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Masters in Professional Studies (Health) Mobilizing health behaviour change in exercise uptake

Middlesex University School of Health and Social Sciences

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**Enablers and barriers to exercise uptake by women
during middle age: A grounded theory approach**

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Contents

LIST OF FIGURES	PAGE
1. Inter-relationship of research approach, design and method	22
2. Interview questions	25
3. Example of open coding	28
4. Participant's profiles	30
5. Structure of coding process for each participant	33
6. Data coded into categories and theme	33
7. Final emergent themes from coding all participant's data	35
LIST OF TABLES	
1. Comparison of determinant by paper	10/11
2. Frequency of determinants across papers	13
3. Full range of categories	34
ABSTRACT	4
ACKNOWLEDGEMENTS	4
I. INTRODUCTION	5
1.1 Introduction	5
1.2 Background to the study	5
1.3 Aim, Objective, research questions	7
1.4 Summary	8
1.5 The structure of the paper	8
2. LITERATURE REVIEW	9
2.1 Introduction	9
2.2 Primary research	9
2.3 Government health messaging	14
2.4 Motivation	17
2.5 Summary	18
3. DESIGN AND METHODOLOGY	19
3.1 Introduction	19

3.2 Research Approach, design and method	19
3.3 Sample frame and size	21
3.4 Validity and reliability measures	22
3.5 Summary	23
4. PROJECT ACTIVITY	24
4.1 Introduction	24
4.2 Data collection	24
4.3 Ethical decisions in action	26
4.4 Data analysis	28
4.5 Limitations of methodology	29
4.6 Participant profiles	29
4.7 Summary	31
5. FINDINGS AND DISCUSSION	32
5.1 Introduction	32
5.2 Illustrations of findings	33
5.3 Categories	33
5.4 Themes	35
5.5 Other themes extracted from primary data	39
6. CONCLUSIONS AND RECOMMENDATIONS	45
6.1 Conclusions	45
6.2 Recommendations for policy makers	47
6.3 Recommendations for gym chains	47
6.4 Recommendations for practitioners	48
6.5 Dissemination of findings	48
REFERENCES	49
APPENDIX 1 Ethics sub committee approval letter	56
APPENDIX 2 Example of data coding	57
APPENDIX 3 Enabler categories with data excerpts	64
Barrier categories with data excerpts	65
APPENDIX 4 Illustration of coding process	69

Abstract

Physical inactivity is well documented as being a key component in many major diseases and illnesses of middle age. Finding a way to be fit and healthy is not easy and it is through running a specialised Personal training business for this age group that this study was initially formulated as a way to inform and improve practice. The study looked to identify enablers and barriers to exercise uptake in women aged 40-60 and to identify any influence governmental health messaging might have in a health behaviour change process. Although other studies were identified looking to find such determinants, there was no work found on a sample that would be typical of the practice's client base. The study is qualitative using a grounded theory approach. Nine women, exercisers and non-exercisers were interviewed using a semi-structured framework. Open, axial and selective coding was then applied to the data as interviews were done in blocks of three, three, two and one, after which saturation was reached. The main determinants identified as both enablers and barriers were 'significant others influence', 'health/scare' and 'opportunity'. Results showed an overall agreement of determinants with previous studies and the enablers and barriers found were appropriate to a middle aged population. It was recognised that as data was abstracted useful information was lost. One effect of such a process was observed in the poor knowledge amongst participants of governmental health messaging. Policymaking is developed from generically abstracted themes, with the result being participants believing messages weren't meant for them but for another demographic. The recommendations that come from this study encourage a shift to more specialised, focused messaging and to train more specialised, focused fitness professionals to work with this group.

Key words: Physical activity, health behaviour change, exercise, motivators, enablers, barriers, middle age, women

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I. Introduction

I.1 Introduction

My private Personal Training practice sits within the wider health and fitness industry. It is a busy practice that specialises in working with middle-aged people (40-60 years old) of whom the majority are women. Clients come to my practice for the specialised knowledge that they have been unable to find in gyms or leisure classes elsewhere. I develop bespoke training programmes and work with the client on a focused basis that takes account of their pre-existing lifestyle and health issues and moves them to a better state of fitness and health. It is a highly individualised and resource intensive approach but it proves to be very effective.

This research project arose out of my own reflexive questioning of my professional practice. I noted, firstly, through self-reporting by clients, then in the academic literature that there are particular health, fitness and lifestyle vulnerabilities in this demographic group and I considered ways to be more effective in helping them towards a healthier lifestyle. A key moment for the Personal Trainer in the client's health behaviour change process is the transition from non-exerciser to exerciser. I know through practice that this is a precarious point when working with middle aged women and a stage at which the practitioner can have impact. It is this key stage I chose to look at in depth; to look at what already is known in the literature and how that might inform this research. The knowledge gleaned in this study might also be of wider interest to other health professionals working with this demographic group.

I.2 Background to the study

The literature shows a more comprehensive picture than that seen at local practice level, however, the health and fitness vulnerabilities observed in my clients, mainly due to poor lifestyle choices are reported on the national stage and are significant. Sedentary lifestyle is a major factor in: obesity which impacts on 57% of middle aged females (Craig, Mindell, Hirani (2008) NHS), with obesity treatment expected to absorb 2% of health spending by 2030 (Wang 2011); osteoporosis, which leads to 50% of women over the age of 50 sustaining a fracture (inter. Osteoporosis Foundation 2010) and cardio vascular disease, which leads to the

death of one in seven women (NHS 2009) and also claims more women's lives than breast cancer (British Heart Foundation 2008). These diseases, amongst many others attributable to inactivity, have a high cost in both the medical and personal arenas. Research by the Chartered Society of Physiotherapy found that one fifth of people took exercise once a month or less (The Chartered Society of Physiotherapy 2009), even though they were aware they should do more. Sedentary lifestyle has been acknowledged as a problem at governmental level for some time and the last Labour administration put much time, money and effort into research and its resultant health messaging in order to address the problem. So 'big' was the problem perceived to be, a minister of state was given special responsibility for 'obesity' as a separate portfolio. Unfortunately, their efforts did not bear fruit. For example, their last initiative 'Change4life' (Department of Health 2010) cost £164m had an initial uptake of 413,466 families of whom 44,833 sustained interest for 6 months. Another adverse effect of the scale of sedentary-ism and obesity is an altered social view of inactivity and overweight as being perceived as normal, a phenomenon called 'deviance' by Bowling (2009 p31)

'Deviance in relation to obesity is changing. If it is so that society decides what constitutes deviance then 20 years ago obesity was so frowned on. The shift in perception means that it is now acceptable.'

This 'deviance' makes health behaviour change on a national scale even harder to encourage.

For those who decide to be more physically active, there are few avenues provided to achieve a successful health behaviour change transition. The General Practitioner might be the obvious solution and 'Lets get Moving' (Dept. of Health 2009) offered guidance to doctors to encourage increase in patient activity levels but offered no specific path ways or funding to realize the guide lines. There are a few specialist practitioners like me and we must be sought out by the individual. Cheaper alternatives are private Gym chains that have been used by successive governments as an alternative solution with no cost to the public purse. However, in a British population of 62.25m of which 15.6m are 40-60 years old (Office for National Statistics 2010) only 7.4m people own a Gym membership (Fitness Industry Association Report 2010). Of this group only 2.07m are over 45 years, and with retention rates at 55%, just over 1 million of the 15.6m people in the target age group may be making use of this option. The present government has said little on sedentary-ism and its associated health problems. The relevance of the role government might play in health behaviour change at a

national level cannot be ignored and its possible impact on local level was investigated as part of this research. To successfully encourage exercise uptake in this population would be a cheap and effective method of preventative health care to stave off or reverse associated health issues and have a positive impact on client personal wellbeing.

1.3 The aim, objectives and research question

AIM

This study aims to identify enablers and barriers to exercise uptake in a female, middle-aged population, to aid health fitness practice insight into recruitment and conversion of female clients new to exercise.

OBJECTIVES

To evaluate recent research on enablers and barriers to exercise uptake.

To consider literature on enablers and barriers to exercise uptake during middle age in light of current health messaging.

To formulate a series of questions to facilitate emergent themes of enablers and barriers that were considerations in the participant's present exercise levels.

To explore the relevance of recent governmental health messaging as a possible motivating factor in participant's decision to undertake an exercise programme.

RESEARCH QUESTIONS

What are the enablers and barriers to exercise uptake by women in middle age?

To what extent might governmental health messaging effect a lifestyle change of exercise uptake by women in middle age?

I.4 Summary

As part of an ongoing consideration of my practice as a specialist Personal Trainer working with a middle aged client base that is predominantly female, I recognized a need to understand the health behaviour change process when a client transitions between being a non-exerciser to exerciser. This is a key point when the practitioner can have a significant effect. I looked to place my practice within a national health industry context where the scale of sedentary lifestyle and its associated illnesses are well documented. Inactivity has many negative effects including medical, social, governmental and personal, and has become a significant and growing problem. Exercise uptake in this population would be a preventative, cheap and effective method of health care and have a positive impact on client's wellbeing. This study looked to identify the enablers and barriers to pertinent health behaviour change transition in a middle aged females. It also considered the role of any possible governmental health messaging influences in the process. Work that helps to encourage populations to exercise and minimize future health risks has relevance and worth to both the Personal Trainer/fitness practitioner and other health professionals working with this demographic group.

I.5 The structure of the paper

This paper is comprised of this introduction followed by the terms of reference for the study, which will include a literature review. This will survey major work done in this field and contextualise the nature of the study in relation to previous research. The next chapters will discuss both the design and methodology and justify the method used, consider the problems particular to the practitioner/researcher including the reflexivity of these. This is followed by the activity that arose from the method, including the ethical considerations in action, out of which came its findings. A discussion refers the findings back to the existing literature and places them within it and also discusses other findings that were uncovered that were thought noteworthy, finishing with the conclusions to come from the research and recommendations for practitioners, gym chains and governmental policy makers.

2. Literature Review

“ Reading is to the mind what exercise is to the body”. (Sir Richard Steele. Tatler 1710)

2.1 Introduction

This literature review shows an exploration of existing knowledge to see the bigger ‘health’ picture in relation to exercise uptake in middle-aged women in order to contextualise health and fitness issues that were being presented in practice and from where my research questions emerged. The review looks at relevant primary studies done on my research topic; how a governmental approach to health behaviour change comes from this data; where responsibility for individual health lies; the relevance of body image to success and survey relevant established motivational theory used in a behaviour change process.

2.2. Primary Research

Primary data was sought out initially, to discover what had already been ascertained on the topic of enablers and barriers to exercise uptake in middle aged women. Fourteen studies were identified. In order to comprehend and utilize the information they held, it was useful to interrogate them and put their combined information into a systemised format (Tables 1 and 2). Table 1 allowed for aspects such as year of publication, demographic of participants, mean age of participants and enablers and barriers to be easily seen next to each other. The enablers and barriers were split into intrinsic and extrinsic sub categories in which intrinsic enablers and barriers were motivational aspects that were self-modulated internal factors such as ‘esteem’, ‘health’, ‘knowledge’, whereas extrinsic enablers and barriers were factors outside of the individuals control such as ‘weather’, ‘access’, and ‘childcare’. It is also worth noting here that terminology differed slightly amongst the primary research, terms such as ‘enablers and barriers’, ‘triggers’ and ‘determinants’ were all used and interchanged to mean motivational factors which can be positive or negative dependant on context.

Name	Year	Who	Mean age	Intrinsic enablers	Extrinsic enablers	Intrinsic barriers	Extrinsic barriers
Boyetette, L. W.	2002	US expert panel Prioritise determinants	60+	past participation (2) exercise as routine		Health (1) Education (3)	Weight (1) SES (4)
Caperchoine, C.	2009	Australia – women, priority groups ie mothers, older, career, immigrants 10 focus groups	adult		Access to health prof Healthcare advice Community centre partnerships Fit into daily life Women only fit class Walking is good option Dance	Low esteem Poor body image	Domestic duties Full time work Dark at night Gyms are intimidating Affordable facilities Childcare Cost Safety Absence of trained staff Transportation Weather
Cerlin, E.	2010	2194 Australian adults – survey on walking	adult	Employment Social support		Lack of motivation Lack of social support Time Poor health Lack of knowledge	Weather Lack of facilities
Der Ananian, C.	2006	US 46 arthritis sufferers 7 focus groups	adult	Potential reduction in pain Symptoms management Improved mobility Independence 'feeling better' Relieve stress Prioritising exercise Self motivation Social support	Training with friend Healthcare advice Access Water aerobics Knowledgeable staff	Pain Comorbidities Fatigue 'exercise doesn't help' Time Laziness Lack of enjoyment Fear of pain/stiffness	Poor advice from GP Mobility Weather Domestic/family duties Lack of facilities Lack of specific arthritis class
Eyler, A. A.	1998	US minority women 10 focus groups each 8-10	40+	Social support Self motivation Knowledge Self esteem Time management	Access Weather Scenery	Time Health Lack of motivation Lack of knowledge Lack of self esteem	Access Safety Race/cultural issues Weather Lack of social network
Hardy, S.	2009	UK 48 adults 9 focus groups	52-87	Prevent health decline Social support Superiority to youngsters	Death or severe illness in close family	Age Embarrassment	Dark/night Cost Access
Inglelew, D. K.	2008	252 office workers personal traits	40	Appearance Weight management			
Leavy, B.	2010	Sweden & Ireland 30	65+	Self expression			
Matthews, A. E.	2010	US 42 ethnic minorities focus groups	adults	Health benefits Positive expectations Social support	Access	Health Fear of falling Incontinence	Built environment

Name	Year	Who	Mean age	Intrinsic enablers	Extrinsic enablers	Lack of knowledge Intrinsic barriers	Extrinsic barriers
McAndrew, L. M.	2009	US 369 sedentary women re menopause	52	Fewer physical symptoms Fewer psychosocial symptoms General well being Cope with menopause Decrease anxiety Self efficacy			
O'Brien Cousins, S.	2001	Canada 32 women	57-92	New opportunities Knowledge Healing or reduced pain Use free time Wanting more energy Control weight Habitual participation		Increased body weight Health Inertia Low priority Breast cancer Doubts of efficacy	Social isolation through widowhood or divorce
Owen, K.	2010	Australia 55 sufferers of metabolic syndrome. 16 week trial	adult	Wanted structure at beginning of programme Wanted autonomy as confidence grew			
Slade, S. C.	2009	Australia 69 sufferers of low back pain 3 focus groups	51	Social support Clear progression	Financial subsidy Non-clinical setting Supervision Individualisation of programme Class matched by ability Familiarity with environment	confidence	Cost Gyms are intimidating
Withall, J.	2011	UK 152 low income	adult	Support Confidence Competence Enjoyment Healthy for children Improve health Lose weight	Social interaction	Time Low awareness Exercising alone Lack of confidence Health	Cost Childcare Accessibility Work patterns
Name NHS – knowledge and attitudes NOO	Year 2011	Who Analysed datasets	Mean age adult	Intrinsic enablers Maintain good health 61% Get or feel fit 52% Lose weight 47% More motivation 40%	Extrinsic enablers Be outdoors 48% More leisure time 49% Health advice 29%	Intrinsic barriers Ill health 36%	Extrinsic barriers Work 38% Time 37% Caring for family 21% Cost 14%

Table I. Comparison of determinants by paper

The codifying of information in Table 1 show how determinants can be particular to, and reflective of, each population being studied: Caperchoine's (2009) priority groups of mothers, older, career women and immigrants have lifestyle barriers such as time, family responsibilities, fear of dark at night, whereas Cerin's (2010) 2194 walkers found weather an adverse determinant. Der Ananian (2006) looked at 46 arthritis sufferers and found mobility, lack of specific arthritis classes and pain to be barriers and Slade's (2009) lower back pain sufferers found gyms intimidating.

The table also shows how determinants range from the specific such as 'social isolation through widowhood or divorce' to the much more vague 'access' which could mean different things to different people. It also shows that determinants described as barriers in some reports are seen as enablers in others. 'Access' is an enabler in Caperchoine (2009), Der Ananian (2006), Eyler (1998), and Matthews (2010) but is described as a barrier in Withall (2011), Eyler (1998) and Hardy (2009). It can be seen that in Eyler (1998) 'access' and 'weather' are both enablers and barriers. The perspective placed upon the determinant can be both positive and negative.

The demographic groups studied in the papers identified included, priority groups, walkers, arthritis sufferers, minority women, office workers, ethnic groups, sedentary menopausal women, metabolic syndrome sufferers, lower back pain sufferers and low income. No study was found with participants that reflect my practice client-base.

Table 2 was developed from table 1. It shows the frequency of intrinsic and extrinsic enablers and intrinsic and extrinsic barriers across all the primary research found. As well as giving a 'snapshot' of the full range of determinants it exemplifies the more frequently reported.

Frequency of themes							
Intrinsic Enablers		Extrinsic Enablers		Intrinsic Barriers		Extrinsic Barriers	
Social support	7	Healthcare advice	3	Health status	8	Cost	6
'Feeling better' 'more energy'	5	Access (general)	3	Time	5	Weather	4
Symptoms management	3	Scenery	2	Self esteem	4	Domestic duties	3
Self motivation	3	Knowledgeable staff	2	Lack of knowledge	4	Work	3
Knowledge	3	Access to health prof.	1	Doubts of efficacy	3	Access	3
Prevent health decline	3	Community partnership	1	Inertia	2	Time	2
Weight management	3	Fit into daily life	1	Low priority	2	Dark nights	2
Time management	2	Women only fit class	1	Exercise alone	2	Gyms are intimidating	2
Self efficacy	2	Training with a friend	1	Embarrassment	2	Childcare	2
Relieve stress	2	Water aerobics	1	Lack of motivation	2	Safety	2
Routinized exercise	2	Dance	1	Pain/fear of	2	Lack of facilities	2
Enjoyment	2	Walking as suitable option	1	Increased body weight	1	Built environment	2
Pain reduction	2	Weather	1	Work	1	Weight	1
Self esteem	1	Death or illness in family	1	Family responsibilities	1	Socio-Economic Status	1
Prioritizing exercise	1	Environment – easy choice	1	Negative view of 'sporty'	1	Affordable facilities	1
Improved mobility	1	Financial subsidy of facilities	1	Poor body image	1	Absence of trained staff	1
Superiority to youngsters	1	Non clinical setting	1	Lack of social support	1	Transportation	1
Appearance	1	Individualised programme	1	Comorbidities	1	Poor advice from GP	1
Independence	1	Class matched by ability	1	Fatigue	1	Mobility	1
Self expression	1	Familiarity of environment	1	Lack of enjoyment	1	Lack of specialised trainers	1
New opportunities	1	Social interaction	1	Age	1	Race/cultural issues	1
Exercising for children	1	More leisure time	1	Fear of falling	1	Lack of social network	1
Past participation	1			Incontinence	1	Social isolation	1

Table 2. Frequency of determinants across papers.

Table 2 shows how some determinants are generic and others are quite specific. The generic ones tend to appear more frequently. The most frequently voiced of the more 'generic' determinants is 'social support' leading the intrinsic enablers list (Cerin 2010, Der Ananian 2006, Eyler 1998, Hardy & Grogan 2009, Matthews 2010, Slade 2009, Withall 2011). However, in the specifics of the papers such a 'catch all' term encompassed everything from family encouragement, to training with friends, to joining in a class situation, to the wider support given within the healthcare system. 'Time', a generic barrier, also involved different constraints depending on the participant's lifestyle and commitments ie family, child care requirements, work, 'time' was also used as an excuse for an intrinsic barrier such as self esteem or inertia such as in Cheryl et al. (1990) who found women are reluctant to confront inevitable ill-health because of lifestyle with reasons given for inactivity such as lack of time and lack of willpower. 'Health/status', is not defined or interrogated in the papers discussed in tables 1 and 2. It is accepted to mean the participants' overall perspective on their own health

status. It is unlikely that participants might be physically incapacitated as they are not reporting this but more likely as described as a perceived barrier to their ability to exercise.

'Social support' and 'feeling energised' are shown to be the strongest enablers with 'health status', 'cost' and 'time' being the strongest barriers. This agrees with the National Obesity Observatory's (NOO) meta-analysis that found 'maintain good health' and 'get or feel good' to be the biggest triggers although agreeing with 'work' and 'time' to be the main barriers (Roberts 2011), NOO does not account for 'cost' as a major force as shown in table 2.

2.3 Government health messaging

Government and specialist representative bodies alike including the British Heart Foundation, the International Osteoporosis Association and Diabetes UK are informed by research bodies such as National Obesity Observatory (Roberts 2011) and British Association of Sport and Exercise Sciences (O'Donovan 2010) who analyse datasets of primary research in order to provide data that might frame health change policy. Their common identified 'barriers' are time, work, domestic responsibility and cost. These triggers might then be the basis for focus in future national and regional health reform. One use of such information in governmental health policy that tackles the increasing numbers of cases of sedentary lifestyle associated diseases is Governmental health messaging. It has been extensive and had much time and money put into it. The UK has seen 'Move for Health' (England 2011), Change4life (England and Wales 2008), Health Challenge (Wales 2010), Take life on (Scotland 2008), Get a life-get active (Nth Ireland 1999) in order to encourage healthier lifestyles. 'Eatwell plate' (2011) is the most recent promotion for a sensible diet, which has succeeded 'five-a-day' (2002). It is interesting to note a popular backlash to constant health messaging in Wogan (BBC 2011), where he moans about the over interference of the state in regard to waistlines. The enormity of the problem being confronted gives rise to consider whether this generic well meant messaging has an influence on motivational triggers in the behaviour change process between being a non-exerciser and an exerciser in the given population. However, if the process of refinement focuses on the more population specific data it can be used

to propose more specific policy action. For example, the British Association of Sport and Exercise Sciences (O'Donovan 2010 p584) flagged up the following barriers:

'Some middle- aged adults and some older adults associate physical activity with "athleticism" or "being sporty", and those who do not identify with these notions may be less likely to become more active. Many older adults face real and perceived barriers to becoming more active, including physical limitations and a lack of confidence. Older adults and overweight adults may also find physical activity demanding and embarrassing.'

This focusing down on specific populations might also be useful in practical health behaviour change application. For example Matthews (2010) study of 42 ethnic minority focus groups reported 'health, fear of falling and incontinence' as intrinsic barriers. Such specific concerns can be answered directly to the study population with specific ways the practitioners will address these concerns. If the participant knows there is easy access to toilet facilities, that barrier may be alleviated. Woodrow (2002 p233) says,

'Healthy ageing is fundamentally about preventing as many problems as possible, and maximizing alternative functions where problems do occur. Healthy ageing, therefore seeks to support the individual in their own environment or as near normal an environment as possible.'

People do not want to be unfit and unhealthy. Withall's (2011) study of 152 low-income individuals showed they understood the more wide-ranging, general health benefits of 'lose weight' and 'improved health'. Many people who wish to start an exercise programme initially consult their GP, as it is their main access into professional advice. Rollnick, Mason and Butler (1999) looked at the methods medical professionals were taught to use, which centred around giving factual information of consequences with a prescribed health change process. The result was that this approach reinforced a 'superior/expert knowledge' perception of the practitioner with no allowance for client responsibility in the change process. In the primary data the reliance on healthcare intervention/guidance was reported by Cerin (2010), Eyer (1998), Boyette (2002), Caperchione (2009) and Der Ananian (2006). Boyette (2002), looked at the health determinant prioritised by US health professionals. They rated health and weight as number 1, past participation as number 2, education 3 and socio-economic status at number 4. This is very different to those reported by participants (table 2). Hunt and

Hilsdon (1996) recommended Prochaska and DiClemente's (1983) Transtheoretical model as the framework for a clinical practice manual for client behavioural change in diet and exercise. They note that in the clinical situation, relapse is prevalent and yet if it can be anticipated and accounted for, then greater success can be achieved in the long term.

This sense of responsibility for health lying in the traditional professional-centric view was challenged in Owen (2009), who explored a client-centric view during a 16-week lifestyle intervention of diet and exercise, a clear shift of preference was noted in the participants. Initially there was a high reliance and wish for structure and prescriptive intervention, but this moved to independence and flexibility. Those who remained reliant throughout were less successful overall. This might suggest a change process that begins with responsibility held by the health professional but is actively transferred to the client.

Another influential Intrinsic factor that was explored in connection with transitioning from non-exerciser to exerciser was facets of 'body-image' being reported anecdotally in my practice. The very nature of being middle aged can be encapsulated in the 'mid life crisis' (Kimmel 1990, Levinson et al (1978). It is a point that many women reflect and compare the body they have now to how they looked in their twenties.

'They (women) are generally more dissatisfied with their physical appearance than are men', and

'Dissatisfaction with body image in women is normally shown by their desire to lose weight, whereas many men want to gain weight'.

(Furnham, Badmin and Sneade 2002 p9)

It is also an age of coming to terms with major physiological change. Neugarten (1967) found a clear understanding of the negative aspects of menopause being suffered by women. This has been reconfirmed in papers since such as Dalleck (2009), who notes that post-menopausal women are at increased risk of CVD, weight gain, hypertension and pre-diabetes and suggests exercise is a good preventative for such risks. Here, McAndrew's (2009) study of 369 sedentary menopausal women indicates an understanding by participants of the benefits of exercise reporting such enablers as 'fewer psychological symptoms', 'coping with menopause'

and 'fewer psychosocial symptoms'. Leavy and Åberg (2010) uncovered exercise perceived as a mode of self-identity - it was 'who they were'; Ingledew and Markland (2008 p822) hypothesized that participation motives are influenced by personality. *'If revising for exams is unappealing, then intrinsic regulation will be insufficient to aid continuing in higher education'*. An aspect that is often overlooked is the Personal Trainer's own body image and its influence on the clients change process. Phillip and Drummond's (2001) very interesting paper showed how detrimental it could be to success.

2.4 Motivation

It was Roberts (2001) who noted that the environment has no motivational qualities; therefore they reside in the individual. However, the systematic understanding of motivation can be found in literature. From a prior review of motivational theories knowledge was gained of their capacity to offer both a framework from within which to work and also a reliable model to acknowledge when observed in practice. It is possible to identify certain motivation theories at play in the papers read, such as Rosenstock's (1974) Health Belief Model, which states that health action is based on the perceived severity of threat versus the perceived benefits of taking action to reduce that threat; also demonstrated in Hardy and Grogan's (2009) study that found preventing health decline was the highest priority. Other major change behaviour theories in evidence include Bandura's (1986) 'Self efficacy/social cognitive' model with its sense of 'success breeds success' which accounts for many of the intrinsic enablers in Table I, The following models have been included because they have been observed and utilised in practice: Elliot & Church's (1997) avoidance achievement motivation theory might dictate success dependent on whether the participant is 'task or ego' driven; Ajzen's (1985) theory of planned behaviour says behaviour change can occur if personal evaluations of it are favourable and if significant others approve and the facilities are available (Biddle & Mutrie 2003 p109). Baileys (2008) Locus of Control describes to what extent people perceive control of their lives and actions. Finally, Prochaska and DiClemente's (1981) Transtheoretical Model is widely used by the medical and health bodies as an effective health change framework (Dishman 1994).

A final note came from Cerin (2010) and Withall (2011) who found 'enjoyment/fun' is a powerful enabler. This can often be overlooked in the earnestness to find a credible answer.

2.5 Summary - Review of Literature

This review has illuminated aspects of study into enablers and barriers in exercise uptake that laid a foundation for this study. Seventeen studies were found that looked into motivational determinants to exercise in middle-aged groups although the demographic seen in the Personal Training practice was not represented in any of the papers. Enablers and barriers can range from the generic to the specific. The specific enablers and barriers tend to be condition orientated, which can be utilized at a local level but for a larger, national influence only generic determinants discovered through meta-analyses are recruited. The phenomenon is used in a governmental health framework that is both responsible for the prevention of and treatment for sedentary lifestyle diseases.

Access points for many potential exercisers are medical professionals who are trained in an authoritative professional-centric approach. This elicits the concern of where does individual responsibility for health lie? A client centric approach might be a suitable place for responsibility to reside. A personal training practice would fit in neatly here.

Being middle aged brings age specific physiological and psychological elements to bear, which can be best served at the practitioner level by understanding the motivation factors that would illicit and maintain a physically active lifestyle.

In light of this literature review, the research questions for this study are:

What are the enablers and barriers to exercise uptake by women in middle age?

To what extent might governmental health messaging effect a lifestyle change of exercise uptake by women in middle age?

3. Design and Methodology

'Those who are enamoured of practice without science are like a pilot who goes into a ship without rudder or compass and never has any certainty where he is going. Practice should always be based on a sound knowledge of theory'. Leonardo da Vinci (1452-1519)

3.1 Introduction

Blaikie (1995 p 5) tells social researchers that they can do research *'on people, for people or with people'*. This rounded overview puts the individual at the centre of consideration; particularly relevant when studying something as deep seated as the motivations and reservations that underpin actions. This chapter outlines the epistemological and ontological approaches, design and method that were taken in light of the human focus of the study. It delineates the sample used and the veracity of the design. The choices made are justified from a practitioner/researcher context.

3.2 Research Approach, design and method

I must 'nail to the mast' the philosophical stance I have taken in consideration of information collection and usage. This philosophical stance or 'epistemology' is defined by Blaikie (1995 p6) as *'what criteria such knowledge must satisfy in order to be knowledge rather than belief'*. This study is qualitative. I have used an interpretivist, inductive position where the, *'stress is on understanding the social world through participants interpretations rather than adaption of a natural scientific model'* (Bryman 2008 p366). The motivations of peoples actions, the 'why's', are complex and it is in this complexity I looked for themes. Interestingly, I found an unlikely ally to this qualitative view from a scientist firmly established in the positivist mechanistic tradition. Heisenberg (1930) noted of his 'uncertainty principle',

'One has now divided the world not into different groups of objects but into different groups of connections...

What can be distinguished is the kind of connection which is primarily important in a certain

phenomenon... The world thus appears as a complicated tissue of events, in which connections of different kinds of alternate or overlap or combine and thereby determine the texture of the whole'.

Human complexity is also located and acknowledged in the ontological view adopted in this research, which was 'constructivist', where '*social properties are outcomes of the interactions of individuals rather than phenomena 'out there' and separate*' (Bryman 2008 p366). Orona (in Strauss & Corbin 1997 p182) says, *the social construction of one's identity is a continual, life-long process in which maintenance and transformation occur in daily interactions*'. Denzin and Lincoln (2000) note that grounded theory can be placed within empirical experience. Bowling (2009 p20) affirms this, '*Some scientists believe you can't study human behaviour quantitatively. Reality is socially constructed through interaction of individuals and their interpretation of events*'. Charmaz (1995 p28) tells of the '*relativism of multiple social realities, mutual knowledge creation by the viewer and the viewed and aims towards interpretive understanding of subjects' meanings*'. I agree with this view and acknowledge the role of being data gatherer and interpreter as a visible and intrinsic element of the process, working within the context of social reality.

The diversity and complexity of a population under scrutiny required discoveries to be encapsulated in a structured framework that offered a formula or pathway to illuminate common experiences or themes. A Grounded Theory approach was chosen. '*Grounded theory methods consist of systematic inductive guidelines for collecting and analysing data to build middle range theoretical frameworks that explain the collected data*'. (Denzin and Lincoln 2000 p509). The design was developed from the prescriptive process chapters of Strauss and Corbin (1990) and used semi-structured interviews to collect data, followed by open, axial and selective coding procedures to interpret data. When open coding, the transcript was interrogated and discreet phenomena were named as concepts. These were then abstracted into groups called categories. There was further abstraction to core categories. Axial coding revisited the concepts but reordered them in light of the research questions to create sub-categories that were then abstracted to categories or themes.

There is discussion as to the nature of grounded theory that helped inform my choice. Denzin and Lincoln (2000 p510) maintain that Glaser '*comes close to a positivist approach with its assumptions of an objective, external reality, a neutral observer, reductionist inquiry and objectivist rendering of data*'. Whereas Charmaz (1995 p30) believes, '*we can use grounded theory methods as flexible, heuristic strategies rather than as formulaic procedures*' and Bryman (2008 p549) states, '*A constructivist approach to grounded theory reaffirms studying people in their natural settings and redirects qualitative research away from positivism*'. I found an affinity with the two latter voices as they allowed for a broader and deeper spectrum of possibility in interpretation.

3.3 Sample frame and size

The population under scrutiny reflected that of the majority of my practice client base; middle aged females living within the 'Transport for London' system. They tend to be moving through menopause and commonly have a health condition such as being overweight, arthritis, heart disease or such. Bryman (2008) records that purposive sampling is strategic by using a sample with meaning to the study, and as described, the study population reflects practice, therefore the emergent themes that came from the sample's data have relevance and reflect back to the female client base of daily practice. The sampling was purposive, convenient and self-selecting. It was approached by non-probability methods. Bryman (2008 P415) notes. '*The goal of purposive sampling is to sample cases/participants in a strategic way, so that those samples are relevant to the research questions that are being posed.*' The study looked at nine women aged 40-60 years old. Five were exercisers and four were non-exercisers. Participants were recruited by utilizing my networking groups. The first was through friends and acquaintances that live close to the practice. Other participants were recruited through referral. The second was through an online request for participants put on the message board of a women's business group who also co-opted themselves and referred on to their friends.

3.4 Validity and Reliability Measures

Denzin and Lincoln (2000 p514) remind social researchers that ‘*data are narrative constructions, not reconstructions of experience*’, nor are they the original experience itself. Therefore, their deconstruction requires clarification and classification to have worth or as Thomas and Nelson (1985 p338) state, a validity ‘*of whether the researcher sees what he or she thinks he or she sees*’. This external validity was being constantly referenced through the data analysis process by working with responses to questions specifically developed to address the research question within a semi-structured interview format. It is believed that this also constituted a content validity. Within the grounded theory approach used in this study there is a reliability built in, for the framework used sought a continuity of emergent themes that transcended the fragility of answers using levels of abstraction. The emergence of these themes across a sample, albeit purposive, of people who have never met, offered an informant triangulation. It would be expected that this study would therefore, be replicable.

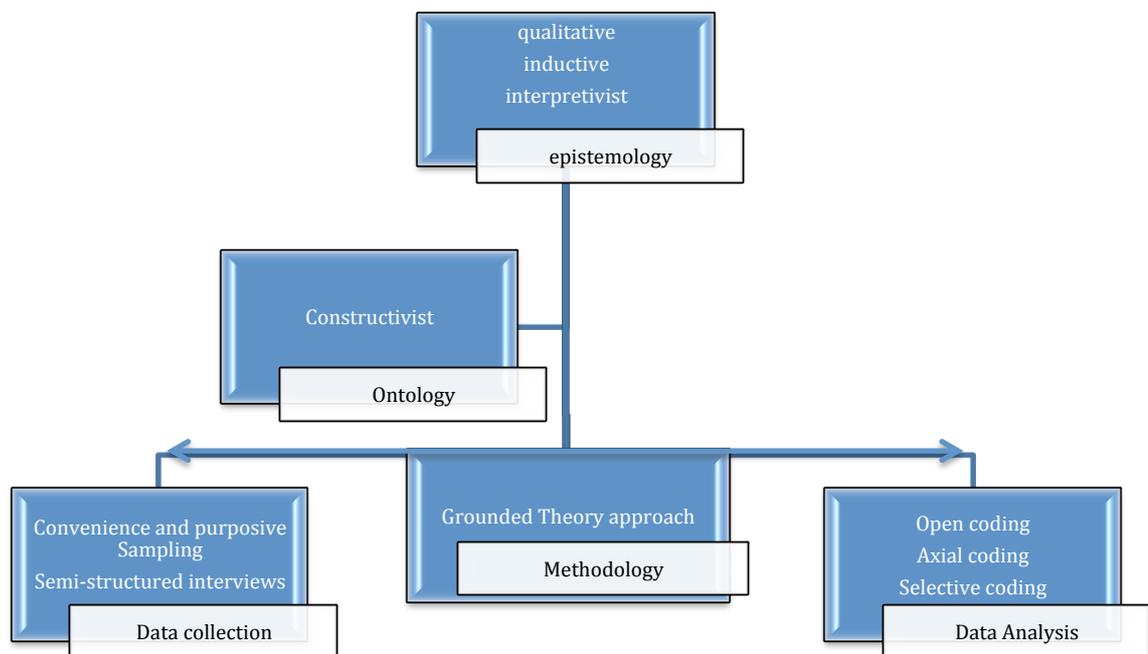


Figure 1. Inter-relationship of research approach, design and method

3.5 Summary

Figure I shows the relationship between the various elements of the design and methodology applied. The study used qualitative methodology and was inductive and interpretivist with a non-probability technique. The method used was a grounded theory approach. Sampling was convenience and purposive. Data was collected using semi-structured interviews and gave an emic participant perspective. It was analysed using an open, axial and selective coding framework. It has exemplified external and content validity, informant triangulation and reliability. It is thought to be replicable. It is this theoretical background that was put into action and produced the projects activity.

4. Project Activity

4.1 Introduction

This chapter will describe the events that made up the projects activity. Firstly, the data collection with a discussion of the interview questions and the interview process which incorporates my role as a practitioner /researcher and the ethical decisions made during data collection. Secondly, the explanation of the data analysis outlines the process of data coding undertaken, the limitations of the methodology found and an introduction to the participants through their profiles.

4.2 Data Collection

Interviews were carried out face to face and took place at the participant's home, office or my practice. Bowling (2009) outlines that the advantages of face-to-face interviews are to clarify ambiguities and get a greater depth of answers. The interviews lasted between 30 - 60 minutes and were recorded digitally with the participants permission. They were semi-structured and used a framework of 8 questions (fig. 2) that led the participant to consider their previous history of exercise and present it chronologically. White (2009 p1) says, when discussing how to write questions,

'It is absolutely vital that you are clear about what you are trying to find out' and 'It is important not only to restrict the number of questions addressed in a single study but also to express each question as concisely as possible'.

Here the participants were asked to dissect behaviours and beliefs around exercise at different points in their life in a systematic way. The participants were sent the questions by email one week in advance of the interview so that they might consider the topics in advance.

1. Thinking about your whole life but not the last 12 months, what would you say your views of physical activity have been at different times of your life?
2. Thinking about the last 12 months, to today can you say how you feel about your own health and fitness?
3. In the last 12 months, what was happening in your life 'outside' of yourself (events/people/leisure/work etc.) that might have played a part in your health and fitness outlook?
4. In the last 12 months what was happening 'inside' you, your attitudes or thoughts that might have played a part in your views?
5. Thinking about what you just said about 'outside' and 'inside' influences, can you think of specific things that made you decide to start an exercise programme or specific things that deterred you from starting an exercise programme?
6. Are you aware of any government health message campaigns?
7. Do you think that any government health messages or campaigns might have had an effect on you starting or not starting an exercise programme recently? If so, in what way?
8. Is there anything you would like to add that you don't think has been covered here?

Figure 2 Interview questions.

Two interviews were undertaken as pilot tests, one with an exerciser and one with a non-exerciser. All aspects of the process were scrutinized. An early 'hiccup' with the recording apparatus was identified, noted and avoided on further occasions. The appropriateness of the participants home or work situation was considered and found to be suitable. The questions were looked at closely as a vehicle to both drive the interview forward and to illuminate broader topics and were found to be suitable for the task in both exercisers and non-exercisers. The main body of interviews then followed.

My research questions asked 'what' but I knew that by doing a qualitative study the 'why' might appear and add richness to the data. So it was in practice; it was found that although the interview questions specified 'what', the participants offered their perspective of 'why' as part of their narrative. This meant that participants veered away from the notated questions during answering, they were encouraged to clarify or elucidate relevant themes and were then pulled back to the framework to move the interview forward. This allowed for maximum flexibility of data collection yet covered the main topics as stated. This avoided, as White (2009

p39) states, problems with research questions originating,' in a failure to consider all the stages of inquiry that must be undertaken before certain questions can be raised'.

The body of data was collected through theoretical sampling (Strauss and Corbin 1990), which Bryman (2008 p415) defines as,

'The process of data collection for generating theory whereby the analyst jointly collects, codes and analyses his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges. The process of data collection is controlled by the emerging theory, whether substantive or formal'.

This definition explains that it is an ongoing process rather than a distinct and single stage, and with this in mind the data collection and its coding occurred simultaneously in a cascading continuum. Before each interview the existing questions were reviewed as to their ongoing applicability. After interview 6 it was considered desirable to modify later questions to engage more with the topic of health messaging and to uncover a deeper understanding. The interviews were gathered and coded in groups of 3, 3, 2 and 1.

4.3 Ethical decisions in action

Informed consent was received from each person who responded positively to the request to be involved in the research. Initially, when potential interest was shown, women were asked if they fitted the criteria and if so were sent information sheets and informed consent forms. If the research information was acceptable to the participant, appointments were made and a copy of the questions was sent. Before each interview, the participant was asked to verbally confirm their consent and hand over a signed informed consent form.

Of the interview process, Kvale (1996) talks of the 'Bildungsreise' or scholarly formative journey that can be transformative for both the interviewee and interviewer. He also talks of the interviewer as a miner where '*knowledge is in the subject's interior waiting to be uncovered*'. The interviews undertaken revealed both perspectives and required an active approach to reflection and reflexivity. Much preparatory work was done on the likelihood of problems appearing and how to manage them. This preparation was invaluable in both

recognizing a phenomena and managing it through the realization as it was happening and making active dynamic decisions in action.

Eichler (1988 p14) discusses the importance of trying to achieve objectivity through committing to truth finding and to looking at contrary evidence. This became pertinent as I became aware of the amount and importance of reflexivity in the interview situation and with the necessity to be consciously as un-provocative as possible and how easy it would be to lead questioning. Kvale (1996) proposes 10 criteria for successful interviewing: Knowledgeable, structuring, clear, gentle, sensitive, open, steering, critical, remembering, interpreting, the last meaning interpreting without adding researcher bias. To this Bryman (2008 p682) cautions '*Intrusion of own biases and expectations*'. I consciously acted upon the way I asked probing questions and in the manner of my delivery. Once the awareness had been found it was brought along to all following interviews.

I noticed that as the participant became more comfortable with the situation and developed a sense of trust in me, the data became richer. I was at pains to emphasize a 'professionalism' in order to provide a safe environment in which to discuss personal topics (Robson 2002 p70). Individuals were given time to uncover thoughts and were not pressed for answers. They were encouraged to be 'separate' about their thoughts ("tell me about that", "can you think why you did that") rather than in a gossipy, or salacious manner. This personal arena was where interesting data was to reside. This was not surprising as it was reflective of informal sensitive conversations I had had with clients on a daily basis in practice, and had suspected that this is where solutions might be sought. Towards the end of the interview, I was able to ask the participant questions about perceptions of body and other topics that might have been too sensitive to tackle at the beginning of the interview. Body image is a highly personal element of the psyche (Lee 1993). Often refusals to answer questions will be based on a feeling that certain questions delve into private realms, which respondents might not wish to make public (Bryman 2008). This had to be gauged intuitively, as I did not wish to cause offence or distress (Lee 1999) and at the same time wanted to uncover pertinent data.

4.4 Data Analysis

Recorded interviews were transcribed as soon after the event as possible and coding was immediately begun on each one. The initial open coding informed the proceeding interviews (figure 3). The transcripts were read and statements identified that referred to discrete phenomena. These statements were given titles that clarified the phenomena and became 'concepts'. These concepts were then considered chronologically through the interview and put into categories that were created as they appeared. The concept title was used as an aid in which to identify an appropriate category to put it, but the original text statement was checked to ascertain its appropriateness for that category. As new categories emerged, a few concepts were moved as being more suitably placed in the new category. In the next stage, these categories were then regrouped into broader categories with each action offering a higher level of abstraction (Strauss and Corbin 1990). This open coding laid a foundation and context for the axial coding to follow.

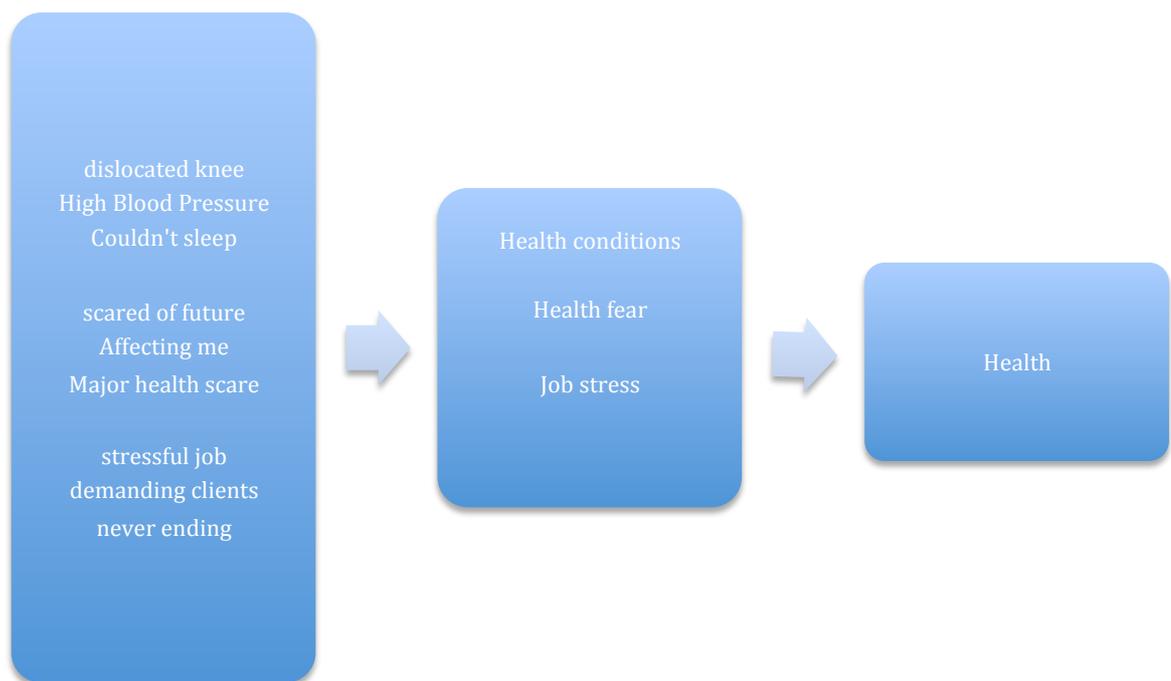


Figure 3 Example of 'open coding' showing abstraction from concepts to categories to core category.

After interviews had been open coded, the original phenomena were re-interrogated with axial coding. The research questions provided a framework for this discreet process and concepts were revisited and quizzed as to whether they were barriers or enablers to exercise uptake. This proved to be a rich source of relevant and

recurring categories. These in turn were abstracted once more into groupings or themes, each theme having been given particular criterion by the researcher as a differentiating tool. When 8 interviews had followed this process, a final interview was incorporated in order to finally confirm that saturation had been arrived at. This proved to be the case. At this point it was thought un-necessary to undertake any further interviews.

4.5 Limitations of the Methodology

A limitation found in the process of research has been the pit-falls of bias that I had to be mindful of during data collection. As noted previously, I realized early into the first interview how easy it would have been to manipulate the journey of the narrative in the hopes of finding expected data. As Bryman (2008 p437) says, *'by letting the interviewee 'ramble' we have insight into what he sees as relevant and important'*. There was no time to reflect away from the situation. Such 'awareness' had to be realized and checked in real time, for example, I found myself 'quietly willing' the participant to say certain things in order to fit into a theme that seemed to be appearing through the narrative. In response to this realization, I chose to limit further questions to when I identified interesting emergent topics relevant to my research questions by saying, 'that's an interesting point' or 'could you talk about it further'. This proved effective. Limitations of the method in data analysis are discussed further in Chapter 5, Findings and Discussion.

4.6 Participant profiles

The anonymity and privacy of those who participated in the research process should be respected. In this research paper all participants are given pseudonyms where quotes have been used. No reference is made to their name, home address or any other information they asked to be kept confidential.

An outline of the participants and how they will be referred to in chapter 5 can be found in figure 4. Selections of extracts have been taken from the transcripts of all the participants to illustrate the findings and discussion.

1. 'Geraldine' 46 years old. Lives in south London and is married with 2 young children. She had a stressful job as an employment lawyer working with doctors but left to set up her own firm. She was raised in Africa where she led an active life and notes she was slim as a child. However, this activity was through lifestyle rather than formal exercise. She put weight on after getting married. She belongs to a strong church community in which she participates.

2. 'Fiona' 40 years old. Lives in central London. Is married with no children. She was raised in northern England and watched a lot of sport as a child. She has participated in formal physical activity on and off throughout her life. In 2005 she and her husband trained for the London Marathon and ever since have continued to take on bigger sporting challenges together. They feel part of a 'runners' community. Her success has allowed her to encourage her parents to be more active.

3. 'Jane' 52 years old. Works in North West London for a government department. She is married and has older children. She had a very 'sporty' childhood and has exercised for most of her life, has belonged to gyms off and on. She stopped exercising at 43 due to a serious illness and has recently, tentatively begun again. She enjoys playing Badminton with her friends at the weekend. She also spends a lot of time and effort helping her children with exams and their lives.

4. 'Tina' 46 years old. She is married with children and work in North West London for a government department. She was born in the Phillipines and her father was a professional baseball player. She was a very active and 'sporty' child and has been a continuous exerciser for her whole life. A year ago, a serious operation stopped her exercise for 4 months, which she found difficult. She goes regularly to a gym where she exercises by herself. Her faith is a big part of her life and she has encouraged her children to be active.

5. 'Sophie' 49 years old. Lives in south east London with her husband. She took part in competitive sport in her youth and has enjoyed physical activity throughout her life. Her parents exercised regularly. After sixth form she went to work for the BBC where she developed her career finally working in a senior creative role. She left recently to become a consultant. She still has exercise/ physical challenges she wishes to tackle and wants her appearance to be good for her new role.

6. 'Diane' 43 years old. She is married with one son and is head of a local authority child and parent centre in north east London. She feels she can have influence to help the health of others through her current role where she has initiated a number of health promotion and education schemes for her client base. Her extended family plays a big part in her life.

7. 'Dorothy' 52 years old. She lives in south east London. She has worked in the NHS as an occupational therapist but had to leave due to debilitating illness, which made it difficult to carry out her role. She retrained, and is now a life coach. Her health issues have been a problem in her continuing efforts to exercise. She has recently found some success utilizing local authority amenities.

8. 'Elena' 54 years old. She is married and lives in west London with her husband. She runs a translation business from home. She was born in Italy, into a very 'sporty' family where she was encouraged to participate from an early age. She became a successful competitive ice skater then becoming an international judge. She had influence on the sport at an international level. When she retired from the sport, her lifestyle became sedentary due to work pressures. Recently, her husband fell ill and was in hospital. This event forced her to reassess aspects of her life and she has now reintroduced regular swimming to her schedule.

9. 'Laura' is married and lives in south east London. She works as a translation and localization consultant on a multi-national stage and is constrained by the time implications of her work. She is concerned to improve her work - life balance. Weight concerns have driven her to exercise regularly on and off throughout her life. She has tried a number of formal and informal routes to physical activity through the years. Her present concern is to find a class that is both age and ability appropriate.

Figure 4. Participants' profiles

4.7 Summary

Data was collected using semi-structured interviews in a framework of 8 questions to encourage participants to disclose their perspectives on physical activity. The reflexivity of being a practitioner/researcher brought forth ethical issues of objectivity, topic sensitivity, and bias. Data analysis was done in parallel to collection as fits in with a grounded theory process. Open, axial and selective coding was undertaken until theme saturation was reached, then one final interview was coded to validate results. An introduction to the participants gives a profile that orientates the reader to the findings.

5. Findings and discussion

5.1 Introduction

Dey (1999 p2) tells the researcher that in Glaser's (1992) classic view of grounded theory, theory '*really exists in the data*', whereas Strauss and Corbin (1990) say reality cannot actually be known, but is always interpreted. This researcher feels it lies somewhere between these two truths. It is possible to seek it out in both corners and let one path inform the other as necessary to reach a conclusion and will be evidenced here in the approaches taken to interpret results. The findings of this research project have been on one hand, within the parameters of expectation in respect of its global findings compared to other research, but on the other hand completely surprising at a more detailed level and provided insights that were not found in previous published work. This chapter will look at and consider both the wider, thematic findings and the more detailed categorised findings via the coding process undertaken, it will also discuss other themes that did not come from the coding process but were recognised as patterns appearing in the primary data. Repetition gave them significance worthy of discussion and their reflectivity of the coded themes is noted. The chapter will conclude with a consideration of the limitations of the research method. The research questions that the findings address in this chapter are:

'What are the enablers and barriers to exercise uptake by women in middle age?'

'To what extent might governmental health messaging effect a lifestyle change of exercise uptake by women in middle age?'

5.2 Illustration of findings

The structure of the coding process of these findings is illuminated by Figure 5.

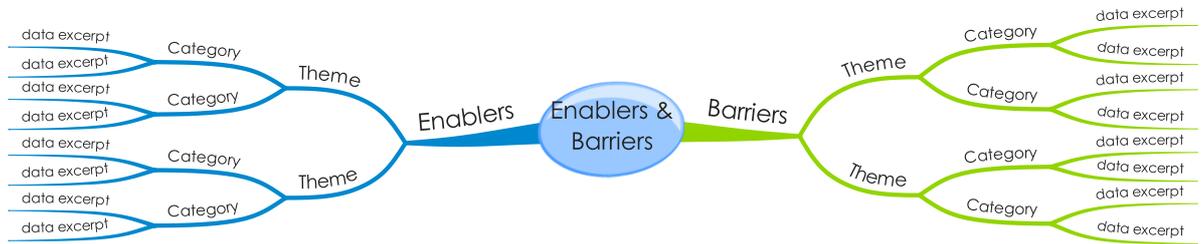


Figure 5. Structure of coding process for each participant.

The process moves from the outside inwards. Open coding and axial coding concepts were examined by interrogating the allotted data excerpts. The first research question ‘what are the enablers and barriers to exercise uptake by women in middle age’ was then applied to each excerpt and a decision made if they were an enabler or barrier and put onto the appropriate side. These were then grouped into discreet categories as shown. Each category grew out of the data excerpt and developed its own criteria. The next abstraction or grouping created the themes.

5.3 Categories

Figure 6. Is an abridged example of this process of abstracting data firstly from quotes to categories then down to a single theme. The example is taken from the ‘enabler’ side of the coding process (Figure 5).



Figure 6. Data coded into categories and theme

Figure 6 shows how categories are specific and particular. They can also be interpreted in light of their data excerpts as either intrinsic or extrinsic. This detail becomes lost when abstracted to the theme of 'Health'

<u>ENABLERS</u>	<u>BARRIERS</u>	<u>ENABLERS</u>	<u>BARRIERS</u>
Significant others influence	Significant others influence	Religious belief	Guilt
Health scare or death	Health	Fear of death	Lack of confidence
Motivation	Lack of motivation	Anticipation	Embarrassment
Time	Time	Missing exercise	Weather
Good experience	Bad experience	Healthier old age	Cost
Weight loss	Weight	Inclusion	Nervousness
Friendship	Family commitments	Dieting	Anxiety
Formal organised exercise	Formal organised exercise	Mental space	Bad advice
Success	Failure	Improving health	Work
Improve self image	Self image	Fitness	Travel
Be a role model	Laziness	Locus of control	
Knowledge	Apathy	Quality time	
Fun/enjoyment	Stress	Positive outcome	
Self efficacy	Self esteem	Selfishness	
Health belief	Age	Active childhood	

Table 3. Full range of categories uncovered.

Table 3 outlines the full range of categories that emerged from the data extracts of all participants and can be considered in terms of enablers and barriers that appeared in published data (table 1) Of those in the above list: the enablers; good experience, religious belief, anticipation, missing doing exercise, be a role model, dieting, mental space, locus of control, positive outcome, selfishness and active childhood and the barriers bad experience, guilt, nervousness, failure, laziness, stress and anxiety, did not appear in the published data studied.

An example of a participant's data extracts and subsequent coding can be found at Appendix 2.

Data examples of all categories can be found at Appendix 3.

5.4 Themes

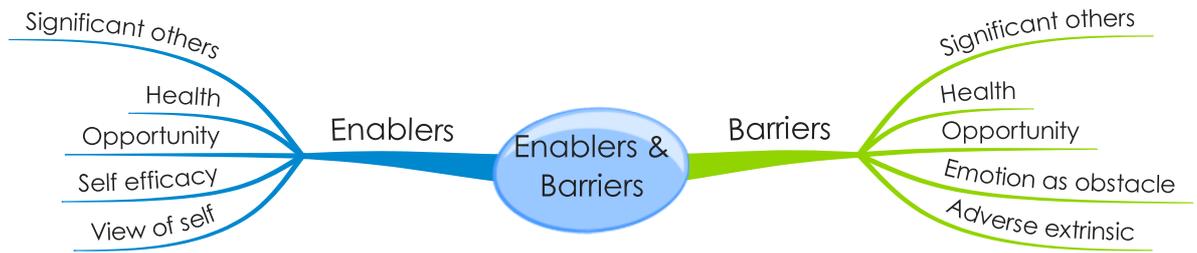


Figure 7. Final emergent themes from coding all participants' data

The themes illustrated in Figure 7 were abstracted from categories as described. I developed the themes criteria during the axial coding phase. 'Self efficacy' is used to mean self-motivation through participants' experiential evidence validating success whereas 'view of self' means concerns relating to perceptions of others or how participant might present themselves to others. So although self efficacy and self image might both be thought of as views of self, one can be seen as a positive and the other as a negative and therefore seen as separate themes. View of self is described as a negative driver but is not put into Barriers 'emotion as obstacle', because here it has been used as a reason to do exercise rather than a reason not to – an action positive.

It was noted during axial coding that exercisers had a greater sense of self-efficacy to achieve goals in physical activity than non-exercisers. It is interesting to note that theme criteria are not defined in the published work and therefore it is not possible to be sure the comparison is like for like. Themes such as 'self efficacy' found in this study are comparable to 'self motivation' (Der Ananian 2006, Eyler 1998,) or, for example, the 'self efficacy' of McAndrew (2009).

'We said look, we're determined. We got this proven track record now. We have a goal. We focus on it. We get there. (Fiona)

'I don't care what you say as long as I feel fit inside'. (Tina)

'I'm not going to let that go unless there's a physical reason not to do it'. (Sophie)

'I want to look and feel good and I'm the only one that can really do that'. (Diane)

It is interesting to observe that the major emergent themes found, mostly mirrored each other as both enablers and barriers. This again was seen in the literature. An explanation for such an occurrence can be found at a more detailed category level when looking at the main concerns of specific demographics i.e. 'time' availability for a 45 year old mother with a part time job and young children is very different from a newly retired 60 year old with grown up children.

An unsurprising theme to emerge from those in middle life is that of health. It is an age when low level health concerns are a matter of everyday life. Health as a barrier was universally reported with conditions ranging from the minimal aches and pains to major conditions and medical interventions. Health as an enabler was viewed as seeing physical activity as a pathway to gaining good or better health.

'I developed high blood pressure' (Geraldine)

'I got blephoritis where you get like a cyst on my eye and I really suffer from dry eyes now' (Fiona)

'I was exercising before and I still had cancer' (Jane)

'I felt a lot of dizziness and headaches and things like that' (Tina)

'The yoga made a huge difference especially to my posture' (Sophie)

'I've had chronic back pain since I was in my late 20's' (Dorothy)

*'I've also developed strong pain in the lower part of my spine and that caused me to stop training completely'
(Elena)*

Neither 'social support' or 'significant others' feature at all in the meta-analysis of Roberts (NHS 2011). In Figure 2 'social support' is the most frequently voiced of the generic determinants. In this study it was 'significant others' that showed prominence. It could be considered an aspect of 'social support'. It might be again that this demographic does not require a framework social structure to support activity but are viewed

socially as the matriarchal glue that binds such family/social structures together due to their age and experience. 'Significant others' appeared in various guises each of which can have positive or negative aspects to motivation and was shown to be one of the most important determinants.

Influence of close family -

(Of husband) *'He was quite concerned about that so he used to nag me about exercise'* (Geraldine)

Influence of friends –

'I think it's a lot of it is your peer group and I think we become the expectations of our peer group in certain respects. I think if you are around people who are more negative or who don't challenge themselves are more happy to live with the status quo, then you're going to lower your own standards as a result of that.' (Fiona)

Learned behaviour –

'My dad is, he's actually a baseball player and also golf. He was a professional. He used to play for where we came from ... I think that's where you know the influence came from.' (Tina)

Negative feedback –

'I do remember a school report where the teacher said, 'her size hampers her' and I have to say if I do manage to run the marathon next year part of it will be sticking two fingers up at that woman who said that.'
(Sophie)

It was recognised in the primary data that exercisers had a number of 'significant others' encouraging them. As well as having close family encouraging them, they tended to ally themselves to friendship circles of like-minded friends. It was also common for extended family members to have an influence.

Extrinsic factors were not of such high priority in this study as in previous work. Barriers such as weather, work, travel, time and cost, although acknowledged were not of high significance. I considered this to be another facet of their socio-economic group. These women were not 'blue-collar' workers with the incumbent dictates such as time that that engenders but their days were under their own control. They were all economically stable and although not necessarily 'rich', their physical activity levels were not dictated by curtailed disposable income. They could afford what they did. This finding is, however, not reflected in the broader national picture today.

I compared these findings to those released by NHS (2012) in the 'Statistics for physical activity and diet: England' which is the most contemporary survey of self reported respondents from across a full age range. One section looked at continuity of activity from the previous year, of which 50% reported they were doing the same amount of activity as before, 25% were doing more and 25% were doing less. The reasons given by the latter group in order of relevance were 'economically related', 'medical', 'health age', 'less time', 'increasing age', 'family', 'lack of motivation', 'weather' and 'opportunities'. 'Economically related' as a determinant is discussed in light of the present economic environment, which I have suggested is not so prominent in my study. Health as a determinant was found to agree as a high priority, however I found 'opportunity' to also be very relevant which it wasn't on a wider stage. 'Opportunity' is therefore not necessarily reliant on socio-economic status and could be thought of as an intrinsic determinant as well as an extrinsic one. By comparing findings to this report, again I believe the particularities of a specific demographic are of paramount importance and should not be lost during a process of abstraction.

An illustration of the coding process can be found at Appendix 4

5.5 Other themes extracted from primary data

The process of following a grounded theory approach uncovered a number of interesting discussion points. The coding practice of cutting up data into 'bite size' chunks and sorting and resorting by content and criteria allowed for information to be looked at in a fresh light and uncovered aspects of topics that might not have been seen otherwise. However, I found three disadvantages to using this method, the first being the result of the actions just outlined; by chopping and mixing up data it became decontextualized and meaning and emphasis was subsumed; secondly, the loss of emphasis or priority of a topic in an interview meant that all categories become equally weighted; lastly, the progressive coding moves the rich data to a reductionist state as a preferred method of abstraction, thereby losing nuance and complexity wherein the answer might lie. Therefore I revisited the original data, where I had noticed recurrent narratives appearing during both the interviews and the subsequent coding described above. They were recognized as themes worthy of inclusion in the discussion.

ON 'BEING AN EXERCISER'

- 1) *Exercisers have a greater sense of self-efficacy to achieve goals in physical activity than non-exercisers.*

Self-efficacy has been discussed previously within the coding process. Here it was a matter of emphasis that was noticed as a pattern.

'Sometimes you got to go through the pain to get yourself out the other side and recognise what that is and what you've learned from it. (Fiona)

'I'm telling myself to keep going keep going keep going, and I thought I was done that and then another day I did is a bit more' (Dorothy)

- 2) *Coming from a 'sporty' family has a significant influence in later life.*

The relevance of coming from a physically active nurturing environment/family was not studied here but it was seen to have a strong bearing on whether participants were exercisers in later life. The two things seemed to be closely linked.

'I was brought up as a very sporty person. Which is not just doing physical exercise but also adopting a discipline in life. (Elena)

3) Exercisers 'see' opportunities to participate. Non-exercisers don't.

Opportunity or lack of it appeared as both a barrier and an enabler but it was noted that exercisers 'saw' opportunities to participate, whereas non-exercisers did not. Opportunity on the whole was shown to be one theme that was equally balanced in both intrinsic and extrinsic factors as shown by the categories (Table 3), fun, inclusion, knowledge as intrinsic positive and organised exercise, active childhood, dieting, time, as extrinsic positive and as barriers; fear of failure, lack of motivation and age as intrinsic negative and bad advice, bad experience, organised exercise and opportunity as extrinsic negative.

'I feel that's more for people who are sitting on their backsides watching tele and not doing anything' (Sophie)

The capacity to 'see' opportunities transcended living conditions and amenities but pointed to something much more ephemeral. It might be said to sit within the theory of planned behaviour (Ajzen 1985) with motivational factors falling equally amongst intention, subjective norms and perception of ability to perform.

ON BEING MIDDLE AGED:

- 4) Participants saw their own middle age as being/appearing/feeling younger than their mothers – their mothers were 'old' at the same age.
- 5) No-one felt 'middle aged'
- 6) Significant others dying is prevalent and is consistent with the age demographic.

In the literature review it was discussed that enablers and barriers were specific and in line with the concerns and preoccupations of particular demographics. This study has shown this to be so in this social grouping also. The women interviewed were at a point of change. Their preoccupations were not the same as they had been previously, forging careers or bringing up families. The perceptions of their own 'worth' was shifting. The researcher felt a sense of instability in the participants, which may have been due to a sense of ageing with health and menopause conditions being a way of life. This was reinforced by a significant number of deaths reported of family or friends that would be appropriate for the age group to have happening around them. However, these events acted as a powerful catalyst to action,

'Also you hear of friends dying and so on. All those things that become close to you, they become more real'.

(Elena)

They were relatively financially stable and had built up assets through their working careers. Those who were married had been with their partners for some time and had the air of being the strong, emotionally stable centre of their world. They all had and were aware of their responsibilities. Some had done well in their careers, some had changed career late in life, and some had not chosen to follow a career. But the categories that emerged showed a weighting towards intrinsic 'self limiting' elements rather than looking to outward extrinsic phenomena. They appeared to have a 'task orientated' rather than 'ego orientated' (Nichols 1984) view of life which would reflect the social sense of the middle age matriarch.

'Well I think you get to 40 you should know yourself and understand yourself as well'. (Fiona)

All interviewees were asked their views on being middle aged. An interesting outcome was that they all compared themselves to their mother at the same age and all thought themselves younger. The reaction was strong and resolute.

'My parents era of thinking what they were like when they were 40 something's but they just seemed older and I think people as they are getting older these days are just staying younger longer if you know what I mean'. (Fiona)

'I go out, feel more, whatever, I enjoy being middle aged'. (Tina)

'And you know what they meant by 'the over 50's'. They meant my parents who are in their 80's (Sophie)

'When my mother was my age she was what we consider middle aged. I'm not'. (Sophie)

This sense of being 'younger' may be due to a social pressure to be young but was not explored in this study and may be worth further research. An interesting barrier was expressed by one exerciser that was particular to being middle aged, that was the mismatch of finding a fitness class in the right age group at the appropriate ability level. She found gyms to be aimed at younger people and council amenities to be aimed at the elderly,

'They had daytime classes and they were for people who were not as fit as me. They were more sort of retired people. I couldn't find something between the 25-30 year olds and the 70 year olds. The level of class I found difficult. (Laura)

ON PERCEPTION OF PHYSICAL ACTIVITY LEVELS:

- 7) Participant's own perception of themselves as exercisers or not is decided upon by a comparison with how much they have done previously rather than what they are doing now.
- 8) Perceptions of being an exerciser can vary amongst participants with differing amounts of activity from just gentle walking to strenuous training.

During initial coding, an unexpected theme of note surprised me. It concerned the participant's perception of whether they were an exerciser or not. This was self-reported and it was reasonably assumed would be an assessment of how much exercise the participant was undertaking at the time of the interview. However,

what was found during the interview was that the perception of activity descriptor was based on an intrinsic comparison of what had been done in the past. Thus a participant who had been involved in competitive ice skating at an international level earlier in life considered herself a non exerciser even though she swims regularly because her activity level was so much lower than what she had done in the past. On the other hand, another participant who had been sedentary in the past considered herself an exerciser now that she had taken up regular light walking. This had a direct bearing on the participant's view of the intensity of their present activity, thus the effort is relative rather than actual and cannot be compared to others. An exerciser might therefore be doing less activity than a non-exerciser. This actual level is necessarily of relevance as the self-referencing is pertinent to the individuals closed system of fitness improvement. This will have a direct bearing on any 'organised' physical activity they might partake in as they are then forced to make an extrinsic comparison of their abilities with others in the activity group or how a fitness professional tasked with training them might perceive their ability based on their self reporting.

ON HEALTH MESSAGING

- 9) *There is a tacit awareness of health messaging in general but most participants had difficulty in remembering specific campaigns.*

The second research question dealt with the influence of governmental health messaging. Health behavioural change towards an informed healthy lifestyle is the goal of health professionals and governments alike and this research looked to find out how effective governmental health messaging was as part of participants awareness towards taking action. It looked to firstly find out what people knew of and then if it had made any effect in their own activities. Disappointingly, there was a tacit awareness of health messaging in general but difficulty is remembering specific campaigns. When asked if they knew any specific campaigns one person said 'change4life' and that was because they were in charge of a health amenity and had been told to use change4life in the infrastructure and one participant had signed up to the original change4life promotion but everyone else said 'no'. Messaging that was quoted included,

'Those on the side of a cigarette box'

'There's the one where people look like jelly babies but I can't remember what its called'

'A lot of people can't afford to eat 5 a day'

'I can't remember much, the first thing that comes to my mind is consuming less salt'

An interesting observation was that participants believed that the messaging was not meant for them but for others. It was an inference that the generic nature of the messaging had watered it down so much that they felt it of little import to them and must therefore be directed elsewhere. The 'irrelevance' participants felt of this messaging struck me.

6. Conclusions and Recommendations

6.1 Conclusions

The findings of this study suggest that solutions to promoting and maintaining exercise in middle aged women could be more effective on a governmental and practitioner level if approached demographic-centrally.

The existing literature suggests this when its determinants are studied in detail. The preoccupations of a group will dictate their priorities and be specific to them. Der Ananian's (2009) arthritis sufferers have triggers peculiar to them and are different to Withall's (2011) low-income women. However, I have shown that governmental health policy is driven by meta-analysis' of these focused studies and by the very nature of the reductionist process they must go through, the outcome determinants are generic and bland. These data sources become the basis for large-scale health campaigns such as 'change4life'. This study has shown the poor efficacy of such well meaning messaging, with participants vaguely remembering themes but no detail. The generic quality of such work is also evidenced in the participant's views that 'it wasn't for them' but for another demographic. This can be juxtaposed in sharp light to a health campaign that wasn't a campaign. In 2009, Jade Goody, a young TV celebrity reported she was dying after being diagnosed with cervical cancer, which she had not dealt with in a timely fashion. She was very visible in the media telling other young women to go and get tested so as not to suffer the same fate. There was an exponential rise in young women requesting tests at their GP's. It worked. It was specific, it was single messaged and it was targeted at a particular demographic by a role model. Although reported in the popular press in April 2012 that this had now run its course, this single message had a positive effect for over 2 years. This could be recognised and exploited as an effective method by appropriate government agencies with such health messaging as part of their remit allowing for Laverack's (2007 p12) 'power-with' view of health promotion, encouraging transformative, personal choice.

This study has used a grounded theory approach and also revealed a number of sophisticated and useful categories that can become lost when abstracted to themes but offer a richer solution when considered in conjunction to their underlying categories and the contextual emphases of the primary data. By moving back and forth between these layers of complexity, useful conclusions can be drawn that have use to the practitioner for recruitment and maintenance of exercise programmes in this group (Richards 2009 p65). The first being that the study agrees with previous work in that the concerns are specific to the demographic. If the practitioner can utilise this knowledge by offering regimes that cater to their requirements, success is more likely. A specialist, knowledgeable, practitioner approach may be more successful than the 'generic' gym/class that is on offer in which this age group is often lumped in with much older people with the 'catch-all' title 'over 50's'.

These women are 'intrinsically' biased and as they are in a stage of life of big changes, an understanding and support of those concerns will help. Therefore, a one-to-one practitioner approach would allow for maximum facilitation. It can be a time of 'not being sure' both mentally and physically for them. It has been shown that the range of categories uncovered is both rich and nuanced with many aspects having both a positive or negative aspect. It was also shown that this group has a strong sense of self-efficacy that can be adopted and utilised to create conversion to regular exercise. Time spent on getting to know an individual's triggers, through talking or devising a questionnaire, will be worth the effort. The most efficacious model to achieve this is not known here and is well worth further research.

This group is also at a stage in life when health problems are a day-to-day concern. Practitioners might find it beneficial to undertake a special qualification in exercise prescription in 'special populations' in order to know how to approach safe management of such clients, but also to assure the clients that they have a knowledgeable grounding in being part of their health management.

It was shown that practitioners must be aware that an individual's perception of their ability and capability may not be as the practitioner expects, as shown in Phillip and Drummond (2001) where the expectation and drive of the trainer put people off exercise and forced a negative view of it. The client may not be basing their capacity on some external set of criteria but on an inward looking system that links back to how much exercise they have done in the past and at what level. A new client may think of himself or herself as very fit because of this internal comparison. If the trainer takes them at their word, the trainer's view of fit may be very different to the clients and failure or injury will be inevitable. The practitioner becomes a facilitator of a client's HRQL (health related quality of life) as outlined by Biddle (2000 p63), self-esteem, physical function, physical symptoms, emotional function, social function and cognitive function.

Middle aged people, themselves, want to be fit and healthy, family members want them to be fit and healthy, society want them to be fit and healthy, and yet this is one of the most vulnerable groups for ill health. There is at present little to no specialist preventative help given to this group and if it were, a lot of heartache and money would be saved. If infrastructure could be put in place and managed successfully, women could look forward to 'moving' through middle age into a healthier and hopefully happier older age.

6.2 Recommendations for policy makers

This study has highlighted less effective approaches to health messaging and offered suggestions as to why. A more effective approach is suggested by focusing on the particular determinants found in specific demographic and age groups. To advertise one message to one group by one person whom the target group might respect.

6.3 Recommendations for gym chains

The demographic makes up a relevant proportion of gym membership. Retention could be improved in this group if specificity is incorporated into their product offer. This might include organised group classes for this age group, specialist departments within each location that are made up of trained knowledgeable fitness trainers that can offer advice on successful diet and health behaviour change with progressive levels of activity built into programmes. Also encourage recruitment of fitness trainers that are themselves within this age

range as an empathetic and encouraging understanding can help those who are at the beginning of a health change process.

6.4 Recommendations for the practitioner

The practitioner recommendation is that knowledgeable, specialist practices that work exclusively with this age group might assure and encourage this group to begin and continue exercise, with the client knowing that the practitioner is aware of both the psychological and physical manifestations of being middle aged, is qualified appropriately in medical/psychological arenas and offers bespoke programmes that cater to both the fears and capabilities of the individual and 'holds their hand' through the early stages of behavioural change. During the process, the practitioner must be wary of imposing their own tenets and principles of exercise on their client and must gauge where the responsibility for the client's health would best lie and actively work towards handing responsibility to the client only when they are ready to take it.

6.5 Dissemination of findings

The findings of this paper will be disseminated:

1. At the Middlesex University HSSc Research conference 2012
2. At the Middlesex University/Higher Education Academy conference in Business & Sports Participation 2012
3. As a journal article for Middlesex University – Work Based Learning e-journal International
4. Journal article submitted to National Obesity Observatory
5. Executive summary to Fitness Industry Authority and Register of Exercise Professionals
6. Copies to each participant that requested one

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Appendix I Ethics sub committee approval letter



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To: Anne Elliott
Masters in Professional Studies

Date: 8th August 2011

Dear Anne

Re: Anne Elliott - Application 788 – *'Enablers and barriers to exercise uptake by women during middle age: A grounded theory approach'*. Category A2. Supervisor, Margaret Volante

Thank you for the response which adequately answers the ethics committee's queries. On behalf of the Health Studies Ethics sub-Committee, I am pleased to give your project its final approval. Please note that the committee must be informed if any changes in the protocol need to be made at any stage.

I wish you all the very best with your project.

Yours sincerely

Ms Dympna Crowley
Chair of Ethics Sub-committee (Health Studies)

Appendix 2 – Example of data coding

CODING

PARTICIPANT 5

Categories

Example

Historical perspective

I've always enjoyed doing some form of physical activity, from school throughout my life. And my views always been that its important to do it.

its always played a role but its not been a consistent practice.

I didn't like PE no.

they had a swimming poo built when I was about 4 and Mum could go and use it so every Thursday night we used to go swimming

Significant others influence

I know my mother played tennis and my parents cycled,

I do remember a school report where the teacher said, 'her size hampers her' and I have to say if I do manage to run the marathon next year part of it will be sticking two finger up at that woman who said that,

And I think it's just knowing that I am, yeah fit and people knowing that oh yes she is fit. So it's a little bit of me knowing I can do it and other people acknowledging it.

So once I got back into more of a routine of fitness and I'm happy I will get him to come out with me.

Exercise experience

as I grew up sport was not part of our home life at all.

I swam and I swam at a very high standard so that was my main exercise as a child and a teenager

I got to secondary school there were things like tennis and hockey, netball and stuff and then in my twenties I played a lot of squash

I started doing Yoga when I was 40

I played, actually competitively with the squash as well so I did a lot of that and enjoyed it

I think the squash was a natural lead on from the tennis really

I did join gyms and start to experiment more

the yoga made a huge difference especially to my posture

personally for me it's a solitary occupation

Self awareness

I was probably at my most active when I played squash. And did a lot of that but I was probably at my most fit about 10 years ago

I wasn't aerobically fit. I let that drop, however I was more flexible and physically fit and perhaps my muscles were more tuned,

I'm not as fit as I want to be by any means um, but I'm certainly fitter than I was a year ago, I do more aerobic stuff and running as well as the yoga.

the level of stress I suffered last year on that particular job changed my attitude towards what I wanted to do,

I do accept it if I get a place on the marathon that I will have to become a little less of a fair weather runner.

Fit, to me is I think being more athletic in my body and being able to run 5 miles comfortably

(what does feeling fit inside feel like?) I think it's a lightness. It's a general feeling of lightness of ease, being comfortable.

getting out of the rat race of TV and moving into other areas I have gained a lot more personal self-respect

Health

I was quite a chubby child

Because I was so tired, so worn out, mentally and physically worn out there is no quality-of-life

2 or nearly 3 weeks ago I tore a calf muscle, I

Self efficacy

I was a good swimmer and I did every award going, I swam in teams, I swam competitively, I was good, I wasn't brilliant but I was competitively good.

no I need to get back into being fit again and actually explore that goal I set yeah, I want to run a marathon by the time I'm 50

I'm not going to let that go unless there is a physical reason not to do it.

I think the fitter I guess the more motivated I am.

I expect to go on and run a marathon at 100 if I want to, why shouldn't I,

in the marathon I'm expecting to lose at least a stone

Opportunity

diving would probably have been the thing. If I wanted to do it more professionally.

I worked at Milton Keynes on the Open University centre and we could use the resources of the Open University and they had squash courts, squash teams

and the resources were there.

whereas with squash, every games a competition.

Gym - There's lots of different things under one roof. Its relatively straight forward to use.

the facilities aren't there and the encouragement isn't there to actually go out and do exercise.

De-motivation

when I got to my 20's I was working, swimming lost its appeal a bit, getting wet, shrivelling up you know you know you've got blond highlights your hair can go green in you get into chlorine, make up, all of those things, swimming became more of a chore

So this year I have spent more time trying to build stuff up but I found it quite hard to get motivated.

I think more opportunity for people not to be treated like a something wrong with them because they're over 50

Rationale

I think in the winter particularly, you don't want to be outside,

Costs

Gym - I think it's a shame they have to be so expensive.

Stress

I was doing the job in TV which was extremely stressful and I had to let my running go completely,

Very long hours very stressful very difficult and I didn't have any headspace for anything.

plus I had the yoga teacher training going on during that year so I was having to spend most weekends for that so it was very difficult. I just didn't have the physical and mental energy to do more than I had to do

have more time, be able to have the energy to go to the gym

I'll go for a run at lunchtime but at lunchtime your run ragged with work.

You don't get a lunchtime.

Motivating factors

I mentally want to be fit and healthy and lose weight, I'd like to shed this spare tyre which I've always had

I'd like to run a marathon next year. Even if I only do it once, even if I walk I just want to get in and make the best attempt at doing it

Time I could go to the gym on the way back from the meeting but actually I've got a lot of stuff to do

So it's kind of just fitting it in, as much as I'd like to say every day I must do something, actually reality is it doesn't happen

Knowledge amount - I don't know specifically how much I should be doing no.

I feel I know those go guidelines, 5 a day I know about a balanced diet and I'm not saying I don't eat white bread and butter and stuff like that sometimes but it's all very healthy food

Health messaging there's the one with the people that look like jelly babies. But I can't remember what it's called

And I also feel when I see it that doesn't apply to me because I'm beyond that step

I do exercise and you telling me how to do it on the television isn't going to make me do it any differently. So I feel that's more for people who are sitting on their backsides watching telly and not doing anything else

I just feel that they are they are aimed at people who don't understand the need to eat healthily and do exercise and I do understand.

encourage us to eat 5 a day great! That's not hard for me. But for a lot of people they can't afford to eat 5 a day.

Solutions I think what they could be is more activities for people who are already doing things but are less competitive

Cost everything you do you have to pay for. You know everything you do, you're expected to raise money for charity or you can't just go and enjoy it.

Middle age something that was entitled the over 50s. And you knew what they meant by the over 50s they meant my parents who are in their 80s

I think your written off so if you're not under 40 or in your 30s and in your shiny leotard you can't possibly be wanting to do anything serious.

I'm getting more comfortable with being over 50. I'm not happy about it because I don't feel it

I'm going to be active at 60 70. So I think it's a society thing and I personally don't accept this.

But I get incensed by people thinking your written off at 40. When my mother was my age she was what we consider middle aged. I'm not.

Self image I'd like to be slimmer, I'd like to go into a shop and know that a size 10 would fit me

when I go out to meet clients, to network I have to make more effort to look the part. Which helps my own confidence and my body confidence as well.

Appendix 3 – Categories with data excerpts

Enabler categories

The following categories were identified from listed phenomena identified during open coding. Each category below is illustrated by an example of phenomena:

Significant others influence	'on Tower Bridge I saw Paula Radcliffe go past and I thought blimey she's quick and then several hours later my mate went past and I thought I'd really quite like to do this'. (Fiona)
Friendship	'If I had a group of friends that were into exercise I think, I think yes'. (Geraldine)
Role model	'You want to be around people who are better than you that you can aspire to better yourself'. (Fiona)
Health scare	'one of the things that let me start thinking about exercising was after the cancer I was diagnosed a year later with type 2 diabetes and one of the things the doctor said to me was if you lose 3 stone or something then maybe the diabetes would go away'. (Jane)
Death of other	'just before I turned 43 I was thinking my God I'm going to be the same age as my Mum was when she died you know that just made me, it spurred me on to keep more healthy'. (Diane)
Fear of death	'I don't want to die in middle age' (Geraldine)
Fitness	'wanting to be flexible and wanting to be toned has always been very important to me. I want to keep moving whatever'.
Improving health	'So I've got more energy now than when I was younger'. (Tina)
Motivation	'I think the fitter I get the more motivated I am'. (Sophie)
Good experience	'and after doing exercise I can go to the steam and spa which is relaxing and its refreshing my head'. (Tina)

Mental space	'when I was trying to figure out how to do something work related and I couldn't I just couldn't think how to design this piece of paper and I went out for a run and it came to me'. (Diane)
Locus of control	'well at the moment I'm feeling really good about it. I'm managing really well but you see I'm my own boss at the moment. I'm ruling how I do my day'. (Dorothy)
Success	'I definitely feel fantastic fitter and even though I'm aching it feels like a safe ache as opposed to, oh my God you're damaging my back'. (Dorothy)
Anticipation/missing exercise	'Well I mean I had a four month break of not doing anything it made me realize that I need to go back and do it again'. (Tina)
Selfishness	'Yes in order to change, unfortunately you have to be more self centred'. (Elena)
Self efficacy	'I do tend to concentrate on making sure I get enough exercise in a week' (Tina)
Formal organized exercise	'(gym) there's a lot of different things under one roof. It's relatively straight forward to use'. (Sophie)
Fun/enjoyment	'I wouldn't mind like dance class, it would be a laugh as well as getting the exercise.' (Geraldine)
Knowledge	'I've got a background in the health service so I know about this sort of thing (Dorothy)
Active childhood	'ever since I was a little girl I've always been very active. I always do lots of exercise at school, um, I was a volleyball player, basketball player, everything athletic wise I always join in'. (Tina)
Dieting	'I love food but for me it was the thinking about food, thinking differently about exercise and motivating, being motivated'. (Diane)

Inclusion	'It wasn't about the sport then it was about the taking part for me'. (Diane)
Time	'there's just more time for me to think about what I need to be doing for myself' (Jane)
Opportunity	'we would just get comfortable and fatter and watching TV and the fact this London marathon came up was, this is our opportunity to change things now'. (Fiona)
Weight loss	'I'd like to lose a bit around the stomach'. (Geraldine)
Improve self image	'and I think it's just knowing that I am, yeah fit and people knowing that oh yes she is fit. So it's a little bit of me knowing I can do it and other people acknowledging it'. (Sophie)
Health belief	'because its their body and it's the body that can actually get them to work. If they're not healthy, how are they going to get to work. (Tina)
Religious belief	'I think it helps because I mean with me I believe, I believe in God and I think with faith it helps me to understand that life goes on whatever, whatever is thrown at you' (Tina)
Healthier old age	'I'm going to be active at 60, 70. (Sophie)
Positive outcome	'it is a very positive way to see the contamination and the contaminating good effects that physical activity can have'. (Elena)
Quality time for self	'I decided to go at least once a week which was a kind of me time'. (Elena)

Barrier categories

The following categories were identified from listed phenomena identified during open coding. Each category below is illustrated by an example of phenomena:

Anxiety	'eventually I was so tense and in tears and anxious and not being able to sleep, I mean food lost its attractiveness'. (Elena)
Apathy	'Overall I'd say I'm apathetic' (Geraldine)
Stress	' It came down to stress, working long hours and if you don't start learning about what your body wants and what it doesn't want then you're not really helping yourself (Fiona)
Laziness	'I'd be lazy and I'd be thinking now I want to come home and just eat'. (Diane)
Guilt	'if I would be able to stick to a programme that I can't stick then I would have a sense of guilt for having said yes and then not participating fully'. (Elena)
Embarrassment	'I still go to the gym, sometimes I get really embarrassed because its so horrible, like you have stains and things like that. Its bad'. (Tina)
Self esteem	'for me when I'm very low it's hard to measure myself'. (Dorothy)
Nervousness	'I think I've had a kind of love hate relationship with it because it's been a bit nervous sometimes'. (Dorothy)
Travel	'at the end of the day and think of going to that particular club which is in xxx and from xxx to xxx is not a journey but going on public transport in the end it becomes late'.
Weather	'I think in the winter particularly, you don't want to be outside' (Sophie)
Cost	'and also to money because thinking about it, like gym membership in particular and having to pay for gym membership...I know that was one of the reasons, why I thought I'm wasting it, I'm not using it enough. (Jane)

Work	'I go out of the house very, very little because I work from home'. (Elena)
Time	'I could go to the gym on the way back from the meeting but actually I've got a lot of stuff to do'. (Sophie)
Family commitments	'I got a family to look after and I just do it when I've got spare time'. (Tina)
Bad advice	'and in those days they told you to rest and I think that was the beginning of setting me off in a bad way' (Dorothy)
Age	'I think more opportunity for people not to be treated like something's wrong with them because they're over 50'. (Sophie)
Bad experience	'Never went there again so it was a try it once and give up kind of attitude'. (Fiona)
Formal organized exercise	'I joined an aerobics class which I absolutely hated, absolutely hated and it was so bad I used to count the days I had to go for aerobics'. (Geraldine)
Fear of failure	'I've always been very scared that it's going to happen again. It's happened to me twice so I was always very scared that if I did anything strenuous it might happen again'. (Geraldine)
Lack of motivation	'but I never really kind of showed any real drive or ambition to do anything sporty wise'. (Fiona)
Opportunity	'when I see young people hanging around , I simply think that their familie have not had the chance or or the facilities or the intelligence to introduce their children to sport'. (Elena)
Significant others influence	'My mum and dad were very sedentary, they wee cerebral' (Dorothy)
Weight	'I'd like to be slimmer, I'd like to go into a shop and know that a size 10 would fit me'. (Sophie)
Self image	'I've been feeling very un-toned and very flabby and not very happy with the way I was'. (Dorothy)
Health conditions	'and I felt lots of dizziness and headaches and things like that' (Tina)

Appendix 4 – Illustration of coding process

