
84
Reasons for decrease in PA


Reasons encouraging respondents to return to play after COVID-19 restrictions ease
350
300
250
200
150
100
50
0
Correct social distancing put in place
A vaccine
When social distancing isn't necessary
When I am able to afford to play
Correct safety and hygiene measures put in place
Being able to see friends
When my friends and family encourage me to play
When I feel ready to go back
When my health allows me to go back
Other (please specify):
Frequency
252
50
55
7
325
318
19
90
32
50
Reasons to return


Reasons deterring respondents to return to play after COVID-19 restrictions ease
250
200
150
100
50
0
I am anxious about returning to play
Social distancing not being properly implemented
Social distancing making it hard to play
Not having a vaccine
Safety/hygiene concerns
I can't afford to play
I've started new sports/activity whilst in lockdown
My health condition leaves me vulnerable to COVID-19
My friends/family did not want me to
I'm shielding with a vulnerable friend/relative
Other (please specify):
Frequency
28
190
143
68
232
8
24
62
33
52
92
Deterrents to returning to play

Appendix 6.5. Recruitment poster, study three

Sheffield Hallam University

Calling UK walking football players!

Are you 50-75 years old and have played walking football for 6 months or more?

Please complete our new survey (approx. 20 min) exploring reasons for starting and continuing to play walking football. *Don't worry if you haven't played over lockdown - we still want to hear from you!*

If you are interested in taking part, follow the link below:

http://bit.ly/SHUWF

As a thank you for your time, we are giving completed survey participants the option to enter a raffle to win one of two £50 Amazon e-vouchers*.

For more information, please get in contact with researcher Rachel Cholerton at R.Cholerton@shu.ac.uk

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*The study advertised has received ethical approval by the University Research Ethics Committee (ER25811320). Opportunity to enter the raffle will be offered on completion of the survey. Players must meet the screening criteria at the beginning of the survey to continue to completion of the survey. Please see www.amazon.co.uk for further voucher information and T&C.

Appendix 6.6. Social media recruitment messages

Tweet for survey recruitment

Are you between 55-75 years old and have played #walkingfootball for 6 months or more? We would love to hear from you in our survey, looking at why you play the sport! Please see poster below for more information and link to the survey:
[insert recruitment poster/same picture here for consistency]

SURVEY CALL: Are you a #walkingfootball player aged 55-75 years and have played for over 6 months? We would love to hear from you in our survey! Please see link to the survey below and poster for more info: #walkingsports #sportforall #research

Facebook post for recruitment

Are you between 55-75 years old and have played #walkingfootball for 6 months or more? Sheffield Hallam University are running a new survey, all about why you started playing walking football, and why you continue to play (in non-lockdown periods!). The survey takes approximately 15-20 minutes to complete and you will be helping us understand how we can engage future players. Please see below for more information and link to the survey:
[insert recruitment poster/same picture here for consistency]

Hi everyone! I hope this is okay to post here - please let me know if that's not the case. I'm a PhD researcher at Sheffield Hallam University, and we've just released a survey, looking at reasons for starting and continuing to play walking football. The survey takes approximately 20 minutes, and we're looking for responses from both women and men playing the game, so we can help to make the sport more accessible for everyone! Don't worry if you haven't played over lockdown - all we are looking for is that you are between the ages of 55-75, and have been playing walking football continuously for 6 months or more before lockdown on the 23rd March 2020. If you would like to take part, and

know any other walking football players that also may want to get involved, please see the link to the survey below:

https://shusls.eu.qualtrics.com/jfe/form/SV_ahJT9aQyxFIJyRv

If you have any questions, please don't hesitate to message me, or get in touch through R.Cholerton@shu.ac.uk.

Thank you for any support you're able to give!

Appendix 6.7. Recruitment emails to coaches and clubs

Clubs and Coaches – Initial email

SUBJECT: Chatting about our research survey re: walking football in older adults

Hi [name],

Pleasure to meet you, and apologies for the cold email. My name is Rachel and I'm a PhD researcher with Sheffield Hallam University. I'm currently working on a survey, exploring why older adults start and continue playing walking football. I was reading your club page and was really intrigued in the work that you are doing as a club to promote the sport to potential players!

As a contributor to the walking football community, I was hoping we could connect to discuss the study, and whether you would be willing to assist me by advertising the study amongst your players?

This would be either by social media or another suitable avenue for your club, e.g. website or email. I have attached some further information surrounding the study which goes into a bit more detail about what we are looking at. I have also already produced adverts and messages to potential participants (all approved by our university ethics committee), so minimal work would be required from your side.

Is this something that your club would be interested in promoting? Please let me know, and I can send over the relevant materials to you. If you'd like to speak further about this, please reply to this email or feel free to call me on 07809 758 605.

Many thanks in advance,
Rachel

Follow up – if agreement

SUBJECT: Chatting about our research survey re: walking football in older adults (recruitment materials)

Hi [name],

Many thanks for agreeing to send this out to your players! If you are able to provide the following information to your players in the next working week, it would be most appreciated, so we can aim to get as many players completing the study as possible in the 8-week survey timeframe.

For your players, I have attached the pdf advert for the survey. This includes an embedded link to the survey, but if there are any issues of players accessing this, please let me know (or direct them to myself, and I can send them the link). So you are aware, players will have to read an information sheet and indicate their agreement to take part in the study at the beginning of the survey.

Please also find attached the pdf containing wording for social media sites that I have developed. Again, if there are any issues with this, please let me know, more than happy to chat.

Let me know if you have any questions and thank you in advance for the consideration!

Many thanks,
Rachel

Follow up – no response within 5 working days

SUBJECT: Chatting about our research survey re: walking football in older adults

Hi [name],

I hope you’re well.

My name is Rachel and I am a PhD researcher with Sheffield Hallam University. I just wanted to follow up on the email I sent you in late September, regarding the study I’m currently working on regarding walking football influences in older adults.

As mentioned in the original email, we are looking for clubs and coaches to help us advertise our study to their players. One of the primary aims of our study is to help clubs engage new and existing players, and as a club which offers walking football to the local community, it would be great to have you on board!

I’ve included an attachment to a resource that explains more about the study for yourself and the club, but if you do have any extra questions, please don’t hesitate to email me, or give me a call on 07809 758 605.

Look forward to hearing from you,
Rachel

Appendix 6.8. Proposal to clubs, coaches and sporting bodies

Sheffield Hallam University | Academy of Sport and Physical Activity

Factors influencing walking football participation in older adults – survey

Sheffield Hallam University have launched a new study, exploring factors that are linked to why older adult walking football players start and continue playing the sport. Please see below a brief background on the study, including what we will ask participants to do, and how we plan to use the results. If you have any questions, please get in touch with the lead researcher, Rachel Cholerton, at R.Cholerton@shu.ac.uk.

What are we doing?

The university is running a survey, as part of a PhD programme. This is focused on the engagement and retention of older adults in walking football. The survey will explore the reasons why older adults take up walking football, and why they continue to play long-term.

Why are we looking into this?

It has been suggested that sport participation in older adulthood can bring many different individual and social benefits, however less research has focused on how we can engage older adults to play sport, especially walking sports such as walking football, long term. Previous studies by the lead researcher have explored experiences of starting and continuing walking football play in 55-75 year old adults. We now are gathering data on a bigger scale, and also investigating whether there are any differences between different groups of people – especially men and women, and those within different socio-economic backgrounds.

Who do we need to fill out the survey?

We are looking for participants who are 55-75 years old, and have been playing walking football for six months or more *(before the UK lockdown commenced on the 23rd March 2020)*. This criteria is attached to the survey, as we are looking for experiences of those that have already been playing long term.

What will participants have to do?

The player will be asked to read an information sheet and digitally sign a consent form before taking part in the survey. The player will then be asked two questions to make sure they are suitable to complete the survey. Once these questions have been asked, the main survey will be shown to the player. On completion of the survey, the player will then be shown a debrief form and be offered the chance to win one of two £50 Amazon e-vouchers as a thank you for taking part. The total participation time will be approximately 20 minutes. The survey adheres to GDPR regulations, and has been approved by the University Research Ethics Committee (Converis number ER25811320). Further information can be found at https://www.shu.ac.uk/research/ethics-integrity-and-practice.

How are we going to use and report the results?

We want to make sure that these results are communicated in a variety of ways, so as many people as possible can benefit from them:

- Use the results to develop practical and useful guidelines for clubs, coaches and sporting bodies on the engagement and retention of older adult walking football players
- Publish the results in an academic journal, so the new knowledge can be shared with researchers
- Present the work at academic conferences and outreach events with football clubs, to share the knowledge face-to-face and provide information directly.

How can you help?

We are looking for support from coaches, clubs, and sporting bodies to promote the study to their players. This could be by email, social media or by word of mouth. The more walking football players that fit the criteria and complete the

survey, the more scalable our results will be, and more relevant to sporting bodies and clubs using the results to inform practice. We have already created promotional materials and messages, which we can send to you if you are happy to promote the study. Additionally, the university and lead researcher will be promoting the survey from social media platforms, and will be available to retweet and share.

Who can I contact if I/our players have any further questions?

Please contact the lead researcher Rachel Cholerton on R.Cholerton@shu.ac.uk or via mobile on (+44) 07312 852 329.

Thank you for your time!

Rachel Cholerton
Sheffield Hallam University

Appendix 6.9. Qualtrics survey, quantitative phase (including information sheet, consent form, and debrief sheet)

SECTION 1: Information Sheet and Consent

Participant Information Sheffield Hallam University – Influences on playing Walking Football project

You are invited to take part in our project focusing on influences on playing walking football. In this project, Sheffield Hallam University are exploring your individual participation in the sport.

As part of this we would like to know the reasons why you when you first started playing in the first six months, and the reasons why you continue to play after six months (in non-lockdown circumstances, before COVID-19). This part of the project is a survey and will take around 20 minutes to complete, but take as much time as you need. You will be asked a range of questions about you, and your participation in walking football. If required, you can ask someone to complete it on your behalf. You can choose not to answer some questions by moving onto the next question. Compulsory questions are marked with an asterisk *. Taking part in this survey is your choice. If you decide to take part, you may leave the survey at any time, but your answers will be saved unless you request to withdraw them by contacting the research team.

Your data will only be used for the purposes of this research. It will be stored, processed, and transferred as outlined in the full participant information sheet and in line with the General Data Protection Regulation of 2018. Please follow this link to read the full information sheet for the survey:
Participant Information Sheet - Walking Football Survey

For questions or concerns about this survey, or to request an alternative digital format, please contact the lead researcher, Rachel Cholerton, at R.Cholerton@shu.ac.uk

Thank you for taking the time to read this information sheet and to

consider this study. Please scroll down this page to continue to the consent form.

Q1.2 **Giving consent to take part in this survey** *Please read the following statements carefully, and provide your answer to whether you consent to taking part in the study in the tick box below:*

1. I have read the Information Sheet for this study and have had details of the study explained to me.
2. Any questions I have about the study have been answered to my satisfaction and I understand that I may ask further questions at any point.
3. I understand that I am free to withdraw from the study within the time limits outlined in the Information Sheet, without giving a reason for my withdrawal or to decline to answer any particular questions (except compulsory questions, needed to screen for suitability for the survey) in the study without any consequences to my future treatment by the researcher.
4. I agree to provide information to the researchers under the conditions of confidentiality set out in the Information Sheet.
5. I wish to participate in the study under the conditions set out in the Information Sheet.
6. I consent to the information collected for the purposes of this research study, once anonymised (so that I cannot be identified), to be used for any other research purposes.

Q1.3 Do you consent to taking part in this study?*

o YES - I consent to taking part in this study

o NO - I do not consent to taking part in this study

Q1.4 Please write your name:*

Name _____

Q1.5 Please select today's date (day and month):

	Month	Day
Please Select:	▼ January (1 ... December (12)	▼ 1 (1 ... 31 (31)

SECTION 2: Screening (age & length of walking football play)

Q2.1 What is your current age?

- o 49 or younger
- o 50-54
- o 55-59
- o 60-64
- o 65-69
- o 70-75
- o 76 or older

Q2.2 How long have you been playing walking football?

- o 0-5 months
- o 6+ months

SECTION 3: Respondent Characteristics

Q3.1 Which gender do you most closely identify with?

- o Male
- o Female
- o Prefer not to say

Q3.2 Please provide your full postcode below*:

*We are asking for postcode so we can further understand the area that you live in, and differences between these areas. Please note: this information will be treated as sensitive information and will only be used for the purposes of this research. All data will be kept on an encrypted and password protected drive and only the research team will have access to this data.

Q3.3 Do you have one or more of the health conditions listed below? Tick as many boxes as needed.

(If your health condition is not listed, please check 'other' and briefly enter your condition. If you do not have a health condition, please check 'No health condition')

- ▢ Depression/anxiety
- ▢ Chronic back pain
- ▢ Diabetes
- ▢ Osteoarthritis
- ▢ Colon problems (e.g., irritable bowel syndrome)
- ▢ Heart disease
- ▢ Chronic obstructive pulmonary disease
- ▢ Stroke
- ▢ Cancer within the last 5 years
- ▢ Bipolar/psychosis/schizophrenia
- ▢ Multiple sclerosis
- ▢ Other (please specify): _____
- ▢ No health condition

Q3.4 In the past week, on how many days have you done a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? This may include sport, exercise, and brisk walking or cycling for recreation or to get to and from places, but should not include housework or physical activity

that may be part of your job.

o 0 days
o 1 days
o 2 days
o 3 days
o 4 days
o 5 days
o 6 days
o 7 days

Q3.5 Has the amount of physical activity you are taking part in changed, compared with the physical activity you were taking part in before the UK lockdown on 23rd March 2020?

o A lot more
o A bit more
o Neither more or less
o A bit less
o A lot less

Q3.6 If you feel your physical activity has increased during lockdown, what are the reasons for this? Please pick the three most important factors to you:

▢ To manage my physical health during the outbreak
▢ I have more time to be physically active
▢ To manage my mental health during the outbreak
▢ I have been encouraged to exercise by the Government's guidance
▢ I have found new ways to be active
▢ The current outbreak has not impacted my current exercise regime
▢ My awareness of the need to exercise/move more has increased
▢ Other (please specify):

Q3.7 If you feel your physical activity has decreased or stayed the same during lockdown, what are the reasons for this? Please pick the three most important factors to you:

- ▢ I worry about leaving my home to be active
- ▢ I do not find exercising on my own enjoyable
- ▢ I feel guilty about wanting to exercise during the outbreak
- ▢ I have been shielding
- ▢ I live with someone who is/has been shielding
- ▢ Less motivation to do exercise
- ▢ My usual activity has not been available to me
- ▢ Other (please specify):

Q3.8 The next three questions focus on the sports you have taken part in, throughout your lifetime.

Firstly, did you take part in any sports, recreationally or competitively, between the ages of 12-18 years old?

If your sport is not listed, please state your sport in 'Other sport (please specify)'. If you did not take part in any sport between these ages, please click 'I did not play sport between these ages' to go to the next question.

- ▢ Swimming
- ▢ Cycling
- ▢ Running
- ▢ Football
- ▢ Rugby or hockey
- ▢ Cricket
- ▢ Volleyball, basketball or netball
- ▢ Racket sports

- ▢ Aerobics
- ▢ Golf
- ▢ Fighting sports
- ▢ Other sport (please specify): _____
- ▢ I did not play sport between these ages

Q3.9 In the age range of 12-18 years, for how many years did you do this sport and on average how many days per week?

(If you took part in multiple sports, please record the combined time you spent weekly on these activities)

- o Years _____
- o Days per week _____

Q3.10 Did you take part in any sports, recreationally or competitively, between the ages of 19-34 years old?

If your sport is not listed, please state your sport in 'Other sport (please specify)'. If you did not take part in any sport between these ages, please click 'I did not play sport between these ages' to go to the next question.

- ▢ Swimming
- ▢ Cycling
- ▢ Running
- ▢ Football
- ▢ Rugby or hockey
- ▢ Cricket
- ▢ Volleyball, basketball or netball
- ▢ Racket sports
- ▢ Aerobics
- ▢ Golf
- ▢ Fighting sports

▢ Other sport (please specify):_____

▢ I did not play sport between these ages

Q3.11 In the age range of 19-34 years, for how many years did you do this sport and on average how many days per week?

(If you took part in multiple sports, please record the combined time you spent weekly on these activities)

o Years _____

o Days per week _____

Q3.12 Did you take part in any sports, recreationally or competitively, between the ages of 35-54 years old?

If your sport is not listed, please state your sport in 'Other sport (please specify)'. If you did not take part in any sport between these ages, please click 'I did not play sport between these ages' to go to the next question.

▢ Swimming

▢ Cycling

▢ Running

▢ Football

▢ Rugby or hockey

▢ Cricket

▢ Volleyball, basketball or netball

▢ Racket sports

▢ Aerobics

▢ Golf

▢ Fighting sports

▢ Other sport (please specify):_____

▢ I did not play sport between these ages

Q3.13 In the age range of 35-54 years, for how many years did you do this sport and on average how many days per week?

(If you took part in multiple sports, please record the combined time you spent weekly on these activities)

- o Years _____
- o Days per week _____

Q3.14 How did you find out about your walking football sessions?

- o Local flyer/poster (1)
- o Local/national newspaper (2)
- o Saw it being played at half time during a game
- o Social media (Facebook/Twitter/Instagram)
- o Radio
- o My friend told me about the sessions
- o Other (please specify):

_____

SECTION 4: Factors influencing walking football initiation

Q4.1 The following questions will ask you about the first six months of you playing walking football. The questions will ask you what influenced you starting to play walking football in these first six months. Please answer all questions. All answers are displayed as a scale from 1 to 5, with 1 representing 'not true of me at all' to 5 - 'extremely true of me'.

Q4.2 One of my reasons for starting to play walking football in the first six months was because…

(Please check one circle for each statement on the page, ranging from 1 - 'not true of me' to 5 - 'extremely true of me)

	1 - Not true of me at all	2	3	4	5 – Extremely true of me
“It gave me more energy”					
“It was good for my heart”					
“It kept my mind active”					
“It helped my spirits”					
"I got restless if I didn't exercise regularly"					
"It's always been important to make the effort to exercise regularly"					
"It was very interesting to learn how I could improve"					
"I found it enjoyable to discover new walking football strategies"					
"My confidence in my ability to play walking football increased"					
"It gave me a sense of purpose"					

Q4.3 One of my reasons for starting to play walking football in the first six months was because…

(Please check one circle for each statement on the page, ranging from 1 - 'not true of me' to 5 - 'extremely true of me)

	1 - Not true of me at all	2	3	4	5 – Extremely true of me
“The walking football group was an important social unit for me"					
"I liked meeting the people who came to the walking football group"					
"My relatives/friends encouraged me to stick with walking football"					
"My relatives/friends reminded me to go to walking football sessions"					
"The location of the walking football club was suitable for me"					
"The warm up and cool down were an important part of the session for me"					
"I felt welcomed every session"					
"The team members were treated with respect"					

SECTION 5: Factors influencing walking football maintenance

Q5.1 The following questions will ask you about continuing to play walking football, beyond the first six months you played. Please answer all questions. All answers are displayed as a scale from 1 to 5, with 1 representing 'not true of me at all' to 5 'extremely true of me'.

Q5.2 One of my reasons for continuing to play walking football beyond six months is because…

(Please check one circle for each statement on the page, ranging from 1 - 'not true of me' to 5 - 'extremely true of me)

	1 - Not true of me at all	2	3	4	5 – Extremely true of me
"It gives me more energy”					
”It is good for my heart”					
“It keeps my mind active”					
"It helps my spirits”					
"Playing sport is a big part of my life"					
"I am a competitive person"					
"It's important to me to exercise regularly"					
"I enjoy my walking football sessions"					

Q5.3 One of my reasons for continuing to play walking football beyond six months is because…

(Please check one circle for each statement on the page, ranging from 1 - 'not true of me' to 5 - 'extremely true of me)

	1 - Not true of me at all	2	3	4	5 – Extremely true of me
"My relatives/friends encouraged me to stick with walking football"					

"My relatives/friends reminded me to go to walking football sessions"					
"I have good friends in this walking football group"					
"The social interactions I have in my walking football group are important to me"					
"I receive encouragement from my GP/nurse for playing walking football"					
"My GP/Nurse is enthusiastic about any effort/progress I make concerning walking football"					

Q5.4 One of my reasons for continuing to play walking football beyond six months is because…

(Please check one circle for each statement on the page, ranging from 1 - 'not true of me' to 5 - 'extremely true of me)

	1 - Not true of me at all	2	3	4	5 – Extremely true of me
"My coach understands me"					
"My coach tries to see things through my eyes"					
"I like my coach"					
"I trust my coach"					
"My coach instills an attitude of fair play among their players" (					
"My coach promotes good sportsmanship"					
"Everyone likes the team members for who they are"					
"Team members are treated with respect"					

Q5.5 One of my reasons for continuing to play walking football beyond six months is because…

(Please check one circle for each statement on the page, ranging from 1 - 'not true of me' to 5 - 'extremely true of me)

	1 - Not true of me at all	2	3	4	5 – Extremely true of me
"I consider the number of walking football sessions available to me to be suitable"					

"The time my walking football club session is on fits with my schedule"					
"The location of my walking football club is suitable"					
"Focusing on skills and tactics in the walking football sessions I attend encourages me"					
"Having a warm up at the beginning of my session encourages me"					

Q5.6 One of my reasons for continuing to play walking football beyond six months is because…

(Please check one circle for each statement on the page, ranging from 1 - 'not true of me' to 5 - 'extremely true of me)

	1 - Not true of me at all	2	3	4	5 – Extremely true of me
"I miss walking football when I cannot attend a session"					
"I get frustrated when I cannot attend a walking football session"					
"Playing weekly makes me feel happy"					
"I would feel sad if I had to stop playing walking football"					
"It makes me realise I can still play sport in older age"					
"It helps me understand my limits when it comes to being physically active"					
"I schedule the session into my diary every week"					
"Once I have made my mind up, I stick with the decision to attend"					

SECTION 6: Intention to play after COVID (relapse prevention/understanding lapse)

Q6.1 The last section of this survey focuses on your intention to play walking football if it is safe to do so, or if you have already started playing again. Once you have completed this section, please make sure to click 'next' to read the debrief form and then confirm completion of the questionnaire.

Q6.2 Has your walking football club resumed club sessions again?

o Yes
o No
o Don't know/not sure

Q6.3 These questions focus on your intention to play walking football again. Please answer all questions. All answers are displayed as a scale from 1 to 5, with 1 representing 'not true of me at all' to 5 'extremely true of me':

	1 - Not true of me at all	2	3	4	5 – Extremely true of me
"I am already playing walking football routinely"					
"I will continue to play walking football in the future"					
“I will play walking football routinely"					

Q6.4 What would/did **influence** your decision to play walking football again after lockdown has eased? Please pick the three most important factors to you:

▢ Correct social distancing put in place
▢ A vaccine
▢ When social distancing isn't necessary
▢ When I am able to afford to play (4)
▢ Correct safety and hygiene measures put in place
▢ Being able to see friends
▢ When my friends and family encourage me to play
▢ When I feel ready to go back
▢ When my health allows me to go back
▢ Other (please specify):

Q6.5 What would/did **stop you** from playing walking football after lockdown has eased? Please pick the three most important factors to you:

- ▢ I am anxious about returning to play
- ▢ Social distancing not being properly implemented
- ▢ Social distancing making it hard to play
- ▢ Not having a vaccine
- ▢ Safety/hygiene concerns
- ▢ I can't afford to play
- ▢ I've started new sports/activity whilst in lockdown
- ▢ My health condition leaves me vulnerable to COVID-19
- ▢ My friends/family did not want me to
- ▢ I'm shielding with a vulnerable friend/relative
- ▢ Other (please specify):

_____

SECTION 7: Debrief form & raffle

Participant debrief form: please read and scroll down to confirm completion of survey

Title of study: Examining factors influencing walking football initiation and maintenance in 55-75 year-old adults

Many thanks for taking part in this study, which asked you questions about your participation in walking football. We wanted to know what influenced you when you first started playing (first six months) and what influences you as you continue to play (in non-lockdown circumstances, pre COVID-19). Lastly, we asked you questions related to the COVID-19 pandemic and your intention to play walking football once it is safe to do so.

All data will be handled in accordance with the GDPR regulations. For further information, please click here. If you are interested in more information regarding sport participation, physical activity and its benefits on wellbeing in older age, please visit Sport England's website: Sport England - Active

Ageing Additionally, if you wish for any more information about walking football in your area, please visit one of the following websites:

The FA – Just Play Initiative Walking Football Association (England) Walking Football Scotland Wales Walking Football Irish Walking Football

We want to hear from as many people as possible and would appreciate you sharing this survey with your team mates, if you can. Please copy this link if you are happy to share the study with fellow players: https://bit.ly/SHUWF If you have any further questions, please do not hesitate to get in contact with the researcher using the below email.

Again, many thanks for your time and taking part in our study.

Researcher: Rachel Cholerton
Email: R.Cholerton@shu.ac.uk

Q8.2 As a thank you for taking part, we are offering the chance for participants who have completed the survey the chance to enter a raffle to win one of two £50 Amazon e-vouchers (to be used at multiple stores). We will contact the winner of the raffle two weeks after the survey closes.

Do you wish to enter the raffle? *(**Please ensure you click yes or no so your survey responses are submitted**. If yes, you will be redirected to another survey, to fill out your name, email and phone number, so we can contact you if you are successful.)*

o Yes
o No

SEPARATE SURVEY FORM: Survey Raffle

Q1 To be entered into the raffle, please fill out your details below. We will contact the winner of the raffle no later than **three** weeks after the main survey closes.

(The raffle winner will be decided by the researchers using a computer programme, picking a participant number at random. We will primarily contact winners through email if they are successful, and subsequently send through the Amazon e-voucher to your email address. We will not ask for any other details other than to confirm any details you provide us with here (name, phone number, email address). *Please take care in entering your details* - if these are entered incorrectly then we will not be able to identify or contact you if your name is picked from the raffle.)

o Name (1) _____

o Phone number (2) _____

o Email (3) _____