UNIVERSITY OF SOUTHAMPTON

FACULTY OF HEALTH SCIENCES

Health Sciences

Experiencing locality based group exercise provision for older people:

a qualitative study

By

Esther Clift

Thesis as part of the degree of Doctorate in Clinical Practice

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ABSTRACT

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Living longer brings the challenge of ageing well. Older people who participate in exercise have better health and social outcomes, functional ability and quality of life. A key challenge is to reverse the trajectory for older people to reduce activity by 50% from age 60 to 85 and promote exercise alongside everyday living. This thesis explores the views and experience of older people and exercise in a local context, to better understand and inform practice and policy.

An ethnographically informed approach was used to understand the experiences of older people who participate in exercise in a local context, using focus groups, interviews and participation observation. Focus groups and interviews were held with older people who regularly undertake exercise (Tai Chi, falls prevention, and Pulmonary Rehabilitation) and those who do not exercise, staff and commissioners. Interviews and focus group data were analysed using thematic analysis.

Key themes identified in the literature, which concurred with the study findings for participation in exercise were knowledge about exercise, life course experience, and the capability of the instructors. Novel findings from this study were the seasonal variation in exercise uptake, the concept of describing concordance rather than adherence to exercise to enable genuine co-production, the impact of staff advising older people to stop exercising without offering a substitute, and the identification of behaviour change at source, intervention and policy level.

In conclusion, most prescribers of exercise were poorly informed of national guidelines or local provision for older people.

Some instructors lacked skills in supporting older people with their exercise engagement.

Older people hold views around exercise which conflict with the evidence base.

Table of Contents

Table of Tables

Table of Figures

Academic Thesis: Declaration of Authorship

I, Esther Clift

declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

The views and experiences of older people and their exercise practice: a critical ethnographic study

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself
7. Work has been:
   displayed as a poster
   - at PHE conference 2018, (award winner) (CAHPR 2017) (Appendix F)
   - at EuGMS conference in Nice in September 2017 (Appendix G)

   Publication in Nursing Older People Journal (Appendix H)
   Platform Presentation as part of the 3MT competition May 2019 (Peoples' Choice winner) (Appendix I)
   Presented as NIHR seminar March 2019
   Presented as workshop at Wessex 'Focus on Frailty September' 2019(Appendix J)

Signed: .....

Date: .....

Acknowledgements

Thanks must go to my long-suffering husband, Simon, who has supported me in undertaking this research, and has been my greatest champion and support- as well as taking on household management and maintaining friendships for the duration. I am indebted to him.

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I am also indebted to all the inspiring older people I have had the honour to work with over the years. Many of those whose voices are heard here, are no longer with us, but their participation was greatly appreciated.

I dedicate this piece to my father Karl Dennis Edwards (1946- 1992), who always challenged me to do my best, and wanted me to get 21 out of 20 in any test I sat- this feels like that. Hope you are proud, Dad.

Abbreviations and their definitions

ADL.....Activities of Daily Living

BGS……. British Geriatric Society

CAPR…….Council for Allied Health Professions Research

CGA.....Comprehensive Geriatric Assessment- the gold standard assessment for those identified as living with frailty.

CLAHRC ....Collaboration for Leadership for Applied Health Research and Care (Now ARC- Applied Research Collaboration)

CSP……. Chartered Society of Physiotherapy

EuGMS…..European Geriatric Medicine Society

GP.....General Practitioner (family doctor)

K cal.....Kilo calories- a measurement of energy

PHE……..Public Health England

NHS.....National Health Service (now in its 70th year providing free medical care to all UK citizens at the point of delivery)

NIHR.....National Institute for Health Research

WHO.....World Health Organisation- agency of the United Nations that is concerned with international public health.

Old age to the unlearned is winter. To the learned it is the harvest time- Yiddish proverb

Chapter 1

Introduction and background to the thesis

1.1 Introduction

Population ageing is accelerating across the globe, because of improved health, people are living longer. The trajectory indicates an increase from 461 million people over 65 in 2004 to an estimated 2 billion by 2050 (Kinsella and Philips, 2005). The office of national Statistics in the UK predicts a total population of 67,255,000 in 2020 growing to 74,522,000 by 2050. In 2002, 8.7% of the population were over 75 (5,844,000 people) but this is set to grow to 14.8% in 2050 or 11,037 over 75s (ONS 2019).

Exercise has long been seen to offer significant health and wellbeing benefits. Indeed, the ancient Greek physician, Hippocrates (c 460-377BC) recognised that "If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health". Physical activity has long been recognised to be central to both physical and mental wellness (Hamer et al, 2014, King and King, 2010, DOH 2004). However, in contemporary society, we see rising levels of inactivity worldwide in part due to a reduction in higher level intensity activity, such as housework, due to technology and amenities (Martinez et al, 2010 and Golubic et al, 2014), and mechanised transportation (Kohl et al, 2012). Indeed, the World Health Organisation describe physical inactivity as the fourth leading risk factor for global mortality (World Health Organisation 2008), and the Lancet in 2012 described a pandemic of physical inactivity (Kohl et al 2012) with around 31% adults over the age of 15 insufficiently active. This has major implications for the health of the global ageing population (Morgan et al, 2016).

In the UK, there is growing recognition that activity can help prevent over 20 conditions including some cancers, diabetes, musculoskeletal disorders, obesity, and coronary heart disease (Department of Health 2011, Mok et al, 2019). NHS England aspires to re-engage populations in active lifestyles (NHS Choices 2016), as understanding of the relationship between physical activity and health has grown (Department of Health 2019). Indeed, physical inactivity has been described as the 'Cinderella' risk factor for non-communicable diseases (Bull and Bauman, 2011).

However, despite remaining a key public health priority, only half the population of 65-75-year olds report meeting the activity levels recommended (Morgan et al 2019) with many older people remaining or becoming even more inactive as they grow older (Sun et al, 2013, Sport England 2014, Hurd Clarke et al, 2020). This population was recognised as a group with special needs in terms of physical activity levels as long ago as 1997 (Stead et al, 1997). Data from Sport England's Active People Survey in 2012/2013 indicates that 73.9% over 65s do not play any sport (Sport England 2014), and in Southampton only 11.3% over 65-year olds participate in three bouts of activity each week (Sport England 2014).

Despite this clear evidence, however, commissioned services for older people currently focus on exercise as a remedial treatment following falls (National Institute for Clinical Excellence [NICE] 2014, Iliffe et al 2014) paying more attention to the management of illness and falls in older people than health promotion through increased activity (Morley, 2013, Oliver et al 2014, NICE 2013, Iliffe 2014). This is reflected in the focus of limited availability of physiotherapy interventions for older people (Skelton et al, 2004, Sherrington et al 2008, and Iliffe et al, 2014). The overall response to inactivity has been described as 'incomplete, unfocussed, understaffed and underfunded' (Kohl et al, 2012 p299).

1.2 Exercise and physical activity

Older people often see the meanings of the two terms, 'exercise' and 'physical activity' as ambiguous (McGowan et al, 2018). The literature defines physical activity (PA) as 'any bodily movement produced by skeletal muscles that result in energy expenditure' (Caspersen et al 1985). Physical activity is defined by the amount of energy expenditure in kilocalories (k cal) in a particular time frame, usually a week, for simplicity. Physical activity may be categorised into segments of daily life, such a sleeping, at work, or at leisure (Caspersen et al, 1985). Exercise has often been used interchangeably with physical activity, and may be used as a proxy measure for PA (McGowan, 2018). For this study it will be defined as a subset. Older people define PA as an unstructured activity involving movement, whereas exercise has a specific time set aside for it- due to our sedentary routine (McGowan, 2018). Exercise is physical activity, which is planned, structured, repetitive and purposive (Caspersen, 1985). Both terms will be used within this thesis.

Physical activity is a major factor in maintaining health in aging populations (Ory et al, 2016). There is significant evidence that increasing levels of exercise can facilitate aging well (Lang et al, 2007, Clegg et al, 2011, Theou et al, 2011), by both preventing and managing functional decline (Belza et al 2006). Exercise is recommended as part of primary care provision (National Institute for Clinical Excellence [NICE] 2009). Physical activity has comparable outcomes in reducing the impact of chronic disease as both smoking and diet (DOH 2004), and to positively contribute to successful ageing (DoH 2001).

There has been much attention, and public debate on the physical components of exercise programmes to meet the requirements for maintaining function in older people (Theou et al, 2011, Nash 2012, Cameron et al, 2013, Iliffe et al, 2014, Skelton and Mavroedi, 2018). The consensus is for maximum benefit there must be a component of aerobic activity, strengthening activities, flexibility work, and balance training to improve muscle strength, gait, speed, balance and physical and prevent falls (Skelton et al 2004, Sherrington 2017, Finnegan 2019 and Jadczak 2018). National Guidelines for older people stipulate 150 minutes of moderate-intensity exercise, in bouts of 10 minute or more, per week to maintain good health, strength and balance, (Appendix T) to prevent sarcopenia and falls (Bull and the Expert Working Group 2010). Sedentary behaviour also impacts on physical function (Scott Kehler et al, 2018). This study focusses on the formal provision of exercise which meets some of the criteria for the national evidence-based guidelines for older people.

Activity, which is attractive to older people, needs to be both meaningful and enjoyable (Grant, 2008, Janssen and Stube, 2014, Griffin and Phoenix, 2015). While the NHS advocates physical activity to enhance independence for older people (NHS Choices 2016), there is a paucity of professional delivery and a mismatch between the opportunity and the resources for undertaking exercise. This is due in part to the current financial constraints within the system, and the limited health promotion innovations (Imison et al, 2016). Targeted NHS delivery of exercise, with a trained therapist is often focused on illness recovery (NICE 2004,2009,), which is too little and too late (Iliffe et al, 2014), as secondary intervention, rather than a primary or preventative intervention. These contacts are often isolated from other compelling lifestyle factors. Thus, there is an urgency to act to reduce impact of ageing and

ensure older people do not just live longer, but also live well (Farrance et al, 2016, McPhee et al, 2016).

However, there has been little recent commensurate change in the way services are commissioned to incorporate exercise opportunities. This lack of responsiveness suggests a need to understand the gap in implementing evidence-based practices for older people to improve their engagement with exercise. There is an evidence-policy gap for action which needs review (Kohl et al, 2012). There is a gap in understanding the reasons for this poor uptake of exercise. This qualitative study aims to explore this gap with a literature review in chapter 2, and then articulate some of the barriers and facilitators expressed and observed by older people and health care professionals to understand the gap in delivery and offer suggestions to bridge that gap by implementation of person-centred services, using critical ethnography methodology.

1.3 Context and Justification for the Research

There has been a dramatic global change in longevity. It is a transformation across the world: the population is ageing, due to a decline in fertility and declining mortality rates (Beard 2016). A child born in Myanmar in 2015 could expect to live 20 years longer than one born 50 years ago (World Health Organisation 2015). The medicalisation of the ageing process has primarily constructed a view of ageing which is defined by deteriorating physiological characteristics. This is coupled with concern over rising levels of inactivity in later life (Morgan et al, 2016). An ageing population brings challenges to health care delivery, particularly economically (Gray and Butler, 2017). There is more illness with less mortality, so bed-based services have seen a steady rise in their admissions of older people. This fast demographic transition requires the growth of more effective care at the level of inpatient services and more emphasis on ageing well (Cesari et al, 2016).

Older people have been kept at the margins of the NHS with barriers to acute and expensive treatment. A largely separate geriatric service has provided only basic care for older people. Today, by contrast, acute services have seen a steady rise in the average age of their patient base and the growth of more effective care at the level of inpatient services and more emphasis on ageing well (Bury and Taylor, 2008). This has resulted in a transition of care from medical dominance to shared decision making (Cayton 2006, Wanless 2002). The opportunity to use exercise with older

people has an added dimension of opening a door into both a change in mind-body relationship, and the possibility of improved physiological status (Tulle and Dorrer, 2012). Engaging older people in exercise may provide a useful link between this historical change around the provision of care for older people, and the policy aspiration for healthy ageing and self-management. One of the biggest challenges described is the experience of working up the courage to enter the daunting and alien environment of physical activity for the first time (Griffin and Phoenix, 2015). Understanding this process of changing identity from a non-participant to a participant within the context of selfhood and advancing age seems key to overcoming that barrier. Defining the differences between joining an exercise group or another social group in the local context will also be significant in this work.

In 2014 the World Health Organization (WHO) released a World Report on Ageing and Health, followed in 2016 by the Global Strategy and Implementation Plan. The Plan has two goals

- five years of evidence-based action to maximize functional ability that reaches every person; and
- By 2020, establish evidence and partnerships necessary to support a Decade of *Healthy Ageing* from 2020 to 2030.

The five strategic objectives for the plan are:

- commitment to action on *Healthy Ageing* in every country;
- developing age-friendly environments;
- aligning health systems to the needs of older populations;
- developing sustainable and equitable systems for providing long-term care (home, communities, institutions); and
- Improving measurement, monitoring and research on *Healthy Ageing*.

(WHO 2017)

Closer to home, the 2016 'Future of an Ageing Population' document from the Government Office for Science describes how our ageing population in the UK requires a 'co-ordinated response between departments, that reflects the robust evidence for the inter-connectedness of policies affected by ageing' (Harper and Walport 2016). Their predictions are for increasing prevalence of chronic conditions,

cognitive impairments and multi-morbidities which will in turn impact on increasing pressure on families to balance their responsibilities. This is in contrast with the economic requirements for success in the UK to relate to the ability to enable people to work longer, and remove barriers, with ongoing opportunities for training and learning. One of the priorities identified was to adapt a health and care system to meet the demands of changing patterns of health with prevention and managing chronic conditions moving to the fore.

This requires a significant realigning of our health systems to address the risk of developing disabilities and multi-morbidities with ageing which will inevitably require greater social and clinical support (Cesari et al, 2016). This paradigm shift from illness to healthy ageing for the NHS is considerable and the burden of change is exacerbated by the economic challenges which the NHS is facing, and a desire to develop health systems with a goal of adding life to years, and not simply years to life.

1.4 Research aims and objectives

The aim of this study was to explore older people's views, experiences and perceived practices related to exercise engagement to better understand why some older people are engaged in formal exercise groups, and others are not, in a small community setting. Listening to their own views as well as providers, hearing the experiences, and observing their activities will inform new strategies for engagement. The objectives of this study are:

- To identify and describe the different exercise practices within the study area, using focus groups participant observation, field notes and 1:1 interviews and a critical ethnographic methodology.
- To explore the views and experience and perceived practices of exercise for older people, though their own voices, but also those of exercise providers, prescribers and commissioners.
- To understand the perceived barriers, facilitators and contexts of participation or non-participation of older people in exercise groups, though their own voices, but also those of exercise providers, prescribers and commissioners.

- Reviewing personal narratives to uncover the local context and provision of exercise and infer current provision and how this can be transformed to be more inclusive.

1.4.1 Overview of Methods for data collection

The purpose of this qualitative study is to explore older people's views and experiences of exercise groups, with the desire to hear the perspectives and practices of older people, using a critical ethnographic methodology. This will be described fully in Chapter 3. Participant observation and field notes were collected, with focus groups, for those who participated in regular exercise and those who did not. Data was collected from a broad selection of older people in the community. Focus groups were set up with targeted groups, of participators and non-participators in exercise, and the exercise providers, themselves, were invited to contribute to a focus group to share their perceptions. The triangulation of these perceptions was thought to be of interest. Targeted groups were set up for older people who did not participate in exercise to understand why. The groups were observed to gain some ethnographic insights. Data were gathered as below.

1a) Focus groups and observations were arranged with those participating in three different exercise settings- Tai Chi, falls prevention and community exercise programme, to explore the variety of contexts, and hear the perceived experiences of those participating in exercise.

1b) Focus groups and observations were set up for older people not participating in exercise, who attended one lunch club and one local community group to explore the perceived experience of those not currently participating in formal exercise.

1c) one focus group was undertaken with staff who may or may not prescribe exercise, including a nurse, physiotherapist, occupational therapist, Tai Chi Instructor, exercise instructor and GP, to explore their perceptions of uptake of exercise by older people, and understand their provision and prescription of exercise.

1d) 1:1 semi-structured interviews to elicit the experience of those who were unable to make the focus group, with a falls commissioner, a falls lead, a

national commissioner, and a service provider, to include the voices of those who were unable to attend an appropriate focus group.

2)The older people who were participants in the exercise groups or a social groups, who may or not be living with frailty, completed two questionnaires to determine a self-reported frailty score and a self-reported wellbeing score.

1.5 My interest in this Topic

I have always been interested in the role of exercise as a prescription or therapy for much of life's 'dis-ease'. It was this that led me to choose a career in physiotherapy and has continued through my own life course. I have approached this topic from a clinical specialist physiotherapist background and a registrant with the Health and Care Professionals Council (HCPC) and the Chartered Society of Physiotherapy (CSP). I have been rooted in specialist care for older adults who become critically unwell for over 15 years. I have worked within and managed a number of different multi-professional teams and have seen a significant change in the pressures of service delivery over the years. We have increasing numbers of older patients and more limited resources. We regularly hear older people described as 'delays' or Delayed Transfer of Care- 'DTOCs' or my own pet hate 'bed blockers' as the system is unable to offer the right care in the right place. (The language has now moved to describe 'super stranded patients', which sounds, more suitable for describing a whale stuck in the Thames, than an older patient longing to return to their own home, and familiar environment). However, older people's voices are rarely heard in these discussions. My aspiration in my clinical work is always to empower older people to make choices around their care, and how they want this phase of their lives to be lived out.

It has been a great delight to hear older people talking about their own experiences and an indictment on my clinical colleagues and me as I have heard new insights into the barriers they face, which have prevented older people from participating as fully as they would often wish.

I have had the privilege in recent years to undertake a Consultant Training programme. This has enabled me to think about a model of care for older people, which focuses on a predominately 'self-managed', approached rather than a medical model with a linear paradigm of illness, treatment and cure (Goodwin et al, 2010). As a physiotherapist I have an 'insider' view as a health care professional but relish the

opportunity for critical appraisal of practice for both myself and colleagues. I believe we have a great deal to learn, from listening to the voices of older people, and co-creating our services to reflect their perceptions of barriers and facilitators. This thesis has given me the opportunity to hear some of those voices and inspired me to put them into action in service delivery.

1.6 The Structure of This Thesis

The structure of the thesis following this Introduction, will see Chapter Two reviewing the existing literature and evidence around the experience of exercise. The experience of exercise and walking will be reviewed from the literature, and the barriers and facilitators for engagement with exercise will be described.

Chapter Three describes the Methodology and Methods used in this research with a justification for the critical ethnographic approach and research design, detail of the sampling and recruitment process, data collection and analysis methods, as well as the ethical considerations for this research.

Chapter Four outlines the findings from the study and describes the quantitative themes at a micro or individual level, while Chapter Five describes the meso, or group level findings, and Chapter Six the macro or population level findings. Chapter Seven discusses the findings and their implications in the context of current health policy, and practice using the COM-B behavioural change model (Michie et al, 2011).

1.7 Summary

This chapter has outlined the background to this study, by describing the ageing population, the gaps in current service delivery, and the vital importance of exercise to reduce the impact of ageing. The need to offer some radical redesign of service delivery, to enable us all to live well for our added years was also noted.

This research aims to explore older people's views, experiences and practice of participating in exercise groups and identify any gaps in provision which may help influence the increase in uptake and participation. The experience of exercise providers, prescribers and commissioners will also be heard, to better understand their perspective.

Chapter 1

A literature review was undertaken to understand the published knowledge base around the experience of exercise for older people, which is presented in the following chapter.

Chapter 2

Literature overview

2.1 Introduction

This chapter will introduce the literature pertinent to the experience and uptake of exercise by older people through a structured literature review. The review looked at the experiences of exercise uptake by older people.

An initial review of the evidence base for exercise provision for older people has provided some of the literature for the introduction and background given in chapter 1. In 2015, when this thesis was started, there was limited published evidence for exercise with older people. A retrospective review was therefore undertaken.

2.2 Methods

Key literature was identified through a literature search. The search was used to identify knowledge gaps and identify implications for setting this research in the context of what has already been understood (Lacey 2015). The review was used to map the underpinning concepts, and body of evidence (Davis et al 2015).

I recorded the data, using narrative synthesis for interpreting qualitative data, by sifting, sorting and charting, material according to issues and themes (Rees et al 2015). I entered the data onto a data charting form, which then gave a uniform approach which is included as Appendix B, for the selected papers, and an alphabetical summary which is in section 2.3

Finally, I summarized the results which are presented in Section 2.4, which presents a narrative, and identifies areas of interest as well as identify significant gaps. For this qualitative study the breadth of evidence from a literature review was considered most relevant (Lacey 2015)

2.3 Literature Review

2.3.1 Research Questions

I firstly identified the research questions. The review was centred on the research questions 'What are the views and experiences of older people around their exercise practice, why do some older people engage in formal exercise groups and others do not?'

'What are the views and experiences of older people around their exercise practice,

Why do some older people engage in formal exercise groups and others do not?'

2.3.2 Search Strategy

A study strategy was adopted which involved searching selected electronic data bases and reference lists from key journals. Literature was limited to a search between 1990 – January 2020, which included the period within which the study took place and publications 25 years prior to this period to search for the most relevant literature. English language only papers were used, and those where whole texts were available. I searched the literature sources with library technical support, using Ebsco host (Beecroft et al 2015). The Kings Fund and World Health Organisation were also searched for grey literature.

Studies were selected adhering to specific inclusion and exclusion criteria. Excluded studies were those which considered only the experience of using electronic options such as Wii which did not translate to community exercise groups (but with hindsight and COVID-19 may have been more relevant for the current environment). Studies for populations with a specific disease or health condition, which may not have been transferrable to many older people (such as HIV) were also excluded. I excluded specific literature around self-management from the search as it is not addressing the research question. I excluded studies which were entirely quantitative, which would not have the richness, or depth of concept required. From these searches, I located 32 publications, which were eligible for inclusion. A further 4 papers were included from hand searching references by myself. These are shown in the literature flow diagram Figure 2.1 and recorded in the table of review papers table 2.1. Further detail of the methods, sample and summary of findings for each study is in Appendix B.

The MeSH search terms used were Experinc* of exercise- (which includes the terms experiences, experiencing, experience), (MH "Exercise+") OR exercis* OR "physical activ*" AND (MH "Aged") OR (MH "Aged, 80 and Over") OR (MH "Centenarians") OR (MH "Frail Elderly") OR elder* OR old* OR Senior* OR geriatric* AND (MH "Home Rehabilitation+") OR (MH "Community Living") AND Experienc* I identified 173 papers identified from CINHAL. A MEDLINE search used the terms :(MH "Exercise+") OR exercis* OR "physical activ*" AND (MH "Aged") OR (MH "Aged, 80 and Over") OR (MH "Centenarians") OR (MH "Frail Elderly") OR elder* OR old* OR Senior* OR geriatric* AND (MH "Community Living") AND experienc* .184 papers were identified from Medline. These two data bases were searched due to their likely relevance to research question, and due to the time constraints of the study.

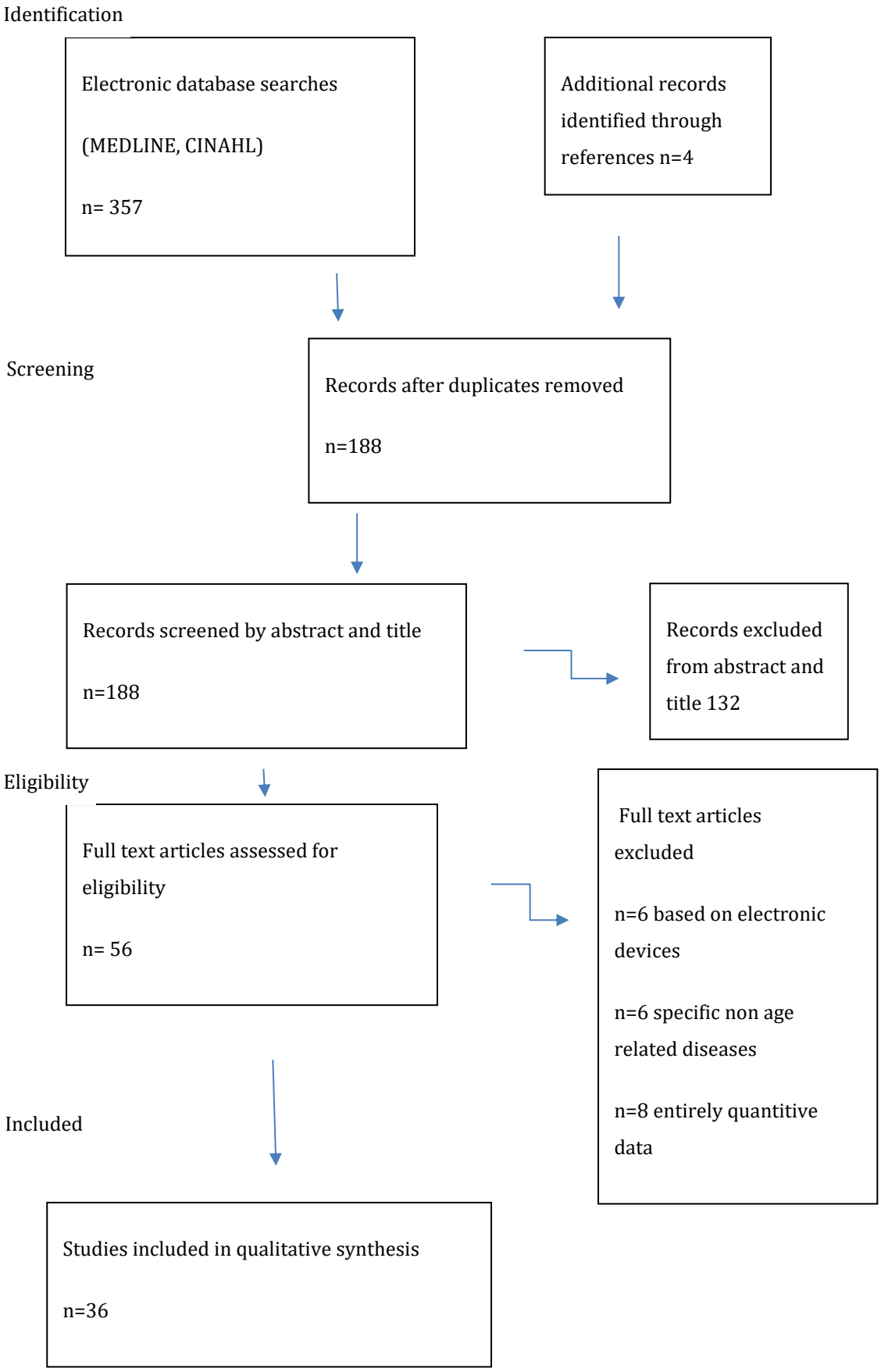


Figure 2.1 PRISMA diagram of flow of studies through stages of review

Chapter 2

Table 2.1 Characteristics of included studies

	Author	Year	Title	Journal
1	Arkkukangas, M., Sundler, A., Soderlund, A., Eriksson, S. and Johansson, A.	2017	'Older persons' experience of a home-based exercise program with behavioural change support'	*Physiotherapy theory and Practice*
2	Burton, A., Clancy, L. and Cowap, L. '	2016	'Exploring the facilitators and Barriers to Physical Activity in older people with Sight loss'	*Journal of Aging and Physical Activity*
3	Buttery M and Martin F	2009	'Knowledge, attitudes and intentions about participation in physical activity of older post-acute hospital inpatients'	*Physiotherapy*

4	Franke, T. Sims –Gould, J., Chaudhury, H., Winters, M. and McKay, H.	2019	'It makes your life worthwhile. It gives you a purpose in living'; mobility experiences among active older adults with low income	*Ageing and Society*
5	Franco, M., Tong, A., Howard, K., Sherrington, C., Ferreira, P., Pinto, R. and Ferreira, M.	2015	'Older people's perspectives on participation in physical activity: a systematic review and thematic synthesis of qualitative literature'	*Br J Sports Med*
6	French, D., Olander, E., Chisholm, A. and McSharry, J	2014	'Which behaviour Change Techniques are mostly effective at increasing Adults' Self –efficacy and Physical Activity Behaviour? A Systematic review'	*Annals of Behaviour Medicine*
7	Gandy, R., Bell, A., McClelland, B. and Roe, B	2017	'Evaluating the delivery, impact, costs and benefits of an active lives programme for older people living in the community'	*Primary Health Care Research and Development*

8	Graham, L. and Connelly, D	2013	'Any movement at all is exercise ' A focused ethnography of rural community –dwelling older adults' perceptions and experiences of exercise as self-care'	*Physiotherapy Canada*
9	Halaweh, H., Svantesson, U. and Willen, C.	2016	'Experiences of Habitual Physical Activity in Maintaining Roles and Functioning among Older Adults: A Qualitative Study'	*Rehabilitation Research and Practice*
10	Hartley, A. and Yeowell G.	2015	'Older Adults' Perceptions of adherence to community physical activity groups'	*Ageing and Society*
11	Hawley H	2009	'Older Adult's perspectives on home exercise after falls rehabilitation: understanding the importance of promoting health active ageing'	*Health education Journal*

12	Hawley Hague, H., Horne, M., Skelton, D. and Todd C.	2015	'Older Adults Uptake and Adherence to Exercise Classes: instructors perspectives'	*Journal of Ageing and Physical Activity*
13	Humberstone, B. and Stuart, S.	2016	'Older Women. Exercise to Music, and Yoga: Senses of Pleasure?'	*Journal of Aging and Physical Activity*
14	Hurd Clarke, L., Currie, L. and Bennett, E.	2020	''*I* don't want to be, feel old': older Canadian men's perceptions and experiences of physical activity'	*Ageing and Society*
15	Hwang, J., Wang, L., Siever, J., Del Medico, T. and Jones, C.	2019	'Loneliness and social isolation among older adults in a community exercise program: a qualitative study'	*Aging and Mental Health* 23 6
16	Lee, P., Chaun, Y., Chen, S., Fang, C., Lai, H. and Lee,	2017	'Perspective of brisk walking among middle aged and older persons in community: a qualitative study'	*Collegian*

17	Maher, J., Pincus, A., Ram, N. and Conroy, D.	2015	'Daily Physical Activity and Life Satisfaction across Adulthood American'	*Psychological Association*
18	Martinez del Castillo, J., Navarro et al	2010	'Being Physically active in old age: relationship with being active earlier in life, social status and agents of socialisation'	*Ageing and Society*
19	McGowan, L., Devereaux Fitzgerald, A., Powell, R. and French, D.	2018	'How acceptable do older adults find the concept of being physically active? A systematic review and metasynthesis'	*International Review of Sport and Exercise Physiology*
20	Menichetti, J., Graffigna, G. and Steinsbekk, A	2018	'What are the contents of patient engagement interventions for older adults? A systematic review of randomised controlled trial's.'	*Patient Education and Counselling*

21	Moore G., Moore L. and Murphy S	2011	'Facilitating adherence to physical activity: exercise professional' experience of the national exercise referral Scheme in Wales. A qualitative study.'	*BioMedCentral Public Health*
22	Moran, M., Werne, P., Doron, I., Hagani, N. et al	2017	' Exploring the Objective and Perceived Environmental Attributes of Older Adults' Neighborhood Walking Routes: A Mixed Methods Analysis	*J Aging Phys Act*
23	Morgan, G, Willmott, M., Ben-Shlomo, Y., Haase, A. and Campbell, R.	2019	' A life fulfilled: positively influencing physical activity in older adults-a systematic review and met-ethnography',	*BMC Public Health*
24	Nanninga, C, Meijering, L., Postema, K., Schonherr, M. and Lettinga, A.	2018	'Unpacking community mobility: a preliminary study into the embodied experiences of stroke survivors',	*Disability and Rehabilitation*

25	Ory, M, Towne, A., Won, J., Forjuoh, S. and Lee, C.	2016	'Social and environmental predictors of walking among older adults'	*BMS Geriatrics*
26	Phoenix, C. and Orr, N.	2014	'Pleasure: A forgotten dimension of physical activity in older age'	*Social Science and Medicine*
27	Ruppar, T. and Kraenzle Schneider, J. () '	2007	'Self-Reported Exercise Behaviour and Interpretations of Exercise in Older Adult's'	*Western Journal of Nursing Research*
28	Sandlund, M., Pihl, P., Ahlgren, C., Skelton, D., Melander-Wikman, A., Bergvall-Kareborn, A. and Lyndin-Olsson, L. () ',	2018	'Gender Perspectives on Older Peoples Exercise Preferences and Motivators in the Context of Falls Preventions: A Qualitative Study'	*Biomed Research International*
29	Shvedko, A., Whittaker, A., Thompson, J. And Grieg, C. ()'	2018	'Physical activity interventions for treatment of social isolation, loneliness to low social support in older	*Psychology of Sport and Exercise*

			adults: A systematic review and meta-analysis of randomised controlled trials',	
30	Stathi, A., McKenna, J. and Fox, K.	2003	'The experiences of older people participating in exercise referral schemes'	*The Journal of the Royal Society for the Promotion of Health*
31	Stead, M., Wimbush, E., Eadie, D. and Teer, P.	1997	' A qualitative study of older people's perceptions of ageing and exercise: the implications for health promotion'	*Health Education Journal*
32	Thorpe, R., Simonsick, E., Brach, J., Ayonayon, H., Satterfield, S., Harris, T., Garcia, M. and Kritchevsky, S.	2oo6	'Dog ownership. Walking behaviour, maintained mobility in later life'	*Journal of the American Geriatric Society*

33	Von Berens, A., Koochek, A. Nydahl, M., Fielding, R., Gustafsson, T., Kirn, T,, Cederholm, T. and Sodergren, M.	2018	'Feeling more self- confident, cheerful and safe. Experiences from a Health Promotion intervention in Community Dwelling Older Adults- A qualitative Study	*Journal of Nutrition and Health in Ageing*
34	Wagstaff S	2009	'Supports and Barriers for exercise participation for well elders: implications for Occupational Therapy'	*Physical and Occupational Therapy in Geriatrics*
35	Weddle, M.	2008	'Exercise resonance: The experience of women who adopt exercise after age 50'	'*Journal of Geriatric Physical therapy*
36	Weeks, L., Profit, S., Campbell, B., Graham, H., Chircop, A. and Sheppard LeMoine, D.	2008	'Participation in Physical activity- influences reported by seniors in the community and in long term care facilities'	'*Journal of Gerontological Nursing*

2.4 Results

The evidence for exercise presented in chapter 1 section 1.2, with the CMO Guidelines (2019) in Appendix T, demonstrates that there is growing evidence for the required components of an exercise or physical activity prescription, but these are often poorly provided, and not embraced by many older people (Sun et al, 2019). Definitions for exercise and physical activity were provided in section 1.2. The focus for this study was on the experience of older people's participation in exercise or physical activity and is described in the following sections.

Qualitative themes were identified in the literature to express the views and experience of older people and exercise. These are described in section 2.4.1. Older peoples' views and experience of walking are included here. A further set of themes were identified in the literature as explanations for participation (or lack of participation) in exercise groups. These are described as barriers and facilitators, the concept of adherence to a planned exercise programme and the impact of cost on participation, and are in section 2.4.2

2.4.1 Experience of Ageing and Exercise

Qualitative studies were identified which examined the experience of exercise and physical activity from the perspective of older adults. This initial literature outlines the international experience of exercise and ageing from 11 American and Canadian studies, 11 British studies and eight further studies from Israel, Taipei, Sweden Spain and the Netherlands. Six systematic reviews were also identified in the literature search, and these are included at the end of each section.

2.4.1.1 Experience of exercise across the life course

Older people in the literature participated in exercise if it was something they had enjoyed previously (Weeks et al, 2008, Weddle 2008, Martinez del Castillo et al, 2010 and Graham and Connelly, 2013). In a survey in Spain (Martinez del Castillo et al 2010) significant relationships were found between the activity levels of older people and their physical activity at an earlier life stage. The Phi coefficient was used, with a Phi variation between 0.13 and 0.66 showing statistical significance for all four aspects of the lifecycle, childhood, adolescence adulthood and old age. Socioeconomic

status was also a significant factor, with 38.7% upper class people active, as opposed to only 9.7 % of people classified as lower class being physically active. Encouragement to be active by spouse or friends also demonstrated a significant and moderate relationship to being physically activity. These three factors influenced both engagement in physical activity as well as being interested in becoming engaged. This social support across the whole life course is a common theme in the literature. A Canadian study in 2008 identified past experience, and life transitions, as influences on participation in physical activity among older people living in the community. Additionally, future concerns were identified as a significant factor for participation (Weeks at al, 2008). A greater understanding of a person's history was vital to increase participation in physical activity. This was echoed in an American study by Weddle (2008). Eight women over the age of 50, were interviewed using a phenomenological research methodology. Behaviour change to engage in exercise was linked to four key areas; a stimulus to initiate exercise, an assimilation of exercise into life, the relationship with exercise, and the person's life context. Weddle concluded that exercise needs to be holistic rather than reductionist, and offering a choice of exercise may elicit behaviour change. In a focussed ethnography of older Canadians in 2013, rural community dwelling older adults shared values, beliefs and behaviours related to exercise as part of their self-care, within their whole life context (Graham and Connelly, 2010). The need to understand an individual's life course, and wider context of exercise to enable their participation in exercise is key. My thesis will explore the local experience of exercise by older people who participate in regular structured exercise as well as explore the experience of those who do not, to see if it resonates with these themes, or if there are other reasons, which people use to describe their experience of exercise.

2.4.1.2 Experience of exercise and social participation

The literature draws links between the importance of socialisation on older peoples' relationship with physical activity (Martinez del Castillo et al, 2010). The identified literature highlighted the importance of social connectedness as part of the experience of maintaining exercise for older people (Halaweh et al, 2016, Von Berens et al, 2018). Halaweh et al in 2016 in Palestine used PO and field notes as well as interviews and interpretive narrative method to provide a rich, contextualized understanding of some aspect of the human experience through the intensive study of

particular cases. Participants described social connectedness as a contributing factor to staying active. A further study in 2018 (von Berens et al, 2018) demonstrated the importance of the impact of exercise on their social connectedness. Participants were enrolled in Boston USA and Stockholm Sweden, and their thoughts and opinions of participating in a supervised group exercise session, three times a week for six months was captured. Older people felt more 'confident, cheerful and safe' after the lifestyle intervention. The participants noted that the experience of exercising regularly influenced their social support and psychological wellbeing as well as physical engagement.

2.4.1.3 Experience of exercise and satisfaction

Life satisfaction was not included as part of my literature search, but warrants a brief description here. Life satisfaction is a social concept which may be viewed as a U-shaped trajectory across the life course, with the lowest point being mid-30s to early 50s (Blanchflower and Oswald 2008). Others describe relative stability in life satisfaction with a sharp decline after 75 (Fritjers and Beatton 2012). Baird et al 2010 document curvilinear trajectory with low satisfaction during emerging and young adulthood, and then higher through middle adult hood, with a drop in older adulthood. An explanation for these variations suggests they stem from age related motivations and goals (Baltes and Baltes 1990), which is relevant as there is a significant association between physical activity and life satisfaction (Maher et al 2015, Phoenix and Orr 2014 and Humberstone and Stuart 2016). An association was found using web and smart phone questionnaires (Maher et al 2015). Using multilevel modelling, Maher et al (2015) concluded that participating in regular physical activity contributes to greater life satisfaction in older adults, both between and within persons ($p<0.05$) (Maher et al 2015). They defined life satisfaction as a 'cognitive evaluation or judgement of one's life' (p1407), and a component of the construct of mental health. They went on to suggest that making changes in usual physical activity levels, and adopting and maintaining a new exercise regimen or new physical activity could enhance life satisfaction. Pleasure is considered a component of life satisfaction, and a reason for participating in exercise as it 'feels good' (Hurd Clarke et al, 2020). Humberstone and Stuart (2015) used two case studies with older women, to gain an insight into the experience of pleasure with exercise to music, and yoga. They found that a sense of wellbeing emerged through the senses,

demonstrating a reflexive relationship between wellbeing, corporeality and exercise for older women. Phoenix and Orr (2014) undertook interviews with 51 physically active older adults and undertook a photo elicitation exercise with 27 of them. The typography of pleasure was developed as sensual pleasure, documented pleasure, habitual pleasure, as well as the pleasure of immersion. This typography could be used in discussions around health promotion, with exercise providers reframing our approach to consider wider goals and aspirations, which are of greater personal importance, such as life satisfaction, a sense of purpose and a sense of role fulfilment. Older people themselves described exercise broadly as movement, rather than self-care per se (Graham and Connelly, 2013). This suggests that prescribing exercise should be both enjoyable and meeting recommended evidence based guidelines. This study will explore what older people feel those aspirations might be in the local context.

2.4.1.4 The experience of exercise goals

The literature identified individual goals or personally tailored interventions were significant for participation in exercise (Stead et al, 1997, Wagstaff, 2006, Moore et al, 2011, Ruppar and Kraenzle Schneider 2007, Sandlund et al 2018, Hurd Clarke et al 2020). Many older people described a need for the exercise or physical activity to be tailored to their specific needs as an older person. An early study by Stead in 1997 investigated how ageing health and exercise were conceptualised, exploring factors which influence participation- to identify differences between age groups. Researchers undertook 15 focus groups in Scotland and concluded that older people are unlikely to participate in exercise for its own sake, nor even for health reasons alone. This suggests any attempt at promoting activity should use several different strategies, to include those who are currently active, and those who take little or no exercise (Stead et al, 1997). While older people recognised the need to 'keep moving to stay healthy' (Halaweh et al, 2016), a single approach is unlikely to be effective. Another Swedish study used Participatory Appreciative Action and Reflection (PAAR), a form of appreciative enquiry, in six workshops to better understand the perceived motivators and exercise preferences of older community dwelling men and women, within a falls prevention context (Sandlund et al, 2018). Older participants highlighted that intensity, challenge, social context and type of exercise, which was individually tailored, was important to them. They found that 'spirit lifters' (such as

music, humour, and outdoor exercising) increased enjoyment, and 'personal tricks' (such as companionship, routines, nature and dogs) strategies to maintain exercise routines were important. This was echoed in a more recent study of older Canadian men (Hurd Clarke et al, 2020). The study examined the experiences and perceptions of exercise sport and leisure, and the meaning attributed to them with 22 interviews. Participants were a majority of white North Americans aged 65-94 years, but most were in the younger age range. Their key three overarching themes were expressed as 'I do it for my health'- where the men emphasised their desire for exercise to maintain their healthy bodies, 'it feels good'- where participants described the physical satisfaction they gained from exercise, and 'it gets tougher' – where exercise became increasingly difficult with the onset of deteriorating health. A few of the men were able to adjust to the changes of ageing, but many expressed sorrow and distress at no longer being able to participate at their previous level of function. Those who were able to adopt different protective strategies, awareness of their own capabilities, and an ability to adapt to new roles, at familial and community levels could stay active and maintain their own role, in spite of ageing changes in their bodies (Halaweh et al, 2016). This was reflected in an exercise referral scheme (ERS) in Devon. Multiple wellbeing effects were identified (Stathi et al, 2003) and, concluded that any exercise programme must aim to meet older adults' personal needs and preferences. Highly valued targets were, to alleviate pain and disease symptoms, improve functional capacity and mobility, increase personal control and autonomy, improve sense of personal competence and achievement, and increase opportunity for social interaction. Setting personal goals was important, but people often continued long after their goals were realised if they could see improvement in their function, mood and wellbeing (Stathi et al 2003). Hawley (2009) recommended that an integrated working model with third sector, social services, the private sector as well as country sector was needed to provide social networking opportunities, and support in the community, after undertaking interviews with older people engaged in home exercises after a falls prevention intervention (Hawley, 2009). These studies suggest that exercise needs to be carefully tailored to meet the needs of older people, and their underlying knowledge impacts their behaviour, as well as their wider social and psychological health.

2.4.1.5 The different exercise experiences with gender

While Sandlund et al, (2018) suggested individual differences were more notable than those between men and woman, indicating that a gender specific approach was not required, two of the studies specifically identified gender differences in the experience of exercise. Women expressed a need to exercise to maintain their responsibilities, while men were exercising to keep fit (Sandlund et al, 2018). Women also reported clear thinking, more social support and greater joy with music while exercising, while men were more focussed on the 'straining' and the 'sweating', of the exercise (Ruppar and Kraenzle Schneider, 2007). Humberstone and Stuart (2016) identified the experience of exercise to music and the considerable effect on well-being when spatial, cultural, social and sentient experiences are taken into account, for the women they interviewed. Older women in a senior housing facility specified their reason for participations in exercise, included better mental and physical health, and improved ability to undertake activities of daily living (Wagstaff 2006). Hurd Clarke et al (2020) noted that men experienced well-being and pleasure from the physical sensation of being active. These gender differences warrant further understanding for the experience of exercise in our local context.

Six systematic reviews were identified for inclusion in the literature search (French et al 2014, Franco et al, 2015, McGowan et al, 2018, Menichetti et al, 2018, Morgan et al, 2019 and Shvedko et al, 2019). McGowan et al, 2018 and Morgan et al, 2019, identified themes around the experience of exercise. McGowan identified seven descriptive themes around the experience of exercise: personal motivation, intrapersonal constraints for physical activity, perceptions of ageing, exercise provision, external sources of encouragement, knowledge and belief about physical activity and influence of environmental factors (McGowan et al 2018) from a systematic review and metasynthesis of 10 studies around the acceptability of being physically active. Older adults saw activity as a by-product of something else, not a purposeful activity within itself (McGowan et al, 2018). There was conflict between autonomy and accepting the vulnerabilities of ageing. Older people considered physical activity irrelevant with other roles taking precedence. Allowing a sedentary lifestyle could simply be the results of everything requiring much more energy on entering older adulthood (McGowan et al, 2018). Morgan et al (2019) in a systematic review and meta-ethnography of 39 papers described the transition to older age as a challenge to the sense of self and roles in life, but PA can help feelings of purpose,

being needed in a group and build self-esteem which contributes to a more fulfilling older age. However, while PA interventions can successfully influence social functioning (standard mean difference of 0.3, 95% confidence interval, and 0.10-0.51, and p=0.003), there was insufficient evidence of the interventions effect on social health such as loneliness, social support or social networks (Shvedko et al, 2018)

These papers indicate that knowing the health benefits of exercise was not compelling enough to facilitate exercise in older people (Stead et al, 1997, Halaweh et al, 2016, McGowan et al, 2018, Hurd Clarke 2020). There is evidence that too many health promotion initiatives target health behaviour with the assumption, that knowledge alone influences behaviour (Phoenix and Orr 2014).

2.4.1.6 Experience of Walking

The experience of walking was identified in the literature as a feasible and desirable exercise option for older people (Thorpe et al, 2006, Lee et al, 2015, Ory et al, 2016, Moran et al, 2017 and Hwang et al, 2019). The literature identified some insights into the overall experience of activity which is relevant to this thesis

Older people who undertook walking, described some similar themes to those relating to other forms of exercise (Lee et al, 2015). Understanding the benefits of walking for health, and the increased social interactions, as well as the relationship building were experiences which motivated walkers, as well as the ease with which it became part of one's daily life. Walking in British Colombia motivated participants to socialize and reduce their feelings of loneliness as well as giving them a sense of belonging (Hwang et al 2019). The environmental attributes of walking routes in Israel had a significant impact on uptake and continuing to participate (Moran et al, 2017). Significant facilitators or barriers were the pedestrian infrastructure, the access to destination, the aesthetics and environmental quality. The qualitative data revealed that those who walked longer, and steeper routes tended to describe more facilitators to continue walking. Similar findings were identified in dog walkers in Pennsylvania where the relationship between dog owners and those without dogs, and gait speed was studied (Thorpe et al, 2006). Older dog walkers exhibited better health practices and had better concurrent mobility than dog owners who did not

walk their dogs. They were more likely to achieve 150 minutes of brisk walking in a week and had a faster gait speed than non-dog owner or walkers (p= 0.001). Three years later, they were twice as likely to be still achieving recommended walking levels. Predictors for walking were identified in the literature (Ory et al 2016). These were good health, few concerns about falling, social supports for motivating, and living in an environment with good social cohesion. However, the majority of adults still do not meet the requirement of 150 minutes of activity a week, even when these factors are addressed. This was often attributed to poor emotional health (often depression). However, those who lived in communities with younger people were more likely to be physically engaged (80% (OR=1.799, 95%CI=1.034-3.131) (Ory et al 2016). None of these studies were undertaken in the UK.

These five studies demonstrate that walking can be an important way for older people to engage with activity, where it is accessible (Moran et al, 2017 and Hwang et al, 2019). Walking groups can give a sense of belonging and increase social connectedness (Lee et al, 2015 and Moran et al 2017), but there is no evidence that the dose of walking alone is effective for reversing the sequelae of ageing, and few walkers met the recommended target of 150 minutes each week (Ory 2016). While my doctorate study has not focussed on walking, the shared themes of accessibility of the environment, and social connectedness is pertinent for this study.

2.4.2 Engagement with exercise: Barriers and Facilitators

The experience of exercise in terms of a life course of exercise (Weeks et al, 2008, Weddle 2008, Martinez del Castillo et al, 2010 and Graham and Connelly, 2013), has been described from the selected literature, as well as the social experience of participation, and the pleasure of participation (Phoenix and Orr, 2014, Maher et al, 2015, Humberstone and Stuart, 2016, Halaweh et al, 2016, von Berens et al 2018).

The literature identified a number of barriers and facilitators to participating in exercise. This addresses the question of why some people engage in exercise groups. Potential barriers to engagement with exercise were identified as travel costs, cost of the programme and the design of the programme (Wagstaff, 2009). While Franke (2018) described older people often like activity, but not formal exercise, many older adults stated that participating in physical activity was incompatible with ageing (McGowan et al 2018). Franke advocates the development of a mobility framework,

based on social capital (Franke, 2019). The focus on social capital is important, to identify where ageism is at play, resulting in skewed investments, away from older people, to redress this imbalance. Specific barriers and facilitators for physical activity, with older people with sight loss (Burton et al, 2018) concurred with this, identifying facilitators and barriers in three ways; psychologically, through opportunity and access and at a societal and policy level. Burton concluded that any public health campaigns required change to our unhelpful age-related stereotypes at both a psychological and societal level.

Older adults' interpretations and beliefs about exercise influence their exercise behaviours (Ruppar and Kraenzle Schneider, 2007), as a facilitator or as a barrier, depending on their interpretations. This was echoed in interviews, and some physical assessments of older people in hospital, reflecting on their intended activity levels, which concluded that older people often cited their health as a reason to not participate in activity, and that there were often 'missed opportunities' for delivering health promotion messages to older people. Some older people expressed an intention to increase activity levels but seemed to lack any insight into the appropriate level of activity to keep healthy (Buttery and Martin, 2009). Although this study was undertaken in hospital, describing anticipated activity levels, and may not reflect actual behaviour on returning home, the barriers of missed opportunities from staff, and intended action lacking insight into participation are relevant to this study. Those who were able to adopt different protective strategies, had an awareness of their own capabilities, and an ability to adapt to new roles at familial and community levels, could stay active and maintain their own role, despite age-related changes in their bodies (Halaweh et al, 2016).

Three of the systematic reviews described barriers and facilitators specifically for engagement with exercise (Franco et al, 2015, McGowan et al, 2018 and Morgan et al, 2019). Knowledge around exercise for older people was a common theme. Franco et al 2015 found that some older people thought that PA was harmful. McGowan et al (2018) reported that the paucity of knowledge of benefits of PA suggest that holding these as a primary goal is incongruous with the construct of PA as an additional benefit to other purposeful activities (McGowan et al, 2018). This may be related to the re-evaluation of self- identity which ageing brings, and the perceptions of the role of older people within society (McGowan et al 2018). This is often reinforced by a

growing cynicism for behaviour change amongst many clinicians, and service providers. Self-identity was a clear theme from McGowan's systematic review and feeling valued as an older person (2018). These concepts will be explored in my thesis to understand the local experience of engagement with exercise. McGowan et al, (2018) reported three analytical themes identifying older adults' engagement with physical activity; self-identify and roles within wider society and perceived vulnerability versus maintaining control. A significant motivator for older people was described as their 'feeling valued' and feeling connected to others within society. This was echoed in an earlier systematic review of qualitative studies on the perspective of physical activity (PA) among older people (Franco et al, 2015). In a thematic synthesis of 132 studies, six overarching themes were identified, as barriers and facilitators. These were social influences, physical limitations, competing priorities, and access difficulties, personal benefits of physical activity, and motivation and beliefs. Authors suggested that strategies to enhance PA participation should include an awareness of benefits, and minimising perceived risks, improving financial and environmental access to activity opportunities (Franco et al, 2015). Morgan et al (2019) expressed external barriers to participation in PA by older people as time, weather, cost and structural barriers in the environments.

2.4.2.1 Engaging with adherence or Concordance to exercise

A key component for understanding older people's experience of exercise is understanding adherence or continuing with an exercise programme. A number of key factors have been identified in this area, which overlap with the data on the experience of exercise. The physical location, in a North of England study was identified as essential to enable older adults to engage regularly, but the social space, which was created within the physical setting, was most influential in fostering adherence (Hartley and Yeowell, 2015). This 'sense of belonging' to the group was fundamental to adherence. Facilitating cross-cultural relationships and giving control to older adults would facilitate more long-term adherence. Four specific categories emerged around maintenance of exercise in Sweden, the facilitator of performing exercise in everyday life, the importance of support, the perceived gains from exercise and the existential aspects of exercise (Arkkukangas et al, 2017). Support from highly skilled physiotherapists, enabled home-based exercises to be adapted to individual circumstances. Exercises in everyday life and daily routines could support

the experience of being stronger, resulting in better physical functioning and give hope for an extended active life in old age (Arkkukangas et al, 2017). The multifaceted complexity of engaging and maintaining exercise practice was a common theme in the literature. Reviewing support for people after a stroke in Holland concluded that the focus on adherence to mobility (or exercise) and exercise training at home needs review as it does not capture the multiplicities embodied in life settings (Nanninga et al, 2018).

2.4.2.2 The role of the instructor

The instructor, or staff facilitator was highlighted in the literature as having a significant role with engagement with exercise (Moore et al, 2011, Lee et al, 2015, Hawley-Hague et al, 2016 and Von Berens et al, 2018). Arkkukangas et al (2017), articulated that skilled adaptation of exercise made the experience meaningful by the instructor. Participants noted the importance of support and skill of the physiotherapist in helping them undertake the exercises (Von Berens et al, 2018). In the walking groups, the 'leader's enthusiasm' was cited as a reason to continue with the activity (Lee et al, 2015). However, this was not always the experience. Moore et al in 2011 in Wales invited people with significant health issues, to 16 sessions at a participating gym, at the cost of £1 per session. The evidence suggests that one in three people referred for exercise did not attend a first appointment, and completion rates ranged from 12-52% (Moore et al, 2011). Personally valued goals change extrinsic factors to embed intrinsically. However, the report stated, 'The instructors were commissioned to offer a component of motivational interviewing and some initial goal setting with each referred person. But this did not happen in practice'. This expresses how unprepared exercise instructors are to facilitate behaviour change. They also felt that if a GP made an explicit point about behaviour, older people were more likely to be more aware, but even this needed to be from a point of readiness for change, commenting 'even if the doctor has told some clients that they need to go and do some exercise, that's still not enough of a culture shock for them, but the ones that decide, or saw the leaflets in the doctors and had to ask the doctor about it, generally they stick around' (p 5). Some areas saw high levels of drop out, and the instructors described a lack of motivation from the participant. Most of the instructors were not sure where the motivation issues should be identified and change techniques offered. The instructors were unhappy with the role as 'counsellor' or mentor, even, and felt

they would benefit from further training. Instructors were a facilitator to adherence when able to bring identity to exercise, personal touch, and social support (Hawley-Hague et al, 2016). Barriers expressed by instructors were both intrinsic and extrinsic, and were presented around identity, choice and control, cost and venue. Further barriers were the unrealistic expectations of exercise, and social influence (Hawley- Hague et al, 2016). The instructors also identified some solutions in provision and language offering an opportunity to gain control a personal touch and encouraging social support. Recognition of the complexity of the relationship with any instructor was identified as critical to participation or non-participation within an exercise group in the literature. The role of the instructor as a facilitator or barrier is significant.

2.4.2.3 Maintaining exercise

The literature outlines the complexity of 'sticking with' a PA for older people, and the many factors, which influence this. This concept needs further exploration; we need to reframe the way we view 'adherence', if we are to have any impact on changing the activity trend outlined in Chapter 1 (Sun et al, 2013). The concept of concordance is widely recognised with reference to taking medication (Britten, 2014) but is also applicable to exercise, although is rarely used and was not used in any of the literature. This gap in language and behaviour seems pertinent to this study. Concordance is described by Britten as an encounter, which concerns two sets of contrasting but equally cogent health beliefs between a participant and a prescriber. The task of the participant is to convey their health beliefs to the prescriber and the task of the prescriber is to enable this to happen. The prescriber has to convey their (professionally informed) belief to the participant and the participant has to entertain these. The intention is to assist the participant to make as informed choice as possible about the diagnosis and treatment prescribed, about benefit and risk and to undertake a full part in this therapeutic alliance. 'Although reciprocal, this is an alliance in which the most important determinations are agreed to be those that are made by the participant.' (P1 Britten 2014). This reflects the alliance and understanding of health beliefs in the use and agreement of undertaking regular exercise. The concept of lay expertise is pertinent to this study. Expertise or the acquisition of technical knowledge in a specialist field has been one of the foundations of 'professional authority' (Wilcox, 2010). Lay expertise can describe lay

peoples' active participation in developing knowledge, or more broadly, the general body of understanding held by everyone in society (Wilcox, 2010). There has been a paradigm shift in accepting the growing need to take the interpretations of health into account, and redress 'the balance between lay and professional objectives' (Prior, 2003 p42). The shift has moved from a language of lay health beliefs and understanding, to lay knowledge and understanding (Prior, 2003). This has led to the response of participation decision making, rather than medical hegemony, which is fundamental to engagement with exercise.

Two systematic reviews were identified in the literature search which specifically focussed on the concept of engagement and behaviour change (French et al, 2014 and Menichetti et al, 2018). French et al, in 2014 reviewed which behaviour change techniques were more effective for increasing physical activity and self-efficacy in older people (French et al, 2014). French et al defined self-efficacy as 'the belief in one's capability to organise and execute the courses of action required to produce given attainments. Cohen's d (standardised mean difference) effect sizes were calculated for change in self-efficacy. 16 studies provided data on physical activity. They found that some of the commonly used techniques such as setting goals, self-monitoring, and prompting, providing normative information and performance feedback were not effective in older adults, suggesting that this may be because the self-regulation was too complex for declining executive function, or the lack of appeal. A systematic review by Menichetti et al in 2018 from Italy identified 35 papers reviewing intervention components for older adults, to review patient engagement. Interventions focusing on patient engagement with older people tended to pay more attention to behaviour and education than affective dimensions such as positive thinking, internal resource mapping, motivational interviewing, relaxation and friends and family support. They described the need for affective dimensions by older people to maintain their engagement with activity. The studies, which did focus on affective dimensions, suggested that older people could particularly benefit from interventions that include these dimensions.

2.4.2.4 Economic engagement for older people with exercise

An evaluation of the Age UK 'Active Lives' programme in Lancashire from 2012-2014 (Gandy et al, 2017) sought to measure older peoples experiences of participating in

the programme, identify the impacts on their health and well-being and their suggestions for service development and establish the costs and benefits of the programme. They found that there was significant variation in the attendances at each site that may be of interest, but that overall healthy activity and improved social engagement lead to better memory and mental health and less social isolation. The cost of the programme per person per year was £160.67, which was considered good value when compared with the state pension. It was deemed impossible to establish if the programme saved more money than it cost. Moore et al, (2011) found that even when subsidised, there was still a significant drop out from participation. This cannot be a standalone factor. There is argument around encouraging payment for the service of participation, which enables the participant to feel on a morally level playing field in participating, as they are paying for their participation. Literature on sourcing care and 'weak ties' for support in long term condition management (Rogers et al, 2014), supports this theory, but has not been reviewed in depth here. However, a growing emphasis of the social, relational benefits with enjoyment and pleasure may well move the funding stream to 'leisure' and facilitate further self-funding (Griffin and Phoenix, 2015). This has not been explored in detail with older people and exercise uptake, and the power dynamic for the cash nexus would be interesting to explore further, to fully understand the value places on exercise by older people, but does not form a core part of this thesis.

2.5 Limitations to this literature review

There are several limitations to this literature review. One key limitation is that no appraisal of the quality of evidence in the primary reports was used (Lacey 2015). This means that equal credence was given to poorer evidence. The six systematic reviews were of high quality with robust methodology (French et al, 2014, Franco et al, 2015, McGowan et al, 2018, Menichetti et al, 2018, Shvedko et al, 2019 and Morgan et al, 2019). Four of the studies were of poorer quality and the methodology was not well reported, but the quotes were rich and pertinent to this study (Burton et al, 2018, Franke et al, 2019, Wagstaff, 2009 and Humberstone and Stuart, 2016). The remaining studies were of good quality and relevant to this study, but they were not formally evaluated, using an appraisal tool. Some critical analysis was made of each study, and is recorded in Appendix B. It is also unusual to include systematic reviews

in a broad literature review. With hindsight I would have either excluded the systematic reviews or used them alone.

The second limitation was the large quantities of data, which was generated by the literature review, which made analysis time consuming, and lead to difficult decisions around handling the depth and breadth of data. The review was contained and limited by the research questions for this thesis, but this meant that there may be some key literature which has been omitted.

A significant limitation to this review was that only two databases were searched, Medline and Cinhal. The search terms were also extremely limited I am a novice researcher. I did not include the use of the terms 'view', or 'engagement', which may have widened the literature generated, and enriched the findings. Were this project undertaken as part of a larger team, further literature searches would have been possible. I screened the literature by myself, and then reviewed the findings with my first supervisor, but this was not undertaken in collaboration with others, or using a specific tool to synthesise the results. Retrospectively I would have extended my search terms, used a formal appraisal tool, worked as part of a team, and only used original research, rather than including the six systematic reviews.

The fourth significant limitations to this study was the time span over which it ran. New material, ideas, and concepts were constantly being generated and published, which has meant that the literature was quickly out of date. The literature review was refined during the study period, which added to the complexity of concepts being reviewed.

A final and generic limitation to any literature review around studies for older people is the paucity of an evidence base for deductions. A recent BMJ editorial (Izquierdo et al 2020) described research with the 'oldest old', as the 'great forgotten' in medical studies. The studies selected often underrepresented older people, and some used much younger people (Weddle, 2008 and Weeks, 2008). It may be that this is because there are specific patient factors such as sensory impairment, mobility issues, and fatigue problems, which affect inclusion in such studies (Baczynska et al, 2017). This bias reduces the possibility of application within older populations. The studies included in this literature review also demonstrated significant ethnic homogeneity,

mostly white middle class participants, which means that the voices of others are not well heard in the literature.

2.6 Summary

The 36 papers reviewed, reveal the views and experiences of exercise among older people. The literature indicates that the experience of exercise is both varied and complex. Participants described an interplay between knowledge of the benefits of exercise and uptake, which did not always lead to specific behaviour changes, or engagements with exercise or PA (Moore et al, 2011, Morgan et al, 2019, Graham and Connolly, 2013). Indeed, some older people felt that exercise was bad for them (Franco et al, 2015 and McGowan et al ,2018) and had little insight into what constituted enough activity to remain healthy (Buttery and Martin ,2009). Morgan et al 2019 concluded that current failures to increase population levels of physical activity in older adults might be explained by an approach too focused on health benefits. Interventions should focus on the contribution physical activity can make to life satisfaction, a sense of role fulfilment, and a sense of purpose in older age (Morgan et al, 2019). Social connected-ness was identified in the literature, as a key factor for engagement in exercise, (Von Berens et al, 2018) as was the sense of 'feeling good' (Hurd Clark et al, 2020). The focus on the social nature of exercise participation will be examined further in the focus groups in my study, to better understand local motivations for participation. Other authors articulated the need for 'tailoring' exercise to the specific needs of older people as fundamental to their participation (Sandlund, 2018), as well as having personal needs and goals met by the intervention (Stathi, 2003). The focus group with staff will give an opportunity to learn of the local understanding of tailoring exercise, and the context for personal goal setting.

Many of the participants in studies did not view exercise as the end goal for its own sake, but other factors were more significant (Stead, 1997, McGowan et al, 2018, French et al, 2018, Morgan et al, 2019). Weddle (2008) described this as being holistic, rather than reductionist, as all the factors for participation need to be considered, not just the exercise component. Past experience of physical activity was fundamental to present experience of exercise participation (Weeks et al, 2008) and psychological support and interventions, such as motivation interviewing were noted as being critical for engagement (Menichetti et al, 2018). 'Exercise' was often seen in

competition with other more valued experiences, such as time with family (McGowan, 2018). These studies all heard the voices of participants related to their views and experience of PA. My thesis will review the experience and practice of participants as well as non-participants to understand how exercise is perceived in the local context.

While walking does not meet the required dose of strength and balance components to provide a targeted intervention, for falls or frailty prevention, the experience of walking in these studies is relevant for my thesis as it relates to participation in activity. The participants described their reasons for engagement were due to ease of access and the social component, and developing a strong sense of belonging which was compelling for them all, and motivated them to continue participating in the activity (Ory et al, 2016, Lee et al, 2015, Moran et al, 2017,Thorpe, 2006 Hwang et al, 2019).

Older people identified specific factors facilitating engagement with exercise, such as feeling valued, and as though they were participating in society. Self-efficacy, or having some control over their exercise participation, was also important, but older people stated that often techniques used with younger people, such a goal setting and self-regulation were not effective for older people (McGowan, 2018, French, 2018 and Franke, 2019), as these things did not motivate them in the same way. Menichetti et al (2018) concluded that further work was required with working with older people on engagement, promoting investigation in the balance of emotional, cognitive and behavioural dimensions and the relationship between concepts, theories and interventions, which this study will contribute towards understanding in a local context. My study will allow the reflection of older people and staff to review their role as a barrier or a facilitator in the uptake of exercise.

Adherence to engagement in PA or ongoing participation in groups was articulated as a specific challenge for older people. The location of the activity and sense of belonging was, however, fundamental (Hartley and Yeowell, 2015). Older people said that maintaining exercise involved incorporating it into their daily routines and having the support to be able to continue (Arkkukangas, 2017). Participants were able to maintain exercise when it aligned with their own personal goals (Moore, 2011). The role of the instructor to influence uptake and participation was reported as significant (Hawley-Hague, 2015). I believe the concept of adherence describes a

social construct and a negative power imbalance. I suggest the term 'concordance' would better describe the relationship between instructor and participant.

The economic impact per se of exercise up take as a cost-effective treatment for falls and frailty was not part of the remit of this study, or literature review, but older peoples' perspectives on cost as a barrier or facilitator is relevant to understanding their uptake of exercise. Reduced costs were reported as a facilitator for the Welsh ERS, but may lead to a negative dependence (Moore, 2011). The Welsh study also reviewed the experience of instructors, who were often uncomfortable with the role of supporting older people, as they felt they did not have the skills required. While there are some gender differences, in the experience of exercise from the literature, the individual experiences, are more relevant (Sandlund et al, 2018, Ruppar and Kraenzle Schneider, 2007, Hurd Clarke et al, 2020 and Humberstone and Stuart, 2016).

Finally older people reported 'pleasure' in exercise as a compelling factor for participation, but it seems to be overlooked in formal health behaviour change and was infrequently included as part of a life satisfaction review (Maher, 2015, Phoenix and Orr, 2014, and Humberstone and Stuart, 2015).

2.7 Overview of studies: Strengths and weaknesses

The 36 studies included in this literature review vary in their quality. This overview of their strengths and weaknesses will focus on the quality of the study design, the applicability of the study to the current health and care systems, the description of the participants and the approach to handling bias and ethical issues.

Six papers were systematic reviews (French et al, 2014, Franco et al, 2015, McGowan et al, 2018, Menichetti et al, 2018, Morgan et al, 2019 and Shvedko et al, 2019) were of high quality, with clear methodology, search strategies, and research questions described in the papers. The findings were well articulated, and the conclusions drawn from the papers are robust, as summarised. The number of studies included in the systematic reviews varied from ten in McGowan et al, (2018) to 132 studies reviewed by Franco et al 2015. Morgan et al's review (2019) while relevant, was limited in its demographic reach, as it included much younger people. Franco's review (2015) included rich quotes from the individual studies.

The age of some of the studies impacted on the applicability of the data therein. Both Stead et al (1997) and Stathi et al (2003), while resonant with this study, were seated in a health system which no longer exists, making application difficult. Stathi et al (2003) however, was a high-quality study with rich, direct quotes, clearly articulated demographics, and triangulation with credibility evaluated with participants, and Stead predicted the need for a role for a 'specialist exercise counsellor as appoint of referral intermediate between primary care and exercise providers' which describes our current 'wellbeing coaches, or 'care navigators'. Stead also strongly recommends the need for further research to hear the voices of those who did not participate in exercise.

The qualitative papers vary significantly in the quality of methodology. Some of the studies used very small homogeneous groups of participants and did not use direct quotes in the published papers, nor described their methods of analysis of the data, (Humberstone and Stuart, 2016 (2), Wagstaff, 2009 (5), Weddle, 2008 (8), Hawley, 2009 (9), Arkkukangas et al, 2017 (12), Stathi et al 2003 (13), Burton et al, 2016 (13), Hwang et al, 2019 (16), Graham et al, 2013 (17), Hartley and Yeowell, 2015 (18), Sandlund et al, 2018 (18) and Hawley-Hague et al, 2015 (19)). While other studies demonstrated trustworthiness by describing the rigour of their selection process, were transparent in describing their demographics, they included their focus group and interview guides, and included rich quotes (Von Berens et al, 2018, Lee et al, 2017, Gandy et al, 2017, Moran et al, 2017).

Overall, the literature made good representation of older people, but there were some who defined older people as those over 50 (Weddle, 2008 – documented as over 51, and Moran et al, 2017- documented as over 50) or over 60 (Ory et al ,2016, - with a mean age of 69, Phoenix and Orr ,2014, - with a mode age of 60-69 (7/9) and Hawley, 2009- documented as over 60). The inclusion of so many middle-aged participants may detract from the focus on the 'great forgotten' of older people, (Izquierdo et al, 2020)

All the included qualitative studies documented gaining written consent from participants. Some studies were able to describe their reduction in bias with enhanced intercoder reliability through discussion and consensus reaching, and keeping reflective journals, as well as describing ethical approval, (Hawley Hague et

al 2015, Graham and Connelly, 2013, Nanninga et al, 2017, Ruppar et al, 2007, Sandlund et al, 2018, Von Berens et al 2018, Halaweh et al, 2016, Hartley and Yeowell, 2015, Hurd Clarke et al, 2020, Hwang et al, 2019, and Moran et al 2017, Burton et al, 2016 and Franke et al 2019). While some studies did not document the detail of ethical approval in their papers, (Thorpe at al, 2006, Lee et al, 2017, Arkkukangas et al, 2017 and Buttery and Martin, 2009). Some of these may be indicative of variable rigour in the global research community, or reporting limitations

Three qualitative studies paid some heed to documenting ethical considerations, but did not acknowledge any researcher bias, (Ory et al, 2016, Phoenix and Orr, 2014 and Maher et al 2015), while a few studies documented neither ethical considerations, nor any attention to recognising and reducing bias (Stead et al 1997, Wagstaff, 2009, Weddle 2007, Weeks et al, 2007, Humberstone and Stuart, 2016, Hawley, 2009 and Martinez et al, 2010)

2.8 Conclusion and research question

The literature search identified the complex relationship older people have with exercise, where knowledge about the impact of exercise did not necessarily translate into uptake better uptake of exercise (Moore et al 2011, Graham and Connolly, 2013, and Morgan et al, 2019). Participants described social connectedness (Von Berens et al, 2018) and 'feeling good' (Hurd Clark et al 2020) as benefits, but there was a gap in hearing from those who do not participate as to why they do not. It remains unclear what might influence behaviour change to commence exercise participation. There was no voice of older people who are not participants in exercise, in the literature reviewed (Stead et al 1997). Those who are not participants in formal exercise may have some new explanations as to why they do not participate, (or may reinforce what is already known). The focus on both those who participate in exercise and those who do not in my study will help to deepen understanding around this, and then influence appropriate interventions.

The majority of these studies were international with 11 in the USA or Canada, nine in Europe or Asia, while the remaining 11 British studies were conducted in Wales, Scotland, or in the North of England, missing a local understanding of the provision or requirement in the South of England. There was a lack of published research on the views and experiences of older people and exercise in our local context, nor any detail as

to why some people were engaged in exercise groups and others were not, in this part of the South of England. The rationale for undertaking this research is to better understand the views and experiences of older people and their exercise practice and hear why some were engaged in exercise and others were not. There is a gap in understanding local qualitative articulation of experience of exercise participation from older people themselves. Addressing this gap will identify areas for future service provision investment and determine where further knowledge needs to be gained. The concept of pleasure in the exercise experience was clearly articulated in the literature (Maher et al,2015, Phoenix and Orr, 2014 and Humberstone and Stuart, 2015), but has not been quantified in formal or commissioned exercise provision.

Thirdly, the relationship with instructors (Moore et al, 2011, Hawley- Hague et al, 2015, Arkkukangas et al, 2017, Von Berens et al, 2018) or clinical staff was a not conclusive, from the literature. The relationship is complex from these papers, and can be positive or negative, but there was limited triangulation between perceived experiences of older people and local staff who were prescribing exercise or delivering it. This will be explored further in my study.

Therefore, this thesis will review the wider exercise opportunities provided through a variety of sectors for older people in a specific geographical locality, in order to better understand why some older people, participate in exercise and why some do not. The voices of those not participating in exercise will also be sought to determine perceived barriers and facilitators for participation in exercise within our local context.

The research questions drawn from this:

'What are the views and experiences of older people in this locality around their exercise practice, and why do some older people engage in formal exercise groups in this locality, and others do not?'

Chapter 3

Methodology and Methods

3.1 Introduction

This chapter presents a detailed description and discussion of the conceptual framework, the methodology and methods used for this study. The chapter begins by describing the context of the thesis within the locality context and reiterates the choice and justification of design for the study, as well as the detail of the research questions being answered. The conceptual framework, sampling strategy, data collection techniques and method of analysis of the data are also discussed. I will consider my role as researcher, and issues of reflexivity within the context of this study to finish the chapter.

3.2 Locality approach

A locality approach enables a deep exploration of the experience of exercise for older people within a specific geographical location. In this instance within a city in the South of England. The advantage of taking a locality approach with an ethnographic study is the ease of access to the research sites, and the depth of understanding of the experience of exercise gathered (Rogers et al, 2001). This depth of understanding extends to the connectedness of people to the activity, as well as the range of systems and their critical interconnections, or lack of connectedness within them, from the perspective of families as well as staff. A locality approach enables a critique of the experience of older people, and a deeper questioning of the parity of systems offered to older people. It also enables a local approach, which de-medicalises the experience. The locality approach will identify areas of lack of provision, and the local attitudes of staff and participants to exercise. This specific approach has been selected as there is growing interest politically in developing more 'local' leadership and flexibility within health services, for example through developing Primary Care Networks (Thomas et al, 2006). This study is pertinent to not only identify and quantify the experience locally, in order to influence future commissioning, but also for further research.

An objective description of the locality allows for a deep rich description of the local subculture, community connections and experience of exercise which can be compared by future researchers, with other areas, with similarities or significant differences. This will contribute to comparisons, service development as well as future comparative research.

This thesis was conceived as part of a funded study by the NIHR (National Institute for Health Research) CLAHRC (Collaboration for Leadership for Applied Health Research and Care): Wessex for introducing the use of CGA within Primary Care (Lansbury et al 2017). CGA describes the Comprehensive Geriatric Assessment which is the gold standard for those living with frailty. The study asked if we undertake a CGA, what happens next. What interventions are available to change the trajectory of deteriorating function? This question had few answers at the time of the commencement of the study. There is mounting evidence for undertaking CGA with older people with frailty while in hospital, which can achieve a shorter length of stay and better outcomes at home (Ellis 2017, BGS 2015 and Clegg 2013). There is now also growing evidence that providing CGA within home and community settings, and nursing homes, could lower hospital admissions and support people to live at home longer (Zintchouk et al 2018) (Lansbury et al 2017) (Pilotto et al 2017) (Devi et al 2018).

The commissioned formal NHS services were well known, but with rapid changes in service provision and constant referral pathway changes, it was difficult to understand the wider voluntary and third sector provision. This resulted in a local mapping exercise which was included in the Southampton Information Directory (https://sid.southampton.gov.uk/kb5/southampton/directory/advice.page?id=029hm9io11I). The pathways designed is in Appendix D. I played a role in this, by collating the information, which was available for one 'cluster' or geographical area in the city. This mapping exercise was not inclusive and stimulated a desire to understand what might be missing in terms of provision to assist with commissioning the most appropriate exercise interventions for older people in the local context. From there my thesis was developed. While I have had ongoing support and supervision from the NIHR and CLAHRC, I have undertaken this work as the sole researcher.

There was no published research found in the literature review on the views and experiences of older people and exercise in our local context, nor any detail as to why some people were engaged in exercise groups and others were not, in this part of the South of England. The rationale for undertaking this research is to better understand the views and experiences of older people and their exercise practice, and hear why some were engaged in exercise and others were not.

3.3 Conceptual framework: self-determination theory

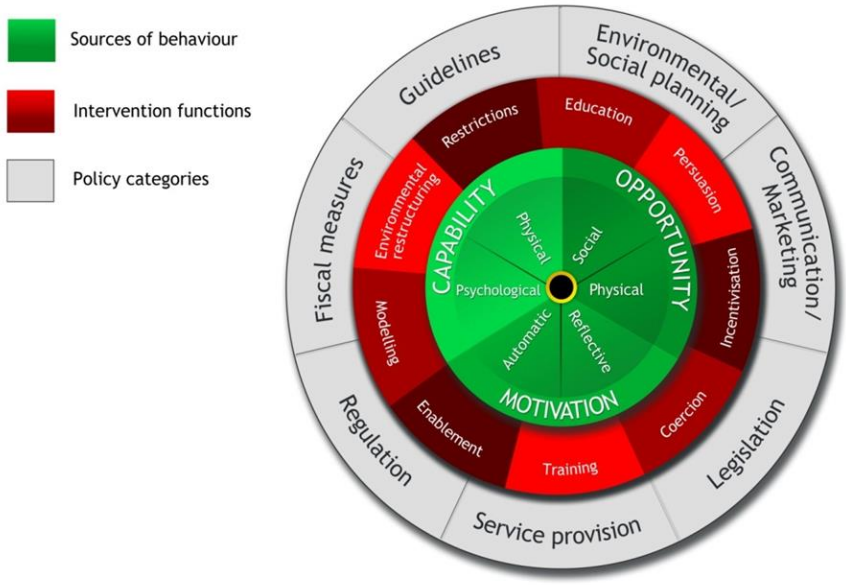
The rationale within which this research sits, assumes that the provision of exercise for older people was neither accessible nor targeted for older people in the study area. While some barriers were articulated by the literature, the local context had not been reviewed.

The theoretical construct for the thesis assumed that there were significant gaps in the knowledge and culture of exercise, which need to be understood and addressed. This study aims to hear from older people themselves, their perceptions of their own self-determination, in the context of physical activity.

Self Determination Theory (Deci and Ryan, 2008) described how the data gathered may be interpreted to elicit appropriate behaviour change. This theory provides a broad framework to understand motivation, personality and behaviour, using the concepts of intrinsic motivation, and extrinsic motivation, with three basic needs around competence, autonomy and relatedness (Michie et al, 2015). Michie developed this theory further into the COM-B model, which is a method for characterising and designing behaviour change interventions. At the hub of the behavioural change wheel are the three essential conditions of capability, opportunity and motivation (COM-B system) of an individual. These are encircled by nine interventions, which address the deficits and include training, education and environmental restructuring. Seven categories of policy complete the rim of the wheel, which include service provision, guidelines and legislation, as well as marketing and communication. These three layers can be translated into micro level-behavioural change at the hub, meso level changes within the community with extrinsic factors or interventions, and then the seven policy categories equate to macro level changes at a national level. The three layers describe a behaviour system and can help target changes at each level for change (Michie et al, 2011). This will be

used to critically evaluate the data and offer recommendations around behaviour change at an individual level.

Figure 3.1 The Behavioural Change Wheel (from Michie et al 2011 p1)



Critical ethnographic methodology allows for an uncovering of the narrative to infer the behaviours of both older people and the health care professional and providers within the context. The notion of exercise uptake is explored, at a micro-level, in relations to narratives of personal beliefs and actions of older people, at a meso-level with descriptions of actions enacted by other people, and at a macro or societal level, using this framework.

3.3.1 Methodology

A critical ethnographic approach (Carspecken 1996) has been chosen for this study, as it offers the best opportunity to answer the research question. Critical ethnography is concerned with relations of power within wide social, political and educational contexts (May and Fitzpatrick, 2019). Critical ethnography methodology helped understand relations of power at play within the locality of the study (Vandenberg and Hall, 2011). It gave an opportunity for critical reflection on the perspective of formal exercise providers, often physiotherapists, reflected against the voices of older people themselves. Ethnography allowed an uncovering of the context of exercise, which was previously not known. Critical ethnography allows conclusions to be

drawn from the inference of what older people were saying, to enable direction for policy at a social, economic, and political level.

3.3.1.1 Epistemology

Critical ethnography has been developed from Carspecken's Critical Qualitative Research (CQR) theory, drawn from critical social theory. It adapts pragmatic models of meaning to epistemological issues, through its advocacy of a critical-realist rather than a constructivist social ontology. It places power concepts within the centre of its epistemology (Carspecken, 1996).

This qualitative ethnographic methodological approach falls within an interpretivism paradigm (Mason, 2002). The epistemological basis applies abductive logic, so 'abducting' or using the categories from the participants own accounts of their activities and ideas and beliefs into a technical account (Georgiou and Carspecken, 2002). This uses an underlying pragmatic theory of truth that these beliefs lead to actions. The knowledge gained from understanding the pragmatic viewpoints of older people themselves, who both do and do not participate in exercise can then be used to inform any change strategies to improve outcomes for aging well (Ritchie et al, 2014).

3.3.1.2 Ontology

A critical realist ontology upholds that the external reality exists, independent of the beliefs and understandings which are held and expressed, but the critical component identifies areas where there is the possibility of change, for improvement (Ritchie et al, 2014).

Critical ethnography is used in this study to understand relations of power, by merging a critical stance with a complex and dynamic qualitative strategy of enquiry (Vandenberg and Hall, 2011). The balance of power is between the exercise providers (therapist and instructors) and the participators, who are older people, as well as the policy makers and politicians.

3.3.1.3 Subversion

This approach enabled relative submersion in the setting (Goodson and Vassar, 2011). 'Critical ethnography is a way of applying a subversive worldview to the

conventional logic of cultural inquiry' (Thomas, 1993 pvii). Critical ethnography involves the 'study of macro-social factors such as power and control and examines common sense assumptions and hidden agendas in this arena' (Holloway and Galvin, 2015 p 203). This is through describing the process and outcomes of cultural behaviour (Cruz and Higginbottom, 2013). This enabled an open-ended approach to observe and listen with an exploratory orientation (Hammersley and Atkinson, 2019).

3.3.1.4 Transformation

The critical ethnographic approach allows determining how the current provision can be transformed to be more inclusive, attractive and accessible. The focus of the ethnographic methodology is on the meaning of the actions and explanations, from the participants, rather than quantification per se (Savage, 2000). The critical ethnography process challenges the voice of authority, by empowering the voices of older people themselves (Fetterman, 1994). The ethnographic process described the current provision as "what is", while a critical ethnography speaks on behalf of older people by stating "why this is and what can be done about it." The detailed understanding is to bring about change. The change here is aimed at the unfair way that older people are often treated by society, and the inequality in provision available for older people to gain meaningful physical activity opportunities (Cook, 2005). This study begins to articulate these aspirations for change in the local context. The inclusion of a focus group with clinicians and service providers gives an opportunity to hear their voices describing what the local provision looks and feels like, to enable any interventions suggested to be relevant.

The diversity of the participants, and the experience of services and service delivery, revealed through the ethnographic approach, are particularly valuable for the NHS (Imison et al, 2016), because of the breadth of models of services delivered. This diversity is critical for any new service development in ensuring that there is good understanding of both the world of older people and the clinicians' worlds (Savage 2000).

Ethnography allows the complexity of the issues from the participants' perspective, an 'emic' view, and allows the outsider to bring their framework to the study – the 'etic' view (Fetterman, 1998) which enables deeper understanding through

immersion in the study population (Holloway and Galvin, 2015). This results in thick rich data, which will help understand the context and reasoning for actions, or lack of actions. The complexity of the ageing process, for clinicians who themselves are ageing (including myself), and the management of their patient population lends itself to an ethnographic approach.

Ethnography allows the influences and personal lived experiences of the participants to be considered a legitimate source of knowledge (Grant, 2008). Grant describes the value of knowing what people think they are doing as being as important as knowing what they are doing. This may then give some key insights into why some older people are participants in physical activities and others are not. Grant confirms that there are noticeable differences between the rhetoric and beliefs about what older people should and should not do, and therefore what they could and could not do. This disconnect may lie at the base of determining engagement or disengagement with physical activity. The reasons why an older individual is or is not participating in any physical activity is a complicated story, and one that needs to be developed within the context of other aspects of life. The story is best articulated with an ethnographic approach (Grant, 2008).

This methodology also allows for an 'insider 'perspective from both those who participate in activity, as well as those who do not. This helps find explanations around the diversity and ambiguity which exists currently to describe more fully the intricate relationship between knowledge around exercise participation, and what good health and active living mean to people in their later years (Grant, 2008).

3.3.1.5 Triangulation: adequacy of qualitative research

Triangulation was achieved in this study in four ways. Firstly, Carspecken (1996) recommends developing a triangulation of data from different methods of data collection. In this study I used focus groups, interviews, observations and field notes to minimise bias (Sim and Sharp, 1998). This enabled the verbatim expression of the participants to be enriched by the field notes and observations. Data was also triangulated by using a variety of locations, groups and people to increase the credibility and validity of the findings (Noble and Heale, 2019). Theoretical triangulation was enhanced, as Carspecken (1996) recommends in critical ethnography by creating a list of flexible research questions related to a situation and

address the contextual factors (Vandenberg and Hall, 2011). This study asks the questions 'What are the views and experience of older people and why do some people engage in exercise groups?' Investigator triangulation was achieved, as the data were discussed with my supervisor, who also attended one of the focus groups.

3.4 Research aim and objectives

3.4.1 Aim

The aim of this study was to explore older people's views, experiences and perceived practices related to exercise engagement to better understand why some older people are engaged in formal exercise groups, and others are not, in a small community setting. Listening to their own views as well as providers, hearing their experiences, and observing their activities will inform new strategies for engagement.

3.4.2 Objectives

The specific objectives of this study are:

- To identify and describe the different exercise practices within the study area, using focus groups participant observation, field notes and 1:1 interviews and a critical ethnographic methodology.
- To explore the views and experience and perceived practices of exercise for older people, from the perspectives of older people who participate in exercise activities, as well as those who do not, though their own voices, but also those of exercise providers, prescribers and commissioners.
- To understand the perceived barriers, facilitators and contexts of participation, or non-participation of older people in exercise groups, though their own voices, but also those of exercise providers, prescribers and commissioners.
- Reviewing personal narratives to uncover the local context and provision of exercise and infer current provision and how this can be transformed to be more inclusive.

3.5 Research Design

This qualitative study uses some framing data, to quantify the research sample. These are described in Section 3.5 and 3.6 respectively. This approach allowed an enriched articulation of the experience of participants, from the qualitative data and triangulation of their frailty scores and wellbeing using the quantitative data. The study explored the views and experience of older people within the existing provision of exercise. The study included those who might be living with frailty, who participate in exercise activities, as well as those who do not. Framing data was gained from questionnaires which were completed by older people who attended one of the five groups, to gain a self-reported frailty score, and a wellbeing score.

The qualitative data was drawn from focus groups, participation observations of the activity groups and field interviews as part of an ethnographically informed methodology. Both focus groups and interviews were undertaken, as some of the participants were unable to join a focus group for pragmatic reasons. However, this enabled richer data gathering, as interviews are more likely to deliver depth and detail, while focus groups are more likely to deliver breadth and context (Guest et al, 2017). All of which were relevent to this thesis. Qualitative methodology was selected as the best way to answer the research question 'What are the views and experiences of older people around their exercise practice, why do some older people engage in formal exercise groups and others do not? 'The critical element of the ethnography allowed for a critical review of current policy and practice to articulate the gaps in provision. Qualitative data were obtained in the following settings:

1. a) Observations and focus groups with older people participating in three exercise settings- Tai Chi, falls prevention and community exercise groups, to examine the practice, views and experiences of older people participating in a formal exercise group. Field notes were completed in these settings.

b) Observation and focus groups for older people not participating in exercise groups but attending a luncheon, or a social club, to examine the practice views and

experiences of older people who were not participating in a formal exercise group. Field notes were completed to understand the context for the group.

c) One focus group with health care professionals who may or may not prescribe exercise, including a community nurse, physiotherapist, occupational therapist, GP and third sector exercise providers.

d) One to one interviews with a falls commissioner, the NHS England lead for older people, a falls thematic lead (clinician), and a falls group exercise provider.

3.5.1 Study setting

The study was based in the city of Southampton to gain a local enriched understanding from older people themselves of exercise culture within the city. The city is diverse culturally and socioeconomically, and an attempt was made to be inclusive of all older people's experience.

Exercise Group 1 (EX1) consisted of a group of self-selected and self-financing Tai Chi participants in an area of some social deprivation., as it was located in the middle of a social housing estate. The group took place in a local community hall, which offered a variety of other activities. A single qualified instructor led the class. The group was about an hour long, with a warm up and cool down session. Background music ran throughout the session, with minimal instruction of movement offered by the instructor. The instructor offered any corrections and support as felt appropriate, during the session. Some participants were seated for some parts of the session, and the session took the same format each time I attended the class, and observed, and wrote field notes. Participants were invited to stay after their class for the focus group. They were free to leave if they did not want to participate. The group was selected specifically as they were paying for their exercise, and for the experience of being within a group which was wholly supported by third sector.

Exercise Group 2 (EX2) – a group of people referred from traditional pathways (GP, Physiotherapy and paramedics, via a secondary referral system) to participate in a commissioned falls group. The group was held in the Football Stadium in the centre of the city. The group was led by an instructor and two apprentices. The group consisted of a seated warm up and cool down, and most participants were seated for much of

session, but there were some standing activities. The exercises were accompanied by 'motivational' music tracks, and some games were interspersed, with the exercises. I attended the group and took consent to interview some individuals together before the class, as they did not want to stay afterwards. This group was selected as they had been referred through formal pathways, and were not paying directly for their exercise, but a third sector group provided it.

Exercise Group 3 (EX3) - a group of people referred from a clinic with COPD. The class was held in a local health facility. Two qualified physiotherapists, and a therapy assistant led the group. The class was run as a circuit with very clear instruction from the therapists for each activity and starting and stop times. Each individual recorded their performance on their own clipboard and were able to track their progress from week to week, as were the therapists. Any specific issues were brought to the attention of the therapist, and any specific corrections or modifications were brought to the attention of the individual by their therapist. The group started with a general warm up and finished with a relaxation session. I attended the group, for observation and field notes, and the focus group opted to meet before their regular session. This group was selected as it was a commissioned health condition group and was part of the 'prescribed treatment pathway' for their condition.

Non- Exercise Group 1 (NE1) – a monthly luncheon club held in a church hall, located in an area with some social deprivation, with individuals paying for their meal. The lunch club was hosted by a retired vicar's wife and had a 'knit and natter' group beforehand. People came for the good food, and the company, from the local community. It was not exclusively for older people. The group lasted for 2 hours in total. I attended twice, and the focus group took place before the second lunch club. This group represented a group of socially active people, who were social participators, but not part of a physical activity group.

Non- Exercise Group 2 (NE2) – a monthly social club held in a church hall in a more affluent area, with individuals paying a sub for coffee and cake. The club lasted for 2 hours, and there was no movement during the session. There was often a speaker presenting on a topic. I attended twice, with the first speaker from the police force, and then I was the second speaker. The focus group took place before the second

session. This group also represented those who were social participators, but not physical exercise participators.

Staff (C1) - a group of health care professionals and exercise providers focus group. We met in the room of a Community Health/Primary Care setting adjacent to a community hospital. Some staff worked together, but not all had met, but all were keen to participate in the focus group, and hear each other's views, as well as share their own.

The 1:1 interviews were undertaken with key, and influential providers or commissioners who were unable to make the focus group.

3.5.2 Methods of sampling, strategy and recruitment

The exercise groups were purposively selected, to represent a variety of exercise options provided locally, known from my immersion of working in the area. Observation and immersion in the field took place in three settings with older people in exercise groups, followed by a focused discussion group for each (Appendix O). The three selected exercise groups were a non-commissioned and self-funded Tai Chi group (EX1), a commissioned and free falls group (EX2), and the third (EX3) was a Pulmonary Rehabilitation (PR) group. Each group was selected to hear the voices of those who participated in a clinical pathway of exercise within the city (See Appendix D and E). The groups were all located within the city of research, and contained six, seven and eight people respectively.

Two focus groups of people who do not participate in any formal exercise were undertaken (Appendix P), with observations and field notes also taken in these settings. The non-exercise groups were purposively sampled from community groups known to me. They were a lunch club, and an afternoon tea club in two different locations within the city, both hosted by churches, but with no faith affiliation necessary from the group participants. The groups contained five and six people respectively. They were selected as both were well-established groups who knew each other well and would be candid with their views, but from different socioeconomic communities, one in the east and one in the west of the city. Anyone in these groups who was also participating in a regular exercise group, as well as the lunch or social club was excluded, as they were no longer reflective of 'non-

participants in regular exercise' group. This may have given some inherent bias to the data, but at recruitment the strong relationships within the group was more critical to eliciting deep discussion and thick, rich data. I visited each group and described the research process. The leaders verbally agreed for their group to participate. Two leaders opted to join the staff focus group.

The participants for each group were selected by their willingness to participate in this research. The individuals for the group were all included if they wanted to participate, from the group who were present on the day of the focus group. The focus groups were kept small with between 5 and 8 older people in each group. The group needed to be large enough to ensure some diversity within the group, and small enough to ensure that all could participate (Ritchie et al 2014).

Two of the groups opted to hold their focus group before their regular session (EX3 and NE2) and asked to be telephoned the day before to remind them of the earlier focus group. The other groups were held after their regular activity session, exercise or lunch. It was made clear that people could opt out at any time. All participants had capacity to choose to participate in the research, and appropriate consent was sought and given before commencing, in the form of a signed consent document from each participant (Appendix M).

Paid professional staff who ran exercise groups or might refer into an exercise group in one geographical locality were invited to participate in the staff focus group (C1), later (Appendix Q). Participants were purposively sampled to ensure there were several disciplines represented including therapists, nurses and GPs, and exercise providers from across the city. They were purposively selected as they had an interest in working with older people within their field, but may or may not have used or prescribed exercise or activity, per se. An email was sent to invite participants and a date and location for meeting agreed. This group was rather larger than those with older people, (N=9). A time and venue were set at the participants' convenience. This was the final focus group undertaken and I had gained significant experience of leading focus groups on this topic, which enabled robust facilitation

Several key staff, commissioners, and providers were not able to make the fixed time, for the focus group, so individual interviews were scheduled for them. I identified an additional staff member, who was not local but held a national role and had an

overarching view of the trajectory for older peoples' commissioning. This semi-structured interview was undertaken as a telephone interview, as we were unable to meet face to face due to his work pressures and mine. Although this was the only telephone interview, I had met the commissioner, and being on the telephone did not hinder the conversation. He was eloquent, and the quality of the sound was good and easy to transcribe. The local commissioner undertook a semi-structured interview. These triangulated the experiences of clinicians and practitioners delivering exercise, the national agenda, and the local aspiration of the Clinical Commissioning Group.

Table 3.1 Summary of qualitative data gathered

Focus group or interview description	**Code**	**No of participants**
Tai Chi group	EX1-1-5	5 1 male 4 female
Third sector falls group	EX2-1-7	7 7 female
NHS pulmonary rehab Group	EX3-1-8	8 6 male 2 female
Monthly Activity Group	NE1-1-6	6 6 female
Weekly lunch Club	NE2-1-5	5 1 male 4 female
Staff	C C-OT C-PT1-2 C-GP C-CN C-TC C-Ex C-SN	8 1 Occupational Therapist 2 Physiotherapist 1 General Practitioner 1 Community Nurse 1 Tai Chi instructor 1 Exercise instructor 1 student nurse
Commissioner (interview)	FC	1 male
National Commissioner (interview)	NC	1 male
Falls Lead(interview)	FTL	1 female
Third Sector provider (interview)	FGP	1 male

In total the data consisted of:

Three observations and focus groups for older people participating in exercise groups with questionnaires for frailty and wellbeing, which consisted of 12 hours of observation, and three hours of recorded focus group data.

Two focus groups for older people not participating in exercise with questionnaires for frailty and wellbeing which consisted of six hours of observation and two hours of focus group data.

A focus group with staff who may or may not prescribe exercise, yielding one hour of data.

In depth semi structured interviews were undertaken with a service commissioner, national commissioner, and two additional service providers, which each generated an hour of data, giving four more hours of data.

3.5.3 Framing Data

Quantitative data to characterise each participant was collected at the outset of the focus group, by filling in two questionnaires. This characterised participants in terms of their frailty and their self-reported wellbeing. This gives some characteristics of each group, to enable some comparison. This acted as a useful framework from which to articulate the rich qualitative data.

3.5.3.1 CASP19 wellbeing Score

There are several validated tools available to assess the psychological wellbeing of older people (Bowling and Stenner 2011, Howel 2012, Hyde et al 2003, 2015). Two notable scales used with older people are the CASP19 Score (Gale et al 2014), which used data from the English Longitudinal Study of Ageing (ELSA). This demonstrated that those with higher levels of psychological wellbeing aged better over a 4 year follow up period. They demonstrated a significant association between psychological wellbeing and risk of pre-frailty (RR 0.69, 95% CI 0.63-0.77). While Andrew et al (2012) used the Ryff psychological well-being index, their study showed that for every additional frailty deficit, the Ryff psychological well-being index worsened by 0.3 points (regression coefficient 0.29, 95% CI: 0.22-0.36, $p<0.001$).This study used the CASP19 as a measure of wellbeing (Howel 2012) (Appendix S) Each of the participants, whether they participated in an exercise group or not, were invited to

complete a CASP 19 Questionnaire. This is a self-enumerated Quality 0f Life (QoL) scale. It is a 19-item questionnaire with 4 subdomains. These domains are Control, Autonomy, Self-Realisation and Pleasure. The choices offered are 'often', 'sometimes' 'not often' or 'never'. Higher scores are indicative of a better Quality of Life. The score has been validated within populations of older people (Hyde et al 2003), and was selected for its acceptability amongst older people, as it was used within the English Longitudinal Study of Ageing (Wiggins et al, 2008). The appeal of using a self-reported assessment was also compelling to empower the participants in their own scoring, rather than basing wellbeing on a determinant generated by a clinician. This is a growing concept within the field of frailty.

This tool was selected over other self-reported tools, as it discriminates between subgroups differing in health or socioeconomic status (Howel 2012) and as it is easily available. The numbers are small here, but using the tool enabled me to determine its feasibility in clinical settings. The tool is a good indicator of quality of life, and I was interested to see if there were obvious links between frailty, exercise use, and quality of life. The quantitative data chosen acts as a 'hanger' for the qualitative quotes. The frailty score and wellbeing data are more useful than basic demographic data which does not hold the nuances of these scores. The questionnaire is in Appendix S.

3.5.3.2 Southampton (modified) CHS frailty Score

There are several screening tools available for clinicians to characterise frailty. The phenotype model outlined by Fried has been widely accepted and used as an objective marker for frailty (Fried et al 2001). Here frailty is defined as being present if there is evidence for at least three of the following- weight loss, weakness, exhaustion, slowness, and low activity. This can be determined using a five-question questionnaire such as a Modified CHS (Cardiovascular Health Study) tool (Maelstrom et al 2014). Grip strength (Syddall et al 2003, Dodds and Sayer 2015) and Timed Up and Go Test (Lyndon and Stevens 2014 updated Moody et al 2017) are used as proxy screening tools for frailty.

An alternative model for screening is a calculation of the accumulation of deficits (Rockwood et al 2007). Screening tools which use this model include the 7-point PRISMA questionnaire, Clinical Frailty Scale (Rockwood et al 2005) and the electronic Frailty Index, which is generated from 36 deficits recorded in primary care records.

The plethora of frailty measures has been described as an impediment to research, causing chaos, (Rockwood 2019). However, the presence of multiple variations of tools may also be viewed as 'robust', in their diversity.

Each older person who participated in the study was invited to complete a Southampton Modified CHS (Cardiovascular Health Study) Questionnaire (SMQ) to calculate a frailty score based on the phenotype model of frailty (Fried et al 2001). This recognises frailty as being present where 3 or more of the following symptoms are present- unintentional weight loss, exhaustion, weakness, slow walking speed and low physical activity. The SMQ is a five-item questionnaire with a score of 1 or 2 identifying the presence of pre-frailty, and 3 likely presence of frailty (appendix A). The SMQ is used in clinical practice locally and generates a score which is familiar to some practitioners. It focusses on weight loss by asking' in the last year have you lost more than 10lb in weight unintentionally', exhaustion 'How often in the last week did you feel that everything was an effort, or you could not get going', and low physical activity 'How often do you engage in activities that require a low or moderate level of energy such as gardening, cleaning the car, or doing a walk'.

The third question asks about weak grip strength. 'In the last year have you noticed weak grip strength? 'This is a highly accurate predictor for frailty as a standalone indicator (Dodds and Sayer 2015). The fourth question asks about gait speed- 'Which of the following best describe your walking speed'. Self-reported walking speed is a good marker of measured walking speed (Syddall et al 2015) with a gait speed of less than 0.8m/s as indicative of the presence of frailty and sarcopenia- which could be described as 'slow'. Three of the questions are from the Share -FI (Romero- Oruno 2011) frailty instrument. This is an on-line instrument for calculating frailty, which is a robust predictor of mortality, with an odds ratio more than twice as high as that of age alone.

There are other self-reported tools available, such as the FRAIL Scale (Morley et al 2012), which was validated in St Louis in the USA with African Americans, which focusses on fatigue, resistance, ambulation, illnesses (co-morbidity) and weight loss (Bongue et al 2017). The Prisma 7 is also a useful validated tool (BGS 2014). The CHS score was chosen as it was the one which I was most familiar with and knew I would be able to use. The scale is recorded in full in Appendix K.

3.6 Qualitative data methodology

Qualitative methods were used (with some quantitative framing data to determine degrees of frailty and a sense of wellbeing from participants, described in section 3.4.3) (Savage, 2000). Both private providers of exercise, and social activities were observed in order to better understand the enactment of their practice in 'real life settings' (Cook, 2005). Community Health Teams, exercise providers, and GPs opinions were sought in order to get a multi-faceted understanding of the logics and nature of referral of older people to the current provision of exercise and their future aspirations for opportunities for older people in the locality. Further in-depth interviews added enriched depth and detail to the data around aspirations for older people to participate in exercise, and delivery challenges and aspirations.

3.6.1 Focus groups

This section will outline the approach and justification behind the use of focus groups, some of the strengths and weaknesses of the method, and finally how they were used in this research. Further analysis of the methodology will take place in the discussion chapter.

3.6.1.1 Theory

A focus group is defined as an in-depth, open ended discussion, exploring a predefined topic with a specific set of issues (Goodman and Evans, 2015). Focus groups offer a fruitful method of 'thinking through' qualitative research (Kamberelis and Dimitriadis, 2011). Focus groups are described as multifunctional and therefore able to explain the complexity and contingency within different disciplines. This was chosen as the best way to answer the research question of 'What are the views and experiences of older people and exercise?' by providing older people themselves a chance to describe their own experiences. Each focus group was about an hour long.

3.6.1.2 Strengths

The focus group methodology allows for an effective problem posing pedagogy, rather than a didactic or 'sermonising' approach where participants may feel berated and chastised. The focus group moves the power from the researcher to the

participants and communities being studied, as it is their voice which is heard. This was vital for this study, to empower the participants.

Focus groups have credibility as a method (Ritchie et al, 2014) when there is consistency between groups. Consistency was achieved by using the same topic guide and questions. I also facilitated each of the groups myself which ensured consistency in approach. The environment was 'neutral' for all the participants, as the focus groups were held in their activity space, into which they invited me. The reliability of the transcript was assured as I typed it myself, and was able to review it for accuracy.

Focus groups use the 'group process', or the interactions within the group to generate individual accounts. This group 'dynamic' will and of itself generate and illuminate research issues (Ritchie et al, 2014). The experience of being in the group may refine what people are thinking, and lead them to a synergy of new ideas, or a snowballing to redefine their own perspective as they hear those of others (Stokes, 2006).

Using focus groups in this study, displayed some of the differences between people's perspectives, and this can be heard in the narratives from C1 group where providers and staff had strongly opposing views around the local culture of exercise.

A significant benefit to choosing focus groups as a method is its simplicity and cost to deliver (Stokes, 2006). Indeed, these groups were undertaken as part of normal group activities, so there was no cost to cover, and little administration to set up, as I simply needed to agree a date to attend, and participants were already planning to be there, for their usual activity. They just had to arrive early or agree to stay on afterwards, to participate in the focus group. The staff group was more complicated to arrange and took several attempts to find a suitable time and venue. The lack of availability of some participants encouraged the undertaking of individual interviews alongside the focus groups. The trustworthiness of the data is strong, as the data are presented exactly as they were expressed by the participants. This gives credibility to the data (Ritchie et al, 2014)

3.6.1.3 Benefits of using focus groups in this study

The focus groups used in this study were the best way to gather the rich data generated from the participants to answer the research question. Each group shared some similarities. Five took place with older people. Each of these groups knew each

other well and would call themselves a well formed 'group' with similar participants each week. This enabled the group to speak openly, and without any criticism of each other. There was evidence of stimulation, synergy, snowballing, serendipity, and security within the groups (Stokes, 2006). The structure was revised to reintroduce a topic where it had not been fully covered in the first instance.

The group of health care professionals was different in that it had been put together specifically for the research study. Each participant was known to me, but not to each other. There was evidence of snowballing of ideas in this group, where ideas were bounced around the group, but there were also some other agendas, where people had an 'axe to grind' and were taking the opportunity to air their points in the room. This took some careful facilitation to manage.

Using focus groups enabled the research questions to be answered from the specific viewpoint of older people, with a richness of data which would not have been possible with any other method. Another advantage is that the data were generated at speed, as the opinions of up to eight people were obtained at a single sitting.

3.6.2 Field notes

This section will describe the practice and theory of using field notes, and the strengths and weakness of the method. A brief overview of their benefit and pertinence to this study will be given. Further challenges for the methods, will be discussed in the discussion chapter.

3.6.2.1 Theory description

Field notes are a significant part of ethnographic research. The tacit knowledge of the researcher and their expectations influence the notes kept. The use of field notes appears to be a straightforward correlation between visiting the research site, watching what happens, and writing it down. But selecting what to record can have a profound effect on the final ethnographic report (Wolfing, 2002). I used an observational guide and was particularly interested in noting observations about the environment and the interaction with the instructor.

3.6.2.2 Strengths

Field notes represent a shorthand reconstruction of events, observations and conversation which took place during the observations of the activities for each of the five focus groups. I took field notes of observations as they occurred, and then enriched with context and memories after the observation took place. My tacit knowledge enabled enriched interpretivism but may also be considered bias in some situations. The notes made in the field became the basis for the outline and were typed up at the end of the day.

I used a documentary method of interpretation (Garfinkel, 1967). I ordered the notes with 'a salience hierarchy' (Wolfinger, 2002), with focus on the feelings elicited by being within the group, the review of the environment and any notable access into the space. However, what an observer sees as 'salient' is highly subjective. Any deviance of what I expected to see led to documenting salient data, with reference to my own tacit expectations. The observations which were recorded were by their very nature memorable.

Field notes taken for this research were considered to be 'comprehensive', using a systematic approach, to events. They were taken sequentially, but with enriched data for the memorable events. This included some observations of things which did not happen, which may have been expected from my experience.

3.6.2.3 Practical and ethical issues.

The practical issues around recording field notes relate to the challenges around documenting all that is going on in a busy community setting and choosing to include certain data.

I was reflecting on my own observations, so there is potential for bias with my own reflections outweighing those of the participants, which they expressed in the focus groups or interviews. The field notes inevitably reflect my background knowledge and tacit beliefs. By recognising these inherent assumptions, I was able to make a better critique of the social world being studied.

The fundamental ethical principle of 'doing no harm' seems obviously adhered to in this study. The ethical intent is clearly there, but the aspiration to genuinely co

produce the research is not so easily assured. Building trust is also critical to the ethical integrity of the research (Simons, 2006). These ethical dilemmas will be discussed further in the discussion chapter.

3.6.3 Participant Observation

This section will offer a brief overview of the method, and strengths and weaknesses of participant observations,

3.6.3.1 Theory description

Participant observation (PO) is a methodology derived from cultural anthropology. The key objective is to allow the researcher to investigate the perspectives of the group within the given community (Zhao and Ji, 2014). I was actively involved in the routines of each of the exercise groups and the luncheon clubs, to understand the dynamics from both an emic and etic perspective. I was attending the exercise groups, or the lunch clubs, but was obviously a visitor and not a regular participant in the group. I was particularly reviewing who was present and how they were all interacting. I was interested in the relationship with the participant and the instructor to see if there were any power dynamics at play.

3.6.3.2 Strengths

The benefits of using PO meant that I became very familiar with the research setting, and the participants, which enabled meaningful observations. This would not be possible without developing a robust relationship with the group and the instructor (Zhao and Ji, 2014). I was particularly looking at the interaction between the instructor and the participants, to triangulate what was said during the focus groups with what was observed to be happening during the group. These specific interactions were observed during the sessions, and documented.

3.6.3.3 Weaknesses

The evidence for using PO has mostly been drawn from structured clinical settings, while this was an open community setting (Lathlean, 2014). This lack of evidence base challenges the validity of the data presented as PO (Zhao and Ji, 2014). However, the PO data, here, is not stand alone in this research -the core data is from the focus groups, and 1:1 interviews. The PO data is presented as field notes, which

allowed me to make observations around behaviours, which the participants themselves may have been oblivious to, and certainly would not have articulated, themselves. The PO data supports much of the behaviour, which was expressed by the participants but highlighted some blind spots from the group leaders. This gives trustworthiness to the data.

One of the challenges for the PO data is the complexity of using overt observation (Booth, 2015). This made it difficult to be confident that there was no behaviour change due to my presence. Most of the participants seemed to continue their usual behaviours, but one of the instructors did speak to me directly during the session. This may have influenced behaviours or may have reassured participants of my immersion. I had spent at least 2 sessions with each instructor to develop a rapport, and when it came to observing each of the groups, I was able to be as unobtrusive as possible, and after the experience of the first group, was able to invite the instructor to also ignore me.

3.6.3.4 Practical and ethical issues.

The complexity of observing in a community setting, related to time and setting challenges. Unlike a clinical observation, the community groups only took place at certain times, and in specific locations, which meant that it was much harder to co-ordinate as I was also involved in routine clinical work, so could not take the same time off each week for observational study. It therefore took longer to gather data. Some of the groups took breaks over holiday periods, which also impeded data gathering. My guide for participant observations is in Appendix R.

There were some further ethical challenges with PO. Firstly, in the consent process, as I was not manipulating exactly what was happening in each group, I was unable to gain consent for observation of every activity which may take place in the group. However as this was mostly observing a regular group, it was possible to predict what was likely to occur and gain consent for that, with a degree of integrity.

An ethical issue in the observed group, which warranted further discussion was that only a proportion of each group had fully written consent to participating in a further focus group, while the others were simply undertaking their usual activities. All of the people present had been offered the opportunity to participate in the focus group,

and so had had the opportunity to read the Participant Information Sheet and had given verbal consent to my observing the group. The group leaders and participants felt that the balance between sufficiently informing people to protect their ethical needs while at the same time protecting the group participants' privacy was maintained by this approach.

Within this study, the ethical, time and setting challenges were adhered by following the university ethics process and the peer reviewed project protocol. I was repeatedly challenged to modify the study and adhere to realistic timelines through this process.

3.6.4 Interviews- Semi structured interviews

This section will outline the use and justification of interviews, as a method for gathering data, and the detail of how they were used within this research study.

3.6.4.1 Theory

A semi structured interview is defined as a personal interview which uses a structured framework but allows for in depth probing of responses from participants (Dearnley, 2004, Ritchie et al, 2014). This enabled some further development of themes for analysis. The In-depth interview allowed for breadth of coverage, as well as depth of content.

Each interview for this study lasted about an hour and was recorded and transcribed by the author. One clinician (FTL), one Commissioner (FC) and one exercise providers (FGP) had been identified as having a significant local knowledge around the research question, but were unable to join the focus group discussion, due to time constraints. A National Commissioner had also expressed an interest in the work and offered a telephone interview. Semi-structured interviews were offered to ensure their expertise could be captured. The interviews topic guide is included, (Appendix Q) but there was opportunity to use some specific open, nonleading questioning to direct the discussion to the expertise of that person (Ritchie et al, 2014)

3.6.4.2 Strengths

The interviews allowed for each of the individuals to express themselves clearly and with no concerns of the thoughts or interactions of others. This allows for more precise interpretation of the data, as it is unbiased by the opinions of others. There is

no sense of conformity within the data. This method allows the researcher to build a strong rapport with the participant and gain some depth of insight (Guest et al, 2017).

3.6.4.3 Benefits to this study

Using semi-structured interviews enabled participants who were unable to attend the focus groups, to provide their views and experiences. This was particularly useful for staff who had busy schedules or were geographically distant from the research.

3.6.5 Recording and transcribing the data

In this study each interview or focus group was recorded with a digital recorder, for which each participant had given written consent. The audio recordings were saved to a password protected computer, and then transcribed by me. This enabled the initial data immersion to happen at a very early stage in the research processes, as I had conducted each interview. The process of then transcribing the interviews allowed the words and meaning to seep into the written word and some analysis took place at that stage. The critical ethnographic approach meant that the words themselves needed to be recorded accurately, but the pauses, and intonation was less critical. Laughing was noted, but not every sigh or audible sound was documented in the transcription.

3.7 Ethical considerations

Older participants were observed undertaking their regular exercise activities. Permission was sought from the group leaders, and observation only took place if all the participants were willing to be observed. No participant objected to the observation and the writing of field notes at this point in the research process.

Participation in the focus group was optional. Each participant was required to give written informed consent (Appendix M). Each participant was assigned a code which related to the group they participated in, and their individual number. There was no identifiable data from any reports or other outputs form the participant data. The interview with the National Commissioner (NC) was slightly more complex, as there is only one post holder, so it is an identifiable post. I had some further discussion about anonymity, and he offered his support for identification within this thesis but asked for further review for wider publications.

Two of the focus groups were before and directly after the exercise group, but for the third exercise group participants returned specifically for the group. Only one person was unable to return as they were at work. This meant there was some possible bias which will be discussed in chapter Seven.

The non-exercise focus groups took place before and after their usual group session. The staff participation group took place at a time which was most convenient for the participants, and at a suitable, accessible location. The individual interviews were arranged at a mutually convenient time and place, and one was conducted by telephone.

All participants had capacity to choose to participate in the group, and to withdraw or decline to contribute at any time. One person joined one of the groups but did not want to sign the consent form, so their data has been excluded.

All participants will have full sight of any published outputs.

I completed a Lone Policy Worker assessment (Appendix C), and each activity was risk assessed using the University Guidelines.

Ethical approval was sought before commencement of data gathering via the University of Southampton Ethical Committee (ERGO). This was granted on January 16th, 2017 and the study given ethics code: 19603 (Appendix A).

3.8 Thematic Analysis

Thematic analysis was selected as it is the foundational method for qualitative analysis (Braun and Clarke, 2006). Thematic analysis an analytical tool which assists with data management, by forming a series of thematic matrices by identifying, analysing and reporting patterns within data. Thematic analysis is used within many approaches, as it is not tied to a single discipline or theoretical construct (Corbin and Strauss, 2015 and Maguire and Delahunt,2017). It is often described as the first method novice researchers should learn and may even be described as a tool to use across other methods. The process of analysing data is dependent on the quality of the data gathered from the interviews and focus groups (Braun and Clarke, 2006, Ritchie et al, 2014). It is also flexible in its use, and with data drawn from field notes, and observations, focus groups and in-depth interviews. Thematic analysis is

frequently mentioned in research but is under-developed as a way of undertaking analysis (Lathlean, 2014). This flexibility was invaluable to this study. For this study, thematic analysis was used as a method in its own right.

The analysis involves familiarisation with the data to define emerging themes, by discovering, interpreting, and reporting patterns and clusters of meaning within the data (Ritchie et al, 2014). The analysis for this study was undertaken by hand with no software packages. This was felt to enable closer access for the researcher and the data. The data were then indexed and charted into those themes. Mapping and interpretation enabled associations of themes, and explanation of findings (Lathlean, 2015). Central to the credibility of qualitative research is this data analysis. It was useful in this study as it enabled large amounts of disparate data to be quantified, and collected in similar themes, to see patterns and repetition within the data, as well as new concepts identified by participants.

The Six-step process for undertaking the analysis was used (Braun and Clarke, 2006).

Step 1- Familiarisation of the data

Observing the groups, and understanding their context was part of the familiarisation. Familiarisation asks the question 'what are people saying that is relevant to the research question?' This enables the labels which are generated to be supported in and grounded by the data (Ritchie et al, 2014). I had undertaken field notes of observations, the focus groups and all the interviews, so the content was already familiar. I then transcribed each of the focus groups, and interviews, which enabled a sense of full immersion in the data and a degree of familiarisation. Patterns and similarities were visible across the data sets and groups of similar concepts were themed together. The emergence of some common themes such a knowledge of the benefit of exercise, psychological support from the exercise groups, and the importance of the instructor were evident at this first stage. The description of some things as facilitators and some as barriers was obviously revealed at this very early stage- but was called 'positive' and 'negative' initially.

Step 2- Generating initial subthemes

This step asks, 'what headings can people's views be organised into?' The initial subthemes were constructed from the data as it became familiar to me. The first focus

group to be coded was the Tai Chi group- EX1. The transcribed text was split into significant statements, and then tabulated, line by line, and sentence by sentence. Each quote was then summarised into an emerging concept or statement. This generated a long list of subthemes. As more interviews were undertaken similar concepts were coded, and new ones were added. Patterns and repetitions were noted. As the data was gained from focus groups with wide ranging opinions, and experiences, the challenge of indexing and sorting the data at this stage was demanding. For example, whenever participants talked about the instructor characteristics and performance, I labelled this as "instructor knowledge". The idea of positives and negatives became barriers and facilitators to participation as more data was reviewed. The ideas of social, political and economic facilitators were more evident as the staff focus group was analysed. The data were coded using tabulated word documents. Further themes around the impact of experience of exercise throughout life, was evident, as were the social, political, and economic facilitators to participation. These themes and the topic guides are referenced in Appendix O-R, and the themes in Table 3.2.

Step 3 Searching for themes

This third step enables the researcher to ask, 'which chunks of the data are around the same area and so therefore belong together?' These similarly labelled data chunks were then analysed together (Ritchie et al, 2014). Themes were drawn from the codes generated, on discussion with my supervisor and these were drawn together across the data to generate themes of perceptions and stated views. At this stage, the themes were generated under each of the three levels- micro, meso and macro levels, so, for example all the statement which were internally generated or personal 'I ' statements were grouped at 'micro' level,

Step 4 Reviewing the themes

This step enabled further review of the way the data was organised to explore any more coherent groupings. The data was checked, and reviewed again, across all the data generated. The themes generated were reviewed together with the field notes and observations of the ethnographer to triangulate and refine the themes, by comparing the similar themes collating them together in a separate word document. The coherence of the data was reviewed, and amendments applied to draw out the

final themes. The detail between the micro level data and meso level was challenging, and some of the themes seemed similar, but were different as to whether they were evidenced by action and behaviour or were speculative. As the data had not been analysed electronically, a folder of all the data themes and codes with all the quotes from the interviews, focus groups, and field notes was set up.

Step 5 Summarising and displaying the themes

The final step of the data analysis involved defining exact terms from each contribution to each theme. The themes describe what each participant was presenting in their dialogue. These themes were derived from coding all the transcripts and then grouping the codes.

The segmenting into overarching themes at micro, meso and macro level for participation in formal exercise programmes, became clearer as the individual participants expressed both their own experience which they believed and acted out (micro-), but then speculated and observed the experiences of others (meso), and then described some of the higher-level themes at a national level (macro). This resonated with the three levels of Michie's Behavioural Change Wheel (Michie et al, 2011).

Abstraction and interpretation developed the final tables of the data. This separated the data into facilitators and barriers, with the themes at micro level, which describe individual expressions of exercise at a personal level, meso level expressions of exercise in old age as a descriptor of others behaviour and macro level of expression at a whole system level.

Table 3.2 Subthemes and themes for qualitative data

Theme	**Facilitators**	**Barriers**
	Sub theme	**Sub theme**
Micro level	Knowledge of benefits of exercise	Physical and psychological issues
	Intrinsic feelings around exercise	
	Social component of exercise	Gender differences
	Life course experience of exercise	Seasonal variation
Meso level	Family influence	Psychological access
		Physical and environmental access
	Local or community influence	Lack of variety and tailored exercise
		Community knowledge of what is available
		Cost
	Instructor- knowledge and character	Instructor- content, style
Macro Level	Social	Social
	Political	Political
	Economic	Economic

Step 6 Writing up.

A data repository was used as a source for specific quotes for the results chapter. Further development of the micro, meso and macro level of experience of exercise came as the results themes were being written up. The themes were reviewed against evidence found in the literature. The data themes reflected what had been articulated

in other parts of the world in the literature, but there were some views and experiences which held the most influence over participation in this local context. These at a meso level, the lack of understanding from prescribers to offer appropriate exercise interventions. The second also at meso level is the lack of skill and capability to support concordance, and finally also at meso level the misconceptions and cultural beliefs around exercise and ageing.

3.9 Methodology limitations for quantitative and qualitative data

3.9.1 Framing data Limitations

This section will briefly review the limitations of the framing data and the usefulness of using the questionnaires. This data set was small, however, it is still of some interest as a descriptor of the participants. The quantitative tools used in the study have their limitations, as neither of them have currently any significant clinical uptake. When the project was proposed there were no tools being used clinically with demonstrated validity and reliability for either frailty or wellbeing locally.

3.9.1.1 Wellbeing Measures

The CASP19 tool was chosen as it had been already described in section 3.5.1 (Hyde et al 2003, Wiggins et al 2008). It has been used in 20 countries in all the major continents (Hyde et al 2015) but is not used routinely clinically in the UK. However, OpQoL has gained some clinical footing and has been shown to have better reliability and validity than CASP19 (Bowling and Stenner 2011). As already explained the numbers of participants renders any correlation between frailty and quality of life by inference only. There is some potential for common-method variance, as there were no objective measures around income/wealth, or objective health measures undertaken in this study (Hyde et al 2015).

3.9.1.2 Frailty Measures

Measuring frailty has developed significantly since the inception of the study. A simple frailty questionnaire has gained some recent uptake in the clinical setting. It was devised by the International Association of Nutrition and Aging and requires answers to 5 simple questions. It was validated in 2012 using the African American Health data set (Morley et al 2012) and advocated by the frailty consensus call to

action in 2013 (Morley et al 2013). Use of the Frail Scale rather than the Southampton Modified CHS Questionnaire would have improved the study, because of its broader recognition as a tool for screening for frailty. However, this was not so well known when the study was devised (Appendix K).

3.9.2 Qualitative Limitations

The limitations for ethnographic methodology and specific data gathering methods in this study will be discussed briefly here.

Ethnographic research is often dismissed for its inability to transfer to other cultural situations (Savage 2000) and its lack of applicability. However, any change management requires local interpretation (May and Finch 2009), and the detail of the ethnographic approach allows for any local nuances to be compared, and appropriate adaptations made. An ethnographic approach allows for the narratives to be studied in multiple contexts and at many different levels, through observation and participant accounts (Griffin and Phoenix, 2015). This enables a local iteration to be developed and implemented, rendering the original research useful. The expectations are that this work will be usefully interpreted in other cities and contexts.

3.9.2.1 Bias

The question of bias in ethnographic research is significant, as by its very nature the researcher is part of the 'system'. In this case I was a service provider, and well known within the communities. The purposive sampling allowed for some potential bias, but the desire to hear from a variety of settings was the dominant objective, and was achieved, until data saturation was reached.

The complexity of critical ethnography encourages the researcher to challenge the domination of the accepted powerbase, by searching for truth. The compelling voices of older people themselves is the dominant sound echoing in this data. This does not rely on consensus (Vandenberg and Hall, 2011) but on every individual voice. These voices have been heard here.

My own bias may have encouraged participants to be more outspoken, but this simply adds validity to their words. One way to have limit this bias would have been to work with a second researcher so that one person acts as moderator for the focus groups

while the second is an observer (Goodman and Evans, 2015). However this was not possible within the constraints of this study.

The bias of the specific questions being asked by the researcher may have led to biased selection of data and emphasis in interpretation. However, as has already been described, this interest in specific data may well be of interest to other staff too (Vandenberg and Hall, 2011).

3.9.2.2 Ethical implication

The practicality of understanding the ethical implications of the study was addressed in 3.6. The nuances are further discussed here. The key component of the ethical implication of this research was in establishing and maintaining trust within the focus groups (Simon 2009), to ensure each participant was at liberty to speak from their own experience without inhibition. Within the undergirding ethical code of 'doing no harm' all the formal procedures were adhered to, and the nature of the focus groups were unobtrusive, but honest. Conducting the groups within the normal settings, meant that participants were at home in 'their' environment, and there was no power conveyed by me, by people entering 'my world'. My own familiarity elicited honest discussion, which was evidenced by disagreement sometimes between participants. The participants in exercise groups remain completely anonymous, however, some of the staff and providers could potentially be identified by their roles within the locality. However, there may be one or two people undertaking similar roles, which has preserved anonymity. However, the National Commissioner holds a unique role, and it is possible that they may be identified. Consent has been given for this level of identification for this thesis, but any additional publications will need scrutiny by NHS England, and the participant.

3.9.2.3 Focus groups

The detail for the benefits of using focus groups in this study are recorded in Chapter 3.6.1. The richness of the data gathered is evident.

Focus groups which have a natural hierarchy within them, may limit what people are prepared to share because of the lack of confidentiality of the information spoken within the groups (Goodman and Evans, 2015). Even when it is not passed outside of the groups, some things may not be shared to not 'offend' other participants- this bias

was mitigated for somewhat by keeping the groups to older people and their peers only.

Another limitation occurs if a participant is very vocal in their views and dominates the group, they may stifle any meaningful participation from others in the group. This was not the case in any of our groups of older people, but one of the exercise providers was very outspoken, but I was able to continue to move on with the discussion and gain participation from everyone present.

One of the limitations in this study were the small number of groups which participated which calls into question the adequacy of the data (Ritchie et al 2014). However, it was felt that data saturation had been reached, giving the data trustworthiness and credibility. Nevertheless, the variety and complexity of exercise groups mean that there may have been some key themes which did not surface but would be evident if further demographic groups were studied, for example in a very affluent area, or a Bangla dance group in the city centre. The groups were certainly limited in their ethnicity, and demographic variables.

3.9.2.4 Field notes and participant observations

Wolfinger notes that 'ethnography places much discretion in the hands of the researcher' (p87 Wolfinger 2002). This 'discretion' may also have introduced some inherent bias, which simply re-echoed what I was hoping to see and find. This has led to further reflection, in the discussion chapter. The methodology of using field notes and participant observation (PO) has been detailed in Chapter 3.6. These were the hardest to document, as the barrage of information in every group was at times overwhelming, and it was very difficult to define what was going to be important to document at such an early stage. I had given myself a very broad remit, and could have had tighter guidelines, which may have generated more rich data. Working as part of a team would overcome this.

3.9.2.5 Semi structured interviews

The detail of the method used is described in Chapter 3.6.4. One weakness of a semi structured interview is the loss of the enriched conversations which had taken place within a group, which may result in a 'monovision' (Tod 2015). There is also a strong possibility for researcher bias, for the interviewer to seek answers for preconceived

ideas (Alshenqeeti 2014) using this method, but this was mitigated for in this research by using the same topic guide which had been used for the focus groups. The time taken for each interview is also commonly listed as a limitation (Dearnley 2004)

The enriched data from approaching people who were unable to attend the fixed focus groups, however, contributed to the macro level understanding. These were local or national leaders, who were able to be candid in a 1:1 discussion but may have felt more constrained in what they shared in a wider group.

3.10 Reflexivity and my role in the construction of the interview Data

There is no doubt that the researcher carrying out the research has an influence on the collection, sampling and interpretation of the data. All research is value driven and cannot be undertaken from a 'neutral' standpoint in the traditional sense (Vandenberg and Hall 2011). To begin to understand this and increase the trustworthiness and integrity of the data, it was important for me to reflect on my own position as a researcher, and how my position may introduce bias into the research process.

There is also recognition that the research outcomes are influenced by the interaction between the researcher and the participants. This enhances the need for the researcher to undertake extensive reflexivity and express value orientation throughout the process (Vandenberg and Hall 2011). I kept a journal of the observations in the field- along the guidelines

I worked hard to avoid research bias by reviewing the data and reflecting on all claims about truth equally. This was particularly challenging when analysing the interview with the commissioner. He gave much optimism for ways of developing locally, as a clinician working in the area, I was all too aware of the deficits and the lack of objective movement towards inclusive commissioning. But I had to remain unbiased during that interview, to enable the participant to speak freely of their own understanding and aspiration for service delivery. It was helpful to appraise these statements against those of the staff and the providers, and against the experience of the older people themselves but it was challenging not to overlay this with my own bias.

I endeavoured not to influence the direction of the focus group with staff. This was a challenge, as they were a big group and it would have been very easy as a well-known senior clinician, to direct the discussion with considerable bias. I facilitated the focus group to allow the flow of the discussion but without my personal influence.

Carspecken (Vandenberg and Hall 2011) suggests researchers undertake peer debriefs and use multiple sources of data to avoid researcher bias where there were situations of oppressive power at play. As I was not the 'clinician' or 'provider' in any of the situations, this requirement seemed unnecessary. In fact, in one of the two non-exercising clubs I had visited, I had been just another guest, who then went on to ask some questions of some of the older people, around the table.

I tried to ensure that all the participants were at ease, by choosing to meet in their familiar environment and choosing a time which was suitable for them (Hammersley and Atkinson 2019). This worked out to be before or after their regular group met, in their own location. They were all therefore on their own 'home territory' and at ease in their usual setting and so able to speak openly. In the groups with older people, they all knew each other much better than any of them knew me, which enabled me to be much more 'invisible', and just 'toss in' a question or steer to focus the discussion again. I do not feel that my presence changed or influenced what any of the older people themselves may have thought or said. I think some of them may have thought I had some influence over the future of the group or service they were using, so some of them may have been more forceful in the way they described what they wanted to happen, or what they perceived as the pitfalls. I did explain that I had no influence on their particular group or service but hoped to publish my findings, which may have some wider influence.

The anonymity was harder in the focus group of health care professionals, as many of them knew me very well, and the discussion in the focus group may have represented a follow-on conversation of many previous discussions we had had. This does not invalidate the data but needs to be carefully triangulated with what others are saying, and what the local policy dictates.

I attempted to demonstrate that I was listening carefully, using thoughtful body posture and giving attention to each speaker. I showed that I wanted to hear the detail of the answers, as well as drawing out further rich experiences from the

participants. The fact that the discussions were recorded gave assurance to the participants that 'nothing was lost'. I did occasionally have to call back to the question, but this did not interfere with the fluency of the discussion. I tried to be non-judgemental in response to whatever was said in the focus group or interview and probed for more detail if possible. Each of the focus groups and interviews were different in context and location, and the dynamics of the groups were very different. I adjusted my questioning and style to allow for each group, and to ensure everyone was included. I have tried to maintain the 'character' of the group in the data analysis, as this dynamic is a compelling narrative for participation.

The thematic analysis of the interviews and focus groups and field notes data was undertaken by hand, and further searches were undertaken using each document to cross reference. The actual analysis was certainly influenced by my own world view, as I saw themes from my own perspective, and may well be interpreted differently by someone else. However, the data was shared with my supervisor, and the themes agreed. I therefore believe that the results presented are an honest account of what I have heard and have not been purposively manipulated.

3.11 Resources

There were no additional resources available for this research. I undertook the transcription, to begin to understand the data themes, and so no additional cost was incurred with this process. The recording equipment was borrowed from the University of Southampton, at no cost, and all the software was already installed on laptop/desktop used for the research and stored securely on the University intranet. As part of my consultant training, I had been given office space for my clinical work, and I continued to have access to this space during the writing up phase too.

As all the groups were already established, there were no additional expenses to me. No additional provision of refreshments to the focus groups was required as these were already part of the usual group.

I did have to pay for meals at the lunch club (£3.50), which did not reflect the high quality of the meal. I was not asked to contribute to pay for the Tai Chi class.

The resources required by the participants were different for each group, and are worth mentioning here, but the implications will be picked up again in the analysis and discussion of the data.

The Tai Chi group was funded entirely from the week-by-week payments by the participants. This included the room hire, and the payment of the single instructor, or a substitute if he was away for any reason. The participants paid £4.00 each week, and the instructor himself collected 'subs'.

The falls group was a commissioned group. There was a complex payment arrangement, as people were recruited by Age UK, but the service was provided by the Saints Foundation, which was subsidised by a grant. This meant that although people were 'expected' to pay, there was in fact no exchange of funds around the exercise group. The group took place in the Stadium of the football team, which gave it a certain weight, and kudos. Initially the group was held in one of the management suite rooms, but by the second visit it had grown too big and was being hosted in the main reception area next to the football pitch. The class was delivered by two level 4 trained instructors, and two apprentices, who were learning the trade, and who are referred to in the interviews.

The pulmonary rehab group was entirely funded and provided in a treatment facility. A specialist physiotherapist, with the support of two junior therapists, and a rehabilitation assistant, ran the group. The therapists often overlapped with the clinical support, which was given when participants attended for their medical checks. Participants brought their own refreshments, and didn't have to contribute to the class, but did have to pay for their transport. Many of them took part in a second free group at the same venue on another day.

The non-exercising groups were both provided in church halls.

The first one was a long-standing group, which met for talks about various things of interest and had tea together afterwards. The participants contributed £1 each visit toward the tea. The organisers were responsible for collecting the money at the tea break and recording it. Some of the participants sometimes took this role, and they were all very good at reminding each other to pay and paying for each other if they had forgotten their money. Most of the participants lived within walking distance of

the church hall, and so walked to the group. The few who were unable to walk the distance, were given lifts by the group leaders, or other members of the church. The church waived the cost of the hall.

The second group was an intergenerational lunch club, where people paid £3.50 each week for a home cooked meal of two courses. A chef who came to cook on his day off, provided the meal, and many of the ingredients came from a local recycling project called Fair Share, where supermarkets overstock was redistributed. Those attending were given help with transport by lifts from people within the church, some of whom helped, but some simply offered lifts. Others were able to bring themselves or walked.

As there was a cost for each participant, anyone who may have been unable to pay for themselves, or their transport will not have been able to attend a group and was therefore excluded from this study. The barrier of cost was mentioned by some of the participants in the focus groups.

3.12 Summary

This chapter has outlined the detail of the qualitative and quantitative methodology applied in this study. Each method has been reviewed with some of the strengths and weaknesses pertinent to this study. The detail of the methods undertaken in this study have been discussed, and a description of the data gathered.

The chapter has also discussed the pattern of data analysis using Braun and Clark's thematic analysis (Ritchie et al, 2014). The finding from the quantitative data will be discussed in the next chapter.

Chapter 4 **Findings**

4.1 Introduction

This chapter will present the findings from the data gathered during the study. 32 participants were recruited to the study. 20 were exercise participants, and 11 were non-participants. An additional 12 staff were either interviewed or participated in a focus group. The first objective of the study was to identify and describe the exercise practices in the study area. The study setting was described fully in section 3.4.1, and the details of the characteristics of the groups studied also detailed there. Only one male participant was from a BAME background.

4.1.1 Characteristics of participants

The older people who participated in the study were all invited to complete two questionnaires, to describe their feeling of wellbeing, and also determine a degree of frailty. 31 older people completed the two questionnaires. More participants were women, with only eight out of the 32 participants' male.

The self-reported scores, are detailed the table in 4.1. The CASP19 gives a total Wellbeing Score, out of 57 as a maximum, with higher score indicative of high levels of wellbeing. The score is separated into Control, Autonomy, Self-realisation and Pleasure (CASP). The Full CASP scores are available in Appendix S. The data show a high degree of wellbeing experienced by all the participants. However, the highest scores were given for Pleasure, with mean scores for each group, exercise and non-exercise ranging from 12.75- 14.2 with a possible total of 15.

The Southampton modified CHS questionnaire score gives an indication of the likelihood of frailty, with 0/1 suggesting frailty is unlikely, 2 is indicative of prefrailty, and a score of 3+ suggesting that physical frailty is likely. The full frailty scores are in Appendix K. Only one of the exercise participants and three of the non-exercise participants in this study were living with severe frailty.

One person in the EX3 was unable to complete the CASP 19 score due to his literacy level, and only one male participant was from a minority ethnic background. One participant disliked completing the CASP19 and the Modified CHS and wrote on his

questionnaire that CASP scores were too broad to get a useful answer. He also felt the Likert scale was not detailed enough. He wanted a category for 'always' and felt that 'sometimes' and 'not often' were too alike to be able to differentiate between.

My objective for gathering some quantitative data was to simply describe the participants and understand better the degree of frailty people were living with, as well as quantify the sense of wellbeing participants were expressing. This was of interest to me and gave an opportunity to see how these tools might be used in clinical practice. The quantitative data gave understand of the experience of exercise for these particular participants, with reference to their wellbeing and their state of frailty.

Table 4.1 Summary description of participants, setting, CASP and frailty scores

Focus group/1:1 interviews	**Number of participants**	**Setting**	**CASP Score (mean, range)**	**Frailty Score (mean, range)**
Exercise participants 1 [Ex1]	5 1 male 4 female	Tai Chi Group Neighbourhood Centre	45 Range 36-55	0.5 Range 0-1
Exercise participants 2 [EX2]	7 7 female	Third sector falls prevention Group	46 36-51	1 0-2
Exercise participants 3 [EX3]	8 6 male 2 female	NHS Pulmonary Rehab Group	40 26-52	1.5 0-3
Non-exercise group 1 [NE1]	6 6 female	Monthly Activity Group	40 Range 31-52	1.5 Range 0-3

Focus group/1:1 interviews	Number of participants	Setting	CASP Score (mean, range)	Frailty Score (mean, range)
Non-Exercise group2 [NE2]	5 1 male 4 female	Weekly lunch club	34.5 Range 32-49	0.5 Range 0-3

4.2 Qualitative Data Themes

This section will outline the findings from the qualitative data from the focus groups, semi structured interviews, participant observations and the field notes which were made. This has been analysed using the thematic analysis described in Chapter 3. The qualitative data was drawn from the focus groups and interviews with participants for both the exercise and non-exercise participants, as well as staff and commissioners.

The data describe the older peoples' views, experiences and perceived practices related to exercise engagement to better understand why some older people are engaged in formal exercise groups, and others are not. Listening to their own views and experiences, and observing their activities allow a better understanding and inform new strategies for engagement.

4.3 Description of Themes

The themes generated by the thematic analysis are described here. The method of generating the themes was described at length in the Methodology chapter (Chapter 3). The themes and subthemes from the thematic analysis are presented in the table 3.3.

The themes are organised under three levels, micro, meso and macro level of expression. The theme of micro level describes the thoughts and expressions of individuals about themselves, or their own actions, which includes intrinsic

understanding, self-belief, and self-esteem. This is evidenced and referenced at a personal level. This includes life course experiences and self-motivation and includes statements which may have an external origin, but there is evidence of personal behaviour change, or enactment of that thought and belief.

Secondly, meso level also describes the experience of participation, but articulates the thoughts and expressions about other people, and their behaviour, which is demonstrated in actions, or expressed at the level of home, family and community, and where participants are expressing perceptions of why particular behaviours are enacted. These will be described in Chapter Five.

Finally, macro level describes wider systems' culture and perceptions of the whole system by individuals. This is expressed and actioned at a social, political, and economic level. This captures the articulations of some older people, and their lived experience, but mostly the commissioners and staff who expressed views of the pervasive beliefs of our health provision and society at large. These will be described in Chapter Seven.

The complexity of culture influencing actions, at all three levels was expressed by participants. The literature on the experience of exercise for older people (as a motivator or barrier) was reviewed in Chapter Two. The detail and the adequacy of the exercise was not evaluated in this study, but the overarching descriptors for the experience of exercise for this cohort of participators has been distilled into these three levels of experience. Each of these influences are nuanced, and impact on the behaviours which are enacted

Each theme is described in the text with anonymised quotes which have been selected to illustrate the key perspectives articulated, as well as the different voices of participants in the study. Participants in exercise, older people not participating in exercise, as well as commissioners, staff and exercise providers and referrers are included in these quotes. The field notes also express depth to themes.

The three levels of engagement are described in the following chapters, micro level, here, meso level in Chapter Six and macro level in Chapter Seven respectively.

4.4 Micro level -individual's expressions of their intrinsic facilitators and barriers to exercise participation

This data is drawn from the cohort of older people themselves. All the data represents the voices of older people. The data at micro level answers all four of the study objectives, by identifying and describing the exercise practices within the study area, exploring the viewed and perceived practices of older people in the study area, understand barriers and facilitators and the context of participation or non-participation, and reviewing narratives around the local specific context.

To identify and describe the difference exercise practices within the study area, using focus groups, Participant Observation, field notes and in-depth interviews.

At this level, the ideas of the individual are the most powerful and are expressed in terms of intrinsic motivators, previous experience, and self-motivation, or self-efficacy- how in control the individual feels of the situation. These may be a positive motivator, or a negative barrier to participation, and will be described in those categories. People described both facilitators and barriers to participation at a personal level. Accounts covered were around feelings and knowledge of the value of exercise, previous experience and the importance of the social component of being part of an exercise group for motivation and adherence. People described significant seasonal variation in their activity levels, and a fear that they may not return to their previous level of activity after a winter 'hibernation'. The biggest barrier was around how individuals felt about joining a new group.

Those who were not part of a formal exercise group were not necessarily inactive, but were undertaking a variety of physical activities, often walking and gardening. The positive motivators or facilitators to engaging in exercise will be described first.

4.4.1 Facilitators to taking part in exercise

There were several facilitators to maintain regular exercise at a micro level, which were expressed by the participants. These can be broken down into four further sub themes; knowledge around the benefits from participation, intrinsic feelings around participation, the social engagement which exercise brought to the individual, and the lived experience or life course of exercise experienced by the participants.

Many of the participants in both exercise groups recognised the key motivators for them was their own lay 'knowing' that the exercise was good for them – they recognised the value and benefit , and were able to enact their beliefs with the behaviour of participation. Those who participated in these exercise groups expressed several compelling factors for them.

Almost all the participants expressed a strong opinion or 'lay knowledge' (see Glossary) that they knew that exercise was good for them, from their own experience and established habits which were key factors in their ongoing participation-

> EX 1-3 'I think it's important to exercise, in addition to walking, which is, I walk about a couple of miles every day unless its slippery or bucketing (laughs,) also we have been to Tai Chi before which we had to stop because I fractured my humerus so that put a bit of a thing on it, and I had a lot of abdominal surgery so we had a break. We then saw this advertised in the paper. The main attraction to me is not the exercises we do, but the sequence, I would be very happy doing sequence all the time, because I like the movement, but I am happy to accept the way that it is.'

However, participants acknowledged that exercise competes with other more valued activities in their lives.

> EX1-4' I come most weeks, unless something crops up, or I'm not well or hospital appointments. We come as often as we can. We come as often as we possibly can I mean there's been months when we come every week. That just depends, if one of us is unwell'

Many of those who did not participate in regular exercise also expressed the view that they knew exercise was both good and important. They also described their own current levels of activity, which did not include participation in a formal exercise group but was seen as justifiable and adequate.

> NE2-5 'well it's obviously very important. If you don't use it, you lose it! Don't you?'

Many people expressed the benefit and the feelings that participating in exercise was good for them because it helped their overall feeling of wellbeing. People described

an intrinsic sense of relaxation from the exercising in that group, as well as de-stressing, and accomplishing the self-motivation to participate. One participant explained

> EX3-6 'it's your own self-esteem isn't it? It makes you feel better in yourself.'

Another linked the need for self-management as being key to feeling empowered-

> EX3-4 'and it's about depression. When you get into that depression part, my sister said, the tablets wouldn't help you; you've got to bloody do some of it, for yourself.'

A third was pragmatic about the internal challenge to remain motivated to participate.

> EX1-3 'it's like most exercises and that, you sort of have to motivate yourself, you think if I can't be bothered to do it today, and don't do it today, but then tomorrow, if I don't do it tomorrow, either, and it's the slippery path.'

One of the non-exercising participants, who was living with frailty, recognised the need for an incentive, or a specific goal - a reason to be participating.

> NE1-5 'An incentive makes a great difference, so if there's an aim to going out, then you forget, and you do more than you would normally, because you just forget about it.'

The added social interaction of participating in an active group was perceived to be a very important motivator to many of the participants.

> EX1-1- 'well we are a group, we know each other. If it weren't there, would we exercise?'

They reported humour, and a sense of belonging, as well as knowing it is a good place to be.

> EX2-7 'O the company! Definitely the company. We have such a laugh in there.'

Another described the feeling of wellbeing generated from the exercise group participation.

> EX2- 2 'Well I feel fitter, and it's nice to come out socially with my friends, and it's a pleasant place to be.'

The groups felt like being part of a 'family' for some of the participants, which was evident from the field notes from the Tai Chi group.

> 'Lots of chattering amongst themselves. One lady was giving out Christmas gifts and inviting other group members to choose a flashing Christmas ornament.'

The final area of facilitation for exercise explored at a micro culture level, is the aspect of a life history of participating in exercise which leads to continuing this in later life. This life course experience seemed to enable people to participate and then maintain their participation. Participants talked about 'always doing something', and so just continuing on, as they grew older.

> EX1-2 'I used to do Tai Chi at work, and well I have always done some form of exercise lots of - dance- and I still do go to dancing classes, but I wanted to carry on doing the Tai Chi.'

For one of the participants it was clear that it needed to be the right sort of exercise to attract her- as she was not 'sporty' as a youngster- but she liked dancing, so the fact that she could continue to undertake a music based rhythmical exercise was compelling for her.

> EX1-3 'Yes, well for me, I'd say, I've always done dancing from a really young age, and er, I think you, like the others are saying, you know it does you good, and you just want to keep going. I mean I don't want to just sit and doing nothing, I want to get up, as long as I am able. I want to keep going, sort of thing, as long as I am able to.'

Those who were not in a formal exercise group still talked about a mind-set of wanting to maintain their levels of fitness from their younger days and be engaged in activity. This activity was mainly walking, and some of it was functional, such as

walking the dog, or getting to church. The only male non-exercising participant with frailty described his schedule.

> NE2-2 'I am out every day! Virtually, because, since I stopped driving, so I have to walk or bus, so I am out shopping every day, for myself or for other people, that I shop for, or I'm down the church doing things, meetings at the church, or at groups and things, so I am out every single day of the week, somewhere, doing something,'

And another person described their pets as a key, with the habit of dog walking an incentive to keep moving and exercising.

> NE1-1 'I did a lot, because I had a couple of dogs, so they made me go out. All the time. I have always had animals, so I done a lot of walking with them. But when they passed away, I didn't have an excuse. But you just carry on with something else. You don't realise that you are not exercising.'

4.4.2 Barriers within the micro culture of exercise.

The sub themes which were articulated as barriers to participating in exercise were around the aspect of physical wellness- people felt or had been advised that they were too unwell to continue with their activities. The social and psychological aspect of engaging was also often articulated as a barrier. People described a fear of starting something new, and a lack of motivation to put into action the lay knowledge of the benefit of exercise. People also described a gender bias as a barrier to participation, and a seasonal variation in their activity habits.

Firstly, some of the observations of those not participating in exercise gave their own experience, as barriers to participation. Their current state of health had a significant impact on their motivation to undertake exercise, and their own sense of their ability to participate. People had their own internal narratives, which were picked up in some of the field notes. Many of those who did not participate in regular exercise expressed the view that they knew exercise was both good and important. However, the knowledge they held was not compelling enough to motivate them to engage in a formal exercise group. They described their own current levels of activity, which did not include participation in a formal exercise group but was seen as justifiable and

adequate exercise. Their own perceived physical limitation was a barrier to participation. One non-exercise participant summarised their thoughts by saying-

> NE2-5 'And I'm afraid I can't walk very well now, so it is frustrating, so I'd agree with the others. I just wish I could walk more, like I used to. Because I used to be in a keep fit class, but I can't do it any more now.'

A fear of falling over was described by one participant.

> NE1-6 'I'm very frightened of falling. Because my mother got a broken hip at my sort of age, and that finished her, and I just know that's so dangerous. To fall. The balance bit, bothers me a bit.'

Another outlined her considerable long-term conditions, which influenced her participations.

> NE2-5 'Well um, I've had DVTs in both my legs, and now I've got arthritis, quite badly, so I can't do it. I try. I do Armchair exercises, at home, but I can't do the walking.'

One lady described disengaging with exercise specifically due to her pain.

> NE1-2 'I have exercised, probably until I was about 55, round about then, and I had lots of aches and pains, so I stopped, I'd done a variety of exercises, over the years, played tennis and other games, yes, but since then I haven't done very much at all.'

Another lady who reported a significant degree of frailty, suggested that there were very real fears such as being unable to participate fully, and even getting stuck on the floor, which was a barrier to participating in any formal exercise, where there was any uncertainty about what the content of the activity might be.

> NE1-4 'I'd love to sit on the floor and do exercises, like I used to. But I can't do that, cos I'm frightened I can't get up.'

Some of the non-participants in a formal exercise groups expressed clear rationales for why they were not actively engaged in a regular exercise group, such as health,

and pain, and fear. One was candid about the motivation needed to participate as being a barrier.

> NE1-6 'It's easy to get into that frame of mind, isn't it? Not wanting to do anything.'

These were around boredom with the provision, and other participants, leadership changes, laziness, and anxiety, or mental health issues, and lack of motivation to exercise, but wanting a quick fix.

Two participants, both in the cohort of those who exercise regularly, mentioned the experience of the genders as a possible issue but felt that men and women may have different needs which should be addressed as one of the components of accessible exercise.

There were fewer men participating in any of the focus groups undertaken and field notes from the Falls Group indicated fewer men were involved.

> 'The group comprised an apprentice and an instructor and 22 older folks, only 7 were male. 3 of the men had severe dementia and were part of the whole group.'

One of the women mentioned the lack of women only facilities as being a possible barrier to her peers, and others concurred with this.

> EX3-6 'Um, sometimes, it's just that ladies, men and ladies are different characters, you know.'

Some people who were not in formal exercise groups expressed a change in their activity levels which were very seasonal. People were much more active, walking, and gardening in the summer, but less so in the winter months.

> NE2-1 'In the summer, it's good, because I actually mow the lawn, and we've got an acre of ground, so to mow the lawn is quite extensive. So that's quite good, but apart from that- I don't do much in the winter.'

And NE1-6 expressed a clear change in physical function over the winter which called into question the possibility of resuming activity at the previous autumn level of activity.

> NE1-6 'until this winter, I swam twice a week, but I haven't. This winter I have not. I don't know if that's the end- I am not quite sure. If that's really it with swimming.'

Field notes also mentioned some seasonal variation

> NE2-FN 'People talked about seasonal variations in their levels of activity, which I hadn't thought of. Throughout the year, folk move less in winter. It's obvious, but I hadn't clocked that previously.'

4.5 Summary

This chapter has described the facilitators and barriers to participation in exercise by older people, at an intrinsic, or personal level, micro level. The facilitators were expressed as an understanding of the usefulness of exercise to keep healthy, a sense of self-empowerment through participation, and the value of the social interaction of participation. People also described a strong life course relationship with exercise which continued into older age.

Barriers to participations expressed were around current state of health which prohibited the exercise on offer, such as pain and fear of falling. Others described a lack of motivation where the challenge of participation outweighed the perceived benefits. There was a seasonal variation in participation, and the lack of gender specific groups was also seen as a barrier to participation.

The next chapter will review the meso level of understanding the participation of older people in exercise.

Chapter 5

Meso-level of exercise in old age- perceptions of others' experience, and external influences

This theme describes the beliefs, which developed around home, family and community and the perceptions of exercise within old age. Opinions, which are not enacted, but are speculative are included here, as they are extrinsic articulations.

The data is drawn from the focus groups and participant observation and field notes for the older people participating in exercise (Ex 1-3) as well as those who do not (NE1 and 2). Some staff also commented on their understanding as to why older people may or may not participate in exercise in the focus group (C-) and also in the semi structured interviews undertaken. The data describes the study objectives of exploring perceived practices of exercise, understanding barriers, facilitators and context of participation and non-participation by older people, and the staff who may or may not support them.

Facilitators around home, family, community and the positive experience of the instructor are described with illustrative quotes, followed by the barriers of physical and psychological access, community knowledge, cost and the negative influence of instructor. A summary of the themes and subthemes are presented in Table 3.1

5.1 Facilitators within meso level

A propensity to engage with exercise came from home and family, with societal expectations and norms acting as an external motivator. Where this was expressed as part of other people's potential motivation or lack of motivation it was themed at the meso level. These thoughts were not actioned by the individual but were being narrated and reflected on as a possible scenario for others as speculation of how they may feel.

People seemingly participated in formal exercise groups, if the meso level barriers were addressed and partly or wholly overcome. Some of the aspirations of what good exercise provision might look like were expressed by those who did not participate in formal exercise programmes but said they would like to.

The beliefs around activity, and engagement within family and home was expressed as a facilitator for some people to participate. One described her children being delighted by her engagement suggesting that those close to a person are important reference points for engagement, implying an element of collective motivation is relevant.

> EX2-2 'well I don't know about friends, but my family are over the moon that I do it. Because they can see the improvement of what I am doing, the stamina it's built up, everything.'

And another described having an active husband who inspired her to keep moving

NE1-6 'Well I am lucky of course because I have a very active husband. That motivates me to try to keep up!'

The commissioner recognised the key role, which families and others close to a person have to play to develop and encourage participation.

> NC 'I've done some co-production around the frailty agenda and the GP practice, and we changed our language. It feels like we are paying lip service, a bit, but we need to move towards using, particularly around prevention, as deploying older people as solutions to develop their own ways- if the grandkids are cajoling them and using them as an asset. They are a huge amount of untapped value.'

The behaviour of the group was sometimes set more deliberately by the way the group was commissioned rather than by individuals. The local falls group provider noted some gaps in provision

> FGP 'we need a network- a proper sorted out network of activities for this age range. ……We want 200 sessions a week, where there is lots of options for people to use, right from the very top end of gym use all the way down to, you know, one lady in a church hall running a class. But we want it to be a standardised thing, so everyone is doing the same thing and are all working towards the same agenda, and it, the standard of instruction is the same, it's having that, you know, it's a huge market. And it's one that's being missed

> out! ……. our two-year plan is to work towards that with the CCG backing, so that's where we are hoping to go.'

The falls thematic lead identified that there is a lack of understanding for what age-appropriate exercise looks like for older people.

> FTL 'um some of the time it is just identifying what exercise is! Some of them are very good at exercising; some of the older generation have inherited a model of exercise which tends to be mostly flexibility. Which is fine, if they still need to be flexible.'

The strong local allegiance to a premier football club was particularly appealing to those who were in the falls group, which was captured in field notes

> 'the football identity seemed strong and people enjoyed being part of the football heritage of the city.'

There was recognition that behaviour change often happens with a significant event- one exercise instructor stated-

> C-E1 'People only decide to become healthy when something drastic happens.'

> NE2-2 'Looking at the age group, I think that perhaps it might be that if they find they can't keep up with their grandchildren, or their children, or something like that, then that might say to them ' o no I need to get a bit fitter', to get a bit more involved with them, or that sort of thing. Or probably wanting to lose weight as well. '

This points to the key opportunity which health professionals have to include exercise as a core part of any recovery process, and rehabilitation for someone experiencing any health crisis.

The easy access to the facility, was fundamental to many participants. Field notes gave some insights as to why people participated in the group.

> 'The local nature and ease of access of the exercise was significant, and something about being encouraged regularly helped people to feel they were being pushed to keep involved, and to stay engaged with the group.'

Many of the staff and exercise providers interviewed had a good understanding of the benefit of exercise, and why participation was important.

> C-E1 'yes because of all the falls and things that happen when you are older, if you do the exercise, balancing, that helps. Prevent injuries, to help the National Health. (Laughs) so not so many people coming in.'

And

> FTL 'Very very important. I think it's important for them, whether my patients share my feelings that it's important for them is another thing! I am always quoting that there are 180 minutes of exercise a week that they should be doing, and it's on a poster by the waiting chairs, that they are reminded of it. I challenge all my patients with the 30 second sit to stand, and what the average is for their age, and not to just be excited because you can stand up without using your hands, but you can do it frequently, and with vim and vigour! If you like, and trying to make them see not just strength, and not just balance and flexibility, and endurance and putting the whole package together, and where necessary fitting it into everyday life, and not just being part of exercise, or an exercise programme or an exercise class. And (the commissioner) was also a strong advocate- I think it's one of the critical things. I think it's up there with diet and social isolation. Um I think, well we haven't really commissioned anything in the past, or put any focus on, on, on the wellbeing agenda really around older people. It's all been about the acute end, and I think erm, and with the financial climate we are in, we can't carry on just focussing on the acute end, and we need to shift to help people look after themselves for a lot longer, and with, um, extending, um, life expectancy, people are living with an illness for a lot longer, so they need to be more proactive in managing their own health, um and diet and exercise and being socially engaged are the three critical things, I think. But we don't focus on them.'

The efficiency of the system at a community level was captured in the field notes from the pulmonary rehab group.

> 'Folk are referred for pulmonary rehab as part of their pathway on diagnosis or with an exacerbation of the disease.'

And

> 'There are two groups running, one for first time through, and then a maintenance group for people who have already had the education component, but are still using exercise, and are given free access for as long as they would like it.'

Many of the participators described one of their key reasons for starting or staying within the group was the instructor. This is a significant role, as discussed in Chapter Two (2.4.2.1). The data show a clear relationship between the instructor and the attrition or remaining in the group, as a participator. Many of the older people described the ability of the instructor to tailor their groups to the needs of older people as being a key factor for them to participate in a group. The character and personality of the instructor was also a significant factor mentioned by participants in the exercise groups.

> EX1-4 'all done at the pace that an older person is capable of doing, and almost every lesson, especially with new comers, instructor you will say, just do what you can, don't overdo it, which I think is fantastic. Because it puts new people, everyone's got to start, we've already got a group, and you get a newcomer come in, you know you've got to feel a bit Mmmm, but (Instructor) always makes them feel welcome. And puts them in with the group, but if it's fast, I don't think EX1-5 could do it, and I'm not being rude.'

Providers also recognised the value of both the social component, tailoring, and fun as a component of the exercise groups. This instructor recognised the holistic component of what she was offering.

> C-E1 'I do a class we incorporate all types of exercise. Balance, endurance, So it's a little bit of everything, not just doing one particular thing, um, I do it in a fun way, and after class we have coffee, tea and biscuits, so it's social for

> them, and once in a while, I don't pay for it, but we go out for a meal, so they have another social, so like yesterday we went out for fish and chips, Monday we were at the Pub.'

Many of the participants described the character of the instructor as being critical, as well as their knowledge. The use of humour was a significant factor mentioned. The impact of humour is summarised by this quote from one of the exercise groups.

> EX2-5 'And the people here are very very nice, and the two that takes us, you couldn't wish for nice people. And we have a laugh, and a very relaxed atmosphere. And the lady and gentleman that runs this, they are very very good.'

The field notes describe some of the detail of what was happening in each of the groups, during the observation. This gives some nuances of the knowledge demonstrated by the instructor and their behaviour.

> 'Instructor greeted me and started telling me he is partnering with an NGO, who use his sessions, and he has been invited to make a video for an International NGO showing of using (Exercise) with people who are visually impaired. He gave me a printed piece about the Ancient Chinese exercise system, as a brief guide. He explained how he had worked with a researcher in Bristol, a doctor who was doing post doc studies who had promised all sorts of engagement, but hadn't come back with anything.'

One of the group field notes captured something of the humour and the relationship with the instructor, beautifully.

> 'One group member said, 'o yes, he's a real slave driver, - we don't take our shirts off to show the lashes where (instructor) has been beating us!'

The key role of the instructor and the relationship they developed with participants was articulated repeatedly in the focus groups. This was true of all 3 groups, although the style of each group was distinctly different. The Tai Chi Quiong instructor was described as a '*my mate'* by one participant, and The Falls apprentices were described as '*the boys'* while the therapists in the Pulmonary Rehab class were supportive, with escalating health crises, but also as '*task masters'*. One of the COPD participants'

suggestion for engagement for other people was lacking but should be made compulsory for the gains it gave. He stated-

> EX3-5 'force them! Get a Whip them. Bring (physiotherapist) back! She'd make them.'

This demonstrates the power dynamic within the different groups. Some people clearly wanted to be meeting up with 'friends' in their instructors, while others seemed to be content with a power ratio, which enabled the staff to be in charge, and very prescriptive in what they needed to do. This was most evident in the Pulmonary Rehab group where people were referred by clinicians to clinicians, and there was an expectation that the clinician was the experts rather than the patient.

The other side of the relationship with the instructor will be recognised with some barriers reported in the next section.

5.2 Barriers to participation in exercise at a meso level

There are several reasons articulated as barriers to participation at a meso level. These are often incorporated into the perceptions and experience of home family and community, and they have a negative influence on exercise uptake. These extracts include participants speculating about why things may or may not happen, as well as describing other people's behaviour, rather than their own. The intrinsic reasons for lack of participation have been expressed as part of the micro participation, of exercise but where participants speculated and described why others may not participate these have been captured at meso level. Older people who participated in exercise had good insights to why they felt their age cohort were not wanting to participate in a formal exercise group, examples are given.

This section includes areas of physical and psychological access to exercise, cost, and knowledge of what is available. The instructor has already been mentioned as a significant facilitator, or motivator for choosing, and staying with an exercise group, but the instructor can also be a barrier. Examples of each are included here.

The perceptions reflected within the community has an impact on uptake of exercise, which a few of the participants articulated. They described some psychological perceptions as a barrier to access the exercise groups. Participants from each of the exercise groups described a lack of confidence, and a fear to joining a group, as well as a failure to grasp the benefit.

> Ex1-2 'well some of them will be nervous. I think, because going anywhere on your own can be daunting, especially if you aren't very confident, or you have a mental health issue.'

> EX2-1 'I think some of them, they think they'd like to join, but they haven't got the confidence to come-- well some people they stay indoors too much, they don't put themselves out, really, but this enables people to come out and do a bit more, and with others, doesn't it. '

> EX3-6 'But I am an outgoing person, and I'll talk to anyone, but I think some people are frightened to come to this, because they are either really, poorly and they don't think they'll get any benefit from it.'

One participant in the pulmonary rehab group was very vocal in explaining that people lacked a sense of self-management and wanted a 'cure' from the medical profession. This demonstrates the underlying aspiration of the medical model of hierarchical 'disempowerment', or 'mollycoddling' with experts who provide a cure which may be a barrier to uptake of exercise, where the individual is responsible for their own destiny, and self -management. She stated-

> EX3-6 'I think it's like a lot of things, that we expect from the NHS, but we are not prepared, like you said, the doctors and the nurses, and I've got a fantastic GP, but people go to the hospital and they have put right what was wrong- so like I've got friends who've had a hip replacements and 'O I can't be bothered to walk today, because it hurts', well it won't stop hurting unless you exercise. And I've spent the last nearly four years, every month at the General because my husband has got cancer, you see people you know' O I can't be bothered', and yet they are the people who you think, 'why do you go? Why do you force your GP to refer you?'

The physical environment has a significant impact on the accessibility of the exercise group. One participant talked about the physical distance to the group as a significant barrier.

> EX2-7- 'I think maybe the distance, but most of all the bother! I think it's the bother really, because I think if you are keen you'll get there. But I think a lot of it, it's easier to sit there in front of the telly, my age group, I'm talking about.'

There was a physical power balance evident in one of the exercise groups, where there was a barrier of a locked door, through which the participants were not invited to cross until the instructor was ready, and there was a flurry of military precision to start the class. This was captured in my observational field notes.

> 'The group starts with everyone checking in. In fact, people are held outside the room, which has a security code on the door, until the room is prepared. This involves putting out name badges, and clipboards for each participant to record their progress.'

People identified access as a barrier in terms of being able to get to the groups, but also in the access to walking, or swimming facilities where they would participate in exercise. One participant described this eloquently.

> EX1-4 'well usually my husband brings us up, and then we walk down to EX1-5, on a Monday we go out for dinner, she cooks us a dinner, and otherwise. That's another thing there are no buses, I wish you could do… I wish someone…. '

She went on to say-

> EX1-4 'I wrote letters are upon letters, to try and get people to come up here. There are no buses on this estate, you can't even get to the doctor's surgery. Because there's no transport up here. I have wrote to a lot of people, the biggest highest one, even Cameron. Yeah.'

One participant described access as a real issue,

> EX3-8 'that you can't actually get physically to the place to do it. Number of buses. I live in (East), but I come here, not to (East), because its 2 buses there, but its only 1 straight through to here.

A non-participant described some of her fear with access to the swimming pool.

> NE1-6 'well, I'd honestly like to see more in the way of grab rails. Or something to hold on to. I feel very insecure on a wet slippery floor, of the swimming pool. And I don't want to fall. That's part of it, and it's cold and wet.'

And another described her challenge with uneven pavements which made her very fearful of falling.

> NE1-1 'and the roads are bad too, aren't they? [locality] is bad. I've had two falls on [locality]. And you feel such a damned fool! You know, everybody runs a 'poor old lady' (laughter) luckily, and touch wood, I haven't broken anything.'

A further comment about suitability of access for older people came from one of the sets of field notes. In one group the acoustics were so bad it was impossible to hear what was going on.

> 'The group were very cheery, but struggled to hear much of what was said, because the room has terrible acoustics, and the young sergeant was not very well trained in projecting his voice- or general public speaking.'

Staff recognised similar problems with getting people into formal exercise groups, with access and the falls commissioner captured this.

> FC- 'that's one of the main issues, people say that they become frail, they can't get out, and transport is the biggest problem. One of the crisis points is often when people have to give up driving for themselves, and that may isolate them and restricts what they can do. ….and they aren't used to using public transport, so they don't know where the buses go. I haven't got a clue; I haven't been on a bus for a long time (Laughs).'

But the FGP felt this was sometimes used as an excuse to mask other barriers.

> FGP- 'yes, well transport is an issue, but I think sometimes transport for the majority is an excuse rather than a barrier We've got, I mean we have a small transport budget in the programme, but we don't use it, purely because if we offer it, it becomes a need but if we don't offer it, people still manage to find their own way. The Public Transport is not great in the city, accessibility is difficult, but then this comes down to how much people value and need the service that you are offering, and I think if you look at this along the lines of other health care, if it's a doctor's appointment, or a hospital appointment, they find their way, um, and, and I believe that there is you know there are some people that are literally in that isolated situation don't have the funds to fund their own transport, then perhaps we can look at a solution then, but we need to engage with them first, before we do that…….But I think if you start offering transport solutions to the masses they will all take it, and then you are literally spending hours, ages, just running people around, which is not the purpose of it, and for anything, and that then creates a reliability on you, as a service, and once that's withdrawn, which it inevitably will at some stage, then that's when their involvement stops, so if you can work towards gaining some independence, by getting to sessions themselves, then it becomes more sustainable.'

The field notes also describe some of the issues which were observed with access to the facility. For one of the groups the access by public transport was poor, and the environment was not conducive to anyone with mobility issues. The activity was held at the football stadium.

> 'They arrived either walking from the bus stop, or in cars. The bus stop is located over the railway bridge and has a very long walk up a ramp and across a busy road. The car park is huge, and there was a really long walk from the designated car park. People were glad to sit down! There was a loud tanoy call as the group was gathering requesting people move their cars (although the car park was empty), as they were parked in the wrong place!'

The physical barrier of the inconvenience of the location is one issue, but there may have been 'allegiance' barriers too. While the football 'brand' may have been an

attraction to some, it is impossible to quantify how much of a barrier it was to those who were not football fans or were rival fans.

Staff recognised that the provision of exercise was not adequate to meet the needs of older people. There was not enough variety of groups available to meet the eclectic need of everyone. One of the physiotherapists commented

> C-PT2 'and also, the same kind of exercise doesn't suit everybody. You have to find something that you enjoy. Don't you? So, I love exercise, and I run all the time, but there are certain types of exercise that just don't do it for me. And we've got to accept that that's going to be the same for our patients.'

Participants themselves also recognised the need for suitable tailored exercise for themselves- and a lack of appropriate commissioned services. She said

> EX1-5 'but funding, this is what we are on about. Now I read a lot in the (local paper) from page to page, and the funding for Zumba classes, now can you imagine us doing Zumba (laughs) with our ailments and everything? No!'

The falls commissioner recognised that there was not adequate provision either- he stated-

> FC 'so they are quite diverse, they are not a homogenous group of older people. That's one of the issues that we've got. The Sport England profiles produced is quite useful, cos it gives you some ideas of the range, of why people do or don't engage. And what, how to sell it to them'.

Staff, providers and commissioners shared reasons for non-participation. They felt that many people with more complex psychological needs were unable to access the current provision. They also expressed fear and anxiety as significant factors for non-participation in a formal exercise group. They felt there were often good reasons' why older people were not participating in group exercise. This was expressed in being 'housebound' which may reflect physical health but also mental wellbeing. The issues may be around psychology, personality, or possible pathology.

> C-PT1 'There are some people who don't like the social side of things. They don't like groups, they never have done. And they like being on their own.'

The falls thematic lead noted that often a health crisis precipitated a change in both physical and psychological access to exercise- she described the experience of a neighbour-

> FTL 'but her one big fall, completely sort of, knocked her confidence for everything, so er, it's really hard to actually, to see that happening, and to not really be able to make an intervention, even with somebody that's that close that you can't actually change things.'

One of the providers explained that the provision may not be appealing enough to engage people and a lack of understanding around changing the appeal.

> FGP 'we are looking to going into sheltered housing, I think is the key Um, because those people, and this is currently borne out by the sessions we are currently running in there, we are using community venues almost like a hub, so we have about 20-30% participants actually live there, the others are coming from outside. So, there are a huge number of people living in those sheltered housing units who are living in complete isolation, so they don't engage, and really, strangely you'll see them wander by, and then after 3-4 weeks, you'll see them pop their heads in and then gradually they'll engage. So, it's just a time game, just waiting for them to get involved, and also that- what do people want? What type of activities interest people? In those areas. What's going to get someone who doesn't engage with anything else, out of the house?'

One instructor observed that the provision was often inadequate to meet the variety of interests and needs of older people. He stated

> FGP 'I think there's a fear factor around exercise, and a lot of that is around the way that physical activity is marketed. It's not marketed directly at those people, so all of the marketing around exercise and health and benefits is all aimed I would say at the 25- 45 age range so once you are outside those parameters there is nothing for you really. You see the odd poster of a silver haired lady swimming, but if you don't like swimming, that's not you. I think what we are trying to do is break down this idea that it is not about exercise- the exercise is almost done by stealth- so let's create a session that's fun, its

> vibrant, people can engage with it, and while they are doing that they are getting some exercise as well so the exercise is not the most important element. So, we try to underpin everything with the falls benefit to each of the exercises, so there's a reason for everything we do, but if people can't do it, or they can't really manage it, that doesn't bother us, as long as they are involved, because they are engaged and that's important to us.'

The values of the group were captured by the field notes, suggesting that while there was active engagement, some of the undergirding philosophy of the remit of the group needed a paradigm shift to include older people. This may give a reason for some of the attrition from one group. I reflected in my field notes

> 'The Football foundation sits as part of the football team, but I still had in my head the experience of the intergenerational work I undertook with them before Christmas. We paired a lunch club with a youth club, well two actually, but I was only responsible for one, and the football team wrote it up for the match brochure. The piece named and photographed the children, but while mentioned the 'intergeneration' piece, did not even name the lunch clubs, and older people did not feature in any of the pictures.'

Staff felt one of the key aspects to lack of access to exercise was their lack of knowledge of what was available, and inability to refer into groups, nor offer a variety of exercise for potential participants. The GP commented-

> C-GP 'With exercise and older people. We hardly ever refer for it, because we are, we just don't know what's available, er, and I'm really interested in what we can do….., I'm not saying that you haven't educated me, promote it enough, you probably have, but it's just we get bombarded with so much that probably for a second we think- this is brilliant, and then we read the next email, and the next email, and so I think it's almost a case of giving us a packet of leaflets or posters, or having a chat with each of the GPs- Look this is what we are offering, please can you promote it.'

And the community nurse also had insight into her lack of knowledge, and the stage at which engagement was offered by professionals within the disease process, particularly with ageing.

C-CN 'well obviously, the knowledge of what is out there, should we manage to persuade people to go out of their environment for exercise. Um, so that's the first thing, but also start talking to patients at a much earlier stage, before they get a lot of chronic diseases, so if they are fit and well now, how they are going to sustain that.'

The Tai Chi instructor articulated this gap. He felt that there was a significant gap between the third sector provision and the ability of staff to use the appropriate services. He described himself as a service user, as well as a service provider. He was concerned over attrition, and a lack of joined up service provision. He explained-

C-TC 'that is part of the promotion, I think. I think we need to bridge this gap! The condition I have is that we as providers of maybe exercise systems, which are not necessarily new, but aren't really known about, but we need to get them as complimentary element into the array that is the NHS. My colleagues used to use the term alternative, and I said NO No No, I've had the Heart attack, and I'm still here 20 years later, and I want to big the NHS, But I compliment that by doing my exercise. And there's another criteria here and that's when someone comes along, and after 3 weeks says- what a brilliant set of exercises. Love it. But they aren't there in the fourth week. What has triggered them to stop? So, perseverance needs encouraging, not just this initial step.'

A therapist recognised that there was potential to be more intentional in the pathway of rehabilitation and reiterate some self-management early on in their intervention

C-OT 'I was thinking, we do, do that, but maybe we need to be doing that better so at the very start of our intervention. We are already talking about discharge points, but we need to be talking about 'you need to be carrying on with x, y, z…' and let's talk about what's available, and maybe we need to be starting to manage that expectation at the start.'

There was wide acknowledgement that staff lacked knowledge of the evidence, understanding of the individual preferences, and dosing of exercise, and navigation around the complexities of community services. This was summarised by

NC 'I think there is just a knowledge gap and poorly understood availability.'

The lack of understanding of what is available, and the quality of the tailored delivered exercise is recognised as fundamental to offer exercise to all and change the current downward trajectory for activity in older age (Sport England 2018).

Participants also spoke about their real and perceived issues around the cost of participating in a group. One participant who had been a GP before retirement explained

> EX1-3 'We are fortunate that we can afford to pay but I have patients, ex patients, friends, who are on benefits who struggle… and for them, they have to try and get enough to eat.'

The group who received free pulmonary rehab all said they would still attend if they had to pay, but on qualified this with

> EX3-1 'I say that, but with reservation, because I know how good it is for me, but if I was starting from the beginning, I would have my doubts about it.'

Staff also felt cost was an issue both in terms of the cost of the class, as explained by the GP-

> C-GP 'People don't want to pay for anything, at all, some people.'

Transport costs to attend an exercise group were also mentioned.

> C-PT2 'but people are quite happy to pay for classes, but sometimes when it costs £9 in a taxi to get there, and you add that on, I think that…'

The field notes observed that people seemed happy to pay money for the service they received- for the Tai Chi Group.

> 'People started to potter in and bring their subs of £4 for the group'

The lunch club also cost for participation.

> 'It is an informal lunch club, where people pay a small amount for their meal (£3.50).'

This would suggest that the barrier is either a perceived barrier, or that those for whom cost is a significant barrier were excluded from any group where a charge was made- not just exercise groups.

The confidence and competence of the instructor is fundamental to the participation of the older people. One of the Tai Chi participants described her preference for a particular style of exercise.

> EX1-1 'But there is also as I've mentioned, an element of the way this instructor does it, and I'm not decrying the others that's fine, they are all very good, but - when they come and take the class we do it as we do, you know keep going like (instructor), but having been elsewhere, I prefer Now cos I am that much older, with a gap in between, but I do like the way Instructor, lets you do it at your pace, your way.'

This was reinforced by the falls group provider who was optimistic about his organisation's reputation, but the need for clear quality indicator and expertise.

> FGP 'And as the scheme grows and our reputation increases, more people will be looking for recommendations for exercise, and it's not an easy thing for people to trust. I think if you send someone along to an exercise session, be it a clinician, or in social care, you have to be able to trust where you are sending them. And that takes time and we are fully aware of that.'

The Falls Thematic Lead noted that the competence and capability of the instructor is critical and was missing in most of the provision within the city.

> FTL 'we know that people like (C-E1) have got the YMCA qualification, which is lovely. Fantastic that she's got that. And we know lots of people are enthusiastic about working with older people, and we've got that lovely Portuguese chap (….) which is gorgeous, and he's a dancer by background, so it's superb for the right people. But there's a whole load of things going on, and Age UK have hosted some simple Tai Chi Classes, and exercise classes, a lot of them are almost at the frailer end, sort of sitting down, and we know the Falls Group instructors are the only two with a postural stability training qualification in the city.'

Some individuals reported being told directly to stop undertaking a particular activity directly by either instructors, or another health professional. People who were told directly by their instructor or other health professional to stop, took that information on board, and did exactly as they were told.

> EX1-1 'We were told to stop, because of the effects on muscles, veins and what have you.'

Other participants described feeling 'given up on' by health professionals.

> EX2-3 'they just said there was not much more they could do for me.'

Another explained that her instructor had advised her it was not good for her health, so she stopped and has not returned. She is a lady living with frailty.

> NE1-4 'I've done the water one……. I enjoyed that. But when I became ill, he stopped me doing it, and I never went back to it.'

Some of the field notes and other providers articulated extrinsic factors associated with the instructor and their ability to engage older people, as a barrier. One of the instructors in the Falls Group used very complex concepts and language during her instruction which was captured in my field notes-

> 'The activities were described in an accessible way, but (instructor) switched between giving instructions for an exercise, and apologising for the wet floor in the loo, so' be careful if you need to go', without changing her tone, or slowing down. She gave some specific advice around moving, to make the most of the exercise, but not much correction was given. It felt a bit like one of those Duracell bunnies that was wound up, and set off, and nothing was going to stop them. She used language like 'buttocks' and talked very quickly. The three men with dementia were often not able to follow the instructions, but as they saw what others were doing, they imitated them, and participated. They managed some single basic moves but were unable to do the more complex sequencing of actions.'

The reason for the activity was often not clearly explained so the efficacy of what was being undertaken was not realised. Further field notes from this group describe this-

> 'The initial sitting posture was explained, but not emphasised, and the assistant wasn't used to support on an individual basis at all.'

This meant that much of the beneficial component of the exercise was potentially wasted or missed.

There was often a clear power dynamic, with the instructor dictating activity with no negotiating or specific tailoring for individuals, between the instructor and the participants. While this was discussed as a facilitator in the previous section (5.4.1) – this may also be a barrier to some, who were therefore not participating. It is not mentioned in the data, as those for whom it may be an issue were not present. The instructor in the Pulmonary Rehab group was clearly in control and wanting to make that very clear- it felt as though the participants were undertaking the exercise for the therapist, not for themselves! My field notes reflect this:

> 'the therapist is doing the timing and giving clear instructions -Music is playing, but not really drawn attention too. It's quite hard to hear. It's upbeat, though, with tunes such as 'Down Town', and a lot of Abba chorus songs! The therapist leading the group, uses a lot of language about her being in control, so says- 'keep moving on the spot for me.'

This gap in understanding and provision was widely recognised and captured by the NC.

> 'I think we've got a huge amount of work to do with the wider workforce in the health service.'

He also went on to explain-

> NC 'most clinicians are trained in diagnosis, and traditional medicalised interventions, they are not trained in er um, understanding or being able to prescribe a regime of exercise, as it falls outside their core skills set and their core knowledge set. And unless they are actively involved in rehabilitation, for instance, so I think there is just a knowledge gap and poorly understood work of the availability.'

The confidence older people have in the 'prescriber' cannot be underestimated, and people expressed a clear indication that an introduction from their trusted clinician

and clear signposting enabled them to start a group or change their behaviour to include an element of exercise. This will be explored further in the discussion in Chapter Eight.

5.3 Summary

This Chapter has described the facilitators and barriers at a meso level, including participants' analysis of other's behaviour, as well as the impact of significant people around them.

Factors to facilitate participation include the experience of activity and activity levels at home, with friends and family. The knowledge and character of the instructor had a significant impact on facilitating people's participation in group exercise.

The ease of access to the group was also fundamental to participation, and poor access was described as a barrier. The role, and character of the instructor and the prescriber were instrumental at this level, and the content and style was described as a barrier to participation.

While the staff had an understanding of what good provision looked like, many of them were unable to deliver this, and were frustrated by the lack of options to support older people in participating in exercise. This disconnect often lead to attrition from the group. There was recognition that many prescribers did not know what was available to prescribe, nor what would be appropriate, which was described as the 'knowledge gap'.

The following chapter will review the facilitators and barriers for participation at a macro level.

Chapter 6

Macro level of the experience of exercise –whole system perceptions.

This section will outline the experience of participating in exercise by older people, at a macro level, coupled with an overarching national view, expressed by some of the participants, and frequently by staff and commissioners. This macro level data is described in terms of social, political and economic influence. This qualitative data is drawn from the focus groups, semi structured interviews, participant observations and the field notes. This was analysed using the thematic analysis described in Chapter 3.

This macro experience was expressed both as a motivator for exercise uptake, to incentivise people to keep active, and also a barrier to uptake and persistence with exercise. It has been challenging to divide the data into barriers and facilitators due to the heterogeneity of the participants, as their comments were sometimes conflicting. This adds to the findings in section 5.1 where participants expressed an obvious need for a variety of exercise opportunities, locations, and instructing styles, to meet the needs of the whole population.

The motivators will be discussed firstly and then the barriers.

6.1 Facilitators from macro level- social, political and economic factors.

The data reported in the previous two chapters suggest that having a definite narrative for individuals of the value, and benefit of a formal exercise class is a significant facilitator to participation. The social aspects of group participation have also been recognised as significant, at a personal level. Some of the cost implications of individuals paying for a group, have also been described.

This section will consider the wider, social, political and economic drivers to participation in formal exercise, at a whole population, rather than just an individual level, which focusses on the final research objective of uncovering the local context and provision of exercise to infer current provision and how this can be transformed to be more inclusive. The established local social network within the local health and

care system had an impact on the delivery of appropriate exercise groups. Quotes pertaining to this will be included first. The Falls Group Provider had an aspiration for good provision of exercise activities for older people. This is documented as a facilitator, as people in the community knew what was needed to deliver a good service, but this was not happening on the ground.

He summarised his thoughts well by saying

> FGP 'I mean because obviously although we know that working with older people is a fairly new venture, and we have worked with all age groups, and just because people are older it's about the prescription of exercise that changes. If you took any group of deconditioned adults, no matter what their age, the approach would be the same. It's just the type of exercise you give them would be different.'

The Commissioner felt one of the keys to facilitate good provision was communicating the message around exercise as a physical benefit to the whole population. The idea that younger people would support their grandparents to exercise to ensure they were ageing better was an untapped resource. He said-

> NC 'I think there are a couple of things there, one is the right message, so something that people can understand, or if they don't understand immediately , it prompts them to ask, so it's something that promotes enquiry, #End PJ paralysis is very much around professionals questioning what is going …….and then secondly how do you get the message out there, and I think that sits very well in social media, as once you've got into social media networks you can get them out, get them viral, and as I say once you've got validation from a national body, people start paying attention, so a good message, and good conduits to get the message across. So, I think at the moment we are being a little errm backward thinking in statutory agencies in how we are engaging social media, as we need to use social media to access younger people. I mean younger people access social media for their own reasons, if we can take an adult instructional approach with you must do this, I don't think that's going to land very well with a 12 yr. old using twitter, or snapchat, and those kind of things, so I think the messages do need to be developed by probably a co-production approach for the target audience.'

He was very clear that any developments from a social perspective needed to be co-produced. As we have already seen, however the heterogeneity of the older population makes that an ambitious and complex aspiration.

Secondly, the political background, and intention of the whole NHS has an impact on the way services can be delivered. Participants made several important observations about the constraints of service delivery. Staff understood that they wanted to deliver a much more proactive prevention service, but were constrained by the commissioning targets. One of the therapist's noted that much of the commissioned services were focussing on 'illness' rather than 'health'. They felt the focus on falls was poorly directed.

> C-PT1 'falls, which was too late for significant reversibility rehabilitation to take place.'

And

> C-PT-2 'because if someone has had a fall, we pick up on it straight away, but if they haven't had a fall, we should be like ' great you haven't had a fall but you still need to be doing this, this and this- we would love to see these prehab patients, but they are never going to be referred...'

The limitations seemed to lie with the policy makers, but the Falls Commissioner (FC) stated that-

> FC 'So Um there's a plan, a formal plan. The aim, to get people to have a proper assessment, so we are looking at the capacity of the teams to deliver those assessments. There are some waiting lists at the moment, um; I mean it's balancing the demand on those teams for discharge and how it should be focussed on prevention.'

While there was an understanding of where the barrier lay, locally- there did not seem to be an intention to change things significantly, or radically. This contrasted with the National Commissioner who was clear when he said-

> NC 'I think those two particular policy directions, so aging well with one or two long term conditions, and to reduce disability and added life, and to prevent falls.'

This describes a clear intention from NHSE to move to a more preventative model.

> NC 'and one of the things which has been picked up, is firstly people being aware that it is available to them, and secondly being sensitised to the benefits and the need, for them to get involved in exercise. Thirdly um encouraging them to have an adequate dose of exercise if you like, and then to embed it into their day to day life on a longer-term basis. And I think there are some communication issues, and cultural issues that might create an obstacle to that, that people tend to associate exercise with energetic um, cardiovascular exercises rather than strength and balance training, which are much more accessible if people are adequately informed and educated about the benefits.'

Finally, the economic facilitators are described in these narratives. Some of the exercise providers suggested that having a broader view of exercise, and a system based on much more self-funding for provision would help incentivise people to keep active, for example, including a variety of exercise activities, and walking. The Tai Chi instructor who had been a recipient of a knee replacement himself was pragmatic when he said-

> C-TC 'We, as a self-employed person cannot afford to give our time away for free. There is a price for it. And I am afraid that the NHS have a major funding problem.'

The aspirations to encourage self-funding for exercise was suggested by the GP

> C-GP 'I just wonder with more and more engagement with patients, whether you emphasise the free first class, and then they can pay for the next few ones, I don't know.'

Economic benefits of exercise participation were articulated well by both of the commissioners who participated in 1:1 interviews. The concept that prevention would have an economic benefit did not feature in much of the service provision which the staff were delivering, nor with the third sector providers, who understood the value of what they were offering, but the National Commissioner explained his aspiration.

NC 'community prevention programmes, I think there are some good practice around the country, and we know there are some community assets which can be used, through schools, faith groups, and non-designated health assets. Things like fire stations, for instance have participated in exercise programmes, and we also know that there is considerable interest in this area from er um, the third sector, the voluntary sector, but it is extremely patchy.'

The Falls group provider was very optimistic about the possibility of engagement with the right incentives-

FGP 'I think if you had a blank cheque and enough time, and enough money, you could get everyone exercising- maybe that's a bit naive, because I'm sure everyone says the same thing about that. But when you look at some of the clients we've got, you would look at them and say they are some of the hardest to reach people, and yet they are engaged, and they are enjoying it, so for every one of those that are in the session, there are another hundred, so we need to try and reach them.'

The economic benefit of addressing the prevention agenda was not observed in this setting and did not appear to be the direction of investment in this community.

6.2 Barriers which influence participation at a macro level

There are some aspects of popular behaviour and perceptions about growing old, which have a negative impact on the possibility of participation. The barriers are described in this section as social, political and economic barriers to participation.

Firstly, the social barriers are described at a macro level. There were some general concepts which hint at aspirations for behaviour change at a societal level.

EX3-2 'If they don't want to improve it, it's down to them. I've got 2 friends, one still smokes, although he's riddled with COPD and emphysema, the other one up the road has just stopped smoking, he hardly goes out at all, both, well

> one never even came to the class, and one came for one, and then that was it. And they are both virtually now recluses in their own home, crippled. Both of them. There's the difference.'

The falls commissioner observed an expectation of sitting and resting with reaching a certain age-

> FC 'but there is an expectation on the elderly, that they, there's a cultural thing that people need to sit down. If anyone comes in the room, and looks a bit frail, well, we need to find you a chair to sit down on whereas, stand up (laughs), anyway.'

This was reiterated by the Falls thematic lead

> FTL 'Others just accept ageing as being you get less fit.'

A third sector provider said

> C- TC 'This is one of the challenges, is getting them to get off their backsides, and try something.'

This gap in expectations around movement, and the challenge of changing this perception would seem to be one of the key gaps to be bridged, at a macro level.

Secondly, the political barriers derived from the data are described. These include the articulation of the traditional physical boundaries, or knowledge boundaries within which staff work. The political barriers include discussion around changes at system level, and delivery across some of the health and social care barriers.

The therapists noted that commissioned services tended to focus on falls meaning it was too late for significant rehabilitation to take place. Whilst the barrier seems to lie at the feet of the policy makers the commissioner stated that

> FC 'So Um there's a plan, a formal plan. The aim, to get people to have a proper assessment, so we are looking at the capacity of the teams to deliver those assessments. There are some waiting lists at the moment, um; I mean it's balancing the demand on those teams for discharge and how it should be focussed on prevention.'

While the problem was being acknowledged, there did not seem to be an intention to change things significantly, with further investment.

One participant described her feelings

> EX3-2 'Society isn't interested! If you are ill society isn't interested. If you are ill, the only people interested are the people with the illness, or the people looking after the people with the illness!'

Providers did not see the changes in direction of investment in their current community services. The investment still seemed to be in hospital avoidance services, or early discharge services rather than investment in healthy ageing per se.

The falls group provider was clear that change at a system level was possible, but needed more research, and spread of the evidence.

> FGP 'There needs to be a wider acknowledgement of the work that is being done. So literally every GP should be aware of the options that are out there, and as much as we try and knock down as many doors as we can, and it's also the recognition of the benefits of physical activity to this age range. There isn't enough research around it.'

The National Commissioner also recognised the lack of understanding of the evidence base for exercise participation across the system.

> NC 'it's not something that, errm for which the evidence base is perhaps properly understood.'

He went on to describe a change of emphasis from a focus on bed-based care to 'primacy' for primary and community care

> NC- 'Errm, and I think the other thing is that we have a lot more to do about restyling the narrative around health delivery as a primary care community where hospitals are the adjunct and giving primary and community care primacy in the NHS. I don't think we are there yet. There is continuing debates over parity in those domains of practice, and we also have this slightly tense narrative around social care which I think people have now realised that it has got something to do with health benefits, but its again

> about that being aligned in the right way, with health promotion, and prevention, and getting the workforce aligned to general passing the direction of the narrative, and I don't think we have just yet. I guess just some thought and creativity around that from the workforce might be welcomed.'

Finally, there are economic barriers to participation in exercise at a macro level. Cost has been mentioned already at a meso level, in section 5.2 but there are cost implication at a service level, or system level too. This was highlighted by some participants as a barrier to developing better exercise uptake by older people. There was a strong aspiration for public health prevention initiatives, but the sense that we are in the early days of such a step change in service delivery is reflected. The Tai chi instructor described his frustration with the pathways for commissioned exercise services

> C-TC 'I know I batter on about cost, but we have to pay for everything, but I know when I first started teaching, Um, I was engaged by the local Social Services, and Primary Care trust to get them working more together. That was 2002, 2003, and I was told by someone at the CCG, that they are nearly getting there! Um, when I started teaching for social services, they were paying for me as a self-employed person, and it was part funded by the Primary Care Trust. Now that was very successful, because it appeared to be free to the end user. Now that stopped in 2009. The Adult Education authorities, we know cut their budgets. You are not going to get someone to volunteer unless they are getting something out of it. I mean my wife, is on the committee of this, and the committee of that volunteering, and I do lots of volunteering, but at the end of the day, to be able to make it a mass activity, we need more people to do it. I have said to my colleagues there is room for another 11-full time Tai Chi Quiong instructors in (City). Well you say, how are we going to do that? Well we are not!'

National Commissioner described some of the significant investments which would be required for reaching particularly hard to reach subsections of the community.

> NC 'But there are always going to be hard to access people, so people who are restricted for example by their long-term conditions, who might not be directly in view of say the public systems, who may have a disconnected

> neighbourhood environment. We know that isolation is an increasingly common problem for older people particularly, and those with long term conditions, and those with cultural and language issues. So, where you have an urbanised area with lots of non-English speakers, it may be that the promotion and accessibility of the exercise programmes that might be available, are very much geared up to one subset of the community and not as universal, as perhaps they could be. Errm, I think there is always going to be a resourcing issue, but I think we probably always think of this as a health-based exercise and we need to find a narrative which um enables people to understand the other gains and benefits in terms of things like social connectivity. So, I think getting the language right is very important for individuals to understand what is in it for them. What are they going to gain, and what are those connected to them and important to them going to gain from the engagement in structured exercise programme**?'**

The Falls Commissioner described some possible investments to overcome the financial challenges for hard to reach people-

> FC 'whereas if it was sold as a self-management approach, where people are responsible for these groups, and everyone needs to pay to go, and people would probably take it up, and we need to think about people who can't afford it. Needs to be affordable, and accessible, but there are ways to do that. Like the AgeUK one, we've set up a pot of money that AgeUK have got, where they can subsidise someone who can't afford, if they say one of the reasons they can't go is they can't afford it, then we'll pay for that and then we'll do some welfare support to make sure you get the benefits, so then you can afford to go.'

Two further economic barriers were mentioned. The first was around the lack of economic foresight to train exercise instructors in being equipped to train older people in tailored suitable exercise classes

> FGP 'It's still very much dominated by the Gym based market, and unfortunately the way that training has gone now, you can do a level 1, level 2 training, or vocation in a week, and you can't possibly have enough experience to be trained properly, and it's a bit of a saturated market now,

> but where no one is looking is this older age range. I mean they have time. They have some income er. The gains are massive, so if you take someone who hasn't done any exercise in 10 years, and you get them exercising twice a week. The gains are massive! And it's enormous. The biggest gains are in the 0-1. That's where the money is, and that's where the benefits occur. Um, you know the fitness industry is just not buying here, and I don't know why. It's a short term…. They are just churning out the same marketing to the same people.'

The second economic barrier is around the workforce. NC recognised that to change the delivery of services to patients and to move towards a more prevention agenda, a change of workforce is required. This will have some economic impact, as further investment is required

> NC 'I've started to try and get across, particularly around the NHS about understanding the value and the worth of the AHP workforce, all brands and domains of AHP and practice. Many of which have something to contribute to prevention agenda. The AHPs make up 1/3 of the NHS workforce, and I think we still have public facing narrative around Doctors and nurses are the workforce of the NHS, but we have a whole 1/3 who have much to contribute to the domain of exercise and health promotions, at a certain age.'

6.3 Summary of qualitative findings

The identified themes to emerge from the data at a population level demonstrate both barriers and facilitators.

At a micro level the facilitators were expressed as an understanding of the usefulness of exercise to keep healthy, a sense of self-empowerment through participation, and the value of the social interaction of participation. People also described a strong life course relationship with exercise which continued into their older age.

Barriers to participations expressed were around current state of health which prohibited the exercise on offer, such as pain and fear of falling. Others described a lack of motivation where the challenge of participation outweighed the perceived

benefits. There was a seasonal variation in participation, and the lack of gender specific groups was also seen as a barrier to participation.

At a meso level factors to facilitate participation include the experience of activity and activity levels at home, with friends and family. The knowledge and character of the instructor had a significant impact on facilitating people's participation in group exercise.

The ease of access to the group was also fundamental to participation, and poor access was described as a barrier. The role, and character of the instructor and the prescriber were instrumental at this level, and the content and style was described as a barrier to participation.

While the staff had an understanding of what good provision looked like, many of them were unable to deliver this, and were frustrated by the lack of options to support older people in participating in exercise. This disconnect often lead to attrition from the group. There was recognition that many prescribers did not know what was available to prescribe, nor what would be appropriate, which was described as the 'knowledge gap'.

At a macro level the facilitators and barriers at a policy level were categorised as social, political or economic. Facilitation depended on better communication around exercise and ageing, and a need to move towards investment in a preventative model of exercise for older people, with recognition of the economic benefits of this investment.

Barriers to exercise uptake at a macro level were articulated as a general concept that older people should put their feet up and have a rest, and a lack of understanding about the benefits of exercise and the economic gains from illness prevention strategies.

Further development of the themes and elaboration follow in the Discussion Chapter (Chapter Seven).

Chapter 7 **Discussion**

7.1 Introduction

This chapter will review the aims of the study and summarise the findings captured in Chapter Four, Five and Six. The findings will be reviewing in relation to the existing body of knowledge, and the unique findings of this study will be outlined.

The aim of this study was to explore older people's views, experiences and perceived practices related to exercise engagement to better understand why some older people are engaged in formal exercise groups, and others are not, in a small community setting. Listening to their own views as well as providers, hearing the experiences, and observing their activities will inform new strategies for engagement.

The objectives of the study were:

- To identify and describe the different exercise practices within the study area, using focus groups participant observation, field notes, 1:1 interviews, and a critical ethnographic methodology.
- To explore the views and experience and perceived practices of exercise for older people, though their own voices, but also those of exercise providers, prescribers and commissioners.
- To understand the perceived barriers, facilitators and contexts of participation or non-participation of older people in exercise groups, though their own voices, but also those of exercise providers, prescribers and commissioners.
- Reviewing personal narratives to uncover the local context and provision of exercise and infer current provision and how this can be transformed to be more inclusive.

The results articulated in the previous three chapters comprise the qualitative data gathered in this study. The data was gathered from focus groups from three groups of older people who participate in regular exercise, two groups of people older people who do not participate in regular exercise, and a focus group with staff who either prescribe, provide or commission exercise. These data were augmented with field notes, from each activity group and semi structured interviews with key people who were unable to attend the focus group.

The complexity of the account captured here, reflects the complex social and clinical worlds, social actions, and public-sector organisations (Hammersley and Aitkinson, 2019) within which the study was set. The implications drawn from the qualitative data around the themes of micro level, meso level and macro levels of engagement or disengagement are included in these discussions. This includes elements of critical appraisal of the study data and change strategies to improve outcomes for older people through recommendations of policy and economic shifts (Ritchie et al, 2014). In this chapter the data will be developed further using the lense of of the COM-B model of behaviour change model (Michie et al, 2011) (Figure 3.1 in Chapter Three) , which encompasses the need for change with policy categories (macro level), intervention functions (meso level) and sources of behaviour at a personal level (micro level). The sources of behaviour described in the COM-B model are capability, opportunity and motivation, at least one of the sources of behaviour must change for the behaviour to change. The detail of the sources and therefore the implications for behaviour change will be dicussed.

7.2 Identify and Describe different exercise practices

The context of exercise practice in the city was described in section 3.4 as the background for the study. Three specific areas of exercise were reviewed in detail. They were selected to represent the variety of exercise provision in the city, a tai chi group, a falls prevention class, and a pulmonary rehabilitation class. I observed the practice of exercise in three very different setting, using participant observations and field notes.

7.3 Views experience and perceived practices of exercise

I listened to the views and experience of older people who participated in exercise as well as those who did not. Their views and experience of exercise were captured under the micro, meso and macro level of findings in Chapters Four, Five and Six. They include the perceived barriers, facilitators and context of participation, which were articulated by participants. The voices of the providers of exercise, prescribers of exercise and commissioners were also invited to describe their experience of exercise, with their perceptions of barriers to uptake of exercise.

7.3.1 Micro level: individual's expressions of their intrinsic facilitators and barriers to exercise participation

Participants in formal exercise as well as those who were not, described facilitators for exercise at a micro level of self-belief and self-esteem, or on a personal level. This was defined as '*knowledge around the benefits from participation, intrinsic feelings around participation, the social engagement which exercise brought to the individual, and the lived experience or life course of exercise experienced by the participants*' (Section 4.3 p84)

Participants and non-participants expressed an inherent understanding of the usefulness of exercise to keep healthy, as a motivator for activity, reflected in a quote from a non-exerciser 'well it's obviously very important. If you don't use it, you lose it! Don't you?' This 'lay knowledge' was reflected in the literature, (Stead et al, 1997, Graham and Connolly, 2013, McGowan et al, 2018) where participants were aware of the benefits. The recommendation from Franco et al, in 2015 to increase awareness and benefits of exercise alone would not be a compelling approach in this locality to bring about change in exercise practice.

The intrinsic feelings of helping improve overall wellbeing illustrated by the quote form an exerciser –' It makes you feel better in yourself' (Ex 3-6) was well referenced in the literature, with a sense of keeping healthy (Halaweh et al, 2016, Hurd Clarke et al, 2020), and being 'confident cheerful and safe' (von Berens et al, 2018). The factors, which engender the sense of positive wellbeing, were also quoted as compelling factors in the group participants, with humour, and self-motivation important with one participator suggesting 'you've got to bloody do some of it, for yourself' (Ex 3-4).

These components to influence change in exercise can be categorised using the sources of behaviour in Michie's Behavioural Change Wheel (BCW), within the green, inner circle of the wheel (Michie et al 2011), which is shown in figure 3.1.page 49. Within the COM-B**,** the C of the COM-B –**Capability.** It is defined as the physical and psychological capacity to engage in the activity and having the skills and knowledge necessary for that engagement (Michie 2011et al).

One of the key barriers for engaging in exercise, among older people in this study, related to people's perceptions of their own physical ability. People commonly

expressed a fixed view around what they were able to do in their current physical state. This would concur with the literature (Franco et al, 2015, McGowan et al, 2018). Buttery and Martin in 2009 described the top three reasons for non-participation in exercise were having an injury, perceptions of poor health, and the feeling that the older person was already active enough, so did not need to change their behaviour. This study concurs with these findings and suggests that people were not participating in regular activity because they felt unable to participate or saw no further need to do so.

The **opportunity** to participate in exercise is described in the Com-B model as the factors which lie outside the individual that prompt that behaviour. These are also described as physical and social. A surprising finding in this study was the level of change in seasonal activity as an opportunity for exercise, which was expressed by participants. While weather was identified as a factor by Morgan et al (2019) seasons were not. There was an obvious increase in activity during the physical summer with plenty of gardening outdoors but a slowing down and as one person described '*hibernation'* during the winter. One participant noted the detrimental effect of having such a break and her uncertainty as to whether she might ever return to her autumn level of fitness. Those who were involved in indoor activities such as Tai Chi in the Community Hall or falls groups at the football stadium did not talk about seasonal changes. Those who were living with COPD expressed weather related changes to their illness, mentioned the seasons. But they concluded that neither hot nor cold weather suited them, but they came to exercise anyway.

A second physical observation was the variance in expectations and uptake between men and women in the study and is worthy of note. There were more women as participators in all of the groups, exercise or non-exercise. This may be simply reflective of the demographics of the local population or may be more reflective of the provision, which was not attractive to men, who may be more used to a competitive and 'sweating' (Ruppar and Kraenzle 2007) exercise experience. However, the falls group was in the football stadium, which would seem to be attractive to men, if they were supporters of that football team, but this was not reflected in attendance. There are locally a few other activities which attract men, such as a walking football group, but they are few and far between. Women stated they were less comfortable in a gym or swimming in this study, which is reflected in the literature (Moore et al, 2011,

Gandy et al, 2017, Hurd Clarke et al, 2020). The implications will be discussed further in section 7.5.

Motivation is defined by Michie et al 2011, as the processes, which direct and energise behaviour, such as setting goals, and conscious decision making as well as habitual behaviour and analytic decision making. This is divided into either automatic or reflective. Participants identified social engagement as a core motivator for being part of a group, and the strong group identity with one participant suggesting '-'well we are a group, we know each other. If it weren't there, would we exercise?' The social connection of walking together was described in the studies that reviewed participation in walking (Ory et al, 2016, Lee et al, 2015, Moran et al, 2017, and Thorpe, 2006 Hwang et al, 2019). The literature also noted the social connectedness of being part of a group was important to an ongoing commitment and concordance with the exercise environment (Stathi et al, 2003, and Farrance et al, 2016, Halaweh et al, 2016, Sandlund et al, 2018, Shvedko et al, 2018)). Some of the participants of the exercise group described it as being like a 'family of support' without which they would not have continued to exercise, despite the knowledge and experience of knowing the benefit. The sense of belonging and feeling a part of what went on was very evident. Significant feelings of wellbeing from participating in these groups resonate with evidence from Menichetti et al (2018) where the sense of taking control of one's own health is critical to enabling positive outcomes and gave a compelling reason to participate, and to continue with the exercise group. The self-reported wellbeing scores for all the older people were high- indicating that the participants in this study were experiencing high levels of wellbeing. The sense of pleasure was also very high for all groups, which reflected the literature (Phoenix and Orr, 2014, Humberstone and Stuart, 2015 and Morgan et al, 2019).

Participant's previous experience of exercise also had an impact on their motivation to connect (Martinez del Castillo et al, 2010). The life course experience of exercise was expressed by participants in this local study, with the quote 'well I have always done some form of exercise 'illustrating this. This was reflected in the literature (Weeks, 2008, Weddle, 2008) where understanding someone's history helped support them in the group. This study demonstrates that with the right type of intervention, people were prepared to engage, and stay engaged. Quality of life experience and life course indicate that to improve quality of life in later life

proximate factors are more salient than distal factors. Recent experience is as important as the whole life course (Martinez del Castillo et al 2010). Service providers must refer to the most recent experience of engagement to enable wider participation (Hyde et al 2015). This study found that often presented options were not suitable for participants, but they were given no choice for revision or further development of a more suitable exercise-there were simply nothing else offered.

Reviewing the type and manner of interventions offered for older people is relevant to the motivation for engagement and behaviour change. The literature indicated that often education is the target, giving information and goal planning at a personal level to develop motivation (Stathi et al, 2003, Moore et al, 2011, Michie et al, 2015), but recognised that information alone is not enough(Moore et al, 2011 and Phoenix and Orr, 2014). None of the groups in this study used affective changes such as positive thinking, motivational interviewing, and harnessing the support of friends and families (Menichetti et al, 2018).

7.3.2 Meso level: others' experience and external influences

Meso level experience describes why people behave in a certain way, which may support or oppose participation in exercise. Any ideas or concepts which were described about 'others' rather than 'self' were included in this section of data. The community belief systems around ageing and exercise were also articulated at this level. This is described as the intervention functions in Michie's Behaviour Change Wheel (Michie et al, 2011). These focus on modelling, education, persuasion, incentivisation, training, enablement, environmental restructuring, coercion and restrictions. Many of these behaviours involve the beliefs, understanding, and actions of the instructor within the exercise group as well as those who may be recommending activities and referring into them, such as clinicians and care navigators.

The support from home, family and community and the acceptance of exercise was very important as a motivator to continue with the exercise group. Several people in this study expressed this as a key factor for them. This was a common theme from the literature (Farrance et al, 2016, Martinez del Castillo et al, 2010, Arkkukangas, 2017), with the ability to incorporate the exercise into their daily routines.

There were several environmental barriers to engaging in the exercise groups, identified by older people and health care professionals in this study. This was a very common theme in the literature, particularly with reference to walking groups (Wagstaff, 2006, Franco et al, 2015, Ory et al, 2016, Moran et al, 2017, McGowan et al 2018). The suitability and access of location for holding the falls exercise groups were not conducive to welcoming older people with poor public transport, and very long distances to walk from the car park. This was contrasted with the lunch clubs which were both held in community halls, were readily accessible, and most of the participants were able to walk, or were given lifts to attend. These access issues were recognised by the Commissioners and the providers, but there seemed to be an inertia, or an inability to do anything about it. There needs to be both environmental access but also variety to exercise and activity for older people to be able to choose and engage in, at a local level. One of the groups had a physical barrier or restriction to maintain a clear 'power' difference between the expert clinical provider and the participants, in the form of a coded locked door, where access was only granted when the 'person in charge' deemed the time to be right to start the session.

The presence of environmental barriers appeared to be an outward expression of an inward power imbalance. This is clearly at odds with the recommendations from Menichetti et al (2018), who advocate self-management techniques and behavioural change (Moore et al, 2011, Michie at al, 2015, and Hawley –Hague, 2015) to enable long-term effectiveness from interventions of physical activity. Participants in this group still expressed a degree of autonomy from their CASP19 scores, and this obvious power was not articulated in the study, but the use of the term 'adherence' for exercise in the literature (Farrance et al, 2016) reinforces this power imbalance. This is a key observation from this study, and I would advocate for the use of the term concordance to describe the relationship between the instructor and participants.

While cost was mentioned in the literature as being a potential restriction for engaging with exercise, (Wagstaff, 2009, Moore et al, 2011 and Gandy et al, 2017), the group who came from the lowest demographic band did not mention it as a barrier.

Health care professionals described a key gap in their own knowledge in understanding what was available to prescribe. The Community Nurse recognised that there was significant potential for better preventative work to be undertaken, by

starting prevention conversations much earlier in treatment pathways. Many staff could be working in partnership with the third sector providers in referring people into the falls groups, Tai Chi Quiong or dancing but were unaware of either what was available, geographically, or the evidence base for the intervention. This meant they were unable to even signpost people to the activities, let alone offer some affective incentives to attend (Menichetti et al, 2018). The role of the 'social support' as a strategy for improving the uptake and adherence to exercise has been clearly articulated in the literature (Hawley Hague et al 2016, Arkkukangas 2017), and was reinforced in this study.

The final discussion at a meso level, is in response to the exercise instructor themselves. There is significant evidence for the key role which the instructor plays (Hawley Hague et al, 2016). Older people themselves, participants and non-participants alike, endorsed this. A good instructor was key in the ongoing concordance with a programme, but the instructor also become the reason that the participants discontinued a programme. The character and personality of the instructor was mentioned as a reason to continue to attend the classes. The power distance, around being 'made' to do things, was cited for participation, but also the 'expert patient' was a powerful advocate for changed behaviour. This is a very underdeveloped strategy within the NHS but is a compelling way to see behaviour change. Evidence suggests that participants are the best recruiters for an instructor-building up their client base (Hawley Hague et al 2016). The participants described people bringing their friends along to the Tai Chi group, and the Falls prevention group, where people felt the group 'worthwhile'.

Instructors in the literature described the 'personal touch' and the 'encouragement to commitment', as being critical, (Hawley Hague et al 2016) and recognised that often people dropped out in the short term for their own ill health, or caring responsibilities, but if the class and instructor continued, they would return. This connectedness is less possible in a short-term course, or if the instructor changes. The staff in this study did not mention any experiences of using behaviour change to encourage people to engage with exercise. This seemed beyond their current ability, and they did not have the skills to include some affective components within their daily practice (Menichetti et al, 2018). French et al, (2014) found that some of the commonly used techniques for engaging in exercise such a goal setting and prompting

with feedback were not as effective for older people, and other motivators may need to be considered. Staff in this study did not describe using any specific techniques to support with engaging older people.

One aspect of provision mentioned repeatedly by the providers and commissioners was around training for instructors to feel confident and to be able to work with older people. Education and training are cited as components of the intervention functions in the middle 'layer' of the Behavioural Change Wheel (Michie et al, 2011). These interviews demonstrated that staff rarely advised participants to undertake any form of exercise (Buttery and Martin 2009). In addition, older people reported their clinicians or exercise instructor telling them that they should no longer participate in a particular activity, for health reasons, and were given no alternative, and certainly not encouraged to participate in anything new. A number of participants reported this, which reinforced their beliefs that older people should not participate in exercise (Franco et al, 2015 and McGowan et al, 2018). If clinicians, and exercise providers have no understanding of the value of exercise for older adults, there is clearly work to be done, to change that belief system. This adds to the evidence for the need for training and behaviour change for staff to enable robust service design.

7.3.3 Macro level: the experience of exercise –whole system perceptions.

The macro level themes describe the overarching narratives at a high level of decision making both within the city and national policy agendas. In the COM-B model these are described as 'policy categories' and include service provision, legislation, communication and marketing, environmental and social planning, guidelines, fiscal measures and regulation. Many of the staff and providers as well as the commissioners provided insights into beliefs and actions of the community, which they felt, influenced uptake of the exercise, as well as concordance. Morgan et al (2019) in their systematic review of barriers and facilitators of exercise expressed the influence and support of providers as being key to ongoing engagement. This was evident in this study.

The data described approaching exercise as a '*stealth'* intervention (FGP) and *coming from the approach of being lonely* (FC), as ways of overcoming older people's reluctance to engage. This was echoed in Morgan et al's work (2019), where an

overemphasis on health benefits was of less importance than life satisfaction and having a sense of purpose.

Political observations were made by many of the participants in the study. The therapists noted that much of the commissioned services were focussing on 'falls' which was too late for significant reversibility rehabilitation to take place. The commissioners described a move 'upstream' towards a preventative model, but observations of staff were that this was not the direction of investment in the community currently.

Staff, as well as commissioners, realised that their knowledge of the evidence was '*not great'* (FTL) nor had they an understanding of the individual preferences, and dosing of exercise, and navigation around the complexities of community services. An available source of local activities as well as a consistent approach to referral into them would be an obvious solution to this lack of accessibility, and knowledge. This was not articulated in the literature as a solution.

The final concept at a macro level is the economic or fiscal measures around exercise uptake. There are implications for funding, and significant barriers to redirecting funding to support a preventative strategy rather than an illness focussed strategy, but there are obvious benefits for a more proactive approach to supporting older people before a crisis occurs.

The complexity of disentangling the multiple strands of the data to make analytic sense, and then build and reintegrate them into this ethnographic account has been challenging! The synthesis is described in the three levels, which were articulated by the participants, field notes and observations. The mix of impersonal realist data is combined with more personal analysis and observations (Hammersley and Aitkinson, 2019).

7.3.4 Summary of findings

Five key findings were articulated in this section. The first novel finding which was not documented in the literature was the impact of the seasons on the uptake of

exercise for those who do not necessarily undertake any formal exercise. Participants were clear that they were far less active during the winter. This is a significant finding as research on activity is often conducted over a short time period (often a few months) and there may be significant seasonal variations in activity levels which have not been accounted for. This could result in false conclusions being drawn. Any activity-based study should include a whole year of data to mitigate for the seasonal variation effect.

The second finding relates to the literature description of 'adherence' to exercise. Participants were describing a relationship with their instructor where there was mutual support, and tailoring to their individual needs, rather than a blunt 'take it or leave it' prescription of exercise. These findings from my data support existing knowledge, but I suggest the use of the term 'concordance' is a better description of the relationship with exercise prescription, participant and instructor, incorporating their respective views and social values. This abstraction of knowledge into a novel concept, has relevance for future research. Further development and evaluation is needed to facilitate inclusive participation in exercise, and to move the discourse into a new paradigm with genuine co-production at its centre. Co-production of exercise offers a deeper intention to meet the needs of older people themselves.

The third finding, which supports the existing literature was the expression by women that they did not want to participate in Gyms with men and found swimming hard. Although women were by far the higher participants in these formal exercise groups, the literature identified variations in the expectations of genders (Hurd Clark et al, 2020), and these participants concurred. The literature identified that there was a gap in provision for men, which was seen locally, and may explain why we had so few male participants. Men need further choices of activity. This lack of provision specifically warrants further investigation. This study did not meet the expectations of addressing the needs of a multicultural city, and there may be additional information about gender and ethnicity which has not been uncovered. Further investigation of this is needed.

The fourth finding was around staff knowledge for supporting older people in taking up exercise. The lack of knowledge was twofold, both in their understanding of what was available to prescribe appropriately, but also for providers in their confidence to

support and tailor exercise to older people. This was not a new finding (Gandy et al, 2017) but was significant, and was triangulated by both staff themselves acknowledging that they did not know what to prescribe, and participants describing leaving groups as the instructor was unable to deliver what they needed. Some participants who were no longer active in groups, were told to stop exercising with no alternative provision being offered. This is a new finding, where staff told older people to desist from a particular exercise, because they felt that it was too risky to have them in the group, rather than the accepted rhetoric that older people drift off because provision did not meet their needs. The complexity of the data demonstrated the heterogeneity of the older population. They all have history- things they have enjoyed and things that have really put them off any form of exercise. The crucial factor from this data is the confidence of the instructor in personalising and tailoring any provision to the individual. There was recognition that behaviour change often happens at a point of crisis, which offers a key opportunity for health professionals to include exercise as a core part of any recovery process, and rehabilitation for someone experiencing any health crisis, and concurs with Buttery and Martin's (2009) findings that there are many 'missed opportunities' for engagement with exercise, by all staff. Thus, activity need not be reserved for those who fit formal commissioned pathways, such as cardiac or pulmonary rehab, but any other physical or mental health crisis which requires medical intervention, should be prescribed with an exercise component too (Nash, 2012).

The fifth finding was the impact of the underlying belief and knowledge of exercise by the older person themselves. This was well evidence in the literature and not new, knowledge. However, my data clearly demonstrated influences for older people at a micro, meso and macro level. Thus, any significant change needs to be influenced at all three levels. The data analysis demonstrated that the non-participants had as much knowledge about the value of exercise as the participants. Most of them could give clear reasons why exercise was valuable, but they also had good reasons for not participating- this gap from knowledge to action needs to be bridged. Using the three levels of the behaviour change wheel (Michie et al, 2017) to articulate the need for behavioural change at source, intervention and policy levels may be a useful tool to support bridging the gap. This final finding is of significance in offering a new paradigm to influence behavioural change or identify root causes for a lack of

behavioural change, and may be useful to staff, older people, and policy makers to support an increase in uptake of exercise for older people.

7.4 Strengths and limitations of this study

The critical ethnographic approach in this study added a focus on understanding relations of power by merging a complex dynamic qualitative strategic enquiry with a critical stance (Vandenberg and Hall, 2011). I was observant of the dominant power relations as I watched and listened to the participants and was conscious of wanting to hear their voices above all else. One of the key strengths of this study is the emersion of the researcher in the locality of the exercise participation, giving thick rich data. The weakness in this is the obvious risk of bias, from having such a close connection with the participants, and a vested interest in any policy changes, from my own professional background, which has the danger of reinforcing dominant power relations. I believe I have documented my biases, and therefore give an opportunity for my views to be critiqued in their context.

This study is limited in its ethnography, in that it was undertaken in a small locality within one city. However, the depth of drilling deep into the experience of exercise in three separate contexts, and then interpreting the findings against the current political and social context to develop new knowledge and theory around how to best redress the power imbalance was compelling. In this study the implications of the data gathered, has a goal of articulating the process of what can change to enable better provision for the future, and to target specific changes to ensure we are addling life to years, and not simply years to life. This study used the voices of the participants 'emic' to reflect the 'etic' from the staff and prescribers understanding of what was happening, to offer developments for policy and practice. A significant gap was in the lack of ethnic mix for the study. I would have hoped for more ethnic diversity in the study, and could have purposively sampled an activity, which was attractive to some of the black community. However, at the time of starting the study no such group was readily identifiable.

One of the key limitations of the study has been the length of time the process has taken, which has meant that the whole system has changed dramatically since the inception of the research. This has been significant in the expectations of the delivery

of exercise at practice level, but the findings still hold true in spite of the paradigm shift since COVID.

The findings are generalisable to other areas as there are some similarities with the findings of the literature reviews but must show some caution with extrapolating the findings more widely, without comparing population data. However, as previously stated, by the heterogeneity of the groups participating, the inclusion and triangulation of exercisers, and non-exercisers as well as staff delivering and commissioning services, there will be the possibility of significant transfer of findings. Data saturation was reached which would suggest that the views reflect much of the population. However, we must recognise that there are some hard-to-reach people, whose opinions may not be included here.

A limitation in the generalisability of the findings reflects that not many of the participants were living with severe frailty. This may reflect a sense that people living with frailty are not likely to see much reversibility in their condition, so are less likely to participate. This is an area which warrants further study.

7.5 Implications for Policy and Practice

The implications and critical suggestions for practice are outlined here, using the COM-B model (Michie et al 2011), with sources of behaviour, intervention functions and policy categories.

7.5.1 Sources of behaviour (Opportunity, Capability and Motivation)

The gap described by the health care professionals in their lack of understanding around what was available, significantly reduced the opportunity for participation. The Community Nurse recognised that there was potential for better preventative work, but this was not a natural part of her toolkit for care. As already stated, the role of 'social support' as a strategy for improving the uptake and concordance to exercise (Hawley Hague et al 2016) is clear. The need for 'peer promotion' and 'word of mouth' to build confidence is also evident. Therefore, promoting ways to facilitate this within our communities is key. This was a significant finding as the lack of local knowledge around provision of suitable activities for older people, is readily reversible.

The crucial factor is in personalising and tailoring any provision to the individual. There was recognition that behaviour change often happens at a point of crisis which points to the key opportunity health professionals have to include exercise as a core part of any recovery process, and rehabilitation for someone experiencing any health crisis. This need not be reserved for those who fit a formal commissioned service, such as cardiac or pulmonary rehab, but any other physical or mental health crisis which requires medical intervention, should be prescribed with an exercise component too (Nash 2012).

The GP in this study suggested that the first class be offered as a free 'taster'- which is offered by some third sector providers, and often for children's activities. This would enable wider uptake and support for groups, currently outside of the NHS. Providing opportunities for exercise, such as Tai Chi, could help develop exercise provision in the city.

The data demonstrated motivation for behaviour change comes with an optimism that inclusion is more critical than the ability of the person to engage at the highest level of activity possible. This is not echoed across the clinical world, in my experience and there remains some suspicion from clinical providers for social prescribing and encouraging and endorsing participation in non-clinical nor evidence-based practice (such as walking groups). While using an evidence base is a core part of professional training, the reality is different. Commissioned services, for exercise, may be founded on the evidence base, in terms of the specificity of the activity, but do not follow the evidence base for the length of the intervention. Our local therapy team offer a four-week programme for falls prevention, where the evidence base is very clear that there needs to be at least a 16 week intervention period (Bull 2011, NICE 2015, Sherrington et al 2017). For pragmatic and cost reasons this is not available. This kind of inconsistency is prevalent, and a blind spot in many systems. Empowering people to understand the evidence and then make their own choices around how they implement that is key.

The NHS STP plans to move care closer to home has reached the level of re organisation of some of the formal health services into community clusters but has not yet reached a voluntary level to ensure that preventative and health sustaining activities are also available locally. Although, some businesses are managing to

access the local market, such as 'Weight Watchers' and 'Slimming World', there are fewer organised exercise groups, and commissioning is slow in pump priming these. The best example of a local and sustainable model for activity is the Parkrun, but this is rather inaccessible for anyone other than those who are already able to manage a 5k run- this has developed more recently into a walking 5K, which is a good development

The literature and this study demonstrate that personal beliefs held by older people that exercise and ageing are in conflict (Franco et al, 2015 and McGowan et al, 2018). This was a view held by older people who participated as well as those who did not participate in exercise, and some staff too. It became clear during the data gathering and analysis that the non-participants seemed to have as much knowledge about the value of exercise as the participants. Most of them could give clear reasons why exercise was valuable, but they had good reasons for not participating- this is the gap to bridge. There was recognition that behaviour change often happens at a point of crisis which points to the key opportunity which health professional have to include exercise as part of the recovery process, and rehabilitation for someone experiencing a health crisis. The extend of this provision needs to go beyond formal commissioned services such as Cardiac or pulmonary rehabilitation but move towards any physical and mental health crisis, and include a decompensation of frailty (Nash, 2012)

Any changes in this micro level, needs developing with self-management strategies and behaviour change modelling (Michie et al 2015). Some local trusts have used motivational interviewing training for therapists to develop skills in bridging the gap in their own self-belief or motivation for uptake of exercise. This behaviour change also needs to take place at a macro level- or with policy and leaders to ensure an integrated approach with strong leadership.

This study supports the ability of staff to use the behaviour change model they espouse, to suit the needs of the participant, as well as to dose and tailor the exercise provision. This is what was missing for the participants in this study. The need for behavioural change, can be addressed using the COM-B behavioural model. The COM-B model has been used by the Later Life Team and Professor Dawn Skelton to encourage behavioural change, with their training package, but is not used locally, nor is a core part of training.

Further behavioural change insights from Kohl et al, 2012 suggest that behavioural change models are often cyclical, which renders them simplistic and ineffective (see diagram A below). However, the complexity of the system affects the ability for change-, which is better illustrated by diagram B (Kohl et al 2012). The interaction of the complex system is similar to the complexity of the COM-B model (figure3.1) which includes all aspects of the system, and its readiness for change.

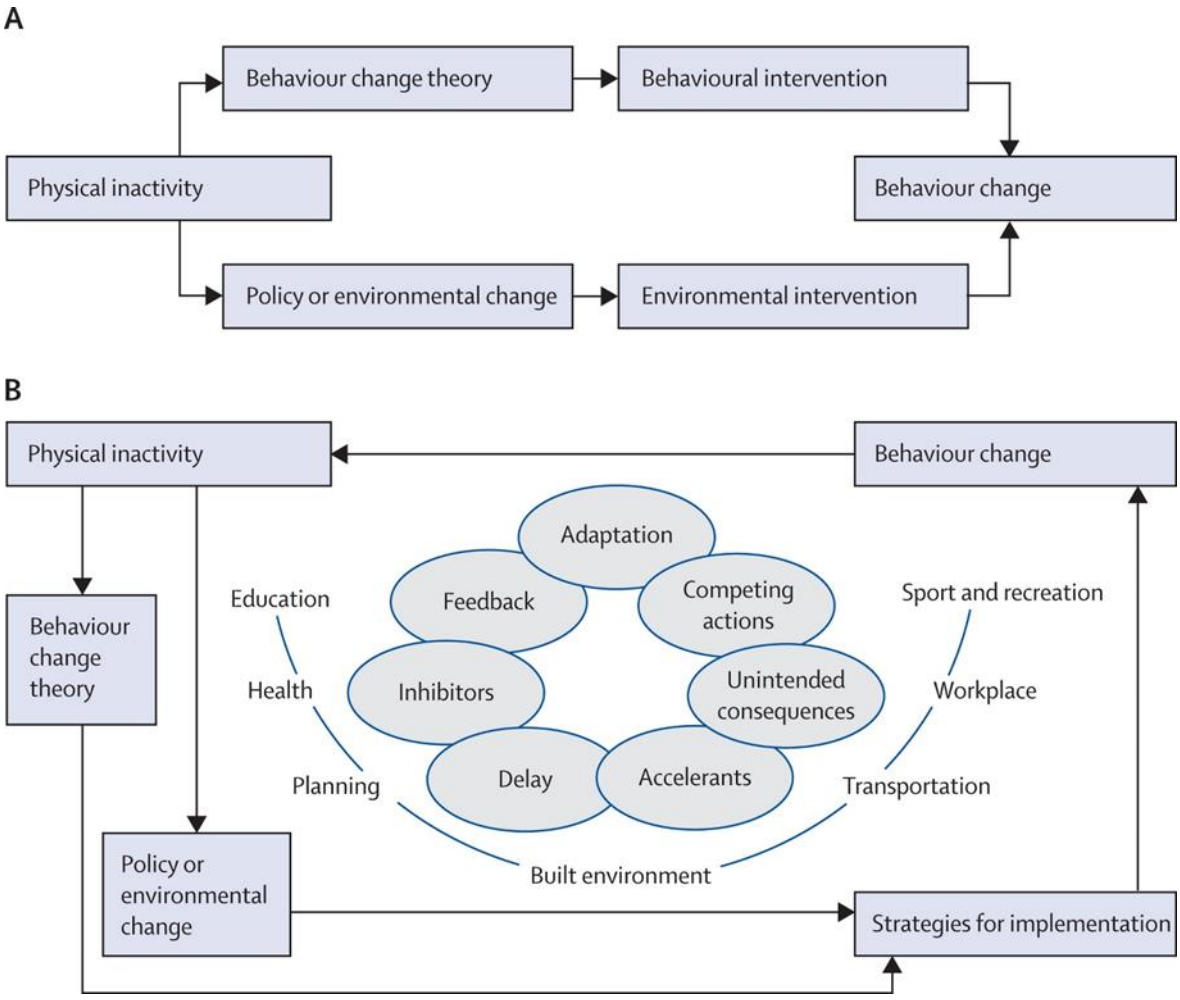


Figure 7.1 Behavioural and environmental (A) and Systems (B) approaches to physical inactivity (Kohl et al,2012 p299)

Media campaigns may well have an impact, in helping to re-engage older people in activity. The release of the PHE guidelines for the expectations of doses of exercise have been helpful (PHE 2019). Some high-profile older people participating in exercise may have an impact on changing the mind set rather like hosting the Paralympic games turned people with artificial limbs from being disabled to being bionic. The possibility of veteran games may be an option to redress this. There are some localised activities, led by the Later Life Training team in Glasgow, but they have not attracted the sort of press interest that the Paralympics did, for example.

This study demonstrated that successful participation occurred, when the benefits to health, both mental and physical, were understood. Motivation came from a sense of accountability. Tailored exercise to individual needs and self-efficacy in terms of being able to attain their own goals, and a life changing awareness also lead to successful participation.

An accessible approach has been piloted by the Chartered Society of Physiotherapy (CSP 2019) who have a strap line of 'hate exercise, love activity'. They have intentionally targeted older people in their press releases. The resources are available for local therapists to spread the word. I've even seen a poster in our local Emergency Department.

7.5.2 Intervention Functions

The implications of understanding the education, training and engagement for increasing exercise is part of the intervention function of the central section of the behaviour change wheel (Michie et al 2011).

One notable finding was education around exercise with the need for 'peer promotion' and 'word of mouth' to build confidence and concordance. We, as staff, clinicians, providers and commissioners must therefore promote ways to enable this to happen within our communities.

The study demonstrated a need for more ready information to understand what constitutes a good amount of activity for an older person to undertake. The introduction of Public Health England new guidelines for physical activity have been welcome (2019) but needs much further dissemination and publicity for better understanding (Appendix T). However, this must be coupled with enabling

participants to engage more using the affective dimensions such as motivational interviewing (Menichetti et al 2018). A targeted intervention could increase exercise uptake, and enable wider participation. Understanding these models through either undergraduate or postgraduate training, would enable staff to increase engagement and reduce attrition from groups.

One of the key conclusions for the engagement with exercise in this study was the ability of the instructor to understand the physical components of the exercise required, but also to ensure that service providers can engage at an affective dimension such as positive thinking, internal resource mapping, motivational interviewing, relaxation and friends and family support. Where there were barriers to participation, it was often due to an absence of these aspects. Training staff to engage at an affective level (Menichetti et al 2018) is key to sustainability and spread. These changes need to take place at a micro level for individual service providers, but also need to have a whole system approach to training. This meso and macro level change needs to be aimed at individual provider organisations, and training institutions. New graduates should be prepared for working with older people, with firstly a robust evidence base for the efficaciousness of exercise with older people, and secondly the skill set to deliver tailored, dosed and targeted exercise, and finally the ability to understand affective dimensions to their interventions.

Another further way to bridge this gap at a meso level with intervention functions is to facilitate co-production of services with older people, to ensure that what is being delivered is accessible and tailored for older people. This would enable some of the 'power' relationship between providers and service users to be rebalanced and aid better uptake. If older people knew what their exercise requirements were and they felt empowered to insist that it was provided, service providers would begin to deliver more appropriate provision. Empowering older people to know what they need, what they want and to ask for it, is important. This would mitigate for the lack of knowledge by staff.

Another solution is using patient experts to be trained as coaches and instructors, as they will have the lived experience of living with a long-term condition, and the ability to support others to overcome their reluctance and resistance to exercise. The Vitality Club in the Netherlands was very successful in increasing the uptake and use of

exercise by people in their mid-60s (van der Vijver et al, 2018). A programme in Ireland in 2010 found peer coaches to be a useful engagement to support people who had a fear of falling (Baily et al 2010). A peer led low intensity activity group over 20 weeks in Texas and Missouri in 2014 demonstrated improved physical function amongst other outcomes (Werner et al 2014). I am unaware of any such programmes locally.

At a macro level, every member of staff within the NHS needs to understand exercise as a core component of any intervention, not just as an option for younger people, or those with condition specific long-term conditions such as diabetes or COPD, where 'medical' interventions are not an option. There is some encouraging early work with people living with bowel cancer at Southampton University whereby people are offered intensive 'prehab' sessions at a gym prior to surgery, but during chemotherapy and radiotherapy and have seen reduction in hospital stays, readmission rates, and cardiorespiratory complications (West et al, 2014). As exercise is not a traditional intervention for cancer, this may well change the perceptions of staff and prescribers in general and develop further discussion around exercise and ageing also.

Also, at a macro level there needs to be better training for sports therapists, and exercise trainers to include older people with frailty as a component of their core training. This will enable all classes to have an instructor with the ability to tailor to the needs of participants. AGILE, (CSP 2019) the specialist interest group for older people have also recently published a statement around partnership working for falls pathways of care with the aim for seamless transition between rehabilitation and community exercise services. This is an encouraging step forward for falls prevention, but further work is needed for exercise and frailty. My fear is that this will only be used by those who are already well informed, rather than by those who need the information, such as GPs and community nurses.

The accessibility and cost of classes also needs to be addressed, and the possibility of more 'first session free' funded, as was suggested by the GP, is a compelling option. The need for some men only and women only activities was identified in this data and the literature and should be offered. Seasonal activities may also be beneficial, so a keep–fit-in-winter-to-enable-gardening-in-the-summer group might be in order.

One further factor is the description, and content of the activity. People were often clear that they did not want to be going to a gym, but that they wanted something to attract them, with a focus on function and movement rather than falls prevention (Hawley-Hague et al, 2016). This needs to be incorporated into the evidence base for what exercise is efficacious (Theou et al, 2011, Cameron et al, 2013), including the updated evidence of falls prevention (Sherrington et al, 2017). The HCC Strong and Steady group (HCC 2020) are advocates for this approach rather than being the 'falls group'. The instructors are all trained at Level 3 to enable them to support people with long-term conditions. The title has the added incentive for concordance, as who wants to be 'wobbly and weak' which you might become if you were to stop. Above all, we need to remember, however that older people are not a homogeneous group, and ensure that there is a wide variety of exercise options.

There is a degree of responsibility for each clinician to understand their local community provision to offer appropriate prescription. The National Commissioner was clear that there is also a responsibility for everyone to understand dosing, and limitations of exercise. 'Advancing age is no barrier to the benefits of tailored exercise' (Izquierdo et al 2020, p313) is a fitting strapline. Where the staff are not well informed, it may be possible to empower an older person, to request referral to appropriate provision. Health communities need to agree on a strategy to disseminate information. Having a readily available source of local activities as well as a consistent approach to referral in to them would seem an obvious solution to the lack of accessibility, and knowledge.

The contract for NHS social prescribers within primary care may go some way towards addressing this, (Stevens, 2016, NHS 2019) but the complexity of keeping up to date with community provision, makes it a challenge for all concerned. One solution to bridge this gap is using technology and spread to ensure that all the activities are visible, and available within communities. Staff need to have confidence in their third sector and voluntary sector partners, and assurance to refer people in and out. An example, the Genie Tool (https://genie.soton.ac.uk/eng/) (https://genie-net.org/), is being developed by University of Southampton to enable a useful map of activities, including exercise groups which can be accessed.

Hampshire County Council (HCC) website also have a directory of balance classes for people to participate (HCC 2020). Older people are considered a hard to reach group, as they may be digitally excluded. This means more face to face, and word of mouth opportunities needs to be undertaken to ensure spread and feedback on activities provided. The core to this education needs to be with staff having confidence to discuss exercise and activity at every face to face contact.

This knowledge gap can be addressed at a macro level by influencing staff nationally using rigorous evidence. This is beginning with the British Geriatric Society Sarcopenia group who are appealing for more physiotherapists to influence the research agenda, to enable a broader engagement, rather than remaining the domain of a handful of specialist geriatricians (BGS, 2020).

A further development at macro level which would lead to a meso and micro impact around prescriber knowledge comes with workforce transformation. The National Commissioner was clear about the need in 'understanding the value and worth of the AHP workforce'. In seeing more senior therapists in both leadership and clinical consultant roles, some of the obvious knowledge gap will be better filled. This step change requires much wider multidisciplinary team working and also leadership from the AHP professions to ensure their knowledge is shared as widely as possible. NHS England are developing ways to ensure that this transformation occurs (NHS England, 2016)

7.5.3 Policy Categories

Communicating and marketing of exercise as a prescription when unwell, and as a prevention for ill health needs significant development. Every health professional has a key opportunity to include exercise as a core part of any recovery process, whether as part of an acute episode of health care provision, or a GP consultation in primary care, and of course while on a rehabilitation programme. Exercise should not be reserved for those who fit into formal commissioned services, such as cardiac or pulmonary rehab, but any other physical or mental health crisis which requires medical intervention, should be prescribed with an exercise component too (Nash, 2012)

Offering exercise as a compulsory part of any group where older people get together, such as Tai Chi is used in China, has some currency. One of the groups who were not participators in regular exercise started a set of warm up exercises as part of their regular meetings after undertaking the focus group. They were convinced of the evidence and were keen to engage in a new way.

Publications from World Health Organisation such as health enhancing physical activity (HEPA) policy Audit tool (PAT) published in 2015 (Bull et al 2015) offer insights into how the 17 identified elements for a successful policy for physical activity promotion can be approached. This document offers clear implementation strategies for developing engagement with knowledge of relevant local policy around all sectors- health, sport, education, transport, environment and planning, access to key stakeholders, and an ability to ensure that the integration and leadership are available locally to implement changes. The integration and leadership for change seems to be an aspect that is missing locally and has hampered the implementation of the activities of the highly motivated third sector providers interviewed for this thesis**.**

7.6 Impact and dissemination of research

The impact of the research so far, is discussed here, with the dissemination opportunities, as well as a brief personal reflection.

7.6.1 Impact of research

One initial impact during the data gathering is worth noting here. One of the non-exercise group leaders was a retired physiotherapist. She was interested in the exercise component of group activities, after the focus group discussion. Her thoughts were captured in the field notes below:

'The club usually meet once a month. They are a long-established group who have been going for maybe 15 years. The two leaders for the group who participated in the focus group were inspired by the conversation around activity levels, and hearing about the groups' previous level of activity and decided that they would like to make their regular group a bit more active. One of them was going to take on some training

and begin each group with a strength and balance exercise, just while sitting in their chairs.'

The study has been disseminated in a number of fora, with some interesting discussions following each presentation. The study was shared at a PHE conference in Sept 2017 with early results (Appendix F), and then at the European Geriatric Medicine Conference in Nice in October 2017 (Appendix G). I was invited to write a research focus for the nursing older people journal in June 2017 around deconditioning (Appendix H). I was also a participant in the Three Minute Thesis (3MT) competition in May 2019, where I received The Peoples' Vote, prize (Appendix I for script). I have been invited to speak at a number of Wessex based conferences, on frailty and exercise, and ran a workshop at the Focus on Frailty Conference in September 2019 (Appendix J).

I have been able to engage with patient support groups, sharing evidence with older people themselves, not only staff. I was the Keynote speaker at Age Concern AGM for Hythe and Waterside, on September 14th, 2019, with a talk entitled- 'Growing Older'. This stimulated some useful discussion around accessibility, and people thought about their own exercise levels. I would not have normally agreed to this invitation, as it was a Saturday, but in the light of this study, I felt it was a useful dissemination opportunity.

And finally, I have been invited to participate in some future clinical academic research. I am a co-applicant for NIHR ARC Wessex' Improving Physical Activity of older people in the Community through Trained volunteers: The ImPACT study' with Southampton University. I have registered with Orcid https://orcid.org/0000-0002-5492-6357 to monitor and develop my own research portfolio. I am registered with Researchgate, and I currently have an RG score of 13.48 and an *h* score of 2.

7.6.2 Personal impact

As I undertook the literature review, in early 2016 and began data gathering in 2017, it became clear that I was not setting myself up for ageing well. I was also fast approaching my 50th birthday. I decided I needed to make amends, and so joined a local Couch to 5K programme that was starting from my local park, with a Council funded programme called 'Park Lives'. The scheme saw 20 of us start, and 15

complete the course, at which point we were able to join in with the weekly 'Parkruns'- a free timed run on a Saturday morning. We quickly realised that 10 weeks was not enough to keep us going (our own motivation was lacking) so we started a running club from the park. It now numbers over 150 members, and has seen people undertake marathons, as well as many smaller but equally meaningful milestones. The club is inclusive, encouraging, and celebrates triumphs and milestones with cake. I have completed 84 parkruns and five 10K races, including the New Forest 10K three years running. This has been in spite of a left anterior cruciate ligament rupture in December 2018- a skiing injury, not a running one. My oft repeated mantra is that it's never too early to start participating in exercise, but also never too late to start.

7.6.3 Further research

This study has highlighted that there is a need for further research and understanding of the current climate and provision of exercise with older people.

The prescriber knowledge gap needs further, or the 'missed opportunities' described by Buttery and Martin (2009), to work to understand the gaps in understanding and practice of front-line staff working with people with frailty. How often do community nurses consider prescribing exercise? How much variability is there with GPs recognising those who are pre-frail, and urging them to participate in a well dosed exercise group? How well do local prescribers know their pathways and options?

Some further cost effectiveness studies would fuel managers to potentially invest further in sharing local knowledge, but also supporting development of new models of provision.

The gap in workforce skill needs a whole system review, but this study confirms that providers, and commissioners do not fully understand about exercise dosage, and falls prevention, or even general ageing.

A review of how many training institutes include the components of training for sports instructors in managing older people would further develop an understanding of the gap in workforce and help develop ways to bridge this gap. The importance of behaviour change, and affective management was not evident in any conversations with the health care professionals in this study. Understanding of these skills, and

application in the field is needed. Application of a model such a COM-B for all staff in training would be useful.

There is a pressing need for research to develop the evidence base around exercise uptake and older people. There needs to be a body of work to gain further evidence of the effectiveness of community-based participation groups for older people, and the efficaciousness of reversing frailty. These need to be large studies with at least 50 weeks of interventions, and 2 years of follow up. This could be undertaken with some digital enhanced technology. Current research such as the HERO trial to review home based extended rehabilitation for older people with frailty post hospital admission will go some way to evidence this, but there is scope for further work. The ImPACT study will also add to bridging this gap, to see if it is feasible to use volunteers to lead community exercise groups.

The belief about exercise and ageing gap is a hard one to bridge but needs a wholesale change in the national rhetoric. The reality is that little of the local provision is aimed at older people- a brief walk through our local sports centre with dry ski slopes and athletics track, advertises a huge range of activities, but nothing was tailored or illustrated for older people specifically- although a review in the middle of the afternoon indicated that the athletics track and cycling facilities were mostly being used by people 60+. This needs urgent acknowledging and reversing! Again, a local application of the COMB model to articulate barriers and bridge them would redress this. The reissuing of the Physical Activity guidelines in September 2019 (Appendix U) by the UK chief medical officer (DoH 2019), may encourage further participation, but only if they are widely shared and applied. Further research to evaluate the impact and uptake of these guidelines is needed.

7.7 Conclusion

My findings in this study contribute to the existing knowledge about why some older people engage in exercise groups and some do not, by hearing the views and experiences of older people and observing their exercise practice.

This chapter has discussed the results of this small ethnographic study, which found at a micro level that most older people, who were socially active knew the benefits of exercise, and were willing to participate, but had found access to a suitable activity

for them one of the biggest barriers. They also described significant seasonal variations in their levels of exercise.

Older people expressed an ability to counter the expectations of their community to engage in exercise once they were motivated and found that they were able to participate. The role, ability and flexibility of the instructor was described as critical in enabling older people to participate. Instructors did not recognise the usefulness of affective dimensions to facilitate behaviour change

At a macro level, influences were social, political and economic. Aspirational facilitators were described in national strategies such as the #endPJparalysis and Love activity, hate exercise. Campaigns. There is an opportunity for Allied Health Professionals to extend their role in prevention of frailty, by harnessing and spreading these campaigns. Barriers to participation on a large scale were described in the lack of suitable tailored and dose and fidelity of exercise for older people.

The gaps in provision were summarised as the gap in prescriber knowledge, the gap in the skill of the provider, and the gap in the belief around exercise and ageing.

The findings indicate that service development must be co-produced with older people to understand what the local provision is, what is missing, and how to best engage older people to participate, using a behaviour change model such as COM-B (Michie et al, 2011). This will facilitate a rebalancing of power, and potentially better engagement. Staff and service providers often think they understand what older people want, but these findings suggest that this cannot be assumed.

Appendix A **Ethical approval from ERGO Jan 16th, 2017**

From: ERGO [mailto:ergo@soton.ac.uk]
Sent: 16 January 2017 13:58
To: Rogers A.E. <A.E.Rogers@soton.ac.uk>
Subject: Ethics ID: 19603 has been reviewed and approved

Submission Number: 19603
Submission Name: Who uses exercise in later life? A critical ethnographic study
This email is to let you know one of your student submissions has been reviewed and approved by the ethics committee.

They can begin their research unless they are still awaiting specific Health and Safety approval (e.g. for a Genetic or Biological Materials Risk Assessment)

ERGO : Ethics and Research Governance Online
http://www.ergo.soton.ac.uk

Appendix A

UNIVERSITY OF Southampton

ERGO application form – Ethics form

All mandatory fields are marked (M*). Applications without mandatory fields completed are likely to be rejected by reviewers. Other fields are marked "if applicable". Help text is provided, where appropriate, in italics after each question.

1. APPLICANT DETAILS

1.1 (M*) Applicant name:	Esther Clift
1.2 Supervisor (if applicable):	Anne Rogers
1.3 Other researchers/collaborators (if applicable): *Name, address, email, telephone*	**Helen Roberts**

2. STUDY DETAILS

2.1 (M*) Title of study:	who uses exercise in later life: a critical ethnographic study
2.2 (M*) Type of study (*e.g. Undergraduate, Doctorate, Masters, Staff*):	Doctorate
2.3 i) (M*) Proposed start date:	01/05/2016
2.3 ii) (M*) Proposed end date:	01/12/2017

2.4 (M*) What are the aims and objectives of this study?

Aim:
The study will explore the existing provision of exercise for older people living with frailty from the perspectives of older people who participate in exercise activities, as well as those who do not.
Qualitative methodology will be used to seek understanding of the barriers to participating in exercise in later life, as well as the incentives .
The narratives from older people will enable a detailed description of the culture of exercise from older people's perspective. This will determine how the current provision can be transformed to be more inclusive.
The development of a co-produced leaflet for health professionals will be explored with a group of older people

Objectives:
1a. Observations will take place in private exercise provision settings, and NHS commissioned groups. In depth interviews and focus groups will be arranged with older people who participate in exercise activities, to understand their motivation and perceived benefit, as well as challenges which they have overcome to participate in activity.
1b. Interviews and focus groups will be undertaken with those who do not participate in any group exercise to understand their activity levels, and what would make for positive exercise for them.
1c. Exercise providers, clinicians and GPs will be observed in practice to gain and understanding their use of the current provision of exercise and their aspiration for accessibility of exercise for all of those living with frailty. A focus group will enable

UNIVERSITY OF Southampton

further understanding of practice and understanding of barriers to older people participating in exercise.
1d. A comissioner will be interviewed to understand their perspective.

2a. The current printed materiel advertising exercise activities for older people will be reviewed with a sample of previous participants, and some of the electronic incentives for activity introduced.
2b. The co-production of guidelines for professionals to encourage people living with frailty to take opportunities for targeted exercises will be explored.

2.5 (M*) Background to study (*a **brief** rationale for conducting the study*):

Exercise has long been established at the heart of both physical and mental wellness (King and King 2010). Physical activity is comparable in impact outcomes, for chronic disease, as both smoking and diet (DOH 2004) and there is growing interest in its value for older people who are living with frailty. However most commissioned services for older people currently focus on exercise as a remedial treatment following falls (National Institute for Clinical Excellence [NICE] 2004), which is too little and too late to reverse the sequelae of frailty. There is a trend across Europe for the frequency of physical activity to decrease with age. Data from 2014 Eurobarometer indicates that 64% 15-24 year olds play sport once a week, but only 30% of over 50s participate, and most older adults living in the community choose not to participate. Activity which is attractive to older people needs to be both meaningful and enjoyable (Janssen and Stube 2014). The National Health Service currently advocates activity to enhance independence for older people, but there is a paucity of professional delivery. This work will review the wider exercise opportunities provided through a variety of sectors for older people in a specific geographical locality, who are living with frailty, and determine some of the barriers for participation within a local context.
Population ageing is accelerating across the globe, as a result of improved health. The trajectory indicates an increase from 461 million people over 65 in 2004 to an estimated 2 billion by 2050 (Kinsella and Philips 2005). This has a significant impact on traditional delivery of social and health care. The clinical condition of frailty is an expression of the population ageing (Clegg at al 2013). Frailty is defined as ' a state of increased vulnerability to poor resolution of homeostasis after a stressor event, which increases the risk of adverse outcomes, including falls, delirium, and disability' (Clegg at al 2013 p 752). Frailty is not synonymous with disability or co-morbidity, although there is some overlap (Syddall et al 2003). There are a number of markers used to characterise frailty by clinicians and researchers. They include a calculation of the accumulation of particular deficits (Rockwood et al 2007); the 7 point PRISMA Clinical frailty Scale (Rockwood et al 2005); evidence of problems in at least two areas of physical, nutritive, sensory, and cognitive domains (Strawbridge et al 1998), dependency, or requirements for care from others (Rockwood et al 2005); grip strength (Syddall et al 2003) and Timed Up and Go Test (Lyndon and Stevens 2015). The criteria outline by Fried have been most widely accepted and used as an objective marker for frailty (Fried 2001). Here frailty is defined as being present if there is evidence for at least three of the following- weight loss, weakness, exhaustion, slowness, and low activity. Older people living with frailty are more likely to be admitted to hospital for an unplanned stay, and require care home placement (Oliver et al 2014). Presence of frailty is also indicative of higher incidence of falls, disability and mortality (Fried et al 2001). There is a bidirectional link between frailty and psychological wellbeing (Gale et al 2014) which needs further understanding.

Some of the key challenges facing any service development is that of acceptability and accessibility. There has been much work done regarding the change process (Plesk and Greenalgh 2011), and the ideal circumstances for change. There is need for further work regarding the local barriers to implementing exercise activities for

Appendix A

UNIVERSITY OF Southampton

older people (King and King 2010). There is an undergirding culture of 'I deserve a rest in retirement' from many older people and the cynicism of behavioural change amongst some clinicians. The sustainability of the implementation also needs to be considered (May and Finch 2009). Understanding the lay knowledge of older people themselves, and their own views in context, are fundamental to any successful change (Farrance et al 2015). This work will contribute to filling that gap. The focus on Primary Care is pertinent, as the overwhelming evidence on the spiralling health costs of an ageing population provide strong arguments for funding preventive approaches (AgeUK 2008 p 3).These are ideally resourced and delivered within community settings (NHS 2015 and Oliver et al 2014)

2.6 (M*) Key research question (*Specify hypothesis if applicable*):

The study will explore the existing exercise provision for older people living with frailty, from the perspective of older people themselves, service providers, and commissioners in order to determine what are the barriers which need to be overcome to implement sustainable exercise for older people. Co produced guidelines for commissioners and referrers will be generated.

2.7 (M*) Study design (*Give a **brief** outline of basic study design*)
Outline what approach is being used, why certain methods have been chosen.

A critical ethnography approach will be taken (Goodson and Vassar 2011). Ethnography allows an emic and etic view to be understood from emersion in the study population (Holloway and Galvin 2015). This results in thick rich data, which will help understand the context and reasoning for particular actions, or lack of actions. The complexity of the ageing process, for clinicians who themselves are ageing (including the researcher), and the management of their patient population lends itself to an ethnographic approach.

Observation and emersion will take place in 3 settings with older people in exercise groups, followed by a focused discussion group for each. Two focus groups of people who do not participate in any formal exercise will be undertaken.
The three activity groups will be a Tai Chi group, a community activity group and a falls prevention group. The focus groups will be for no more than 6 older people.
The non exercise groups will be sampled from community groups known to the researcher, from a lunch club, and from a sheltered housing scheme.
All participants will have capacity to chose to participate in the research, and appropriate consent sought and given before commencing. The older people who participate will be invited to undertake a questionnaire using a recognized frailty score (Southampton modified CHS Score) and a wellbeing score (CASP-19).
A further focus group will be undertaken with staff who may or may not be prescribing exercise or activity to patients. This will include therapists, nurses and GPs, and include no more than 6 paticipants. Three staff will be invited to participates in unstructured in depth interviews. A final indepth interview will be conducted with a commissioner for services in Southampton City CCG.

Once these data have been reviewed, a further focus group with a combination of the previous participants will be gathered to review the literature, and accessibility of physical activity within the city, to produce guidelines for staff and commissioners around physical activity provision

Summary:
- 3 observations, and focus groups for older people participating in exercise

UNIVERSITY OF Southampton

groups with questionnaires for frailty and wellbeing. Each group will have a minimum participation of 3 people, and a maximum of 6.
- 2 focus groups for older people not participating in exercise with questionnaires for frailty and wellbeing. Each group will have a minimum of 3 participants and a maximum of 6.
- a focus group with staff who may or may not prescribe exercise. This will have a minimum of 3 staff, and a maximum of 6
- an indepth interview with a service commissioner
- a focus group to co- produce guidelines for commissioning teams and service providers. This will include older people who have participated in any of the focus groups. There will be a minimum of 3 older people, and a maximum of 9.

3. SAMPLE AND SETTING

3.1 (M*) How are participants to be *approached?* *Give details of what you will do if recruitment is insufficient. If participants will be accessed through a third party (e.g. children accessed via a school) state if you have permission to contact them and* ***upload any letters of agreement to your submission in ERGO.***

Participants will be approached from the group leader, who will give them 2 weeks notice of the observation of the group, and the opportunity to be involved in the focus group. Each participant will complete and sign a letter of agreement to involvment in the research. Each member of the group will be given the opportunity to ask questions about the research prior to the observation. For those who do not want to participate in the research, they can continue to undertake their exercise as usual, but will not be observed during the session, nor participate in the follow up focus group discussion.
Staff will be offered the opportunity to participate in the focus group,and given 1 months notice for the group.
Non exercising group will be approached by the lunch clubs supervisor, and given 1 month to chose to participate in the focus group. Each participant will complete and sign a letter of agreement to involvement in the research.The opportunity for questions will mirror the exercise group, and those who do not wish to participate will not be observed, or participate in the focus group.

3.2 (M*) Who are the proposed sample and where are they from (e.g. fellow students, club members)? *List inclusion/exclusion criteria if applicable. NB The University does not condone the use of 'blanket emails' for contacting potential participants (i.e. fellow staff and/or students).*

It is usually advised to ensure groups of students/staff have given prior permission to be contacted in this way, or to use of a third party to pass on these requests. This is because there is a potential to take advantage of the access to 'group emails' and the relationship with colleagues and subordinates; we therefore generally do not support this method of approach.

If this is the only way to access a chosen cohort, a reasonable compromise is to obtain explicit approval from the Faculty Ethics Committee (FEC) and also from a senior member of the Faculty in case of complaint.

Participants will be current members of an activity group, Tai Chi, community exercise or falls prevention group. There is no age criteria, but participants need to have capacity to understand the participant information and sign agreement to participate.
Staff will be invited from the Integrated Community Care Team, and a local GP practice
Participants who do not exercise will be part of an already established lunch club.

UNIVERSITY OF Southampton

There will be no age criteria for this group, but participants will also need to understand the participants leaflet and agree to participation by signing the agreement letter.
The commissioner will be the Falls Commisioner for Southampton CCG.

3.3 (M*) Describe the relationship between researcher and sample (*Describe any relationship e.g. teacher, friend, boss, clinician, etc.*)

None formally, although some of the staff may have been collagues in the past, and there may be some social connections with some of the older people, through mutual activities (such as church).

3.4 (M*) Describe how you will ensure that fully informed consent is being given: (*include how long participants have to decide whether to take part*)

Participants will each receive a letter with one month's notice to be part of the observation group. They will be given one month to chose to be part of the focus group discussion but can withdraw at any point before or during the focus group. Each community participant will be given opportunity to ask questions about the research, and will indicate their agreement to participation by signing the consent letter.

4. RESEARCH PROCEDURES, INTERVENTIONS AND MEASUREMENTS

4.1 (M*) Give a brief account of the procedure as experienced by the participant *(Make clear who does what, how many times and in what order. Make clear the role of all assistants and collaborators. Make clear total demands made on participants, including time and travel).* ***Upload any copies of questionnaires and interview schedules to your submission in ERGO.***

The participant will attend their usual exercise group, and observation will take place during the group. Those participating in the focus group will be in a group of approximatley 3-6 adults who they have been in the exercise group with, and will be invited to discuss their experience of both exercise and the group for 1 hour. written consent will be gained prior to the focus group from each participant. They can each chose whether they wish to complete the questionnaires on wellbeing, and frailty.
Staff will be approached to join an hour long focus group, which will included therapists, nurses and doctors. They will discuss their understanding, and access to activities for older people. If there is not full representaiton of professions, in the focus group, one to one interviews may be offered to gain a full persepctive.
A one to one interview will be offered to the commissioner
Those from the non exercise group will be offered one months notice for the focus group, and can drop in or out at any point. They can chose to complete the questionnaires or not. Consent for participation will be given through a signed letter of consent prior to the focus group. The focus group will take place immediately after their usual lunch club, and will last for 1 hour.

5. STUDY MANAGEMENT

5.1 (M*) State any potential for psychological or physical discomfort and/or distress?

There is unlikley to be any potential of psychological distress, and no potential for

UNIVERSITY OF Southampton

any physical discomfort from this study .

5.2 (M*) Explain how you intend to alleviate any psychological or physical discomfort and/or distress that may arise? (if applicable)

If anyone is distressed by the nature of the discussion, they can be supported by the researcher after the group, and offered onward referral to specialists if this is deemed appropriate.

5.3 Explain how you will care for any participants in 'special groups' *(i.e. those in a dependent relationship, vulnerable or lacking in mental capacity)* **(if applicable)?**

None of the participants will be specifically vulnerable-all of them will have made the choice to attend the exercise group, or lunch club. They will then be offered the choice of participating in the focus group. The capacity of each participant will be reviewed when consent is gained for focus group participation, and if anyone is specifically vulnerable and unable to give consent they will be excluded from the observation data as well as the focus group.

5.4 Please give details of any payments or incentives being used to recruit participants (if applicable)?

None- tea and biscuits/cake may be offered for the focus groups.

5.5 i) How will participant anonymity and/or data anonymity be maintained (if applicable)?

Two definitions of anonymity exist:
i) Unlinked anonymity - *Complete anonymity can only be promised if questionnaires or other requests for information are not targeted to, or received from, individuals using their name or address or any other identifiable characteristics. For example if questionnaires are sent out with no possible identifiers when returned, or if they are picked up by respondents in a public place, then anonymity can be claimed. Research methods using interviews cannot usually claim anonymity – unless using telephone interviews when participants dial in.*
ii) Linked anonymity - *Using this method, complete anonymity cannot be promised because participants can be identified; their data may be coded so that participants are not identified by researchers, but the information provided to participants should indicate that they could be linked to their data.*

There will be some linked anonymity, because the data set is small, and the group know each other so may be able to recognise one another.
However, the data will be anonymised. The transcripts of the focus groups will use an identification code number and any quotes used will be non-attributable.

5.5 ii) How will participant confidentiality be maintained (if applicable)?

Confidentiality is defined as the non-disclosure of research information except to another authorised person. Confidential information can be shared with those who are already party to it, and may also be disclosed where the person providing the information provides explicit consent.

The data will be coded, using an identification code for each participant.
Any statements used will be non-attributable to maximise participant confidentiality.

5.6 (M*) How will personal data and study results be stored securely during and after the study? *Researchers should be aware of, and compliant with, the Data Protection policy of the University. You must be able to demonstrate this in respect of handling, storage and retention of data.*

Appendix A

UNIVERSITY OF Southampton

Data will be stored according to the University Data Protection Policy.

5.7 (M*) Who will have access to these data?
Only the researcher will have direct access to the data.

N.B. – Before you upload this document to your ERGO submission remember to:

1. Complete ALL mandatory sections in this form

2. Upload any letters of agreement referred to in question 3.1 to your ERGO submission

3. Upload any interview schedules and copies of questionnaires referred to in question 4.1

Appendix B **Summary of literature**

Experinc* of exercise- (experiences, experiencing, experience)

Limiters 1990-2020 (15 years prior to study and for study duration)

(MH "Exercise+") OR exercis* OR "physical activ*" AND (MH "Aged") OR (MH "Aged, 80 and Over") OR (MH "Centenarians") OR (MH "Frail Elderly") OR elder* OR old* OR Senior* OR geriatric* AND (MH "Home Rehabilitation+") OR (MH "Community Living") AND Experienc*

173 papers identified from Cinhal

Medline:

(MH "Exercise+") OR exercis* OR "physical activ*" AND (MH "Aged") OR (MH "Aged, 80 and Over") OR (MH "Centenarians") OR (MH "Frail Elderly") OR elder* OR old* OR Senior* OR geriatric* AND (MH "Community Living") AND experienc*

184 identified from Medline

Appendix B

	Author, year and study location	**Intervention type-comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
1	Morgan 2019 BMC Systematic review	Systematic review and meta-ethnography	39 papers synthesised from 33 studies.	Conduct a systematic and inductive qualitative synthesis describing what influences physical activity and older adults experience of physical activity	Qualitative meta ethnography generating a theory about how older adults think and feel about physical activity		Current failures to increase population levels of physical activity in older adults may be explained by an overly focused approach to health benefits. We need to reframe our approach to consider wider	Qualitative review: Dixon woods framework Robust inductive, clear and translatable concepts Moderate quality of overall studies, but limited demographically-ethnic minorities, people with disabilities, and low income, Very relevant to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
							goals and aspirations which are of greater personal importance, life satisfaction, sense of purpose and sense of role fulfilment	
2	Stead 1997 Scotland	Focus groups with older people and younger people	55-75+ and 18-49 Central Scotland	Investigating how ageing health and exercise were conceptualised, exploring factors which influence participation- differences between age groups?	15 focus groups		Should older people be regarded as a group with special needs in terms of exercise related health education programmes? What are the most effective ways of	Trustworthy quotes Limitations, and ethics not documented- old paper. Very relevant to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
							marketing exercise to older people, and what message is required? What types of provision are appropriate and what interventions are likely to be effective	
3	Hartley and Yeowell 2015 NW England	3 focus groups	Mixed Socioeconomic and BME 18 participants	Explore the experience s of attending PA groups from the view point of community living adults	Purposive sampling 3 focus groups thematic analysis	Further research to hear the views of those who do not attend were not explored-	Three global themes Barriers, Motivator and enablers	Diverse range of adults and those with chronic health conditions(hard to reach) No quotes Ethical consent Two researchers analysed data

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
								Limitation- only motivated participants sampled Very relevant to this study
4	Maher 2015 North west USA	Intraindividual Study if affect, Health and interpersonal behaviours – an intensive multiple time-scale longitudinal study of 150 community dwelling adults ages 18-89	Mixed developmental periods of adulthood 150 people aged 18-89	Comparing activity levels and life satisfaction across the life course.	Daily diary of over 3x 21 day burst	Split into 4 developmental periods lifespan developmental framework	Days people did more physical activity than was usual for them, experience greater life satisfaction	Homogeneous sample- (white) and homogenous levels of activity (about 10 mins BD) Self-report tends to over report Very relevant to this study

Appendix B

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
5	Ory 2015 in central Texas	Walking behaviours	272 people over 60	Influence of sociodemographic, health and environmental characteristics on adults walking behaviours	Surveys on walking behaviour	Predicting 1- frequent walkers 2- meeting CDC guidelines of 150 mins activity.	Facilitators to being active- relatively good health, few concerns over falling, social support for motivation, lived in environments with good social cohesion- but not meeting PA requirements. Dogs and people increased participation,	young old majority- median age of 69 Mostly white non Hispanic Interesting to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
							younger community increased activity Barriers-	
6	Weddle (2008) USA (Mineapolis)	Experience of 8 women over 50	Started exercise and maintained for a year	Described the experience of 8 women with exercise	Phenomenological research method semi structured interviews	Success linked to 1. Stimulus to initiate exercise 2. Assimilation of exercise into life 3. Relationship with exercise,	Holistic rather than reductionist – offering a choice of exercise may elicit behaviour change. 'establishing a habit of exercise was often murky and not overtly evident.'	Tiny sample size (8) Over 50- not really old. Interesting to this study No ethics mentioned No bias mentioned

Appendix B

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
						4. Life context-		
7	Weeks (2008) Canada	Qualitative face to face interviews with 24 seniors	Community or long-term facilities living in Canada	The purpose of the study to identify overarching factors that influence participation in physical activity among seniors in the community and in long term care facilities	Thematic analysis	A greater understanding of a person's history is paramount to help increase participation in physical activity.	Themes 1. past experience, 2. life transitions and 3. future concerns subthemes: intergenerational influences establishment of early pa patterns	Small sample only 24- 19 women 5 men, 14 living alone Mixed education level, no comment on ethnicity All adequate income, 17 home dwelling 7 in residential care Very relevant to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
							family transitions over the life course changing health status over the life course future health concerns	
8	Hawley 2009 in Rotherham UK	(Secondary)	9 over 60s who had undergone Falls rehab	To explore what might encourage older people to exercise at home after falls rehabilitation	Grounded Theory	4 themes- • Experience after a fall • Experience of rehabilitation • Experience post	The key factor was a determination to regain independence following illness and fall	Trustworthy quotes Sampling- case managed after falls- for complexity ethics not addressed- no addressing bias

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
						• rehabilitation • independence		unable to review gender, 1 in NH, 3 with spouses Very relevant to this study
9	Stathi (2003) SW England	Interviews with 13 people participating in ERS	Older people 63-79 (5 female) participating in exercise referral schemes In Devon UK	Offer insights into how PA is situated in notions of successful aging of people participating in exercise referral schemes and to highlight points for achieving client-based targets.	Thematic analysis of interviews with interpretive paradigm	•	Multiple wellbeing effects- programme must aim to meet older adults' personal needs and preferences- high valued targets were: Alleviate pain and disease symptoms	Clearly articulated demographics- age gender Triangulation, credibility evaluated with clients High quality study Very relevant to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
							Improve functional capacity and mobility Increase personal control and autonomy Improve sense of personal competence and achievement Increase opportunity for social interaction	

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
							Personally significant goals were often realised long before the completion of the referral scheme	
10	Thorpe 2006 Pittsburgh Pennsylvania	Dog ownership, walking behaviour, changes in walking behaviour and usual and rapid	2,533 adults ages 71-83 in Over 36 months	To examine relationship of dog waking and gait speed	Cross sectional and longitudinal analysis of a prospective cohort study		Older dog walkers exhibit better health practices and have better concurrent mobility than dog owner	Large study size- interviewers blinded to study hypothesis correlation between dog ownership=- white high socioeconomic but needed to walk own dog!

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
		gait speed over 3 years					who do not walk their dogs.	Interesting to this study
11	Ruppar and Kraenzle Schneider2007) Missouri	Assessed exercise behaviour in year before study 3 times exercise for 2 weeks, ESIE after each session, then GIE after third ESIE	215 older adults in Aged 64-88	To examine the relationship between exercise behaviour and interpretation in older adults	Self –regulation of exercise theory maintenance model (Schneider 1996) interpretation	Modifiable activity Questionnaire General interpretation of exercise inventory (GIE) Exercise benefits/barriers scale (EBBS)	High exercisers felt more energetic than low exercisers High exercisers felt a greater life enhancements and better psychological outlook low exercisers reported better concentration than during exercise	215 participants, 64-88 75% female 54% married 94% white 83% home dwelling 35% lived alone Correlation between frequency and duration of exercise. Future- develop and test interventions helping

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
						And Episode specific interpretation of exercise inventory (ESIE)	Women reported clear and more alter thinking, more social support, and more pleasing audio environments – greater joy with music Men focus on straining and sweating.	individuals to connect their psychological outlook and perception of life enhancement to their exercise activity. Very relevant to this study
12	Graham 2013 in Canada Ontario-	interviews	17 individual 65 years and older	To understand rural community dwelling older adults' participants shared beliefs	Constructivist focussed ethnography semi structure	Self-care is primarily about nutrition- participants did	Prescribing exercise for older adults may be particularly	Canadian rural community- same as Southampton city?

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
	community living			values and behaviours related to exercise as self-care	interview and PO and field notes	not articulate the importance of matching their activity to their personal health condition	effective if the focus is on enjoyable and previously experience physical activity and if it incorporates exercise guidelines and training principles in relation to chronic conditions and potential health benefits Understanding increased after a	Very relevant to this study Reflexivity by journal However no ethical consent documented

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
							specific health related incident	
13	Halaweh 2016 in Palestine	In depth interviews	17 people aged 64-84	The goal of this study is not to generalize the analysis, but rather to provide a rich, contextualized understanding of some aspect of the human experience through the intensive study of particular cases.	PO and Field notes as well as interviews Using interpretive narrative methods		• Keep moving, stay healthy • Social connectedness a motive to stay active • Adapting strategies to age related changes	Aged 64-84 years 10 female, 7 male Excellent reflexivity documented. Ethics documented Documented and videoed interviews. Rich quotes Very relevant to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
14	Gandy 2017 West Lancashire UK	Evaluation of Age UK programme 2012-2014	158 in phase 1 166 responses in phase 2 205 responses in phase 3	Measure older people's experiences of participating in the programme, identify the impacts on their health and well-being and their suggestions for service development and establish the costs and benefits of the programme	Mixed methods Qualitative- focus groups Quant3 surveys and cost analysis Convenience sampled	Survey using Likert Scales	The active lives programme offers a benefits: Health and wellbeing, Social well being and quality of life and reducing social isolation	Convenience sample 3 surveys 2 sites and cost effective analysis. Very relevant to this study (high internal consistency with variability of groups) 77% women Very relevant to this study
15	Arkkukangas 2017	Semi structured interviews	Older people part of a RCT	Explore older peoples experience of a home-based	SS interviews with 12 over 75	With support from PTs home based exercises	4 categories • Facilitators of	Selected as undertaking Otago exercises and MI

Appendix B

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
	Sweden			exercise programme combined with motivational interviewing.	3 questions Qualitative inductive approach	can be adapted to individual circumstances in a meaningful way. Including exercises in everyday life and daily routines could support the experience of being stronger, resulting in better physical functioning and give hope for an	performing exercise in everyday life • The importance of support • Perceived gains from exercise • The existential aspects of exercise	Inclusion- over able to walk independently, and live in the community. 5 men 7 women 75-86 years old 3 married after 5 physiotherapy interventions. Rich quotes, Reflexivity in the analysis with authors No ethical consent mentioned Very relevant to this study

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
						extended active life in old age.		
16	Moran et al 2017 Haifa Israel	GPS and Discovery tool- 60-minute walk (Included as using electronics for qualitative description)	59 50+ adults	Explore objective and perceived environmental characteristics of routes along which older people walk 1. To measure objective environmental attributes 2 describe perceptions to environmental barriers to facilitate walking and 3. Examine the association between objective environmental attributes, with	GPS observations and Stanford Discovery Tool (DT)	DT and GPS	Pedestrian infrastructure Access to destination Aesthetics And environmental quality Qualitatively- those who walked longer, and steeper routes	Snowballed recruitment Haifa selected as older community) 59 over 50s 14 men 45 women Using objective environmental measures. Pearsons correlation Very relevant to this study participants consented- no ethical mention

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)**
				perceived barrier and facilitators			tended to describe more facilitators of all kinds	
17	Lee 2017 Taipei	Focus groups	48 people aged 48-81 27 female 21 male	Understand and explore the perceptions of regular brisk walking by middle aged and older persons	Purposive and snowballing sampling, 6 focus groups with 5 questions analysed using content analysis	Older people thought that regular walking could promote and maintain their health and was a good way to have social contact	5 themes: a) Health promotion and maintenance b) Relationship and social c) Leaders enthusiasm and peer pressure d) Nature of brisk walking e) Becoming a part of	Interview guide included transparency, No ethical consent Demographic data included Only brief quotes included Data saturation reached. Participant verification Interesting to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
							everyday life	
18	Burton et al 2016 West Midlands	Focus groups	13 older adults with sight loss Aged 73-94		Focus groups with an inductive thematic analysis		3 ways experienced: Psychologically Through opportunity and access And at societal and policy level	Rich data Limited to mostly macular degeneration as cause for sight loss only those already in groups were recruited Ethical consent gained Transparent- guide published Third author to develop themes- reduce bias Very relevant to this study

Appendix B

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
19	Von Berens 2018 in Sweden	4 Focus groups	20 older adults aged 71-86	Explore older peoples experience from an intervention designed to prevent sarcopenia with the aim of capturing the participants thoughts and opinions	Manifest and latent content analysis Purposive sampling (Banduras self - efficacy)	Risk of sarcopenia largely ignored by policy	'Feeling more confident, cheerful and safe'	Only Swedish participants 8 women 12 men 9 married only 1 smoker, excluded if not speaking Swedish fluently Focus group guide included rich data documented. Interesting to this study
20	Sandlund 2018 In Sweden	Fall prevention exercise uptake	18 community dwelling older people	To explore exercise preferences, and motivators of older community dwelling women and men in the context of falls	Focus groups with quality content analysis		Individual tailored exercise mode, intensity, challenge	Purposive sampling across 7 senior citizens groups over 70 years old 10 women, 8 Aged

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
		2 groups 6 meetings over 5 month period	with and without a history of falls	prevention from a gender perspective	Inductive content analysis approach Participatory and appreciative Action and Reflection methodology was used to guide discussion		and social context is important For adherence and maintenance- individual confirmation, different spirit lifters to increase enjoyment, personal tricks to maintain exercise routines. Gender less specific, than individual preferences-	70-80 14 living with partner 4 living alone 15 white collar- 3 blue collar Rich data included Very relevant to this study

Appendix B

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
21	Nanninga 2018 in Groningen Netherlands		33 stroke survivors	To enrich the discussion on mobility in stroke rehabilitation by translating theoretical repertoires of mobility from the context of geography to rehabilitation	In depth interviews with stroke survivors Data on mobility was extracted		The current focus on adherence to mobility and exercise training at home needs to be critically reviewed as it does not capture the multiplicities embodied in real life settings	Interview guides described Good descriptors 2 coding scientists giving intercoding reliability. Very relevant to this study
22	McGowan 2018	Systematic review and metasynthesis	10 studies		Thematic analysis	7 descriptive themes identified;	Older adults see activity as a by-product of something else, not	Well documented search strategies.

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
						Personal motivation for physical activity Intrapersonal constrains for physical activity Perceptions of aging Provision External sources of encouragement Knowledge and belief about physical activity Influence of environmental factors	than a purposeful activity within itself. [physical activity considered irrelevant with other roles taking precedence Conflict between autonomy and accepting vulnerabilities of ageing- should plan to simply target	Very relevant to this study

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
							reducing sedentary behaviour	
23	Hwang 2019 Canada	Qualitative experience of Walk and talk initiative	16 participants of walk and talk for your Life programme	Qualitative study to gain further insights into the experience on eliciting a better understanding of walk and talk for your life	Content analysis of semi structured interviews	Impact of Walking for life impacted on loneliness and social isolation	WTL motivated participants to socialize and reduce their feelings of loneliness and gave a sense of belonging	Purposive sample 15/16 women aged 65-88 11 lived alone Rich quotes. Consent gained but no ethical process 2 researchers analyses transcripts and agreed data saturation

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
								No participation feedback
24	Franke 2019 Canada Vancouver	Qualitative review of experience	Older adults' low income, over 65	Study the qualitative, subjective perceptions, attitudes and motivations and temporal dimensions of older adults with low income How do active older adults with low income experience mobility? What influences older adults' mobility choices over time?	Constructivist grounded theory 24 interviews with 6 active older people over a 4-year period Using Webber, Porter and Menec's conceptual framework of		-maintaining a sense of self -being resourceful -openness to engagement -engaging in superficial contact -Experiencing social capital	Explaining reasons for study design Purposive sample and maximum variation sampling interview guide described analysed by NVIVO lead author coded with additional sampling prepared vignettes by the 'team' from the coded data well articulated Ethical consent documented Very relevant to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
					older adults' mobility (2010)		-Accessing transportation -Leaving the immediate neighbourhood, -facing affordability	
25	Hurd Clarke (2020) Canada	Qualitative interviews	Older men	Examine the experiences and perceptions if exercise sport and leisure, and the meaning attributed to them by older Canadian men Aged 67-90	22 interviews Social constructivist qualitative approach		I do it for my health It feels good It gets tougher	Convenience sampled 1 homosexual Aged 65-94 Analysed by 2 authors and worked together to generate and then collapse codes.

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
								Ethics/consent notes Thick rich quotes included
26	Franco 2015 (Added from paper)	Systematic review of qualitative studies on the perspectives of physical activity	Systematic review of qualitative studies on the perspective of physical activity among older people	Thematic analysis of literature to analyse data- to identify and synthesise the range of barriers and facilitators to physical activity	Thematic synthesis from 132 studies involving 5987 participants	Some older people think that PA is harmful Others report barriers Strategies to enhance PA participation should include 1. Awareness of	6 major themes; -social influences (peers' awkwardness, encouragement dependence on professional instruction) -physical limitations (pain falling)	Search strategy in appendix- process and results reported Studies rated using the COREQ framework. Quotes included from studies thematic schema included All 7 authors reviewed the quotes. Very relevant to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
						benefits, improving financial, and environmental access	-competing priorities -Access difficulties -Personal benefits of physical activity	
27	Moore,Moore and Murphy (2011)	exercise professionals delivering referral scheme	38 professional an 12 local Health boards	Explore experience of engaging in diverse clinical populations	Semi structured telephone interviews with thematic analysis-			All exercise professionals interview structure included transparent (topic guide) were included (41)

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)**
	Wales							Ethically- part of evaluation Bias not mentioned Rich quotes included
28	Humberstone and Stuart (2016) Semi rural south of England	Lived experience of women in low impact exercise to Music	Older women in Yoga, or Exercise to Music groups (White middle class)	Uncover what is important for them in taking part in these classes	Phenomenological interpretive approach	Examine women's perceptions of the exercise class	Habitual pleasure, pleasure of immersion and sensual pleasure	2 case studies no literature review Interesting for this study

Appendix B

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
29	Phoenix and Orr 2014 South West England	Purposive sampled life history interviews, photography and photo elicitation	51 older adults who were physically active	Address the gap in relations to pleasure and physical activity on old age	Photo elicitation of the experience	Constructing a typology of pleasure Methodological pluralism	Sensual pleasure, documented pleasure of habitual action and pleasure of immersion	High Quality paper Criterion sampling- 60 years and older, and self identify as exercisers. 23 male and 27 female aged 60-95 History interviews, photography and photo elicitation to generate data Ethical approval Bias with active listening recorded and transcribed verbatim categorical –content analysis, selected subtexts and

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
								defined focus only on pleasure in this paper. Rich quotes Reflexivity of authors own embodiment Very relevant to this study Audit trail of transparency
30	Menichetti J, Graffigna G	35 papers included	60 or more years of age	What are the contents of patient engagement interventions for older adults?	Randomised controlled trials of interventions for older adults		Interventions focusing on patient engagement with older people tended	Clear eligibility criterion stated details of study searches detail of study extraction process

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
	and Steinsbekk 2018 Italy	20 unique components identified which were mostly behavioural and educational 6 studies were RCT 6 included more than 2 intervention arms			reviewing helping them participate in their own health and care management divided the interventions into micro level of a single component, meso level of two or more components and macro level of multiple components		to pay more attention to behaviour and education than affective dimensions. The studies which did focus on affective dimensions such as positive thinking, internal resource mapping, motivational interviewing, relaxation and friends and family support suggested	Evaluated using Downs and Black checklist Very relevant to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
					within education, behaviour and affective dimensions.		that older people can particularly benefit from interventions which include these dimensions	
31	ShvedkoA, Whittaker A, Thompson A, Grieg C Birmingham 2018	Systematic review and meta-analysis of RCTs PA interventions for treatment of social isolation/loneliness in older adults	38 RCT 5,288 participants (23 RCTS included)	PA effect on social functioning, loneliness, social support and societal networks	Prisma statements Review manager software		For social functioning, PA interventions can successfully influence social health, but PA did not appear to be effective for loneliness, social	Bias in individual studies rated using Cochrane review book group (12 criteria) only those with over 6 were included Authors contacted for additional data.

	Author, year and study location	**Intervention type-comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
							support, or social networks.	Very relevant to this study
32	French D, Olander O Chisholm A and McSharry J Cohens 2014 Systematic review	Systematic review of 24 studies reporting self-efficacy and physical activity	24 studies Mean age 69 years247 self-efficacy analysis participants and 349 physical activity participants	The aim was to identify behaviour change techniques (BCTs) that increase self-efficacy and physical activity in non-clinical community dwelling over 60s	Systematic search using CALOr taxonomy	Changes in self-=efficacy, and physical activity levels	Interventions increased self-efficacy and physical activity, but setting behavioural goals, self-monitoring, planning for relapses and providing feedback were associated with lower levels of	Cohens d (standardised mean difference) effect sizes calculated for changes in self efficacy Very relevant to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
							self –efficacy and physical activity.	
33	Martinez del Castillo, Navarro, Graupera Sanz et al 2010 Madrid region of Spain	Face to face interviews with 603 randomly sampled	people aged 65-94	1. Does a significant relationship exist between the practice of physical activity earlier in life, and the type of demand for physical activity in old age 2. are there significant relationships between social class, economic status education status occupational status and the type of demand for physical activity in old age?	603 face to face interviews based on types of demand	Demand established, latent or absent	Significant relationships were found between the type of physical activity participation, and being physically active at an earlier stage of life : socioeconomic status, the encouragement of others or active	Validated questionnaire, with four sociologists. Retest procedure to determine stability and reliability of the questionnaire Very relevant to this study

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
				3. are there significant relationships between the attitude of the people closest to an older person being most often spouse, children, friends and neighbours- the effective 'agents of socialisation about being physically active in later life and their encouragement of participation and social support and the older person's level of p[physical activity and 'type of demand' 4 is there a significant relationship between an older person's knowledge if physical			social support, and the knowledge and availability of local facilities.	

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
				activity facilities in the area where they live, and their participation or type of demand of physical activity in old age				
34	Wagstaff S 2009 Boston USA	Semi structured interview	5 residents, women in institution Aged over 65	How does exercise affect different areas of their lives, what supports and barriers influence their exercise participation in functional activities?	phenomenology		Exercise and health Mental health and vitality Mobility and ADLS Programme design	Triangulated, clear methodology No interview schedules Very relevant to this study

Appendix B

	Author, year and study location	Intervention type- comparator, duration of interventions	Study populations	Aims of study	methodology	Outcome measures	Important results	Critical analysis (trustworthiness, resonance rich rigour, transparency relevance)
35	**Buttery A and Martin F** **2009** **Patients in London hospital**	Interviews with grip strength and Bartel	In hospital- but heading home 66 patients included Mean age 80	Investigate knowledge and attitudes towards participation in PA by older people recovering from acute illness and returning home – were frailty or self-perceived health less likely to have positive attitudes on physical activity intentions	Prochaska and Di Clementes stages of change model	Function- Bartel and dynamometer	Barrier around health Few reported being advised to exercise Missed opportunities.	Questionnaire – overstated activity levels- not observed. Questionnaire had face validity, but not tested qualitative data not analysed robustly(or not reported) No ethical or consent reports Very relevant to this study
36	Hawley-Hague, H, Horne, M, Skelton, DA & Todd, C	Purposive Interviews with 19 instructors	Instructors of multicomponent exercise classes	Establish instructors perspectives on adults adherence and uptake of exercise	Semi structured interviews Theory of	Analysed by NVIVO themes	Barriers- identity cost choice an d venue (attitude and identity)	Risk of bias, as enthusiastic instructors, Purposive sample,

	Author, year and study location	**Intervention type- comparator, duration of interventions**	**Study populations**	**Aims of study**	**methodology**	**Outcome measures**	**Important results**	**Critical analysis** **(trustworthiness, resonance rich rigour, transparency relevance)**
	2015 Midlands				planned behaviour		Solutions- provision and language to match identity, opportunity to regain control personal touch and encouraging social support. Adherence	Methodology blind checking samples of coding and analysis Very relevant to this study

Appendix C **Lone Working Policy**

Research and Enterprise Services Office

RA4 Lone Interviewing Contact Procedure & Location Form

IMPORTANT

If you have any queries please contact your supervisor/principal investigator

Prior to your first interview/visit:

Please ensure that you have read the **Lone Interviewing Risk Assessment Guidance (RA2)** *and completed the* **Lone Interviewing Checklist (RA3)** *with your supervisor/principal investigator (PI) and completed a* **Location Form (RA4)** *for the first interview. Please bring the Location Form and your completed Checklist to the Research and Enterprise Services Office (RESO) for review* **before** *you start your fieldwork. A copy of your Location Form must also be given to your agreed contact person (if the interviews will take place outside office hours (08.30-16.00).*

Prior to each subsequent visit/interview:

Complete a new **Location Form** *and hand it to the Research and Enterprise Services Office or your agreed contact person if the interview/visit will take place outside office hours.*

On the day of the visit/interview:

Before the interview

The researcher should call the Research and Enterprise Services Office (if during office hours) or the agreed contact person (if outside office hours) to let them know they are about to start the interview.

After a visit/interview

The researcher should call the Research and Enterprise Services Office once the interview/visit is complete (if during office hours) or the agreed contact person (if outside office hours). It is preferable that the researcher speaks to someone in person instead of leaving a message.

If THREE hours have elapsed since the start of the researcher's interview/visit the following procedure should be followed by the Research and Enterprise Services Office /agreed contact person:

- *Phone the researcher on the main contact number they have provided (preferably a mobile).*
- *If they are still interviewing, ask the researcher to telephone the Research and Enterprise Services Office/agreed contact person when they leave.*
- *If no answer, try other contact numbers.*
- *If contact has still not been made, phone the interviewee*
- *If the interviewee says that the researcher is there, ask to speak to him/her personally and check everything is well.*
- *If the interviewee says that the researcher has left recently (within 10 minutes), wait another 10 minutes. If there is still no contact, instigate emergency procedure (see below).*
- *If there is no answer from the interviewee, commence emergency procedures.*

Appendix C

Emergency Procedures

The Research and Enterprise Services Office or agreed contact person (if outside office hours) should inform the researcher's supervisor/PI and then phone the police (Hampshire Constabulary central call number is 0845 045 4545)

If the researcher should find themselves in an uncomfortable situation:

Leave immediately:

Make an excuse to return to the car, taking car keys, and leave.

If the researcher is unable to leave the household:

- *Use the telephone to contact someone, preferably the Research and Enterprise Services Office. If this is difficult, explain that the office will be alerted if you do not return.*
- *If you are able to make an emergency call relay a pre-decided emergency message (e.g. "Please tell my supervisor that the interview is going well")*
- *If the Research and Enterprise Services Office or agreed contact person hears this phrase, they should contact the police and researcher's supervisor/PI immediately.*

Notes:

- *If you feel THREE hours is too long or too short a time, please indicate your time preference on the Location Form.*

- *Please take into consideration how long your interview might take to complete and bear in mind that if the interview finishes outside office hours then the agreed contact person will be responsible for checking the researcher back in and instigating emergency procedures if necessary.*

- *The researcher may also choose to add an additional 'check-in' if they are travelling a long distance before and/or after the visit/interview.*

If a visit is happening outside office hours or is likely to finish outside office hours, the agreed person will replace the Research and Enterprise Services Office as point of contact. The agreed person should be a reliable person who you know will be available at the time of the interview, e.g. a family member/spouse/partner

Appendix D **Falls pathways for City**

City Falls Pathway 18/3/2019

Appendix E **Saints Foundation Programme**

MONDAYS

SESSION TYPE	TIME	VENUE
ACTIVITY	10.00 - 11.30	GRAYLINGS COURT, BEECHFIELD COURT, SO15 8SL
CORE	13.00 - 14.00	BISHOPS CRESCENT, BISHOPS ROAD, SO19 2FH
CORE	15.00 - 16.00	ST MARY'S STADIUM, BRITANNIA ROAD, SO14 5FP

TUESDAYS

SESSION TYPE	TIME	VENUE
BOWL FIT	10.00 - 10.45	COUNTY BOWLING CLUB, 61 NORTHLANDS ROAD, SO15 2LN
REMINISCENCE	14.00 - 15.00	ST MARY'S STADIUM, BRITANNIA ROAD, SO14 5FP
ACTIVITY	14.00 - 15.00	ERSKINE COURT, SUTHERLAND ROAD, SO16 8FZ

WEDNESDAYS

SESSION TYPE	TIME	VENUE
CORE	11.00 - 12.00	GRAYLINGS COURT, BEECHFIELD COURT, SO15 8SL
WALKING CRICKET	13.30 - 15.00	NEWTOWN YOUTH CENTRE, 54 GRAHAM ROAD, SOUTHAMPTON, SO14 0AW
ACTIVITY	14.00 - 15.00	MAYPOLE NURSING HOME 99 LOWER NORTHAM ROAD, HEDGE END, SO30 4FS

1st EDITION 2018 WWW.SAINTSFOUNDATION.CO.UK

CONTACT INFORMATION

If you are interested in any of the sessions or would like more information please contact us on:

02380 718605
phedges@saintsfc.co.uk
mgealer@saintsfc.co.uk
cgray@saintsfc.co.uk

ZURICH Community Trust

SAINTS FOUNDATION

GENERATION GAINS PROGRAMME

At the age of 92, Molly Garside has had to surrender the adventurous lifestyle she enjoyed but here she explains how our Generation Gains programme has helped her feel on top of the world.

Molly explains that "Most of us live on our own so it gives us something to do twice a week. Some that come along don't even do the workouts they just come for a cup of tea and to meet people. It's extremely good fun and you can really feel the impact that it makes it's something that I would recommend to everyone. The groups and instructors are so friendly and you are always made to feel welcome."

Molly Garside, aged 92

THURSDAYS

SESSION TYPE	TIME	VENUE
WALKING FOOTBALL	10.00 - 11.00	GOALS SOCCER CENTRE, MILLBROOK POINT ROAD, SO15 0JZ
CIRCUIT TRAINING	10.30 - 11.30	SWAYTHLING NEIGHBOURHOOD CENTRE, BROADLANDS ROAD, SO17 3AT
CIRCUIT TRAINING	12.00 - 13.00	MERRYOAK COMMUNITY CENTRE, ACACIA ROAD, SO19 7JY

FRIDAYS

SESSION TYPE	TIME	VENUE
ACTIVITY	10.00 - 11.00	GRAYLINGS COURT, BEECHFIELD COURT, SO15 8SL
ACTIVITY	13.30 - 14.30	FAIRFAX COURT, HINKLER ROAD, SO19 6FU
CORE	14.00 - 15.00	KERRIGAN COURT, 16 WESTWOOD ROAD, SO17 1JT

1st EDITION 2018 WWW.SAINTSFOUNDATION.CO.UK

Appendix F **PHE conference September 2017**

Health Education England

National Institute for Health Research

Who uses exercise in later life? A critical ethnographic study

ELClift[1246] HCRoberts[34] AASayer[35] AERogers[46]

[1] Health Education England
[2] Solent NHS Trust
[3] Academic Geriatric Medicine University of Southampton
[4] NIHR CLAHRC Wessex
[5] Director NIHR, Newcastle
[6] University of Southampton Health Sciences

Introduction

Living longer brings the challenge of ageing well. Older people who continue to live active lives have better health and social outcomes. They maintain their functional ability, engagement with local community resources, and have a better quality of life. However the trend is for older people to reduce their activity levels by 50% from the age of 60 to 85. This study explores the engagement of older people with formal exercise provision in a city in the South of England.

Methods

An ethnographically informed approach was used to understand the local context. Focus groups were undertaken with five groups, three who participated in a formal exercise class, either Tai Chi, falls prevention, or pulmonary rehabilitation, and two who were part of a lunch club or social group which did not offer any formal exercise. A focus group of exercise providers and prescribers, was undertaken and four 1:1 semi structured interviews with providers and commissioners were recorded.
Each participant completed a CASP 19 wellbeing score and a self assessed frailty score.
The data was enriched with field notes for each of the activity settings.

Falls prevention group with third sector provider

Results

	CASP		Frailty	
	Male	Female	Male	Female
Exercise	(n=7) 44.29	(n=14) 45.14	1.74	0.71
Non-exercise	(n=1) 32	(n=9) 40.89	0	1.2

Themes

Key themes were identified which older people expressed as drivers to encourage engagement and sustained activity. These were the charisma and the capability of the instructor to understand their particular health condition, and to tailor the activities to their individual needs.

EX1-1:but I do find that (instructor) has an acceptance, and making it more fun, is excellent and I find that it does make a difference in the attitude of the person taking the class.

The familiarity and accessibility of the group and the social engagement with each other was a significant incentive to continue on with the exercise group

EX1-3:well we are a group, we know each other. If it weren't there, would we exercise?

Non Participants in exercise groups described a process of disengagement as they grew older, and many had been advised to stop a particular activity by a clinician during a crisis, but were given no direction as to how to re- engage. Many of them also described a seasonal activity habit.

NE1-2:I am out in the garden a lot, but wintertime I hibernate!

Clinicians were unaware of the local provision of exercise locally, and so were unable to signpost older people appropriately.

GP: well that's the first time I've heard about these

Third sector exercise providers felt disenfranchised from the 'system', and often struggled to develop robust relationships with clinicians to be part of any referral pathway.

Tai Chi Instructor-I feel that the NHS not only need convincing to signposting people to Tai Chi and Quiong, but quite often I waste my time talking to people.....but has she sent any referrals? No!

Commissioners understood some of the barriers to participation in exercise by older people, but were disconnected from the aspirational opportunities and the lived experience of service users.

Key conclusions

It is vital to understand the local context, exercise culture and older peoples priorities for engagement with exercise .
Clinicians and providers should know what provision is available locally, and be confident about the capabilities of the provider to ensure their referral options are both appropriate and acceptable.

References
(1) Janssen S and Stube J, Older Adults perception of Physical Activity: A Qualitative Study *Occupational Therapy International* 2014 **21** 53-62
(2) King A and King A, Physical Activity for an ageing population *Public Health Review* 2010 **32**:401-426
(3) Imison C, Castle-Clarke S and Watson R *Reshaping the workforce to deliver the care patients need.* Research Report. Nuffield Trust. 2016

Esther.Clift@nhs.net @EstherClift

Solent NHS Trust: Great care at the heart of our community

Appendix G **EuGMS poster**

Who uses exercise in later life? A critical ethnographic study

NHS National Institute for Health Research

Health Education England

Solent NHS Trust

ELClift[1246] HCRoberts[34] AASayer[35] AERogers[46]

[1] Health Education England [2] Solent NHS Trust [3]Academic Geriatric Medicine University of Southampton [4] NIHR CLAHRC Wessex [5] Director NIHR, Newcastle [6]University of Southampton Health Sciences

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Living longer brings the challenge of ageing well. Older people who continue to live active lives have better health and social outcomes. They maintain their functional ability, engagement with local community resources, and have a better quality of life. However the trend is for older people to reduce their activity levels by 50% from the age of 60 to 85. This study explores the engagement of older people with formal exercise provision in a city in the South of England.

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The data was enriched with field notes for each of the activity settings. Frameworks analysis was used to analyse the data, finding themes articulating the lived experience of older people in the city.

Falls prevention group with third sector provider

Results

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	Male	Female	Male	Female
Exercise	(n=7) 44.29	(n=14) 45.14	1.74	0.71
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Themes

Key themes were identified which older people expressed as drivers to encourage engagement and sustained activity. These were the charisma and the capability of the instructor to understand their particular health condition, and to tailor the activities to their individual needs.

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The familiarity and accessibility of the group and the social engagement with each other was a significant incentive to continue on with the exercise group

> EX1-3:well we are a group, we know each other. If it weren't there, would we exercise?

Non Participants in exercise groups described a process of disengagement as they grew older, and many had been advised to stop a particular activity by a clinician during a crisis, but were given no direction as to how to re- engage. Many of them also described a seasonal activity habit.

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Key conclusions

It is vital to understand the local context, exercise culture and older peoples priorities for engagement with exercise . Clinicians and providers should know what provision is available locally, and be confident about the capabilities of the provider to ensure their referral options are both appropriate and acceptable.

References

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(3) Imison C, Castle-Clarke S and Watson R *Reshaping the workforce to deliver the care patients need.* Research Report. Nuffield Trust. 2016

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Appendix H **3MT competition**

3MT guidelines

Write for your audience

- Avoid jargon and academic language.
- Explain concepts and people important to your research - you may know all about Professor Smith's theories but your audience may not.
- Highlight the outcomes of your research, and the desired outcome.
- Imagine that you are explaining your research to a close friend or fellow student from another field.
- Convey your excitement and enthusiasm for your subject.

Tell a story

- You may like to present your 3MT as a narrative, with a beginning, middle and end.
- It's not easy to condense your research into three minutes, so you may find it easier to break your presentation down into smaller sections.
- Try writing an opener to catch the attention of the audience, then highlight your different points, and finally have a summary to restate the importance of your work.

Have a clear outcome in mind

- Know what you want your audience to take away from your presentation.
- Try to leave the audience with an understanding of what you're doing, why it is important, and what you hope to achieve.

Revise

- Proof your 3MT presentation by reading it aloud, to yourself and to an audience of friends and family.
- Ask for feedback.
- Ask your audience if your presentation clearly highlights what your research is about and why it is important.

Script for May 8th, 2019

We all know that we have an ageing population- people are living longer. We are all living longer. A woman in Southampton lives on average to 82, and a man to 78. Life expectancy was around 50 in the 1900s. This is a testament to our superb medical services, fewer infectious diseases, and healthier lifestyles.

Living longer, however brings the challenge of ageing well.

We know that exercise can reduce the incidence of some cancers, osteoporosis, diabetes and lung diseases, and there is growing evidence, that exercise enables people to age well too.

Older people who continue to live active lives have better health and social outcomes. They maintain their functional ability, engage with local community resources, and have a better quality of life.

However, the trend is for older people to reduce their activity levels by as much as 50% between the age of 60 and 85, as the graph shows.

I wanted to understand form older people their perspective in exercise- why some people continue to participate in formal exercise, and why others do not, in order to influence the culture of exercise and ageing and help develop communities where people live better quality of life, for longer.

I undertook focus groups with older people participating in exercise- a tai chi group, a falls prevention group, and a pulmonary rehab group- you can see the falls group in action.

And with those who were part of a social group, but not in a formal exercise group. I also spoke to clinicians and exercise providers to understand their experience of referring and supporting older people with exercise.

My findings identified 3 gaps or barriers which need to bridge if we are going to make sure that we add life to years, and not just years to our lives.

1. Gap in the knowledge of clinicians to know what is available in our local community- they were often unaware of what was on offer, and therefore unable to signpost people appropriately

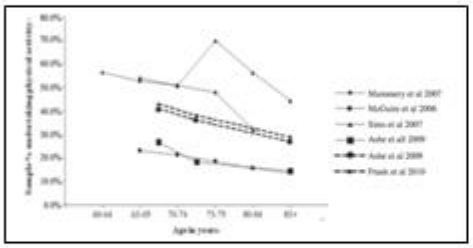
2. Gap in the skill of local providers to enable and sustain exercise with older people who may have complex health needs- older people felt the ability of the instructors to tailor exercise to their own needs was crucial.
3. Gap in culture of exercise and growing older- where it is felt acceptable to sit more and move less, but virtue of reaching a certain chronology.

The impact of my research so far is that I have taken up running myself, to ensure that I can age well

NIHR | Collaboration for Applied Health Research and Care Wessex

NHS National Institute for Health Research

The views and experience of exercise by older people: a critical ethnographic study



3 Gaps identified:

1. Gap in knowledge of clinicians
2. Gap in skill of providers
3. Gap in culture with growing older

Esther Clift
Consultant Practitioner in Frailty
CLAHRC trainee, Doctorate in Clinical Practicestudent

Dear All,

The FELS Three Minute Thesis (3MT) heat was held this afternoon in building 44. Three of our PGR students plus students from different FELS schools competed in the heat.

Appendix H

I am delighted to say Esther Clift (Consultant Practitioner in Frailty and CLAHRC trainee in Doctorate in Clinical Practice) is the FELS runner-up for this academic year 3MT!

Esther's presentation entitled:

The views and experience of exercise by older people: a critical ethnographic study

Many congratulations to Esther and indeed to all of our PGR students who represented the School in the 3MT heat this academic year

With very best wishes

Bashir

Professor Bashir A. Lwaleed PhD, FRCPath, PGCAP, FHEA, CBiol, FSB, FIBMS

Professor of Experimental Pathology

Director of Post Graduate Research

PhD & DClinP Programmes Lead

Advisor (MENA) to the Vice President

Visiting Professor of Pathology | University of Tripoli | Libya

Faculty of Environmental and Life Sciences |School of Health Sciences |

University of Southampton|South Academic and Pathology Block (MP 11)

Southampton General Hospital | Tremona Road|Southampton SO16 6YD | U.K.

☏ 0044 2381 206559 |🖷 0044 2381 206922| ✉ bashir@soton.ac.uk

Appendix I **Focus on Frailty conference**

The conference was for staff working with older people across the health and social care provision within Wessex.

The workshop was repeated 3 times with 3 different audiences of about 10 people, from unregistered support workers to Band 6 physiotherapists, and an associate professor or 2. The content was well received, and the feedback was positive.

Focus on Frailty
Friday 20th September 2019
The Education Hub, Colebrook Street, Winchester
SO23 9LH

	09.00 – 09.15 **Registration**		
09.15 – 10.00 10.00 - 10.45	What is Frailty? - Lucy Lewis, Consultant Practitioner Trainee Frailty the Lived Experience - Service User Associate Professor Role and Sharing Research – Ass. Prof. Euan Sadler		
	10.45 – 11.00 **Break**		
11.00 – 11.30	Healthy Ageing and Innovation - Cheryl Davies Wessex AHSN Droplet - Mark Withers		
11.30 - 12.00	Positive Risk Taking/Decision Making in the Community Gary Cleeve, Consultant Practitioner for Frailty		
12.00 – 12.30	Delirium - James Lee, Consultant Practitioner Trainee		
	12.30 – 13.30 **Lunch**		

Appendix I

13.30 - 1530 **Rotation through rooms**	**Exercise for Older People Living with Frailty - Esther Clift, Consultant Practitioner for Frailty** **Flowerdown Room**	**Functional Assessment and Measurement Sarah Mercer-Occupational Therapist, PhD Student** **Farley Room**	**VR Headset Session Frailty** **Sombourne Room**
15.30-1600	**Closing Plenary**		
	16-00 **Close the day**		

#WessexFrailty19

Appendix J **Physical Frailty Score**

Southampton Modified CHS Score

i) **In the last year have you lost more than 10lb in weight unintentionally i.e. not due to diet or** exercise?

No Score 0

Yes Score 1

ii) How often in the last week did you feel that everything was an effort, or you could not get going?

Rarely or none of the time (< 1 day) some or a little or some of the time (1-2 days) Score 0

A moderate amount of time (3-4 days) Most of the time >4 days Score 1

iii) **In the last year have you noticed weak grip strength?** Not at all/A little or some of the time Score 0. A moderate amount of time/all the time Score 1

iv) **Which of the following best describes your walking speed?** Fast/fairly brisk/stroll at an easy pace Score 0

Very slow/unable to walk Score 1

v) How often do you engage in activities that require a low or moderate level of energy such as gardening, cleaning the car or doing a walk (Share –FI)

More than once a week/Once a week/One to three times a month Score 0

Hardly ever or never Score 1

Interpretation of score

Score 3+ Physical frailty Score 2 Physical pre-frailty Score 0/1 Physical frailty unlikely

Appendix J

Table of Mean frailty scores for Quantitative data

Focus group	Mean frailty score	Number of participants	range	No. robust (score 0/1)	No. prefrail (score 2)	No. living with frailty
Tai Chi (EX1)	0.5	6	0-2	5	1	0
Falls Group EX2	1	7	0-2	6	1	0
Pulmonary Rehab EX3	1	7	0-3	5	1	1
NE1	1	6	0-3	3	1	2
NE2	0.5	4	0-3	3	0	1

Table showing frailty scores, with self-reported weight loss, exhaustion, grip strength, gait speed, and low physical activity score (from Fried)

Group	individual	Total CHS score	Weight loss	Exhaustion	Grip strength	Gait speed	Low physical activity
EX1 (tai Chi)	**EX1-1**	1	0	0	0	1	0
	EX1-2	2	0	1	0	0	1
	EX1-3	0	0	0	0	0	0
	EX1-4	0	0	0	0	0	0
	EX1-5	1	0	1	0	0	0
	EX1-6	0	0	0	0	0	0
Mean score:		**0.67**					
EX2 (Falls)	**EX2-1**	1	0	1	0	0	0
	EX2-2	0	0	0	0	0	0
	EX2-3	0	0	0	0	0	0

	EX2-4	2	0	0	1	1	0
	EX2-5	1	0	0	0	0	1
	EX2-6	0	0	0	0	0	0
	EX2-7	1	0	1	0	0	0
Mean score		**0.71**					
EX3 (PE)	**Ex3-1**	3	0	1	0	1	1
	Ex3-2	0	0	0	0	0	0
	Ex3-3	2	1	1	0	0	0
	Ex3-4	incomplete					
	Ex3-5	1	0	0	1	0	0
	Ex3-6	0	0	0	0	0	0
	Ex3-7	1	0	1	0	0	0
	Ex3-8	2	0	1	0	1	0
Mean score		**1.28**					
NE1	**NE1-1**	1	0	0	1	0	0
	NE1-2	0	0	0	0	0	0
	NE1-3	2	0	0	1	1	0
	NE1-4	3	0	1	1	0	1
	NE1-5	3	0	1	1	1	0
	NE1-6	1	0	0	1	0	0
Mean score		**1.67**					
NE2	**NE2-1**	1	0	1	0	0	0
	NE2-2	3	0	1	0	1	1
	NE2-3	0	0	0	0	0	0
	NE2-4	0	0	0	0	0	0
	NE2-5	0	0	0	0	0	0
Mean Score:		**1**					

Appendix K **The FRAIL Screening Tool**

3 or greater = frailty; 1 or 2 = prefrail
Fatigue: Are you fatigued?
Resistance: Cannot walk up 1 flight of stairs?
Aerobic: Cannot walk 1 block?
Illnesses: Do you have more than 5 illnesses?
Loss of weight: Have you lost more than 5% of your weight in the past 6 months?

Appendix L **Individual interview –Clinicians-staff – topic guide**

Research title: who uses exercise in later life; a critical ethnographic study

Researcher: Esther Clift

Individual interview clinician's guidelines*:*

Appendix

Questions:

How important is being active to your patients?

How many older people do you refer for physical activity or exercise?

What options are there for you to refer to?

What do you see as the reasons why older people don't undertake physical activity?

What would be your aspiration for older people and physical activity?

Appendix M **Consent Form**

Study title: *Who uses exercise in later life? A critical ethnographic study*

Researcher name: *Esther Clift*

Study reference: *19603*

Please initial the box(es) if you agree with the statement(s):

I have read and understood the information sheet (March 2017 V 3) of participant information sheet) and have had the opportunity to ask questions about the study.	☐
I agree to take part in this research project and agree for my conversation to be audio recorded and for my data to be used for the purpose of this study.	☐
I understand my participation is voluntary and I may withdraw at any time without my legal rights being affected	☐

I am happy to be contacted regarding other unspecified research projects. I therefore consent to the University retaining my personal details on a database, kept separately from the research data detailed above. The 'validity' of my consent is conditional upon the University complying with the Data Protection Act and I understand that I can request my details be removed from this database at any time.

☐

Data Protection

I understand that information collected about me during my participation in this study will be stored on a password protected computer and that this information will only be used for the purpose of this study. All files containing any personal data will be made anonymous.

Name of participant (print name)……

Signature of participant……

Date……

Appendix N **Participant Information Sheet**

Study Title: Who uses exercise in later life? A critical ethnographic study.

Researcher: Esther Clift **Ethics number**: 19603

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about? This a study looking at exercise in older age. The researcher is a Physiotherapist who has worked with older people for many years.

Why have I been chosen? You have been chosen to be part of this study, as you are part of a group, but may or may not participate in an exercise class, and we want to ask your thoughts about exercise as you grow older.

What will happen to me if I take part? The researcher will attend the group you are a part of to see how things happen in the group, and then you will be invited to take part in a discussion with other people in your group. You will also be invited to complete 2 questionnaires about your health and wellbeing!

Are there any benefits in my taking part? After the information from a number of groups has been collected, there will be an opportunity to meet up again, and see what advice older people would like. You may be involved in that if you would like to be.

Are there any risks involved? There should be no more risks than you take attending the group as usual.

Will my participation be confidential? What you say will be anonymised, so no one outside the group will know what was said - but the people in the group may well be able to remember and recognise what was said.

What happens if I change my mind? You can change your mind at any time and leave the group if you do not want to carry on. This will not compromise your membership to the group at all.

What happens if something goes wrong? If you have any concerns about the way the study is going, or your role in it you can contact the Research Governance Manager (02380 595058, rgoinfo@soton.ac.uk

Where can I get more information?

Please do ask Esther for more information-

Esther Clift esther.clift@nhs.net or telephone 07854168467

Appendix O **Exercise group- topic guide**

Research title: who uses exercise in later life; a critical ethnographic study

Researcher: Esther Clift

Focus Group for older people guidelines*: (exercise group)*

Welcome and describe format:

Questions:

Motivation -why do you participate in this group?

Do you have a sense of 'connectednesses?

Perceived benefit What benefits do you see?

What other activities do you do outside of this exercise group?

How important is exercise in your daily routines?

Challenges overcome - what have been the challenges to participating in the group?

How supported do people feel by their families and health care providers to participate in exercise groups?

Appendix P **Non exercise group- topic guide**

Research title: who uses exercise in later life; a critical ethnographic study

Researcher: Esther Clift

Focus Group for older people guidelines*: (non-exercise group)*

Questions:

Motivation -why do you participate in this group?

Do people in either group have a sense of 'connectednesses?

Perceived benefit How important is being active to you?

How much physical activity do you do each day?

Challenges What might motivate you to join in a formal physical activity group?

Appendix Q **Clinicians/staff Focus Group– topic guide**

Research title: who uses exercise in later life; a critical ethnographic study

Researcher: Esther Clift

Focus Group for clinician's guidelines*:*

Questions:

How important is being active to your patients?

How many older people do you refer for physical activity or exercise?

What options are there for you to refer to?

What do you see as the reasons why older people don't undertake physical activity?

Appendix R **Participation Observation Notes Guide;**

Research title: who uses exercise in later life; a critical ethnographic study

Researcher: Esther Clift

Who is here?

How are they interacting?

What is the relationship with the instructor?

Any obvious power plays?

Start and finish of the group? Soft or hard?

Field notes- prompts

How does it feel to be in the group?

Environmental review?

Access?

Appendix S **CASP 19**

Item no	Sub-domain item no		Often	Sometimes	Not often	Never
1	C1	My age prevents me from doing the things I would like to	0	1	2	3
2	C2	I feel that what happens to me is out of my control	0	1	2	3
3	C3	I feel free to plan for the future	3	2	1	0
4	C4	I feel left out of things	0	1	2	3
5	A1	I can do the things that I want to do	3	2	1	0
6	A2	Family responsibilities prevent me from doing what I want to do	0	1	2	3
7	A3	I feel that I can please myself what I do	3	2	1	0
8	A4	My health stops me from doing things I want to do	0	1	2	3
9	A5	Shortage of money stops me from doing the things I want to do	0	1	2	3
10	P1	I look forward to each day	3	2	1	0
11	P2	I feel that my life has meaning	3	2	1	0
12	P3	I enjoy the things that I do	3	2	1	0
13	P4	I enjoy being in the company of others	3	2	1	0
14	P5	On balance, I look back on my life with a sense of happiness	3	2	1	0
15	SR1	I feel full of energy these days	3	2	1	0
16	SR2	I choose to do things that I have never done before	3	2	1	0
17	SR3	I feel satisfied with the way my life has turned out	3	2	1	0
18	SR4	I feel that life is full of opportunities	3	2	1	0
19	SR5	I feel that the future looks good for me	3	2	1	0

08/03/2016

Thank you for your email and your interest in using the CASP. You do not need any special permissions to use the scale as long as it is non-for-profit research. I would be very interested to learn how the study goes as I know of only one other mixed methods study that has used the CASP (a study of sheltered housing residents in the mid-West USA). I have also recently put together an online resource for the scale which you might find useful - www.casp19.com - and we are always looking for future blog posts if would be interested in writing one from your studies when they are done.

All the best

Martin

Dr Martin Hyde

Lecturer in Sociology (Q Step)

Department of Sociology | Room 3.047 | Arthur Lewis Building | University of Manchester | M13 9PL

Appendix S

Tel ext.: 58902

Twitter: @HydeM1976

Website: www.casp19.com

Group	individual	C/12 Control	A/15 Autonomy	P/15 Pleasure	S/15 Self-realisation	CASP Total	Frailty score
EX1 (tai Chi)	**EX1-1**	8	8	15	13	44	1
	EX1-2	10	10	15	12	47	2
	EX1-3	8	9	15	15	47	0
	EX1-4	6	7	13	8	34	0
	EX1-5	9	9	12	11	41	1
	EX1-6	8	12	15	14	49	0
EX2 (Falls)	**EX2-1**	9	12	14	14	49	1
	EX2-2	7	12	14	11	44	0
	EX2-3	11	12	14	13	50	0
	EX2-4	6	7	15	12	40	2
	EX2-5	5	9	11	11	36	1
	EX2-6	7	13	14	13	47	0
	EX2-7	6	8	15	14	42	1
EX3 (PE)	**Ex3-1**	12	11	15	11	49	3
	Ex3-2	12	10	14	10	46	0
	Ex3-3	5	9	14	8	36	1
	Ex3-4	5	10	Incomplete	Inc.	Inc.	Inc.
	Ex3-5	12	11	15	11	49	1
	Ex3-6	7	10	15	14	46	0
	Ex3-7	12	10	15	13	50	1
	Ex3-8	6	9	9	2	26	2
NE1	**NE1-1**	7	11	10	9	37	1
	NE1-2	6	10	12	9	37	0
	NE1-3	4	4	15	8	31	2
	NE1-4	5	11	15	11	42	3
	NE1-5	5	11	13	10	39	3
	NE1-6	8	15	15	14	52	1
NE2	**NE2-1**	7	7	14	9	37	1
	NE2-2	7	4	10	6	27	3
	NE2-3	6	7	12	6	31	0
	NE2-4	9	11	15	11	46	0

Group	individual	C/12 Control	A/15 Autonomy	P/15 Pleasure	S/15 Self-realisation	CASP Total	Frailty score
	NE2-5	Inc.	-	-	-		-
Median							

Appendix T **Chief medical officers' physical activity Guidelines 2019**

https://www.gov.uk/government/publications/physical-activity-guidelines-infographics

Glossary of Terms

AHP- Allied Health Professional- There are 14 allied health professions, art therapy, drama therapy, music therapy, podiatry, dietetics, occupational therapy, operating department practice, orthoptician, osteopathy, paramedicine, physiotherapy, orthotics, radiology, and speech and language therapy.

Behaviour- anything a person does in response to an internal or external event. Actions may be motor or verbal and measurable (overt) or not visible but involving voluntary muscles (covert) Behaviours are physical events that occur in the body and are controlled by the brain (Davis et al 2015)

Culture- the set of values, conventions, or social practices associated with a particular field, activity, or societal characteristic- here exercise – (Phillips 2005)

Comprehensive Geriatric Assessment (CGA) – is a detailed process for identifying a person's health, social and environmental needs. Assessments may be undertaken with one or more expert, and drawn together by a care manager. CGA leads to holistic care planning to enable priorities for life to be set with that person.

Co-Production-Co-production is a way of working that involves people who use health and care services, carers and communities in equal partnership; and which engages groups of people at the earliest stages of service design, development and evaluation. Co-production acknowledges that people with 'lived experience' of a particular condition are often best placed to advise on what support and services will make a positive difference to their lives. Done well, co-production helps to ground discussions in reality, and to maintain a person-centred perspective (http://coalitionforcollaborativecare.org.uk/coproductionmodel/).

Exercise- is physical activity which is planned, structured, repetitive and purposeful.

Fall- A fall is defined as an event which results in a person inadvertently coming to rest on the floor, or the ground, or another lower level (WHO)

Frailty- is defined as a clinically recognised state of vulnerability across a number of physiological systems as a result of age related loss of reserve and function. This loss

of reserve results in an ability to respond to every day or acute stressors is compromised (Clegg et al 2013).

Integrated Care Systems- (ICS)- advanced local partnerships taking shared responsibility to improve the health and care system for their local population

Lay knowledge- refers to the ideas and perspective used by participants to interpret their own experiences of health and illness in every day (Willcox 2010)

Physical activity- is any bodily movement produced by skeletal muscles that result in energy expenditure

Primary and Acute Care Systems (PACS)- an integrated care model of health and social care which is able to deliver appropriate care to a person as close to home as possible.

Resilience (personal) - resilience is defined as the individual's capacity to adapt to physical, mental and social challenges which occur inevitably during the life course.

Resilience (System) - is a property of systems which confers on them the ability to remain intact and functional despite the presence of threats to their integrity and function. The opposite is brittleness (Braithwaite et al 2017)

Self-Management – 'Supported self-management (SSM) is part of the NHS Long Term Long-term Plan's commitment to make personalised care business as usual across the health and care system. It proactively identifies the knowledge, skills and confidence ('activation') people have to manage their own health and care.' https://www.england.nhs.uk/personalisedcare/supported-self-management/

STP- Sustainability and Transformation Plan/Partnership- England has been divided into 44 areas to develop an integrated health and social care approach to manage limited resources. All 44 systems must be integrated by April 2021.

Theory- a set of concepts and/or statements with specification of how phenomena relate to each other. Theory provides an organising description of a system that accounts for what is known, and explains and predicts phenomena (Davis et al 2015)

List of References

AgeUK (2008) *Healthy Ageing Evidence review*: available at: http://www.ageuk.org.uk/documents/en-gb/forprofessionals/healthandwellbeing/evidence%20review%20healthy%20ageing.pdf?dtrk=true (accessed June 2016)

Alshenqeeti, H (2014) Interviewing as a data collection method: A critical review *English Linguistics Research* 3:1

Andrew, M., Fisk, J. and Rockwood, K. (2012) 'Psychological well-being in relation to frailty: a frailty identity crisis?' *International Psychogeriatric Association* 24:8 pp.1347-1353.

Arkkukangas, M., Sundler, A., Soderlund, A., Eriksson, S. and Johansson, A. (2017) 'Older persons' experience of a home-based exercise program with behavioural change support' *Physiotherapy theory and Practice* 33 12 pp.905-913.

Baczynska, A., Shaw, S., Patel, H. *et al.* (2017) 'Learning from older peoples' reasons for participating in demanding, intensive epidemiological studies: a qualitative study' *BMC Med Res Methodol* **17,** 167 https://doi.org/10.1186/s12874-017-0439-9

Baily, C., King, K., Dromey, B. and Wynne, C. (2010) 'Fear of Falling and Older Adult Peer Production of Audio-Visual Discussion Material,' *Educational Gerontology,* 36:9, pp.781-797. DOI: 10.1080/03601277.2010.485024

Baird, B., Luca, R. and Donnellan, B. (2010) 'Life satisfaction across the Lifespan: findings from two nationally representative panel studies' *Soc Indic Res*. 2010 November; 99(2): pp.183–203. Doi: 10.1007/s11205-010-9584-9

Baltes, P. and Baltes, M. (1990) 'Psychological perspective on successful aging: the model of selective optimization with compensation' in Baltes P and Baltes M (Eds) *Successful aging: perspectives from the behavioural sciences* Cambridge England: Cambridge University Press p1-34

Beard, J., Officer, A. de Carvalho, I. (2016) 'The World report on ageing and health: a policy framework for healthy ageing' *LANCET* 387 10033 pp.2145-2154

List of References

Beecroft C, Booth A and Rees A (2015) 'Finding the Evidence' in Gerrish K and Lathlean J (eds) The *Research Process in Nursing* (Seventh Edition) John Wiley and sons pp89-104

Belza, B., Shumway-Cook, A., Phelan, E., Williams, B., LoGerfo, J. and Snyder, S. (2006) The effects of a community-based exercise program on function and health in older adults: the enhance fitness programme. *Journal Applied Gerontology* 25 (4) 291-306

Blanchflower, D. and Oswald, A. (2008) 'Is wellbeing U shaped over the life cycle? '*Social Science and Medicine* 66 pp.1733-1740.

Bongue, B., Buisson, A., Dupré, C., Beland, F., Gonthier, R. and Crawford-Achour, E. (2017) Predictive performance of four frailty screening tools in community-dwelling elderly. *BMC Geriatrics* 17. 10.1186/s12877-017-0633-y.

Booth, J. (2015) 'Observation' in Gerrish K and Lathlean J (eds) *The Research Process in Nursing* (Seventh Edition) John Wiley and sons

Bowling, A. and Stenner, P. (2011) 'Which measure of quality of life performs best in older age? A comparison of the OPQOL, CASP-19 and WHOQOL-OLD' *Journal Epidemiology Community Health* 65 pp.273-280.

Braithwaite, J., Hyde, P. and Pope, C. (2017) *Culture and Climate in Health Care Organizations.* Eastbourne: Palgrave Macmillan

Britten, N. (2014) Concordance in the *Wiley Blackwell Encyclopaedia of Health, Illness, Behaviour and Society* (First Edition) Editors Cockerham W, Dingwall R and Quah S Wiley and sons Ltd London

British Geriatric Society (2020) (https://www.bgs.org.uk/sarcopenia-and-frailty-research)(accessed July 2020)

British Geriatric Society (2014) *Fit for Frailty I - Consensus best practice guidance for the care of older people living in community and outpatient settings - a report from the British Geriatrics Society.* BGS available from http://www.bgs.org.uk/campaigns/fff/fff_full.pdf (Accessed July 15, 2015)

Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology *Qualitative research in psychology* 3:pp.77-101.

Bull, F. and the Expert Working Group (2010) *Physical activity guidelines in the UK: Review and Recommendations.* Loughborough University *S*chool of Sport, Exercise and Health Sciences,

Bull, F. and Bauman, A. (2011) 'Physical inactivity: the "Cinderella" risk factor for non-communicable disease prevention' *J Health Commun*, 16 pp.13-26.

Bull, F., Milton, K. and Kahlmeier, S. (2015) Health-enhancing physical activity (HEPA) policy audit tool (PAT) World Health Organization (Europe) Available at: http://www.euro.who.int/__data/assets/pdf_file/0010/286795/Health-enhancing_physical_activityHEPApolicy_audit_toolPATVersion_2.pdf?ua=1 (accessed June 2016)

Burton, A., Clancy, L. and Cowap, L. (2016) 'Exploring the facilitators and Barriers to Physical Activity in older people with Sight loss' *Journal of Aging and Physical Activity* 26 1 https://doi.org/10.1123/japa.2016-0123

Buttery, A. and Martin, F. (2009) Knowledge, attitudes and intentions about participation in physical activity of older post-acute hospital inpatients *Physiotherapy* 95 pp.192-198.

Cameron, I., Fairhall, N., Langron, C., Lockwood, K., Monaghan, N., Aggar, C., Sherrington, C., Lord, S. and Kurrle, S. (2013) 'A multifactorial interdisciplinary intervention reduces frailty in older people: randomized trail' *BioMed Central* 11:65 http://www.Biomedcentral.com/1741-7015/11/65 (Accessed May 12, 2016)

Carspecken, P. (1996) *Critical Ethnography in Educational Research: A theoretical and practical Guide* London: Routledge.

Caspersen, C., Powell, K. and Christenson, G. (1985) 'Physical Activity, Exercise, and Physical fitness: Definitions and Distinctions for Health-Related Research' *Public Health Reports* 100 2 pp.126-13.

List of References

Cayton, H. (2006) 'The Flat Pack Patient? Creating Health' Care *Patient Education and Counselling* 62 pp.288-290.

Cesari, M., Prince, M., Amuthavalli, J., Carvalho, I., Bernabei, R., Chan, P., Gutierrez-Robledon, L., Michel, J-P., Morley, J., Ong, P., Manas, L., Sinclair, A., Won Won, C., Beard, J. and Vellas, B. (2016) 'Frailty: an emerging Public Health Priority' *Journal of American medical Directors Association,* 1525-8610.

Clegg, A., Young, J., Iliffe, S., Rikkert, M. and Rockwood, K. (2013) 'Frailty in elderly people' *The Lancet* 38pp.752-762.

Clegg, A., Barber, S., Young, J. and Iliffe, S. (2011) 'Do home –based exercise interventions improve outcomes for frail older people? Findings from a systematic review' *Age and Ageing* 40 (supplement) ii30.

Cook, K. (2005) 'Using Critical Ethnography to Explore Issues in Health Promotion' *Quantitative Health Research* 15(1) pp.129-138.

Corbin, J. and Strauss, A. (2015) *Basics of Qualitative Research* Sage London

Cruz, E. and Higginbottom, G. (2013) 'The use of focused ethnography in nursing research Nurse' *Researcher* 20 4 pp.36-43.

CSP (2019) *Collaboration statement: LLT/ACILE/BASES Partnership Working for Successful Falls Care Pathways.* Available at: https://agile.csp.org.uk/system/files/documents/2019-10/LLT%20AGILE%20BASES%20Collaboration%20statement.pdf (Accessed Jan 2020)

CSP (2019) *Love activity, Hate exercise?* Available at: https://www.csp.org.uk/public-patient/keeping-active-and-healthy/love-activity-hate-exercise-campaign (Accessed January 2020)

Davis, R., Campbell, R., Hildon, Z., Hobbs, L. and Michie, S. (2015) 'Theories of behaviour changes across the social and behaviour sciences: a scoping review' *Heath Psychology Review* 9(3) pp.323-344.

Deci, E and Ryan, R. (2008) 'Self-determination theory: A macrotheory of human motivation, development, and health' *Canadian Psychology/Psychologie canadienne, 49*(3) pp182-185. http://dx.doi.org/10.1037/a0012801

Dearnley C (2005) A reflection on the use of Semi Structured interviews *Nurse researcher* 13,1

Department of Health (2001) *National Service Framework for older People. Modern standards and service models* London Department of Health Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/198033/National_Service_Framework_for_Older_People.pdf (Accessed Sept 2015)

Department of Health (2004) *At least five a week: evidence on the impact of physical activity and its relationship to health* TSO London Available at http://webarchive.nationalarchives.gov.uk/+/dh.gov.uk/en/publicationsandstatistics/publications/publicationspolicyandguidance/dh_4080994 (Accessed Sept 2015)

Department of Health (2008) *High Quality Care for All: NHS Next Stage Review final report*. The Stationery Office. London. available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228836/7432.pdf [Accessed September 6 2015]

Department of Health (2011) Start Active, Stay Active: A Report on physical activity from the four home countries' chief Medical officers. https://www.sportengland.org/media/2928/dh_128210.pdf [accessed July 21 2017]

Department of Health and Social Care (2019) UK Chief medical officer's physical activity Guidelines https://www.gov.uk/government/publications/physical-activity-guidelines-uk-chief-medical-officers-report

Devi, R., Meyer, J., Banerjee, J., Goodman, C., Gladman, J., Dening, T., Chadbourn, N., Hinsliff-Smith, K., Long, A., Usman, A., Housley, G., Bowman, C., Martin, F., Logan, P. Lewis, S. and Gordon, A. (2018) 'Quality improvement collaborative aiming for Proactive HEALthcare of Older people in Care Homes (PEACH); a realistic evaluation protocol' *BMJ open* v8 11 (https://bmjopen.bmj.com/content/8/11/e023287)

Dodds, R. and Sayer, A. (2015) 'Sarcopenia and frailty: new challenges for clinical practice' *Clinical Medicine* Vol 15, No 6: s88–s91

Ellis, G., Gardener, M., Tsiachristas, A., Langhorne, P., Burke, O., Harwood, R., Conroy, S. et al (2017) 'Cochrane database of systematic reviews Comprehensive Geriatric Assessment for older adults admitted to hospital' available at: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD006211.pub3/epdf/full (accessed January 2018)

Farrance, C., Tsofliou, F. and Clark, C. (2016) Adherence to Community Based group exercise interventions in older people: a mixed methods systematic review P*reventative Medicine* 87 pp.155-166.

Fetterman, D. (1994) 'Empowering Evaluation' *American Journal of Evaluation* 15 pp.1 -14.

Fetterman, D. (1998) *Ethnography- step by Step* Sage California Publications

Finnegan, S., Seers, K. and Bruce, J. (2019) 'Long term follow up of exercise interventions aimed at preventing falls in older people living in the community: as systematic review and meta-analysis' *Physiotherapy* 105 2 pp.187-199.

Franco, M., Tong, A., Howard, K., Sherrington, C., Ferreira, P., Pinto, R. and Ferreira, M. (2015) 'Older people's perspectives on participation in physical activity: a systematic review and thematic synthesis of qualitative literature' *Br J Sports Med* 49:1268–1276

Franke, T. Sims –Gould, J., Chaudhury, H., Winters, M. and McKay, H. (2019) 'It makes your life worthwhile. It gives you a purpose in living'; mobility experiences among active older adults with low income *Ageing and Society* 39 pp.1639-1666.

French, D., Olander, E., Chisholm, A. and McSharry, J. (2014) 'Which behaviour Change Techniques are mostly effective at increasing Adults' Self –efficacy and Physical Activity Behaviour? A Systematic review' *Annals of Behaviour Medicine* 48 pp225-234.

Fried, L., Tangent, C., Walston, J. et al (2001) 'Frailty in older adults: evidence for a phenotype' *Journal of Gerontological and Biological Scientific Medicine* 56:M146-M156

Fritjers, P. and Beatton, T. (2012) 'The Mystery of the U shaped relationship between happiness and age' *Journal of economic behaviour and organization* 82 2-3 525-542 https://pdf.sciencedirectassets.com/271649/1-s2.0-S0167268112X00040/1-s2.0-S0167268112000601/dx.doi.org/10.1016/j.jebo.2012.03.008

Gale, C., Cooper, C., Deary, I. and Aihie Sayer, A. (2014) 'Psychological well-being and incident frailty in men and women: the English Longitudinal Study of Ageing' *Psychological Medicine* 44pp.697-706.

Gandy, R., Bell, A., McClelland, B. and Roe, B. (2017) 'Evaluating the delivery, impact, costs and benefits of an active lives programme for older people living in the community' *Primary Health Care Research and Development* 18 pp.122-134.

Garfinkel, H. (1967) *Studies in Ethnomethodology* New Jersey: Prentice-Hall

Georgiou, D. and P. (2002) 'Critical Ethnography and Ecological Psychology: conceptual and Empirical Explorations of a Synthesis' *Qualitative Inquiry* 8 (6) pp.688-706.

Golubic, R., Martin, K.R., Ekelund, U. *et al* (2014) Levels of physical activity among a nationally representative sample of people in early old age: results of objective and self-reported assessments. *Int J Behav Nutr Phys Act* **11,** 58 https://doi.org/10.1186/1479-5868-11-58

Goodman, C. and Evans, C. (2015) 'Focus Groups' in Gerrish K and Lathlean (eds) J *The Research Process in Nursing* (Seventh Edition) John Wiley and sons pp401-412

Goodson, l. and Vassar, M. (2011) 'An overview of ethnography in healthcare and medical education research' *Journal of Education Evaluation for Health Professions* 8:4 DOI:10.3352/jeehp.2011.8.4

Goodwin, N., Curry, N., Naylor, C., Ross, S. and Duldig, W. (2010) *Managing people with Long Term Conditions* The Kings Fund London available at: https://www.kingsfund.org.uk/sites/default/files/field/field_document/managing-people-long-term-conditions-gp-inquiry-research-paper-mar11.pdf Accessed June 2017)

Grant, B. (2008) 'An Insider's view on physical activity in later life' *Psychology of sport and exercise* 9 pp.817-829.

Graham, L. and Connelly, D. (2013) 'Any movement at all is exercise ' A focused ethnography of rural community –dwelling older adults' perceptions and experiences of exercise as self-care' *Physiotherapy Canada* 65 4 pp.333-341.

Gray, M. and Butler, K. (2017) 'Preventing weakness and stiffness- A top priority for health and social care' *Best Practice and Research Clinical rheumatology* 31 pp.255-259.

Griffin, M. and Phoenix, C. (2015) 'Becoming a runner: big, middle and small stories about physical activity participation in later life' *Sport Education and Society* 21:1 pp.11-27.

Guest, G., Namey, E., Taylor. J., Eley, N. and McKenna, K. (2017) 'Comparing focus groups and individual interviews: findings from a randomized study' *International Journal of Social Research Methodology* 20 6 pp.693-708.

Halaweh, H., Svantesson, U. and Willen, C. (2016) 'Experiences of Habitual Physical Activity in Maintaining Roles and Functioning among Older Adults: A Qualitative Study' *Rehabilitation Research and Practice* available at : https://www.hindawi.com/journals/rerp/2016/1459597/ accessed January 2020

Hamer ,M. Lavoie, K. Bacon, S. (2013) Taking up physical activity in later life, and healthy ageing: the English longitudinal study of ageing *British Journal of Sports Medicine* 48 (3) 239-243

Hammersley, M. and Atkinson, P. (2019) *Ethnography: principles in practice* London: Routledge.

Hampshire County Council (2020) 'Steady and Strong' (https://www.hants.gov.uk/socialcareandhealth/adultsocialcare/balanceclasses) (accessed July 2020)

Harper, S. and Walport, M. (2016) 'Future of an Ageing Population Government Office for Science' available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attac

hment_data/file/816458/future-of-an-ageing-population.pdf (accessed January 2018)

Hartley, S. and Yeowell, G. (2015) Older Adults perceptions of adherence to community physical activity groups *Ageing and Society* 35 pp.1635-1656.

Hawley, H. (2009) 'Home exercise after falls rehabilitation' *Health Education Journal* 68 3 pp.207-218.

Hawley-Hague, H., Horne, M., Skelton, D. and Todd, C. (2016) 'Older Adults' Uptake and Adherence to Exercise Classes: Instructors' Perspectives'. *Journal of Aging and Physical Activity* 24(1): pp.119–128.

Hippocrates, Regimen, ca 400 BC

Holloway, I. and Galvin, K. (2015) 'Ethnography' in: Gerrish K and Lathlean J (eds) *the Research Process in Nursing* (Seventh Edition) Wiley Blackwell pp199-210.

Howel, D. (2012) 'Interpreting and evaluating the CASP-19 quality of life measurement in older people' *Age and Ageing* 41612-217

Humberstone, B. and Stuart, S. (2016) 'Older Women. Exercise to Music, and Yoga: Senses of Pleasure?' *Journal of Aging and Physical Activity* 24 pp.412-418.

Hurd Clarke, L., Currie, L. and Bennett, E. (2020) ''*I* don't want to be, feel old': older Canadian men's perceptions and experiences of physical activity' *Ageing and Society* 40 pp.126-143.

Hwang, J., Wang, L., Siever, J., Del Medico, T. and Jones, C. (2019) 'Loneliness and social isolation among older adults in a community exercise program: a qualitative study' *Aging and Mental Health* 23 6 pp.735-742.

Hyde, M., Wiggins, R., Higgs, P. and Blane, D. (2015) 'A decade of research using the CASP Scale: findings and future direction' *Ageing and Mental Health* Vol 7 pp571-575. https://doi.org/10.1080/13607863.2015.1018868

Hyde, M., Wiggins, R., Higgs, P. and Blane, D. (2003) 'A measure of quality of life in early old age: the theory, development and properties of a needs satisfaction model (CASP-19)' *Ageing and Mental Health* 7: 3 pp.186-194.

Imison, C., Castle-Clarke, S. and Watson, R. (2016) *Reshaping the workforce to deliver the care patients need.* Research Report. Nuffield Trust.

Iliffe, S., Kendrick, D., Morris, R., Masud, T., Gage, H., Skelton, D., Dinan, S., Bowling, A., Griffin, M., Haworth, D., Swanwick, G., Carpenter, H., Kumar, A., Stevens, Z., Gawler, S., Barlow, C., Cook, J. and Belcher, C. (2014) 'Multicentre cluster randomised trial comparing a community group exercise programme and home-based exercise with usual care for people aged 65 years and over in primary care. Southampton (UK): NIHR Journals Library; (Health Technology Assessment, No. 18.49.)' Available from: http://www.ncbi.nlm.nih.gov/books/NBK262322/ doi: 10.3310/hta18490

Izquierdo, M. (2020) 'Exercise in people over 85' *BMJ (Clinical research ed.)* Volume: 368 ISSN: 0959-8138 Online ISSN: 1756-1833

Jadczak, A., Makwana, N., Luscombe-Marsh, N., Visvanathan, R. and Shultz, T. (2018) 'Effectiveness of exercise interventions on physical function in community dwelling frail older people: an umbrella review of systematic reviews' *JBI Database System Review Implement Rep* 16 3 pp.752-75.

Janssen S and Stube J (2014) Older Adults perception of Physical Activity: A Qualitative Study *Occupational Therapy International* **21** 53-62

Kamberelis, G. and Dimitriadis, G. (2011) 'Focus groups- Contingent Articulations of pedagogy, politics and inquiry' in Denzin N, and Lincoln Y (Ed) *The Sage Handbook of Qualitative Research* 4th Edition California: Sage

King, A. and King, D. (2010) 'Physical Activity for an ageing population'. *Public Health Review* **32** pp.401-426.

Kinsella, K. and Philips, D. (2004) 'Global ageing: the challenge of success'. *Population bulletin* vol 60 no 1

Kohl, H. Craig, C. Lambert, E. Inoue, S. Alkandari, J. Leetongin, G. and Kahlmeier, S. (2012) 'The pandemic of physical inactivity: global Action for public health'. *The Lancet* 380 pp.294-305.

Lacy, A. (2015) The Research Process in: Gerrish K and Lathlean J (eds)*The Research Process in Nursing* (Seventh Edition) Wiley Blackwell pp.15-29.

Lang, I., Guralnik, J. and Melzer, D. (2007) 'Physical Activity in middle aged adults reduces risks of Functional Impairment Independent of its Effect on Weight' *Journal of American Geriatrics Society* 55pp.1836-1841.

Lathlean J (2015) Qualitative Analysis in: Gerrish K and Lathlean J (eds)*The Research Process in Nursing* (Seventh Edition) Wiley Blackwell pp.199-210.

Lansbury l, Hertzog A, Clift E, Xuerub W and Sayer A (2017) 'Use of the e FI in Primary Care' *British Journal of General Practice* 67 (664): e751-e756.
DOI:https://doi.org/10.3399/bjgp17X693089

Lee, P., Chaun, Y., Chen, S., Fang, C., Lai, H. and Lee, P. (2017)' Perspective of brisk walking among middle aged and older persons in community: a qualitative study' *Collegian* 24 pp.147-153.

Lyndon, H. and Stevens, G. (2014) 'Toolkit for general practice in supporting older people' HMSO London update Moody D, Lyndon H and Stevens G (2017) available at: https://www.england.nhs.uk/wp-content/uploads/2017/03/toolkit-general-practice-frailty-1.pdf

Maguire, M. and Delahunt, B. (2017) Doing a Thematic Analysis: A Practical, step-by-step guide for Learning and teaching scholars *All Ireland Journal of Teaching and Learning in Higher Education* 3 3351-33524

Maher, J., Pincus, A., Ram, N. and Conroy, D. (2015) 'Daily Physical Activity and Life Satisfaction across Adulthood American' *Psychological Association* 51 10 pp.1407-1419.

Martinez Del Castillo, J., Emilio, J., Navarro ,J-B., Graupera Sanz, J., Martin, M., Izquierdo, A. and Pines, D. (2010) 'Being Physically active in old age: Relationships with being active earlier in life, social status and agents of socialisation' *Ageing and Society* 30 pp.1097-113.

List of References

Mason L (2002) *Qualitative Researching* Second Edition Los Angeles Sage

May, C. and Finch, T. (2009) 'Implementing, Embedding, and Integrating Practices: An Outline of Normalization Process Theory.' *Sociology* 43: 535

May, S., & Fitzpatrick, K. (2019) 'Critical Ethnography' In P. Atkinson, S. Delamont, A. Cernat, J.W. Sakshaug, & R.A. Williams (Eds.), *Research Methods Foundations SAGE London*

McPhee, J., French, D., Jackson, D., Nazroo, .J, Pendleton, N. and Degens, H. (2016) Physical activity in older age: perspectives for healthy ageing and frailty *Biogerontology* 17 567-580

McGowan, L., Devereaux Fitzgerald, A., Powell, R. and French, D. (2018) 'How acceptable do older adults find the concept of being physically active? A systematic review and metasynthesis' *International Review of Sport and Exercise Physiology* https://doi.org/10.1080/1750984X.2016.1272705

Menichetti, J., Graffigna, G. and Steinsbekk, A. (2018) 'What are the contents of patient engagement interventions for older adults? A systematic review of randomised controlled trial's *Patient Education and Counselling* 101 pp.995-1005.

Michie, S., Maartje, M., West, R. (2011) 'The behaviour change wheel: A new method for characterising and designing behaviour change interventions' *Implementation Science* 6:42 1-11

Michie, S., Atkins, L. and West, R. (2015) *The behaviour Change Wheel- A guide to designing Interventions* Silverback publishing *ISBN: 978-1-912141-00-5*

Mok, A., Khaw, K., Luben, R., Wareham, N. and Brage, S. (2019)' Physical activity trajectories and mortality: population based cohort study', *British Medical Journal* 365 pp.2323.

Moore, G., Moore, L. and Murphy, S. (2011) 'Facilitating adherence to physical activity: exercise professional's experience of the National Exercise Referral Scheme in Wales. A qualitative study'. *BMC public health* 11:935 available at: https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-11-935

Moran, M., Werne, P., Doron, I., Hagani, N. et al (2017)' Exploring the Objective and Perceived Environmental Attributes of Older Adults' Neighborhood Walking Routes: A Mixed Methods Analysis' *J Aging Phys Act* . 25(3) pp. 420–431.

Morgan, F., Battersby, A., Weightman, A., Searchfield, L., Turley, R., Morgan, H., Jagroo, J. and Ellis, S. (2016) 'Adherence to exercise referral schemes by participants- what do providers and commissioners need to know? A Systematic review of barriers and facilitators', *BMC Public Health* 16:227

Morgan, G., Willmott, M., Ben-Shlomo, Y., Haase, A. and Campbell, R. (2019)' A life fulfilled: positively influencing physical activity in older adults-a systematic review and met-ethnography', *BMC Public Health* 19:362 Available at: https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-6624-5 [downloaded Nov 2019]

Morley, J., Malmstrom, T. and Miller, D. (2012) 'A Simple Frailty Questionnaire (FRAIL) predicts outcomes in middle Aged African Americans', *The Journal of Nutrition, Health and Aging* 16 (7) pp.601-608

Morley, J., Vellas, B., Abellan van Kan, G., Anker, S., Bauer, J., Barnabei, R., Cesari, M., Chumlea, W., Doehner, W., Evans, J., Fried, L., Guralnik, J., Katz, P., Malmstrom, T., McCarter, R., Gutierrez Robledo, L., Rockwood, K., Von Haehling, S., Vandewoude, M. and Walston, J. (2013) 'Frailty Consensus: A Call to Action', *Journal American Medical Directors Association* 14 (6) pp.392-397.

Nanninga, C., Meijering, L., Postema, K., Schonherr, M. and Lettinga, A. (2018) 'Unpacking community mobility: a preliminary study into the embodied experiences of stroke survivors', *Disability and Rehabilitation* 40:17 pp.2015-2024.

Nash, K. (2012)' The effect of exercise on strength and physical performance in frail older people: a systematic review', *Reviews in Clinical Gerontology* 22 pp.274-285.

NHS England (2019) *NHS Long Term Plan* Available at: www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf (accessed December 2019)

List of References

NHS England (2017) *Allied Health Professions into Action* Available at: https://www.england.nhs.uk/wp-content/uploads/2017/01/ahp-action-transform-hlth.pdf (accessed January 2018)

NHS Choices (2016) *Physical activity guidelines for older adults.* Available at: http://www.nhs.uk/Livewell/fitness/Pages/physical-activity-guidelines-for-older-adults.aspx (accessed January 2018)

NHS England (2014) *Five Year Forward View* Available at: http://www.england.nhs.uk/wpcontent/ uploads/2014/10/5yfv-web.pdf (Accessed July 15, 2015)

National Institute for Clinical Excellence (2009) *Rehabilitation after critical illness* Clinical Guidelines 83 Available at: https://www.nice.org.uk/guidance/cg83/resources/rehabilitation-after-critical-illness-in-adults-975687209413 (accessed Sept 5 2016)

National Institute for Clinical Excellence (2015) *Falls in older people* available at: https://www.nice.org.uk/guidance/qs86/resources/falls-in-older-people-pdf-2098911933637 (Accessed Sept 5th 2016) (updated 2017)

National Institute for Clinical Excellence (2013) *Falls in older people: assessing risk and prevention* CG161 available at: https://www.nice.org.uk/guidance/cg161/resources/falls-in-older-people-assessing-risk-and-prevention-pdf-35109686728645 (accessed November 2015)

National Institute for Clinical Excellence (2004) P*reventing and assessing falls in older people.* NICE Guideline 21 (archived)

Noble H. and Heale R (2019) Triangulation in research, with examples *Evidence Based Nursing* 22 3

Office of National Statistics (ONS) (2018) Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies/datasets/expectationoflifelowlifeexpectancyvariantengland (accessed January 2019)

Office of National Statistics (2019) Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/tablea11principalprojectionuksummary (accessed January 2020)

Oliver, D., Foot, C. and Humphries, R. (2014) 'Making our health and care systems fit for an ageing population'. *King's Fund; London.* Available from: http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/making-health-care-systems-fit-ageing-population-oliver-foot-humphries-mar14.pdf [Accessed July 15 2015]

Ory, M., Towne, A., Won, J., Forjuoh, S. and Lee, C. (2016) 'Social and environmental predictors of walking among older adults', *BMS Geriatrics* 16 155

Phillips, B. (2005)' Working out: Consumers and the Culture of Exercise' *Journal of popular culture* 38 3 pp.525-551.

Phoenix, C. and Orr, N. (2014) 'Pleasure: A forgotten dimension of physical activity in older age' *Social Science and Medicine* 115 pp.94-102.

Pilotto, Am, Cella, A., Daragjati, J., Veronese, N., Musacchio, A., Mello, A., Longreoscino, G., Padovani, A., Prete, C. and Pansa, F. (2017) 'Three Decades of Comprehensive Geriatric Assessment- Evidence Coming from Different Healthcare settings and specific clinical conditions', *Journal of the American Medical Directors Association* 18, 2 192.e1-192e11

Prior L (2003) 'Belief, knowledge and expertise: the emergence of the lay expert in medical sociology', *Sociology of Health & illness* 25 31-57

Public Health England (2019) *Physical Activity Guidelines* Available at: https://www.gov.uk/government/publications/physical-activity-guidelines-infographics - (accessed 4/10/19)

Rees A, Beecroft C and Booth A (2015) 'Critical Appraisal of the Evidence' in Gerrish K and Lathlean J (eds) *The Research Process in Nursing* (Seventh Edition) John Wiley and sons

Ritchie J, Lewis J, McNaughton J, Nicholls, C. and Ormston, R. (2014) *Qualitative Research Practice -A guide for Social Science Students and researchers* Los Angeles. Sage

Rockwood, K. (2019) 'Frailty and Aging Medicine', *Aging Medicine* 2:1 editorial

Rockwood, K, Song, X., MacKnight, C. et al (2005) 'A global clinical measure of fitness and frailty in elderly people', *CMA Journal* 173pp.489-95

Rockwood, K. and Mitnitski, A. (2007)' Frailty in relation to the accumulation of deficits', *Journal of Gerontology and Biological Science and Medical Science* 62pp.722-727

Rogers A, Huxley P., Thomas, R., Robson B., Evans, S., Stordy, J. and Gateley, C. (2001) Evaluating the impact of a locality based social policy intervention on mental health: Conceptual and methodological issues *International Journal of Social Psychiatry* 47 4 41-55

Rogers, A., Brooks, H., Vassilev, I., Kennedy, A. et al (2014) 'Why less may be more: a mixed methods study of the work and relatedness of 'weak ties' in supporting Long-term condition self-management', *Implementation Science* 9:19 Available at https://implementationscience.biomedcentral.com/track/pdf/10.1186/1748-5908-9-19

Romero-Ortuno, R. (2011) 'The frailty instrument of the survey of health, aging and retirement in Europe (SHARE-FI) predicts mortality beyond age, comorbidities, disability, self-rated health, education and depression', *European Geriatric Medicine* 2(6)pp.323-326. DOI: 10.1016/j.eurger.2011.08.005

Ruppar, T. and Kraenzle Schneider, J. (2007) 'Self-Reported Exercise Behaviour and Interpretations of Exercise in Older Adult's *Western Journal of Nursing Research* 29 2 pp.140-156.

Sandlund, M., Pohl, P., Ahlgren, C., Skelton, D., Melander-Wikman, A., Bergvall-Kareborn, A. and Lyndin-Olsson, L. (2018) 'Gender Perspectives on Older Peoples Exercise Preferences and Motivators in the Context of Falls Preventions: A Qualitative

Study', *Biomed Research International* Volume 2018, Article ID 6865156, 11 pages https://doi.org/10.1155/2018/6865156

Savage, J. (2000) 'Ethnography and Health Care', *British Medical Journal* 321pp 1400-1402.

Scott-Kehler, D., Hay, J., Stammer, A., Hamm, N., Kimber, D., Schultz, A., Szwajcer, A., Arora, R., Tangri, N. and Duhamel, T. (2018) 'A systematic review of the association between sedentary behaviours with frailty', *Experimental Gerontology* 114 pp.1-12.

Sherrington, C., Whitney, J., Lord, S., Herbert, R., Cumming, R. and Close, J. (2008) 'Effective Exercise for the Prevention of Falls: A Systematic Review and meta-analysis', *Journal of the American Geriatric Society* 56 12 pp.2234-2243.

Sherrington, C., Michaleff, Z., Fairhall, N., et al. (2017) 'Exercise to prevent falls in older adults: an updated systematic review and meta-analysis' *Br J Sports Med* (51) pp1749–1757.

Shvedko, A., Whittaker, A., Thompson, J. And Grieg, C. (2018)' Physical activity interventions for treatment of social isolation, loneliness to low social support in older adults: A systematic review and meta-analysis of randomised controlled trials', *Psychology of Sport and Exercise* 34 pp.128-137.

Sim, J. and Sharp, K. (1998) 'A critical appraisal of the role of triangulation in nursing research', *International Journal of Nursing Studies* 35 pp.23-31.

Simons, H. (2006) 'Whose data are they? Ethics in Case Study Research', in, Shaw, I, Greene, J. and Mark, M. (eds.) *The SAGE Handbook of Evaluation.* London, GB. SAGE Publications, pp. 213-232.

Skelton, D., Dinan, S., Campbell, I. and Rutherford, O. (2004) 'FaME (Falls Management Exercise): an RCT on the effects of a 9-month group exercise programme in frequently falling community dwelling women age 65 and over' *Journal of Aging Physical Activity* 12pp. 457–8.

Skelton, D. and Mavroeidi, A. (2018) 'Which strength and balance activities are safe and efficacious for individuals with specific challenges (osteoporosis, vertebral

fractures, frailty, dementia)?: A Narrative review' *Journal of frailty, Sarcopenia and Falls* 03(02)pp.85-104.

Sport England (2014) Active People Survey 2012/2013 Available at http://activepeople.sportengland.org/Query downloaded Sept 2016

Stathi, A., McKenna, J. and Fox, K. (2003) 'The experiences of older people participating in exercise referral schemes' *The Journal of the Royal Society for the Promotion of Health* 124 (1) pp.18-23.

Stead, M., Wimbush, E., Eadie, D. and Teer, P. (1997)' A qualitative study of older people's perceptions of ageing and exercise: the implications for health promotion' *Health Education Journal 3*- 16 https://doi.org/10.1177/001789699705600102

Stevens, S. (2016) 'General Practice Forward View Royal' *College of General Practice and NHS England HMSO* https://www.england.nhs.uk/wp-content/uploads/2016/04/gpfv.pdf

Stokes, D. (2006) 'Methodology or 'methodolatry 'an evaluation of focus groups and in-depth interviews' *Qualitative Market Research: An International Journal,* Vol. 9, No.2, pp. 26-36.

Sun, F., Norman, I. and While, A. (2013) 'Physical Activity in older people: a Systematic review' *BMC Public Health* 13:499

Syddall, H., Cooper, C., Martin, F. et al (2003) 'Is grip strength a useful single marker of frailty?' *Age and Ageing* 32 pp.650-656.

Syddall, H., Lee, D., Cooper, C. and Sayer, A. (2015) 'Self-reported walking speed: A useful marker of physical performance among community dwelling older people?' JAMA *(Journal of the American Medical Directors Association* v 16, 4 pp323-328.

Theou, O., Stathokostas, L., Roland, K., Jakobi, J., Patterson, C., Vandervoort, A. and Jones, G. (2011) 'The effectiveness of Exercise Interventions for the Management of frailty: A systematic Review' *Journal of Aging Research* Article ID 569194

Thomas, J. (1993) *Doing Critical Ethnography* California Sage

Thomas, P., Graffy, J., Wallace, P. and Kirby, M. (2006) How Primary Care Networks Can Help Integrate Academic and Service Initiatives in Primary Care *Annals of Family Medicine 4 (3) 235-239*

How Primary Care Networks Can Help Integrate Academic and Service Initiatives in Primary Care | Annals of Family Medicine (annfammed.org)

Thorpe, R., Simonsick, E., Brach, J., Ayonayon, H., Satterfield, S., Harris, T., Garcia, M. and Kritchevsky, S. (2oo6) 'Dog ownership. Walking behaviour, maintained mobility in later life' *Journal of the American Geriatric Society* 54 pp.1419-1424.

Tod, A. (2015) 'Interviewing' in eds Gerrish, K. and Lathlean, J. *The research process in Nursing, 7th edition* London: Wiley and Sons, pp.387-400.

Tulle, E. and Dorrer, N. (2012) 'Back from the brink: ageing, exercise and health in a small gym' *Ageing and Society* 32 07 pp.1106-112.

van de Vijver, P., Wielens, H., Slaets, J. and van Bodegom, D. (2018) 'Vitality club: a proof-of-principle of peer coaching for daily physical activity by older adult *Translational Behavioral Medicine*, 8 I 2 Pp204–211 https://doi.org/10.1093/tbm/ibx035

Vandenberg, H. and Hall, W. (2011) 'Critical ethnography: extending attention to bias and reinforcements of dominant power relations '*Nurse Researcher* 18 3 pp.25-30.

Von Berens, A., Koochek, A. Nydahl, M., Fielding, R., Gustafsson, T., Kirn, T,, Cederholm, T. and Sodergren, M. (2018) 'Feeling more self- confident, cheerful and safe. Experiences from a Health Promotion intervention in Community Dwelling Older Adults- A qualitative Study' *Journal of Nutrition and Health in Ageing* 22 (4) pp.541-548.

Wagstaff, S. (2009) 'Supports and Barriers for Exercise Participation for Well Elders: implications for Occupational Therapy' *Physical and Occupational Therapy in Geriatrics* 24:2 pp.19-33.

Wanless, D. (2002) *Securing Our Future Health: Tackling a long term view* HMSO London

Weddle, M. (2008) 'Exercise resonance: The experience of women who adopt exercise after age 50' *Journal of Geriatric Physical therapy* 30 3 07

Week, L., Profit, S., Campbell, B., Graham, H., Chircop, A. and Sheppard LeMoine, D. (2008) 'Participation in Physical activity- influences reported by seniors in the community and in long term care facilities' *Journal of Gerontological Nursing* 34 7 pp.36-42.

Werner, D., Teufel, J. and Brown, S. (2014) Evaluation of a Peer-Led, Low-Intensity Physical Activity Program for Older Adults *American Journal of Health Education* 45:3, pp.133-141. DOI: 10.1080/19325037.2014.893851

West, M., Lythgoe, D., Barpen, C., Noble, L., Kemp, J., Jack, S. and Grocott, M. (2014) 'Cardiopulmonary exercise variables are associated with postoperative morbidity after major colonic surgery: a prospective blinded observational study' *British Journal of Anaesthesia* 112 (4) pp.665-71.

Wilcox, S. (2010) 'Lay Knowledge: The Missing Middle of the Expertise Debates' in Harris R (ed) *Configuring Health Consumers* London: Palgrave Macmillan.

Wiggins, R., Netuveli, G., Hyde, M., Higgs, P. and Blane, D. (2008) 'The evaluation of a Self-Enumerated Scale of Quality of Life (CASp-19) in the context of research on Ageing: A Combination of Exploratory and Confirmatory Approaches' *Social Indicators Research* 89 1 pp.61-77.

Wolfinger, N. (2002) 'On Writing Field notes: collection strategies and background experience' *Qualitative Research* 2 (1) pp.85-95.

World Health Organization (2017) *Global Strategy and Action plan on Ageing and Health*. Available at: https://www.who.int/ageing/WHO-GSAP-2017.pdf (accessed January 2018)

World Health Organization (2015) *World report on ageing and health* available at: https://www.who.int/ageing/events/world-report-2015-launch/en/ (accessed January 2018)

World Health Organization (2008) *Global recommendations physical activity for health.* Available at: https://apps.who.int/iris/bitstream/handle/10665/44399/9789241599979_eng.pdf;jsessionid=6B71D3266CB04E739EEAFC20C349513A?sequence=1 (accessed January 2018)

Zhao, M. and Ji, Y. (2014) 'Challenges of introducing Participant Observation to Community Health Research' *ISRN Nursing* 802490 *http://dx.doi.org/10.1155/2014/802490*

Zintchouk, D., Gregersen, M., Lauritzen, T. and Damsgaard, E. (2018) 'Geriatrician-performed comprehensive geriatric care in older adults referred to a community rehabilitation unit: A randomized controlled trial' *European Journal of Internal medicine* 51 pp.18-24.