



UNIVERSITY
of
GLASGOW

The Psychosocial Aspects of Obesity: A Quantitative & Qualitative Study

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Thesis submitted for the degree of PhD

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October 2004

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Abstract

In the UK, the prevalence of obesity has tripled since the 1980s and statistics for Scotland indicate that 55-60% of the adult population is overweight and 19.6% of men and 22.1% of women are obese. Obesity is regarded as an increasingly prevalent public health problem but the aetiology of obesity remains unclear. However, research has demonstrated that abdominal obesity is associated with type II diabetes and coronary heart disease. Whilst the physical consequences of obesity are well documented, far less is known about the psychosocial consequences.

This Health Services Research PhD, funded by the Chief Scientist Office (CSO), investigated the psychosocial aspects of obesity in a community sample of men and women aged 30-60 living in deprived and affluent areas of Greater Glasgow. The study incorporated a mixed method design and combined a community health survey and semi-structured interviews with a purposively selected sub-sample of questionnaire respondents.

52% of the participants who completed the questionnaire were either overweight or obese and 16% were defined as obese. Obesity and body image were not significant predictors of poor psychological health. Furthermore, low self-esteem was the most significant predictor of poor psychological health for both men and women.

The quantitative and qualitative findings demonstrate that obese individuals are aware of their current weight status and express a desire to lose weight. Potential motivating factors for weight loss included health concerns, appearance, special occasions and psychological factors such as increased self-esteem and self-confidence.

Participants were knowledgeable about the causes of obesity and had absorbed and understood health promotion messages regarding healthy eating and physical activity. However, they identified a number of barriers, which prevented them from fully implementing health promotion advice.

The qualitative findings suggest the possibility of a cyclical relationship between dieting, depression and emotional eating. In addition, the findings demonstrate that weight cycling – losing and regaining weight – was a common experience for the interviewees. As weight cycling is a potentially damaging health problem, it might be more appropriate to encourage obese individuals to maintain a stable weight and improve their health by re-focusing the issue on fitness rather than fatness. A number of implications for health care professionals and health promotion are outlined and new avenues for research are suggested.

Declaration

The work presented in this thesis is directly attributable to the author.

Preliminary findings of this study were presented at the 12th European Congress on Obesity in Helsinki (Cawley & Barbour, 2003).

A discussion of the findings about barriers to healthy eating and exercise (chapter 6) appeared in an invited article on behalf of the Scottish Colloquium on Feeding and Food (SCOFF) for Fare Choice, the newsletter of the Scottish Community Diet Project (Cawley, 2004).

In addition, elements of the work contained in this thesis was orally presented at the following conferences:

BSA Medical Sociology Conference, York, September 2003 *“I’m not overweight at all, I’m just three feet under height: Coping with the stigma of obesity.”*

BSA Medical Sociology Conference, York, September 2002 *“Does my bum look big in this? Obesity and psychological health.”*

ESHMS Conference, Groningen, August 2002 *“Psychological health, weight and well-being: preliminary results of a community survey”*

Acknowledgements

I would like to thank all of the participants who took the time to complete the questionnaire and the interviewees who provided such honest and detailed accounts about their experiences of being obese.

I am grateful to my supervisor Professor Rose Barbour for her continued guidance, advice and encouragement over the last four years.

I would especially like to thank everyone who lent a hand at different stages of the research process, with particular mention to Catherine McNeill for her help with the data entry, Alex McConnachie for his advice regarding sample size and statistical techniques and members of staff in the Department of General Practice who helped to assemble the questionnaire packs.

I would like to thank my parents, sisters and all my friends for their support and constant patience while I rambled on (and probably drove them nuts) about this PhD. A special mention goes to Carmel Cawley who spent many hours helping to stuff envelopes and cheered me up whenever the workload was getting me down.

Finally, I owe an immeasurable gratitude to Craig Nicol who endured the whole PhD process from beginning to end! Thank you for all your love, assistance, support, continued encouragement and having faith in me when I was doubtful about my ability to complete this thesis.

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Introduction

The prevalence of obesity is increasing at such a rate that the World Health Organisation has called it a modern 'epidemic' (WHO, 2000). Over the last two decades, the majority of industrialised societies have witnessed a steep increase in the prevalence of obesity. In the UK, it is estimated that the prevalence of obesity has tripled since 1980 (National Audit Office, 2001). Obesity is widely regarded as a public health problem and the cost of diagnosing and treating obesity and obesity-related conditions such as type II diabetes and coronary heart disease is expensive.

This PhD was funded by the Chief Scientist Office (CSO) and draws on a multidisciplinary evidence base to explore a contemporary public health issue. The structure of the thesis is as follows:

Chapter 1 predominantly sets the scene for the whole thesis as it provides an overview of the literature relating to the prevalence and aetiology of obesity, the physiological complications associated with obesity and the estimated economic costs of obesity. In contrast the second chapter focuses on the psychosocial literature. The third chapter provides a detailed account of the study methodology.

Chapter 4 presents the quantitative results regarding obesity and psychological health, which is further explored in the qualitative findings chapters. The subsequent chapter focuses on the participants' self-ratings of physical health, perceptions of health and constructions of a 'healthy' and 'unhealthy' person. Chapter 6 addresses participants' perceptions of a 'healthy lifestyle' and beliefs about the causes of obesity. This theme is continued in chapter 7, as findings about participants' experiences of weight change and their beliefs about ageing and weight gain are presented. Chapter 8 focuses on

participants' experiences of being obese and explores the relationship between obesity and psychological health. The penultimate chapter presents the findings regarding motivations to lose weight and previous weight loss attempts. Finally, chapter 10 provides a brief discussion of the findings and outlines implications for health care professionals, health promotion and future research.

Chapter 1: Background

Obesity has been described as a public health problem of epidemic proportions (WHO, 1998). This chapter defines obesity and provides an overview of the literature regarding the prevalence and aetiology of obesity, the risk factors and physiological complications associated with obesity and the estimated economic costs of obesity.

1.1 Definition & Classification of Obesity

Obesity is characterized by excess adipose tissue and it is normally defined using Quetelet's index, more commonly known as the body mass index (BMI). BMI has been used for many large-scale epidemiological studies and only individuals who are unusually muscular could be misclassified as overweight or obese (Prentice, 1998). BMI is calculated by dividing body weight (kg) by height squared (m^2). The World Health Organization (WHO) has published guidelines based on the associations between BMI and all cause mortality and a BMI of $30\text{kg}/m^2$ is widely recognised as the cut off point for adult obesity (see table 1.1). The classification for obesity in children is complicated and is not a perfect measure because during childhood there are sporadic changes in height and body composition. However, internationally based cut-off points have been published (Edmunds, Waters & Elliott, 2001; Cole, Bellizzi, Flegal & Dietz, 2000).

Table 1.1 WHO Classification of under and overweight in adults according to BMI

Classification	BMI (kg/m²)	Risk of Comorbidities
Underweight	<18.5	Low
Healthy Weight	18.5-24.9	Average
Overweight	25.0-29.9	Increased
Obese Class I	30.0-34.9	Moderate
Obese Class II	35.0-39.9	Severe
Obese Class III (Morbid)	>40.0	Very Severe

Although BMI is a widely used method for defining obesity it must be acknowledged that the cut-off point is arbitrary and the main function of the categories is to enable comparison with other countries (James, Leach, Kalamara & Shayeghi, 2001). The BMI cut-off point indicates the increased risk of health complications. It does not mean that everyone with a BMI greater than 30kg/m² will develop obesity-related health problems:

“We cannot foretell who will develop an obesity-related health problem. In fact, some persons who meet the criteria for obesity will live long lives free of any of the morbidities known to be influenced by obesity”
[Heshka & Allison, 2001 p1402]

Additionally, the statistically increased risks are not confined to obese people, as healthy weight individuals (18.5-24.9kg/m²) are still at risk - albeit a lower risk - of comorbidities (Manson, Willett, Stampfer, Colditz, Hunter, Hankinson, Hennekens, & Speizer, 1995; Willett, Manson, Stampfer, Colditz, Rosner, Speizer & Hennekens, 1995).

BMI is widely regarded as a straightforward tool for measuring adult obesity, as it correlates significantly with body fat and can be calculated easily in a clinical setting (Aronne, 2002). However, it does have some limitations because it does not take into account factors such as gender and age. Women typically have a higher percentage of body fat mass than men with the same BMI and it is well established that the ageing process increases the level of centrally distributed body fat (Ross, Shaw, Rissanen, Martel, de Guise & Avruch, 1994; Molarius, Seidell, Visscher & Hofman, 2000). Additionally, BMI cannot ascertain body fat distribution. Despite these limitations there is a very good correlation between BMI and percentage body fat and BMI is an effective tool for measuring obesity in population-based samples (Seidell & Flegal, 1997).

The health risks associated with obesity depend on where the fat is located (Arner, 1998). For example, individuals with peripheral obesity (fat located on the buttocks, hips and thighs) have fewer health risks than those with central obesity (fat located around the stomach and gut). Body fat distribution can be determined using a number of anthropometric measurements including waist-hip-ratio (WHR) and waist circumference.

Magnetic resonance imaging (MRI) and computed tomography (CT) are the most precise methods for measuring abdominal obesity. However, they are expensive and impractical for clinical use (Björntorp, 1997; Aronne, 2002). Furthermore, it is important to note that all of the techniques for measuring fat distribution have methodological limitations and their appropriateness for use in interventions has not been proven (Molarius & Seidell 1998).

Central abdominal fat distribution has been shown to be a risk factor for cardiovascular disease (CVD) and recent evidence suggests that waist circumference, whilst being a simpler measure than WHR, can nevertheless predict increased intra-abdominal fat as accurately as WHR (Seidell & Flegal, 1997; Visscher & Seidell, 2001). Additionally, waist circumference (see table 1.2) has been recommended as a weight management tool for health promotion (Lean, Han & Morrison, 1995).

Table 1.2 Waist circumference measurements and risk of obesity related complications

Source: Lean, Han & Morrison (1995)

	<u>Risk of Complications</u>	
	Increased	Substantially Increased
Men	>94cm/37in	>102cm/40in
Women	>80cm/32in	>88cm/35in

1.2 Obesity Prevalence & Trends

WHO believe that the current level of obesity has substantially increased and reached epidemic proportions. In 1995 there were an estimated 200 million obese adults worldwide and by 2000 the number of obese adults had increased to over 300 million.

WHO also estimate that 1 billion adults are overweight worldwide and over 115 million people suffer from obesity-related problems (WHO, 2003). Furthermore, 22 million children under the age of five are overweight worldwide (Finer, 2003) and childhood obesity increased significantly between 1984 and 1994 in the UK (Chinn &

Rona, 2001). The following section will focus on literature relating to the prevalence of adult obesity.

1.2.1 Obesity in Non-European Countries

The levels of obesity in industrialised societies continue to rise and have increased considerably over the last 20 years. For example, since 1985 the prevalence of obesity in Canada has more than doubled from 5.6% to 14.8% in 1998, and it is estimated that 3.3 million people are obese (Katzmarzyk, 2002). The pattern in Australia is similar, where the prevalence of obesity is 2.5 times higher than in 1981 and it is estimated that 20.8% of the population are obese (Cameron, Welborn, Zimmet, Dunstan, Owen, Salmon, Dalton, Jolley, & Shaw, 2003). Likewise, in the United States, figures from the National Health and Nutrition Examination Survey (NHANES) show that the prevalence of obesity in adults aged 20-74 years old more than doubled between 1960 and 2000 from 13.3% to 30.9%, and most of this rise has occurred in the past 20 years (Flegal, Carroll, Ogden & Johnson, 2002). Additionally, in Japan the levels of obesity have doubled since 1982 (International Obesity Task Force, 2003). The most recent National Nutrition Survey found that 25.5% of men and 20.5% of women aged 15 years old or over were obese (Japan Obesity Association, 2002). However, this figure is not directly comparable as the Japan Obesity Association defines obesity at a lower BMI (BMI $\geq 26.4\text{kg/m}^2$).

Contrary to popular belief, obesity is not confined to industrialized societies and is spreading rapidly among developing countries (Friedrich, 2002). For example in Africa, where the focus has been on undernutrition, the levels of obesity among

affluent populations is rising and in Ghana there are only slightly more underweight (BMI<18.5kg/m²), than overweight (BMI>25kg/m²) people (IOTF, 2003).

Obesity rates have tripled in some areas of the Middle East and the Pacific Islands since the 1980s (WHO, 2003). Furthermore, although the prevalence of obesity in China is only a few percent, it is gradually rising and with such a large population a 1% increase would increase the numbers of obese people by 10 million (Björntorp, 1997).

1.2.2 Obesity in Europe

In Europe the prevalence of obesity is highest (around 40%) in Eastern European countries such as Russia, Poland and Yugoslavia, particularly among women (Molarius, Seidell, Sans, Tuomilehto & Kuulasmaa, 2000). Current prevalence data from individual national studies suggest that the range of obesity prevalence in Western European countries is from 10 to 20% for men, and 10 to 25% for women (Glenny, O'Meara, Melville, Sheldon & Wilson, 1997; International Obesity Task Force, 2003). The prevalence of obesity has increased by about 10-40% in the majority of European countries in the past 10 years. Overweight and obesity are less common in Europe except for Finland, Germany and United Kingdom, in each of which over half the population are overweight (Visscher & Seidell, 2001). The WHO MONICA (Monitoring Trends and Determinants in Cardiovascular Disease) Project is the largest comprehensive dataset about the prevalence of obesity. The project was designed to measure trends in incidence and mortality from cardiovascular disease and assess the risk factors. Risk factors were monitored using cross-sectional surveys

from populations in 26 countries over a 10-year period. The surveys were completed by random samples of at least 200 people of each sex and ten year age group from 35-64 and included optional groups of 25-34. Molarius *et al* (2000) found that the prevalence of obesity increased in general in all of the WHO populations between the initial and final survey, with the exception of Moscow, where prevalence decreased for both men and women. Over the ten-year period the largest increase was observed in Glasgow.

Table 1.3 illustrates the MONICA data for overweight and obesity prevalence for men at the final survey date. The least obese men were found in Scandinavian countries (Denmark and Sweden), Ghent (Belgium) and Toulouse (France), where the prevalence of obesity ranged between 10-13%. The levels of obesity exceeded 20% in the Czech Republic, Strasbourg (France), Friuli (Italy), and Yugoslavia. Furthermore, the highest levels of obesity were found in Finland, Augsburg (Germany) and Glasgow.

Table 1.3 WHO MONICA (second round 1990-1997) populations: prevalence data for overweight (BMI 25-29.9kg/m²) and obesity (BMI \geq 30kg/m²) in European men aged 35-64

Source: British Heart Foundation

Monica Population	MONICA Code	Survey Year	Overweight	Obese
Belgium-Charleroi	BEL-CHA	1990/93	47	19
Belgium-Ghent	BEL-GHE	1990/92	52	13
Czech Republic	CZE-CZE	1992	52	23
Denmark-Glostrup	DEN-GLO	1991/92	41	13
Finland-Kuopio Province	FIN-KUO	1992	46	24
Finland-North Karelia	FIN-NKA	1992	49	23
Finland-Turku/Loimaa	FIN-TUL	1992	46	22
France-Lille	FRA-LIL	1995/96	40	17
France-Strasbourg	FRA-STR	1995/97	51	22
France-Toulouse	FRA-TOU	1994/96	49	13
Germany-Augsburg (rural)	GER-AUR	1994/95	55	24
Germany-Augsburg (urban)	GER-AUU	1994/95	54	17
Germany-Bremen	GER-BRE	1991/92	50	16
Germany-East Germany	GER-EGE	1993/94	51	18
Iceland	ICE-ICE	1993/94	50	16
Italy-Area Brianza	ITA-BRI	1993/94	50	14
Italy-Friuli	ITA-FRI	1994	51	17
Lithuania-Kaunas	LTU-KAU	1992/93	47	20
Poland-Tarnobrzeg Voivodship	POL-TAR	1992/93	41	15
Poland-Warsaw	POL-WAR	1993	45	22
Russia-Moscow (control)	RUS-MOC	1992/95	38	8
Russia-Novosibirsk (control)	RUS-NOC	1995	35	17
Spain-Catalonia	SPA-CAT	1994/96	53	16
Sweden-Gothenburg	SWE-GOT	1994/96	47	13
Sweden-Northern Sweden	SWE-NSW	1994	50	14
Switzerland-Ticino	SWI-TIC	1992/93	53	13
Switzerland-Vaud/Fribourg	SWI-VAF	1992/93	47	16
United Kingdom-Belfast	UNK-BEL	1991/92	49	14
United Kingdom-Glasgow	UNK-GLA	1995	42	23
Yugoslavia-Novi Sad	YUG-NOS	1994/95	49	20

The prevalence of obesity for women was considerably higher than for men in all of the Eastern European countries. For example, the rates in Russia were more than twice those for the men. Women living in Scandinavia, Toulouse and Vaud

(Switzerland) experienced the lowest levels of obesity (10-12%). The prevalence rates of obesity were lower for women than men in a few regions notably: Turku (Finland), Strasbourg, rural Augsburg, Gothenburg (Sweden) and Vaud. The WHO MONICA figures for overweight and obesity prevalence in women are displayed in table 1.4.

Table 1.4 WHO MONICA (second round 1990-1997) populations: prevalence data for overweight (BMI 25-29.9kg/m²) and obesity (BMI ≥30kg/m²) in European women aged 35-64

Source: British Heart Foundation

MONICA Population	MONICA Code	Survey Year	Overweight	Obese
Belgium-Charleroi	BEL-CHA	1990/93	33	24
Belgium-Ghent	BEL-GHE	1990/92	40	16
Czech Republic	CZE-CZE	1992	35	30
Denmark-Glostrup	DEN-GLO	1991/92	26	12
Finland-Kuopio Province	FIN-KUO	1992	34	26
Finland-North Karelia	FIN-NKA	1992	37	24
Finland-Turku/Loimaa	FIN-TUL	1992	35	19
France-Lille	FRA-LIL	1995/96	30	22
France-Strasbourg	FRA-STR	1995/97	31	19
France-Toulouse	FRA-TOU	1994/96	24	10
Germany-Augsburg (rural)	GER-AUR	1994/95	33	23
Germany-Augsburg (urban)	GER-AUU	1994/95	36	21
Germany-Bremen	GER-BRE	1991/92	36	19
Germany-East Germany	GER-EGE	1993/94	37	18
Iceland	ICE-ICE	1993/94	36	18
Italy-Area Brianza	ITA-BRI	1993/94	29	18
Italy-Friuli	ITA-FRI	1994	31	19
Lithuania-Kaunas	LTU-KAU	1992/93	34	32
Poland-Tarnobrzeg Voivodship	POL-TAR	1992/93	36	36
Poland-Warsaw	POL-WAR	1993	35	29
Russia-Moscow (control)	RUS-MOC	1992/95	33	22
Russia-Novosibirsk (control)	RUS-NOC	1995	33	35
Spain-Catalonia	SPA-CAT	1994/96	42	25
Sweden-Gothenburg	SWE-GOT	1994/96	31	10
Sweden-Northern Sweden	SWE-NSW	1994	34	14
Switzerland-Ticino	SWI-TIC	1992/93	27	16
Switzerland-Vaud/Fribourg	SWI-VAF	1992/93	31	10
United Kingdom-Belfast	UNK-BEL	1991/92	30	16
United Kingdom-Glasgow	UNK-GLA	1995	36	23
Yugoslavia-Novı Sad	YUG-NOS	1994/95	36	32

1.2.3 Obesity in the UK

Recent prevalence figures for the UK indicate that the prevalence of overweight and obesity has increased in line with the rest of Europe. In England the level of obesity has tripled since 1980 and around 21% of men and 24% of women are obese (National Audit Office, 2001; Chief Medical Officer for England, 2002).

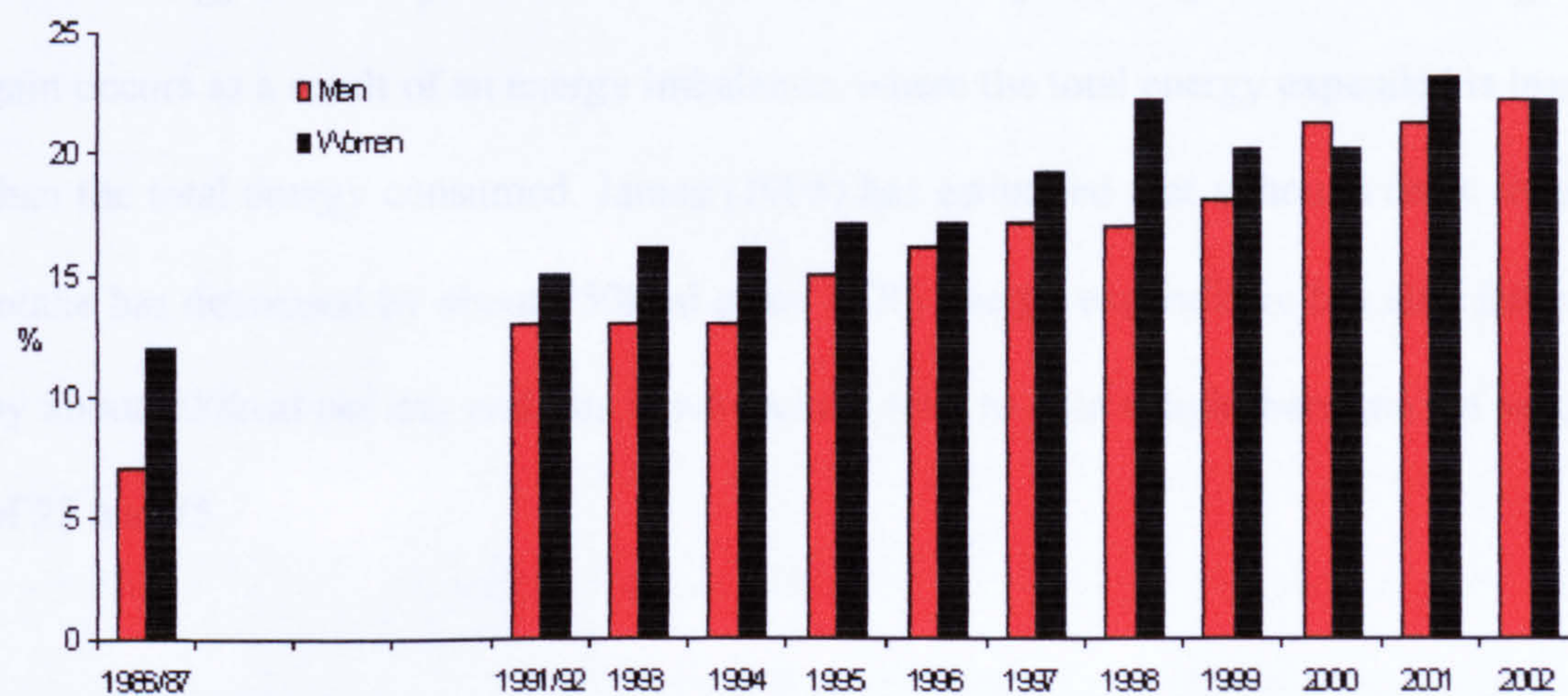


Figure 1.1 Prevalence trends for obesity among adults in England aged 16-64 1986/87-2002

Source: British Heart Foundation

Data from Central Health Monitoring Unit (Pre 1993) & Health Survey for England 1993-2002

The picture in Northern Ireland is similar to England, where obesity rates have also tripled in the last 20 years and there are around 250,000 obese adults, approximately 1 in 5 of the adult population (Campbell, 2003). In Wales, the prevalence of obesity has doubled in the last 10 years and more than 50% of adults are overweight, 17% of them are obese (Welsh Assembly Government, 2003). The most recent figures for Scotland

confirm that the level of obesity rose by 3% between 1995 and 1998, and it is estimated that 19.6% of men and 22.1% of women are obese (Scottish Executive, 2000). Although the prevalence of morbid obesity ($\geq 40\text{kg/m}^2$) was small in both groups, more than twice as many women (2.0%) than men (0.8 %) were morbidly obese.

1.3 The Causes of Obesity

The aetiology of obesity is unclear. However, there is general agreement that weight gain occurs as a result of an energy imbalance, where the total energy expended is less than the total energy consumed. James (1995) has estimated that although daily food intake has decreased by about 750kcal since 1970, energy expenditure has also fallen by about 800kcal per day and this is why adults tend to gain weight between the ages of 25 and 75.

Traditional attitudes towards obesity have blamed the individual for their sloth and gluttony (Prentice & Jebb, 1995) and have contended that obesity develops because of overindulgence and a sedentary lifestyle. This behavioural argument is an oversimplification and it is now believed that the causes of obesity are multi-factorial and occur as a result of a complex interaction between genes, the environment and behaviour. However, obese individuals continue to be stigmatized as greedy and lazy by both the general public and health professionals and this literature will be reviewed in Chapter 2.

Animal studies have been conducted primarily with rats, to determine the existence of an 'obesity gene'. The discovery of the 'ob' gene in 1994 prompted the possibility

that leptin might hold the key to obesity treatment (Zhang, Proenca, Maffei, Barone, Leopold & Friedman, 1994). However, concurrent human studies have concluded that the precise role of leptin is uncertain, although it is thought that obese individuals may be leptin resistant (Filozof & Gonzalez, 2000).

Scientists have not been able to locate a single gene responsible for obesity and it has been suggested that human obesity is polygenic (Diament, Fisler & Warden, 2003). However, it is important to acknowledge that some forms of obesity are caused by rare genetic defects: for example Cushing's disease and Prader-Willi Syndrome. Cushing's disease is caused by excessive cortisol production by the adrenal or pituitary glands and results in an increase of abdominal obesity. Prader-Willi Syndrome is one of the most common genetic causes of obesity and it is estimated that 1 person in every 25,000 has Prader-Willi Syndrome. Prader-Willi Syndrome creates an insatiable appetite, which causes morbid obesity and premature mortality from cardiac failure (Bouchard, Pérusse, Rice & Rao, 1998). In addition to genetic defects, researchers have also investigated the likelihood that metabolic defects can cause obesity. Hypothyroidism is a common metabolic problem that can cause obesity by slowing down the metabolic rate. However, it is easily treated with thyroid hormone replacement therapy (Aronne, 2002).

The role of inheritance in obesity is believed to be as strong as it is for hypertension, alcoholism and schizophrenia (Björntorp, 1997) and familial associations have demonstrated that an individual's risk of developing obesity is increased when they have relatives who are overweight or obese (Comuzzie & Allison, 1998). Twin studies with monozygotic and dizygotic twins have shown that obesity has a strong

genetic element - particularly for monozygotic twins (Kopelman, 1999). An international study of twins reared apart concluded that 50% of the variance found in BMI in later life was due to genetic factors (Allison, Kaprio, Korkeila, Koskenvuo, Neale & Hayakawa, 1996). Adoption studies have attempted to separate genetic and environmental factors and results suggest that there are strong familial associations, as the weight of adopted children often correlates with the BMI of the biological parents but not with that of the adoptive parents (Ravussin & Swinburn, 1992).

The rapid increase in the prevalence of obesity suggests that environmental factors play a stronger role than genetics in the aetiology of obesity (Kumanyika, 2001). Furthermore, the increases in the prevalence of obesity cannot be fully explained by genetics, as the gene pool has not changed substantially over the last 20 years. Meyer & Stunkard (1993) argue:

“genetic influences largely determine whether an individual can become obese, but it is the environment that determines whether such a person does become obese.” [p148]

Studies of ethnic groups that have migrated confirm the plausibility of this environmental hypothesis. For example, Japanese people who migrated to the United States became more overweight than their relatives who continued to live in Japan (Willett, 2002).

French, Story & Jeffery (2001) argue that the prevalence of obesity is due to an environment that encourages overeating and discourages physical activity. Likewise, Egger & Swinburn (1997) suggest that obesity occurs as a result of living in a post-industrial environment that promotes obesity. They have coined the phrase

'obesogenic' to describe the effects of environmental factors, which predispose an individual to obesity.

Several researchers have argued that obesity-inducing environmental factors include increased availability of energy dense fatty foods, large food portion sizes, sedentary leisure activities such as television viewing and use of labour saving devices and motorised transport (James, 1995; Egger & Swinburn, 1997; Hill & Peters, 1998). Additionally, WHO argues that the increase in the prevalence of obesity has occurred as a result of industrialization, urbanization, economic development and market globalization (WHO, 2003).

A number of novel aetiologies have been reported, including the possibility that obesity occurs due to a virus (Dhurandhar, Israel, Kolesar, Mayhew, Cook & Atkinson, 2000). Dhurandhar *et al* conducted animal experiments with chickens and mice and found that injecting the animals with a virus increased the amount of body weight and/or total body fat. Additionally, Dhurandhar *et al* have screened several hundred humans for the presence of antibodies to Ad-36 and they found that the presence of Ad-36 antibodies was strongly associated with obesity in humans, as 30% of obese individuals had the antibodies. However, further investigation into the link between a virus and human obesity is required.

Scientists have recently found a link between obesity and dopamine, which is a neurotransmitter that helps to produce feelings of satisfaction and pleasure (Wang, Volkow, Logan, Pappas, Wong, Zhu, Netusil & Fowler, 2001). Incidentally, addictive drugs such as cocaine increase the levels of dopamine in the brain and Wang *et al*

suggest that obese people may eat more in an attempt to stimulate the dopamine receptors in their brains. Studies with psychiatric patients have shown that some anti-psychotic medications block serotonin and dopamine receptors and can result in increased appetite which can subsequently lead to weight gain (Allison, Mentore, Heo, Chandler, Cappelleri, Infante & Weiden, 1999; Baptista, 1999).

1.4 Risk Factors for Developing Obesity

The risk for individuals of developing obesity varies and a number of risk factors have been identified, which include gender, age, ethnicity and socio-economic status.

1.4.1 Gender

In general women tend to have a higher prevalence of obesity, whereas the prevalence of overweight is greater for men and this is illustrated by the WHO MONICA data in section 1.2.2. In addition, women also tend to have a higher percentage of body fat and have less lean tissue than men of the same BMI and this is thought to be due to biological differences because men typically deposit more lean tissue than fat tissue when they gain weight (James *et al*, 2001).

1.4.2 Age

An individual's risk of becoming obese varies over the lifecourse. Children born into families where one or both parents are obese are more likely to become overweight or obese (Guillaume, Lapidus, Beckers, Lambert & Björntorp, 1995). However, two large-scale prospective studies in the UK have shown that childhood weight is not an accurate predictor of adult weight (Braddon, Rodgers, Wadsworth & Davies, 1986; Wright, Parker, Lamont & Craft, 2001). Braddon *et al* found that childhood obesity

was not a major contributor to obesity at 36 years of age and that individuals who became obese between the ages of 11 and 36 had not been overweight in childhood. Likewise, Wright *et al* found that most overweight adults had not been overweight as children and participants who were thin in childhood and adolescence were not protected from obesity as adults. In addition, they found that teenage overweight was a better predictor of adult obesity as overweight teenagers were more likely to become overweight adults. In contrast, Ferraro, Thorpe & Wilkinson (2003) found that childhood overweight was significantly associated with severe obesity for both men and women but the effect was stronger for men.

Cross-sectional studies have demonstrated that obesity increases with age and that it increases most rapidly when people are in their twenties and early thirties and continues to rise until they reach their late fifties (Rolland-Cachera, Cole, Sempé, Tichet, Rossignol & Charraud, 1991; Flegal, Carroll, Kuczmarski & Johnson, 1998). Individuals under thirty years old, who have been consistently thin, are still at risk of developing obesity once they are in their thirties (Bulik & Allison, 2001). According to Ferraro *et al* the increase in obesity when people are in their thirties “is coincident with exiting the ‘marriage market’.” Women are more likely to become obese at a number of stages in the lifecourse: during pregnancy, after childbirth, during the menopause and at retirement (Glenny *et al*, 1997; Rössner, 1998; Ferraro *et al*, 2003).

In Scotland, the levels of obesity have been shown to rise steadily between the mid-twenties until the mid-fifties for men and until the mid-sixties for women and the prevalence of obesity is lowest in elderly people (Scottish Health Survey, 1998). However, results from the Health Survey for England (2002) show that abdominal obesity is greater among men (46%) and women (23%) over 55 years old.

1.4.3 Ethnicity

Scotland has a relatively homogenous population compared to England, as 98% of the population is White (Scottish Executive, 2004). In England 91.3% of the population is White and almost 9% are ethnic minorities; 4.4% South Asian, 2.2% Black, 1.4% Mixed Race and 0.4% Chinese (Census, 2001). Data from the Health Survey for England (2002) demonstrate that the levels of obesity vary according to ethnicity. For example the levels of general obesity are much lower in men of Pakistani, Indian, Chinese or Bangladeshi origin as compared to the general population. However, Pakistani, Indian and Bangladeshi men have higher levels of abdominal obesity. The prevalence of obesity in women is highest for women of Afro-Caribbean and Pakistani descent and lowest for Bangladeshi and Chinese women. However, the levels of abdominal obesity among women are higher among all of the ethnic minority groups than for the general population.

1.4.4 Socio-economic Status

Obesity is a health inequalities issue because it is more prevalent among lower socio-economic and lower income groups and the association between obesity and socio-economic status (SES) has been well documented. Numerous studies have found a strong inverse relationship between obesity and SES, particularly among women, in both developed and developing countries. Initial studies in the United States in the 1960s found that obesity was six times more common among women in lower SES groups (Moore, Stunkard & Srole, 1962; Goldblatt, Moore & Stunkard, 1965). Kahn, Williamson & Stevens (1991) used cross-sectional data from the NHANES-I (First National Health and Nutrition Examination) study to investigate the influence of socio-economic status and ethnicity on weight gain among women. The women were

followed up ten years later and although Black women gained more weight than White women, ethnicity was not an independent risk factor. Kahn *et al* concluded that the risk factors for weight gain were low educational level (below college level) and a consistently very low family income (<\$7000 at baseline, <\$15,000 at follow up).

A recent Australian population study found that women in low status employment were more likely to have a high BMI, a high WHR and were more likely to be overweight than women in high status employment - for example, professionals (Ball, Mishra & Crawford, 2002). The Scottish Health Survey (1998) also found that women in manual classes are more likely to be obese than women in non-manual classes. However, no clear social class pattern was found for men.

Educational level is sometimes used as an alternative to income as an indicator for SES and studies have demonstrated associations between obesity and educational level. Molarius *et al* (2000) found that lower education was associated with higher BMI in almost all of the WHO MONICA female populations and women with higher education tended to be leaner than those with lower education. Similarly, Rosmond & Björntorp (1999) found that Swedish women who were overweight were more likely to have a lower educational level, be unemployed and have jobs involving shift work compared to women who were not overweight. Another Swedish study also found a relationship between level of education and BMI, where participants with the highest BMI had the lowest level of education (Sundquist & Johansson, 1998).

Although the strength of the inverse association is stronger for women, studies investigating the association between obesity and SES in men appear to be

inconclusive (Sobal & Stunkard, 1989). However, a few studies have ascertained that obesity is more common among both men and women in lower SES groups. For example, Braddon *et al* (1986) reported that men and women who had become obese between the ages of 26 and 36 were in lower occupational groups and had lower educational qualifications. Sonne-holm & Sørensen (1986) conducted a prospective study of men registered for military service in Denmark and found that obese men attained a lower social class than non-obese men in the same population regardless of intelligence, education and parental social class. Rosmond, Lapidus & Björntorp (1996) also found an association between socio-economic status and overweight, as middle aged men who had a high WHR were often unemployed and more likely to live in poorer housing conditions. In contrast, Ball *et al* (2002) found that men who were in high status employment were more likely to be overweight.

1.5 Physical Consequences of Obesity

An overview of the medical literature regarding mortality and the physical complications associated with obesity will be presented in this section. The psychological aspects of obesity and the impact of obesity on quality of life will be fully discussed in Chapter 2.

1.5.1 Obesity & Mortality

The association between body weight and increased risk of mortality was first recorded by the life insurance industry (Kawachi, 1999) and this led to the introduction of the Metropolitan Life Insurance Company height-weight tables in the

United States. The shape of the curve relating weight to all-cause mortality has been variously described J-shaped or U-shaped. U-shaped associations between BMI and mortality, indicate that low and high body weights are risk factors for mortality (Andres, 1980; Seccareccia, Lanti & Menotti, 1998). In contrast, J-shaped associations indicate that mortality increases as a result of underweight, overweight and obesity (Peeters, Barendregt, Willekens, Mackenbach, Mamun & Bonneux, 2003).

Obesity is commonly presented as a risk factor for mortality. However, research has only confirmed this association for morbid obesity (BMI $\geq 40\text{kg/m}^2$). For example, an Italian study of 569 patients found that morbid obesity is associated with increased mortality (Brunani, Palli, Salvini, Masala, Vallone, Barantani & Liuzzi, 2002). The association between obesity (BMI $\geq 30\text{-}39.9\text{kg/m}^2$) and mortality remains controversial, as moderate degrees of overweight and obesity (BMI $25\text{-}32\text{kg/m}^2$) are not significantly associated with mortality (Bender, Trautner, Spraul & Berger, 1998). In contrast, Ferraro, Thorpe & Wilkinson (2003) found that class I obesity (BMI $30\text{-}35\text{kg/m}^2$) and morbid obesity heighten mortality risk, yet in common with Bender *et al* they found that overweight women had a slightly lower mortality risk. The Harvard Nurses' Health Study investigated the relationship between weight change and mortality and found evidence of association between weight change in adulthood and increased risk of death (Manson *et al*, 1995).

Research addressing life expectancy has found that overweight was associated with a 3 year decrease in life expectancy and obesity was associated with a 7 year decrease for women and a 6 year decrease for men. In addition, participants who smoked had

greater decreases in life expectancy; female obese smokers lost 13 years and male obese smokers lost 14 years of life expectancy compared to healthy weight participants (Peeters *et al*, 2003). In England it is estimated that 30,000 deaths a year are attributable to obesity and that obesity shortens life by nine years on average (National Audit Office, 2001).

The impact of obesity on morbidity is greater than its impact on mortality, and a number of conditions have been linked to obesity including cardiovascular disease (CVD), non-insulin dependent diabetes (NIDDM or type II diabetes), cancer, respiratory disorders and musculoskeletal disorders (Visscher & Seidell, 2001). A summary of the conditions associated with obesity and the level of risk is presented in table 1.5.

Table 1.5 Health risks associated with adult obesity

Source: WHO 1998

Greatly Increased	Moderately Increased	Slightly Increased
Type II diabetes	Coronary heart disease	Cancer
Gall bladder diseases	Hypertension	(breast cancer in postmenopausal women, endometrial cancer, colon cancer)
Dyslipidaemia	Oesteoarthritis	Reproductive hormone abnormalities
Metabolic syndrome	Gout	Polycystic ovary syndrome
Breathlessness		Impaired fertility
Sleep apnoea		Low back pain
		Anaesthetic complications

1.5.2 Cardiovascular Disease

Obesity was identified as a risk factor for CVD shortly after it was identified as a possible risk factor for mortality (Visscher & Seidell, 2001). Although CVD incorporates a number of diseases including coronary heart disease, angina, hypertension, myocardial infarction and ischaemic stroke, research on obesity and CVD risk factors has primarily focused on coronary heart disease (CHD), stroke and hypertension.

As mentioned in section 1.1, the health risks of obesity depend on where the fat is distributed and abdominal obesity is associated with increased incidence of CHD (Donahue, Abbott, Bloom, Reed & Yano, 1987; Larsson, Svardsudd, Weilin, Wilhelmsen, Björntorp & Tibblin, 1984). However, Rimm, Stampfer & Giovannucci (1995) conducted a prospective study of male health professionals aged 40-75 and concluded that obesity, independent of fat distribution, was a risk factor for CHD.

Several studies have demonstrated a relationship between BMI and CVD, for example the Framingham study found a direct association between degree of overweight and CVD independent of other risk factors (Hubert, Feinleib, McNamara & Castelli, 1983). Likewise, the Nurses' Health Study found that a higher BMI was positively associated with CHD (Manson, Colditz & Stampfer, 1990) and the British Regional Heart Study found that a higher BMI was related to the incidence of heart attacks (Shaper, Wannamethee & Walker, 1997). Evidence from the Nurses' study also indicates that middle aged women whose BMI falls within the 'healthy weight' range are also at risk of developing CHD, particularly if they gain weight during adulthood (Willett *et al*, 1995).

The association between obesity and risk of stroke is questionable as the evidence is inconsistent. Several studies have found that a high BMI may increase the risk of stroke (Hubert *et al*, 1983; DiPietro, Ostfeld & Rossner, 1994; Shaper *et al*, 1997; Kurth, Gaziano, Berger, Kase, Rexrode, Cook, Buring & Manson, 2002). However, others have not found that BMI is a risk factor for stroke (Walker, Rimm, Ascherio, Kawachi, Stampfer & Willett, 1996; Curb & Marcus, 1991).

Other CVD risk factors believed to be linked to obesity include hypertension (high blood pressure), and hypercholesterolemia (high cholesterol). Hypertension has been shown to be associated with increasing body weight (MacMahon, Cutler, Brittain & Higgins, 1987) and it is estimated that hypertension is two to three times more common in obese women and men than in leaner members of the population (WHO, 1998). Although hypercholesterolemia is commonly thought to be associated with obesity, the research has shown that it is only weakly related to body weight (Ernsberger & Koletsky, 1999).

Recent research has shown that childhood overweight is also associated with CVD risk factors. For example, Freedman, Dietz, Srinivasan & Berenson (1999) discovered around 60% of overweight children aged 5-10 years old had one cardiovascular risk factor such as hypertension, hyperlipidemia (elevated levels of fat in the bloodstream) or elevated insulin levels. Furthermore, over 20% of 5-10 year olds had two or more cardiovascular risk factors.

Although the majority of research studies cited in medical journals indicate some degree of association between obesity and CVD, two reviews have concluded that

there is no consistent relationship between body weight or body fat and CHD (Barrett-Connor, 1985; Williams, Jones, Bell, Davies & Bourne, 1997). Nevertheless, CVD itself is a major cause of mortality in industrialized societies, and because of quick access to hospital treatment at the time of a heart attack or stroke, it can also be a major cause of disability (Visscher & Seidell, 2001).

1.5.3 Type II Diabetes

In addition to being a risk factor for CVD, research has shown that abdominal obesity is an important risk factor for developing type II diabetes. Type II diabetes is becoming more common and has serious complications because it reduces life expectancy by 8-10 years and is expensive to treat (Astrup, 2001). The relationship between obesity and type II diabetes is indisputable and numerous studies have confirmed that obese persons are more likely to suffer from type II diabetes.

It is estimated that there are around 110 million diabetics world-wide and 80-90% of them have type II diabetes (Astrup & Finer, 2000). In addition, around 80% of individuals with type II diabetes are obese (Pi-Suyner, 1993). Data from the Nurses' Health study succinctly illustrate the association between BMI and type II diabetes, as obese women ($\text{BMI} > 35 \text{kg/m}^2$) had a 93-fold increased risk of developing type II diabetes than women with a $\text{BMI} < 22 \text{kg/m}^2$. In addition, women who gained between 11 and 17.3lbs as adults were 1.9 times more likely to develop type II diabetes than those who maintained a stable weight in adulthood (Colditz, Willett, Rotnitzky & Manson, 1995).

Although there are strong associations between obesity and type II diabetes, it has been highlighted that overweight and obesity do not necessarily cause type II diabetes and not all obese individuals will develop type II diabetes (Astrup & Finer, 2000).

Type II diabetes has genetic origins and it has been argued that the genes that cause type II diabetes also promote weight gain (Ernsberger & Koletsky, 1999). Additionally, it is believed that the aetiology of obesity and type II diabetes may be linked:

“...obesity and diabetes share some of the same causative lifestyle factors, i.e. excessive energy intake, a diet high in saturated fat, and a sedentary lifestyle. The development of obesity, diabetes, or both, may depend on the presence of genetic susceptibility to obesity and diabetes...”
[Astrup & Finer, 2000 p58]

It has been suggested that insulin resistance accounts for the associations between obesity and type II diabetes (Bennett, 1986). Insulin resistance has been defined in basic terms as “a reduction in the ability of insulin to regulate carbohydrate and lipid metabolism” (Barnett, 1999 p8). Type II diabetes develops as a result of the pancreas being unable to secrete enough insulin to overcome insulin resistance. Insulin resistance results in hyperinsulinaemia (increased insulin secretion) and is regularly observed in obese individuals (Tremblay & Doucet, 2000). It may also be the primary cause of metabolic syndrome X and this is currently being researched (Barnett, 1999).

Hyperinsulinaemia may also cause hypertension and is associated with changes in the blood lipid levels; increases in LDL (low density lipoprotein), VLDL (very low density lipoprotein) and a reduction in HDL (high density lipoprotein) in the blood. LDL is sometimes referred to as ‘bad cholesterol’ as it causes cholesterol to be deposited in the arteries and high levels of LDL are associated with an increased risk

of coronary heart disease. In contrast, HDL is often referred to as 'good cholesterol' because it helps to prevent cholesterol building up in the arteries. However, a low level of HDL is a risk factor for coronary heart disease (NHS Direct Online Health Encyclopaedia, 2004). Elevated levels of blood lipids (dyslipidaemia) and hypertension are more common in patients with type II diabetes and these are all significant risk factors for CVD (Barnett, 1999; Ernsberger & Koltosky, 1999). Furthermore, 75% of deaths among type II diabetics are due to CVD (Astrup, 2001). Despite the evidence that demonstrates that insulin resistance, rather than obesity *per se* may be the principal determinant of type II diabetes, it has been argued that type II diabetes is obesity dependent and intentional weight loss in the first year following diagnosis is associated with a reduction in diabetes mortality (Lean, Powrie, Anderson & Garthwaite, 1990). Furthermore, Astrup & Finer (2000) have proposed that the term 'diabesity' should be adopted, as they believe that observational and intervention studies have shown that excess body fat causes type II diabetes and intentional weight loss reverses the disease.

1.5.4 Cancer

Research has shown that the incidence of some cancers is associated with BMI and the evidence is strongest for endometrial cancer. Obesity is associated with a one and half to three times higher risk of developing endometrial cancer than a BMI between 20 and 25kg/m² (Visscher & Seidell, 2001). Research has also shown that there is an association between BMI and colon cancer - particularly among men (Caan, Coates, Slattery, Potter, Quesenberry & Edwards, 1998; Murphy, Calle, Rodriguez, Kahn, & Thun, 2000). Studies investigating the relationship between obesity and breast cancer have produced different results for pre-menopausal and postmenopausal women. Pre-

menopausal women with a high BMI have a reduced risk of breast cancer (Ursin, Longnecker, Haile & Greenland, 1995; Kawachi, 1999). Weight gain in adulthood has been consistently associated with breast cancer in postmenopausal women (Brinton & Swanson, 1992; Huang, Hankinson, Colditz, Stampfer, Hunter, Manson, Hennekens, Rosner, Speizer & Willett, 1997).

1.5.5 Respiratory Disorders

Breathlessness is regularly cited as a common consequence of obesity. However, obesity has also been correlated with more serious respiratory diseases such as sleep apnoea and asthma. Sleep apnoea is strongly associated with obesity and contributes to psychosocial morbidity, as it can result in excessive sleepiness and restless sleep. It is often suspected when a patient or patient's partner reports a history of loud snoring (Aronne, 2002). Research has shown that morbidly obese men are most likely to develop sleep apnoea (Vgontzas, Tan, Bixler, Martin, Shubert & Kale, 1994). However, obese women can also develop sleep apnoea. For example, Young, Palta, Dempsey, Skatrud, Weber & Badr (1993) estimated that 2% of obese women and 4% of obese men aged 30-60 in their study experienced sleep apnoea.

Obesity and asthma are frequently linked, and an association was first reported in the 1980s (Chinn, 2003). Cross-sectional studies have shown that the prevalence of asthma is higher for females, with obese women being three times more likely to develop asthma (Camargo, Weiss, Zhang, Willett & Speizer, 1999). Likewise, amongst children, obese girls are more likely than obese boys to suffer from asthma (Figuerola-Muñoz, Chinn & Rona, 2001). In contrast, a recent Canadian study has shown that there is no association between childhood obesity and asthma (To,

Vydykhan, Dell, Tassoudji & Jarris, 2004). However, intervention studies have shown that weight loss in asthma patients improves lung function and asthma symptoms (Stenius-Aarniala, Poussa, Kvarnström, Grönlund, Ylikahri & Mustajoki, 2000; Tantisira & Weiss, 2001).

1.5.6 Musculoskeletal Disorders

Osteoarthritis has been linked to obesity (Felson, 1996) and research has confirmed that it is directly caused by a high body weight. It is also thought that osteoarthritis occurs due to increased pressure on the joints. (Ernsberger & Koletsky, 1999). However, healthy weight individuals can also develop osteoarthritis. Osteoarthritis is more common among women than men and it is a risk factor for disability (Oliveria, Felson, Cirillo, Reed & Walker, 1999). In addition to osteoarthritis, cross-sectional studies have demonstrated minor associations between obesity and herniated lumbar intervertebral disc, low back pain and chronic neck pain (Heliövaara, 1987; Leboeuf-Yde, Kyvik & Bruun, 1999; Mäkelä, Heliövaara, Sievers, Impivaara, Knekt & Aromaa, 1991).

1.5.7 Weight Cycling

Regaining weight after losing weight is common, and a 95% failure rate for dieting has been reported (Miller, 1999). A new body of research focuses on the health consequences of 'weight cycling,' frequently referred to as 'yo-yo dieting'. Weight cycling occurs when individuals alternate between periods of weight loss and weight regain. Many media articles acknowledge that yo-yo dieting is a risky practice and this is now being echoed in scientific journal articles. However, the evidence is

conflicting (Atkinson & Stern, 1998). Although two reviews have concluded that few or no short-term adverse effects can be attributed to weight cycling, they do not address the possible long-term consequences (Wing, Jeffrey & Hellerstedt, 1995; National Task Force on the Prevention and Treatment of Obesity, 1994).

Several studies have found an association between weight cycling and increased risk of CVD and all-cause mortality (Hamm, Shekelle & Stamler, 1989; Blair, Shaten, Brownell, Collins & Lissner, 1993; Folsom, French, Zheng, Baxter & Jeffery, 1996). In contrast, Wannamethee, Shaper & Walker (2002) concluded that weight cycling in men does not directly increase mortality risk. Animal studies have shown that a low calorie diet alternated with overfeeding causes hypertension in rats and hypertension is associated with type II diabetes in humans (Ernsberger, Koletsky, Baskin & Foley, 1994).

Additionally, obese individuals who weight cycle are more likely to experience gallbladder disease because of large amounts of fast weight loss (Everhart, 1993). Furthermore, it has been argued that weight cycling is hazardous to health because it increases the amount of upper-body fat, increases the risk of mortality, and alters the metabolic rate making future weight loss attempts even more difficult (Stunkard, 1996). Obese individuals are most likely to engage in weight cycling and this has serious health consequences, because it increases abdominal body fat and the risk of developing the health problems associated with obesity such as type II diabetes and CVD. In addition, the limited research available about the psychological effects of weight cycling, reveals associations with decreased perceptions of health and well-being, a reduction in eating self-efficacy and an increase in binge eating (Foster, Sarwer & Wadden, 1997).

1.6 Economic Costs of Obesity

In addition to the physical health consequences of obesity, there is considerable interest in the economic impact of obesity and health care providers frequently use economic evaluations to establish treatment priorities and health care budgets (Thompson & Wolf, 2001). Several economic studies have investigated the medical care cost burden of obesity and calculations tend to include the cost of treatment for obesity itself and for diseases that have been linked with obesity: hypertension, type II diabetes and CVD (Björntorp, 1997). It has also been reported that obese patients are more likely to seek treatment and take medications. For example, Trakas, Lawrence & Shear (1999) found that obese respondents visited health care professionals (GPs, mental health professionals and specialists) more often than non-obese respondents. Obese respondents were also more likely than non-obese respondents to be taking heart medication, antihypertensive medication, diuretics, oral diabetes medication, antidepressants, diet pills, antibiotics, stomach remedies and analgesics for back pain and arthritis.

The estimated costs of treating obesity and its associated morbidities have been calculated for a number of countries and it is estimated that between 2% and 7% of the total healthcare spending is used for treating overweight and obesity (Seidell, 1998). In Australia, 2% of the overall health care budget is spent on obesity (Segal, Carter & Zimmet 1994). Likewise, Lèvy, Lèvy, Le Pen & Basdevant (1995) estimate that 2% of healthcare spending in France is spent on obesity. The economic costs in Canada and New Zealand are slightly higher and 2.4% and 2.5% respectively of the total health care spending is used for obesity treatment (Birmingham, Muller, Palepu, Spinelli & Anis, 1999; Swinburn, Ashton, Gillespie, Cox, Menon, Simmons &

Birbeck, 1997). The direct health care costs of obesity are highest in the United States where 7% (\$70 billion) of total health spending goes towards treating obesity (Colditz, 1999). In England, it has been estimated that in 1998 around £9.5 million was spent on treating obesity itself and a further £386 million was spent treating diseases attributable to obesity such as hypertension, CHD and type II diabetes (National Audit Office, 2001). However, it has been suggested that these figures should be regarded with caution, as there is considerable variation in the methods used for calculating the economic costs of obesity (Hughes & McGuire, 1997; Seidell, 1998).

In addition to the direct impact on health care spending, there are also indirect economic consequences, due to lost productivity caused by employee absenteeism, disability pensions and premature death. In most European countries pensions are partly reimbursed when people retire early due to long-standing illness or disability. Rissanen, Heliövaara, Knekt, Reunanen, Aromaa & Maatela (1990) found that disability pensions were granted 2.0 and 1.5 times more often to obese Finish men and women compared with participants with lower BMIs. Likewise, Narbro, Jonsson, Larsson, Waaler, Wedel & Sjöström (1996) found that 12% of obese Swedish women aged 30-59 had disability pensions compared to 5% of the general population. In addition obese women reported 1.5-1.9 times more sick leave in a one-year period compared to the rest of the Swedish population.

In 1998 in England, the indirect costs of obesity were £2.1 billion, of which £1.3 billion was lost due to sickness absences and £0.8 million due to premature mortality. Overall 9,000 deaths in this same year were related to obesity and occurred before

retirement age, resulting in a total 40,000 lost years of working life (National Audit Office, 2001).

Finally, obesity can also impact on the individual's finances as the personal costs of obesity can include higher life and healthcare insurance premiums, more expensive clothes and more expensive airline seats as some companies charge premiums for roomier seats or encourage obese individuals to buy two seats (The Times, 2004).

Chapter 2: Literature Review

2.1 Introduction

The current medical consensus considers obesity to be a disease, which is associated with a number of health problems. However, Tremblay & Doucet (2000) propose that rather than being a disease, obesity is a biological adaptation that has occurred as a result of evolution. This is because in pre-agricultural and pre-industrial societies, humans tended to be hunter-gatherers and in times of famine, the individuals who could store sufficient energy in their fat tissue were most likely to be survivors (Björntorp, 2001).

Although obesity is often regarded as a relatively recent phenomenon, there is historical evidence that indicates that it existed in primitive and ancient societies. Several artefacts dating back to the Palaeolithic Stone Age depicting obesity have been found in Europe, Russia and Siberia (Beller, 1977). Venus of Willendorf, is the most frequently cited artefact and has been described as a “small statuette measuring eleven centimetres in height with evidence of abdominal obesity and pendulous breasts” (Bray, 1998 p2).

Brown (1991) has argued that although the statuettes depict obesity, they are dated to a narrow pre-historic time and the women were possibly early settlers. In addition, obesity continued to be a relatively rare phenomenon, as the majority of societies remained hunter-gatherers until farming and subsequently settling in an area was initiated (Brown, 1993).

Bray (1998) conducted a comprehensive historical review about the development of medical ideas regarding obesity from the Stone Age through to the Twentieth Century. As part of his review, Bray outlines Egyptian, Chinese, Tibetan, Indian, Greek-Roman and Arabic medical perspectives about obesity and recommended treatments. Likewise, Alexander-Mott & Lumsden (1994) suggest that obesity became regarded as a health problem during Classical times. This suggestion is evidenced by Bray who refers to Hippocrates' observations that sudden death was more common among fat people than lean people.

The review of the medical and epidemiological literature in chapter 1 demonstrated that the relationship between obesity and the increased risk of morbidity and mortality is well documented. However, in comparison, far less is known about the psychological consequences of obesity. Therefore, this chapter will firstly review the literature with regard to quality of life and secondly outline studies investigating the relationship between obesity and psychological health (specifically depression). The penultimate section of this chapter will provide a brief overview of studies that have investigated the relationship between obesity and body image. The final section of this chapter provides a synopsis of the stigma associated with obesity.

The literature reviewed for this chapter was collated from a wide variety of sources. The following databases were searched: Ovid MEDLINE (1966-2004), EMBASE (1980-2004), British Nursing Index (1985-2004), PsychINFO (1985-2004), CINAHL (1982-2004), CSA ASSIA (1987-2004), BIDS (1991-2002), EBSCO Psychology & Behavioural Sciences Collection (1965-2004) and EBSCO Nursing & Allied Health Collection (1975-2004). Boolean operators were used and search terms included "obesity AND depression," "obesity AND mental health", "obesity AND

psychological health,” “obesity AND quality of life,” “obesity AND body image,” “obesity AND self-esteem.”¹ In addition, Web of Knowledge was used for citation searches. The following electronic journals were searched for relevant articles: International Journal of Obesity, Obesity Research, Obesity Reviews, International Journal of Eating Disorders, Journal of Epidemiology & Community Health and Body Image.

2.2 Obesity & Health-Related Quality of Life

Although little is known about the impact of obesity on quality of life (Finkelstein, 2000; Trakas, Oh, Singh, Risebrough & Shear, 2001), it has been stated that “a self-perceived reduction in quality of life is one of the major personal consequences of obesity” (Kushner & Foster, 2000 p947). The term ‘quality of life’ is difficult to define as it tends to be subjective and encompasses all the aspects of an individual’s life including standard of living, quality of housing, neighbourhood, family relationships and health (Kushner & Foster, 2000).

Although quality of life is multidimensional, medical and health services researchers tend to focus on health-related quality of life (HRQL) (Sarlio-Lähteenkorva, & Stunkard, 1995). HRQL includes physical, psychological and social domains of health and it is now a widely accepted concept in medical research (Karlsson, Sjöström & Sullivan, 1998). HRQL incorporates the World Health Organization’s definition of health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1946).

¹ This list is not exhaustive – search terms were revised and expanded based on the results returned in previous searches.

HRQL instruments are either generic or disease-specific (Kushner & Foster, 2000). Generic instruments cover all aspects of HRQL and are used to measure HRQL across a wide range of diseases, complaints and health states (Larsson, Karlsson & Sullivan, 2002). Disease-specific instruments, on the other hand, are designed to collect information relevant to a specific illness and a particular patient population.

The Medical Outcomes Study Short Form-36 (SF-36) Health Survey is one of the most widely used and validated generic HRQL instruments and contains thirty-six questions measuring eight domains of functioning: physical functioning, role limitations due to physical health problems, social functioning, pain, mental health, role limitations due to emotional problems, vitality and general health perceptions (Ware & Sherbourne, 1992). Five cross-sectional general population studies have used the SF-36 to examine the association between HRQL and obesity (see table 2.1).

Table 2.1 Cross-sectional Studies Investigating the Relationship between Obesity & HRQL using the SF-36

Author Publication Date Country	Design Participants Sample size	Key findings
Larsson, Karlsson & Sullivan (2002) Sweden	Cross-sectional survey of 5633 men and women 16-64 years old (categorised into 2 age groups: 16-34 & 35-64).	Overweight and obesity in participants 16-64 years old have a negative effect on physical health but not on mental health. Obese middle-aged women (35-64 years old) reported impairments in physical and psychological functioning. Obese men (35-64 years old) reported impairments in physical functioning and general health perceptions.
Doll, Petersen & Stewart-Brown (2000) UK	Cross-sectional study community sample of participants recruited from general practitioners' records. 8889 male and female participants 18-64 years old (mean age 41).	Overweight and obesity associated with decreasing levels of physical well-being. Limitations in emotional well-being confounded by presence of co-morbid conditions.
Le Pen, Lévy, Loos, Banzet & Basdevant (1998) France	Cross-sectional community sample of 500 obese participants matched for sex, age and employment status with 500 non-obese participants.	HRQL more impaired for obese participants on all of the physical dimensions of SF-36 compared to non-obese participants. No significant differences between obese and control group for psychological and social dimensions of SF-36.
Brown, Dobson & Mishra (1998) Australia	Cross-sectional study – part of Australian Longitudinal Study on Women's Health. 13,431 women 45-49 years old.	Higher BMI associated with physical health problems. Found association between overweight and obesity and psychological well-being.
Han, Tjihuis, Lean & Seidell (1998) Netherlands	Cross-sectional study – participants randomly recruited as MORGEN study. 1885 men and 2156 women aged 20-59.	Overweight individuals more likely to have poor physical functioning. No evidence to suggest overweight participants experienced poor social functioning or adverse mental health.

Although all five studies demonstrate significant associations between obesity and physical health, the findings for obesity and psychological health are inconsistent. For example, Le Pen, Lévy, Loos, Banzet & Basdevant (1998) found no significant differences between the control (non-obese) and obese group on the psychological and social dimensions of the SF-36. Similarly, Han, Tjihuis, Lean & Seidell (1998) did not find a significant association between obesity and mental health.

In contrast, Larsson *et al* (2002) found that middle-aged men and younger men and women (16-34 years old) reported only physical impairments whereas middle-aged obese women reported impairments on all eight domains of the SF-36. Similarly, Brown, Dobson & Mishra (1998) found that obese women had lower scores for mental health, social functioning and emotional role limitations when compared with normal weight women.

Finally, Doll, Petersen & Stewart-Brown (2000) found that overweight and obesity was associated with decreasing levels of physical and emotional well-being. However, they concluded that the biggest deterioration was observed in the physical dimensions. Furthermore, Doll *et al* demonstrated that it was the presence of chronic conditions that impaired HRQL and morbidly obese subjects diagnosed with three or more chronic illnesses reported the worst HRQL.

In short, the results regarding the impact of obesity on psychological health as measured by SF-36, appear to be ambiguous for community samples. Le Pen *et al* (1998) and Han *et al* (1998) both concluded that there is no difference in the psychological health of obese people. However, Brown *et al* (1998) and Larsson *et al* (2002) demonstrated that middle-aged obese women had poorer psychological health

than healthy weight women. The discrepancies between the studies may be explained by the way in which obesity was defined. For example, both Larsson *et al* and Brown *et al* defined obesity as $\geq 30 \text{ kg/m}^2$ whereas Han *et al* defined the cut-offs differently for men and women ($\text{BMI} \geq 26.84 \text{ kg/m}^2$ and $\geq 25.63 \text{ kg/m}^2$ respectively). Likewise Le Pen *et al* (1998) defined the obese group as $\text{BMI} \geq 27 \text{ m}^2$ rather than the standard WHO definition of obesity $\text{BMI} \geq 30 \text{ kg/m}^2$.

Studies investigating HRQL and obesity in clinical interventions provide more evidence of an association between obesity and psychological health. For example, Dymek, le Grange, Neven & Alverdy (2002) used the SF-36 to measure HRQL in groups of patients pre-surgery and post-surgery. They found improvements on the general health, vitality and mental health sub-scales after 4 weeks and improvements in all subscales were demonstrated at 6 months.

Over the last decade, a number of obesity-specific HRQL instruments have been developed. Karlsson, Sjöström & Sullivan (1998) constructed an obesity-specific instrument as part of the Swedish Obesity Study (SOS). This self-assessment measure addresses health perception, mental well-being/mood disorders, psychosocial functioning and eating behaviour. Karlsson *et al* found lower levels of HRQL among surgical cases at baseline compared to non-surgical cases. Furthermore, HRQL improved following surgery and long-term improvements in HRQL were significantly improved in patients who had lost $\geq 20 \text{ kg}$.

The Impact of Weight on Quality of Life (IWQOL) was developed by Kolotkin, Head, Hamilton & Tse (1995) and is a 74-item self-report obesity-specific instrument, which assesses the effect of weight on quality of life. The IWQOL was considered too

long to be used as an outcome measure in clinical research and has been revised to create a shorter 31 item version (IWQOL-Lite) that assesses five main areas: physical function, self-esteem, sexual life, public distress, and work (Kolotkin, Crosby, Kosloski & Williams, 2001). A recent study used the IWQOL-Lite to measure obesity-specific quality of life among patients who had lost 5% of their body weight and subsequently regained at least 5% of their body weight (Engel, Crosby, Kolotkin, Hartley, Williams, Wonderlich & Mitchell, 2003). Engel *et al* found that weight loss was associated with improvement in HRQL, and weight regain was associated with deteriorations in HRQL. This recent finding adds to the evidence base about weight cycling and psychological health (see section 1.5.7).

Preliminary research conducted with obesity-specific instruments has demonstrated that they correlate more highly with body weight than general measures (Fontaine & Barofsky, 2001). However, they have generally been used to measure the success of treatment interventions and as a result, more research regarding their use in general population studies needs to be conducted.

The studies regarding obesity and HRQL discussed above demonstrate that impaired physical functioning compromises quality of life in obese people. Studies which have addressed the specific relationship between obesity and psychological health will be discussed in the following section.

2.3 Obesity and Psychological Health

As demonstrated in the previous section, studies of clinical populations provide a different perspective about the association between obesity and psychological health compared to general population studies. Several studies have demonstrated that patients seeking treatment for obesity report higher levels of depression, psychiatric symptoms, binge eating, and body image distress (Goldsmith, Anger-Friedfeld, Beren, Rudolph, Boeck & Aronne, 1992; Fitzgibbon, Stolley & Kirschenbaum, 1993). However, as research attention has shifted from a clinical to a community setting, this section will review non-clinical studies investigating the relationship between obesity and psychological health.

Community studies investigating the relationship between obesity and psychological health have generally been cross-sectional and have produced inconsistent findings. For example, one of the earliest studies investigating the relationship between obesity and psychological health found no association between obesity and past or present mental illness in a sample of middle aged Swedish women (Hällström & Noppa, 1981). In contrast, a recent German study found that obesity in young women (18-25 years old) was related to increased rates of anxiety disorders (Becker, Margraf, Türke, Soeder & Neumer, 2001)

The majority of studies investigating obesity and psychological health have tended to focus on the relationship between obesity and depression (see table 2.2).

Table 2.2 Cross-sectional Studies Investigating the Relationship Between Obesity/Overweight and Depression.

Author Publication Date Country	Design Participants Sample size	Key findings
Dong, Sanchez & Price (2004) USA	Cross-sectional design – part of ongoing studies at University of Pennsylvania. 482 morbidly obese individuals and 962 siblings (either obese or lifetime BMI <27kg/m ²).	Obesity positively associated with depression and a moderate association between morbid obesity and depression.
Johnston, Johnson, McLeod & Johnston (2004) Canada	Cross-sectional design – participants randomly selected as part of Nova Scotia Health Survey. 2,482 males and females aged 18-98.	Obese participants significantly more likely to be at risk for depression.
Onyike, Crum, Lee, Lyketsos & Eaton (2003) USA	Cross-sectional design – data collected as part of NHANES III survey. 4,561 females and 3,849 males aged 15-39 randomly selected for psychiatric interview.	Obesity associated with past month depression in women but not significantly associated with depression in men. Prevalence of depression highest in participants with morbid obesity.
Jorm, Korten, Christensen, Jacomb, Rodgers & Parslow (2003) Australia	Cross-sectional design. 2,280 males and females aged 20-24, 40-44 and 60-64 were randomly selected from the electoral roll for Canberra and Queanbeyan.	Obesity was associated with anxiety, depression and lower well-being in women but no significant associations for men.
Carpenter, Hasin, Allison & Faith (2000) USA	Cross-sectional design – sample drawn from National Longitudinal Alcohol Epidemiologic Study. 40,086 males (mean age 42) and females (mean age 44). African-American and White participants.	Obesity associated with increased risk of depression among females and decreased risk of depression among males. 10 unit increase in BMI increased risk of past year suicide ideation and attempts among women but reduced the risk among men.

Table 2.2 Continued. Cross-sectional Studies Investigating the Relationship Between Obesity/Overweight and Depression

Author Publication Date Country	Design Participants Sample size	Key findings
Hill & Williams (1998) UK	Cross-sectional design. 179 obese women 18-75 years old.	Morbidly obese women did not have poorest state of mental health. No significant association found between obesity and psychological health.
Palinkas, Wingard & Barrett-Connor (1996) USA	Cross-sectional design. 2,245 men and women 50-89 years old.	No association between obesity and depression in women. Obese men less likely to be depressed than healthy weight men.
Crisp & McGuinness (1976) UK	Cross-sectional design. 339 men and 400 women. Middle-aged suburban population.	Significant positive association found between obesity and low levels of depression in men. No significant findings for depression and obesity in women.
Siegel, Hyg, Yancey & McCarthy (2000) USA	Cross-sectional design - recruited as part of a study about African-American Women's Health. 429 African-American women (early 40s).	Overweight participants with poorer health reported more depressive symptoms.
Ross (1994) USA	Cross-sectional design. 2,020 males and females 18-90 years old randomly selected for telephone survey.	Overweight positively associated with depression.

The findings about the relationship between obesity and depression have generally been regarded as inconsistent (Friedman & Brownell, 1995; Hill, 2001). However, three recent cross-sectional studies have demonstrated that obesity is positively associated with depression (Dong, Sanchez & Price, 2004; Johnston, Johnson, McLeod & Johnston, 2004; Onyike, Crum, Lee, Lyketsos & Eaton, 2003). Although these three studies used different instruments to measure depression, they all defined obesity as $\geq 30\text{kg/m}^2$. Onyike *et al* used the Diagnostic Interview Schedule to enable diagnoses to be made in accordance with the DSM-III². In contrast, Dong *et al* used a mental health checklist and Johnston *et al* used the Center for Epidemiological Studies Depression Scale (CES-D), which are both self-report measures.

In addition, Onyike *et al* (2003) and Dong *et al* (2004) stratified obesity by severity and found differences in the association between obesity and depression. Onyike *et al* found that the prevalence of depression was highest in participants with morbid obesity. Likewise, Dong *et al* found a moderate association between morbid obesity and depression. Ross (1994) investigated the relationship between overweight and depression and found that being overweight was positively associated with depression.

A number of studies have highlighted that the relationship between obesity and depression differs for men and women. For example, Onyike *et al* (2003) found that obesity was associated with past month depression in women but not significantly associated with depression in men. Similarly, Jorm, Korten, Christensen, Jacomb, Rodgers & Parslow (2003) found that obesity was associated with depression and

² Diagnostic and Statistical Manual of Mental Disorders (3rd Edition)

lower well-being in women but no significant associations were found for men. Furthermore, Carpenter, Hasin, Allison & Faith (2000) also demonstrated significant gender differences for males and females and provides the most robust evidence to date. Carpenter *et al* analysed data from 40,086 participants involved in the 1992 National Longitudinal Alcohol Epidemiologic Survey, a nationally representative study that involved a structured diagnostic interview. Carpenter *et al* demonstrated that obesity was associated with an increased risk of depression in women but a decreased risk of depression in men. There was a similar association between suicidal ideation and suicide attempts – obese women were at increased risk and obese men were at a decreased risk.

Carpenter *et al*'s research adds substance to the “jolly fat” hypothesis, which was first proposed by Crisp & McGuiness (1976). The “jolly fat” hypothesis suggests that obesity is a protective factor for developing depression. Crisp & McGuiness found that obese men were significantly less likely to display symptoms of depression compared to non-obese men. Similarly, Palinkas, Wingard & Barrett-Connor (1996) found that obese men were less likely to be depressed than their healthy weight counterparts.

However, in contrast to Carpenter *et al*, Palinkas *et al* found no association between obesity and depression for women. This discrepancy may be due to the instrument used to assess depression. Carpenter *et al* used the Alcohol Use Disorders & Associated Disabilities (AUDADIS) structured psychiatric interview schedule, which contains questions that reflect DSM-IV³ criteria for major depression.

³ Diagnostic and Statistical Manual of Mental Disorders (4th Edition)

Palinkas *et al* used the Beck Depression Inventory (BDI), which is a self-report screening instrument whereas the DSM-IV is a diagnostic tool, used in conjunction with a structured psychiatric assessment. Furthermore, Palinkas *et al*'s participants were aged 50-90 so their findings are only generalisable to this age group whereas Carpenter *et al*'s sample was nationally representative of the US population.

Friedman & Brownell (1995) conducted a meta-analysis of studies investigating the association between obesity and depression and found a non-significant association. Furthermore, they suggested that studies examining obesity and depression were inconsistent in their results due to methodological limitations and inappropriate sample sizes. For example, in previous studies the definition of obesity varied because the internationally agreed cut off points were not established until relatively recently (see section 1.1). Friedman & Brownell also highlighted that non-clinical studies had not defined depression in accordance with established diagnostic criteria (e.g. DSM-IV). However, four recent population based studies have defined depression using psychiatric criteria and have defined obesity as $\geq 30\text{kg/m}^2$ (Carpenter *et al*, 2000; Roberts, Strawbridge, Deleger & Kaplan, 2002; Roberts, Deleger, Strawbridge & Kaplan, 2003; Onyike, *et al* 2003).

Although cross-sectional studies are informative and can provide evidence about associations between obesity and depression they cannot address the issue of causality. Four possible hypotheses for explaining the relationship between obesity and the risk of depression have been proposed: 1) obesity increases the risk of depression, 2) depression increases the risk of obesity, 3) the relationship is reciprocal and obese people have an increased risk of depression and depressed people have an

increased risk of obesity and finally 4) there is no relationship between obesity and depression (Roberts *et al*, 2003). However, causality can only be established by using prospective studies. Three prospective studies have been conducted with an adult population and two studies have investigated the relationship between obesity and depression in adolescents (see table 2.3).

Three prospective studies have been conducted using samples drawn from the Alameda County Study (Roberts, Kaplan, Shema & Strawbridge, 2000; Roberts *et al*, 2002; Roberts *et al*, 2003). The Alameda County Study is a longitudinal study of physical and mental health and mortality that has followed a cohort of 6,928 persons living in Alameda County, California since 1965. All 3 studies defined depression using diagnostic criteria for major depressive disorders.

Although obesity was defined differently, the results for all 3 studies are similar. Roberts *et al* (2000) defined obesity as BMI \geq 85th percentile as outlined by U.S. Public Health Service, whereas obesity was defined as BMI \geq 30kg/m² in the other 2 studies.

Table 2.3 Prospective Studies Investigating the Relationship Obesity and Depression

Author Publication Date Country	Design Participants Sample size	Key findings
Roberts, Deleger, Strawbridge & Kaplan (2003) USA	Prospective community based study (5 years) – part of Alameda County study. 2123 males and females aged 50-94 (mean age 63) who completed survey at baseline (1994) and follow-up (1999).	Obesity at baseline was associated with being depressed at follow-up 5 years later. Did not find that depression at baseline predicted obesity at follow-up.
Roberts, Strawbridge, Deleger & Kaplan (2002) USA	Prospective community based study (5 years) – part of Alameda County study. 1, 739 males and females (age 50+, mean age 63.4) completed baseline (1994) and follow up (1999).	Obese participants at increased risk of depression. No protective effect for obesity – no support for “jolly fat” hypothesis.
Roberts, Kaplan, Shema & Strawbridge (2000) USA	Prospective community based study (1 year) – part of Alameda County study. 2,298 males and females (age 50+, mean age 64.7) completed baseline (1994) and follow up (1995).	Strong relationship found between obesity and depression as obesity at baseline was significantly associated with depression at follow-up 1 year later.
Richardson, Davis, Poulton, McCauley, Moffitt, Caspi & Connell (2003) New Zealand	Prospective study - part of Dunedin Multidisciplinary Health & Development Study (birth cohort of children born between 1972 & 1973 followed up every 2-3 years). 938 male and females aged 26 years old at follow-up who had mental health interview aged 11-15 (early adolescence) and age 18 (late adolescence).	Depression in late adolescence was associated with obesity for girls. No significant association between late adolescent depression and obesity for boys.
Goodman & Whitaker (2002) USA	Prospective school-based study (1 year) – part of National Longitudinal Study of Adolescent Health (Add Health) 9374 male and female adolescents completed baseline and follow-up 1 year later.	Depressed mood at baseline was associated with the development of obesity in participants not obese at baseline. Odds of becoming obese in the next year doubled among non-obese adolescents if they reported depressed mood at baseline.

Roberts *et al* (2000) found a strong relationship between obesity and depression. Furthermore, obesity at baseline predicted depression at follow up 1 year later. Roberts *et al* (2002) re-examined the “jolly fat” hypothesis using prospective data from 1994-1999 and found no support for the hypothesis as obese participants were at an increased risk for developing depression.

Similarly, Roberts *et al* (2003) found that the presence of obesity at baseline predicted depression at follow-up 5 years later. Moreover, they found no evidence to support the notion that depression increases the risk of obesity or that there is a reciprocal relationship. In summary, the 3 studies conducted by Roberts *et al* indicate that obese individuals are at a greater risk for developing depression.

Studies conducted with adolescents produce contradictory evidence to Roberts *et al*'s studies. Goodman & Whitaker (2002) used data from a nationally representative cohort of adolescents and found that depressed mood at baseline was associated with developing obesity at follow-up 1 year later. Furthermore, the odds of becoming obese in the next year were doubled if depressed mood was reported at baseline. Richardson, Davis, Poulton, McCauley, Moffitt, Caspi & Connell (2003) also investigated the relationship between adolescent depression and obesity. This is the first longitudinal study to demonstrate that the relationship between depression and obesity differs by gender. Richardson *et al* found that depression in late adolescence was associated with later obesity among girls and there was no association between depression and obesity for boys. The findings of this study are consistent with cross-sectional studies that have found positive associations between depression and obesity for women (Onyike *et al*, 2003; Jorm *et al*, 2003 & Carpenter *et al*, 2000). In a similar study, Pine, Goldstein, Wolk & Weissman (2001) used a psychiatric interview to

identify 90 children with major depression and 87 children without a psychiatric disorder. The 2 groups of children were followed up 10-15 years later and Pine *et al* found that childhood depression significantly predicted a higher BMI in adulthood.

Longitudinal studies appear to support the possibility of both causal pathways i.e. that depression causes obesity and obesity can cause depression. However, the studies outlined above compared older adults and adolescents/children. Therefore, there is a need for large nationally representative population based prospective studies. These future studies should consider taking into account Friedman & Brownell's (1995) suggestions: define obesity using internationally agreed cut-off points and define depression in accordance with established psychiatric diagnostic criteria.

Depression and obesity are both prevalent conditions in society so there is a strong probability that they will be experienced simultaneously (Stunkard, Faith & Allison, 2003). Although recent studies have demonstrated associations between obesity and depression, causality has not been confirmed. Furthermore, it is important to acknowledge that not all obese persons will suffer from depression. It is also important to recognise that obese individuals may suffer from weight-specific problems that are not measured by standard personality and psychopathology inventories (Sarlio-Lähteenkorva & Stunkard, 1995). For example, Hill & Williams (1998) found no association between obesity and psychological health, but the obese women in their study reported more obesity-specific problems such as body and weight dissatisfaction and low self-esteem. The penultimate section of this chapter will briefly review studies that have investigated the relationship between body image and obesity.

2.4 Obesity & Body Image

Body image can be defined as “a person’s perceptions, thoughts and feelings about his or her body” (Grogan, 1999 p1). Body image disturbance or body dissatisfaction is typically assessed using including self-ratings of reported dissatisfaction or is inferred from a current-ideal body discrepancy measure (McLaren & Wardle, 2002).

Several researchers have argued that body image is socially constructed. For example, Fallon (1990) stated that body image is “the way people perceive themselves, and equally important, the way they think others see them” (p80). Likewise, Maurer & Sobal (1999) argue that people construct their identities and perceptions about weight through social interactions with others.

Lewis & Blair (1993) argue that body image could be viewed as a spectrum from the medically constructed category of ‘obesity’ to the psychiatrically constructed categories of ‘anorexia nervosa’ and ‘bulimia nervosa.’ Body image and eating disorders have been extensively studied in psychiatric and medical literature (Haworth-Hoepfner, 1999). Furthermore, studies about body image have tended to focus on female college age students. Therefore, this short review will not include studies about eating disorders and will instead focus on studies of adults that have investigated the relationship between obesity and body image (see table 2.4).

Table 2.4 Cross-sectional/Intervention Studies Investigating the Relationship Between Obesity and Body Image.

Author Publication Date Country	Design Participants Sample size	Key findings
Green & Pritchard (2003) USA	Cross-sectional study of 139 adults recruited from community based setting. 94 females and 45 males 19-68 years old (mean age 42).	Level of self-esteem predicted body image dissatisfaction. Gender differences in body dissatisfaction: media, family, pressure age and self-esteem significant predictors for women Family pressure and self-esteem significant predictors of body image dissatisfaction among men.
Cachelin, Rebeck, Chung & Pelayo (2002) USA	Cross-sectional study of 801 women and 428 men 18-83 years old (mean age 24).	Men less dissatisfied with size compared to women. Asian women reported less body dissatisfaction. Black, Hispanic and white women reported similar levels of body dissatisfaction.
Hill & Williams (1998) UK	Cross-sectional design. 179 obese women 18-75 years old.	Morbidly obese women reported greatest dissatisfaction with body weight, shape and appearance had lowest level of self-esteem.
Leonhard & Barry (1998) USA	Cross-sectional study of participants recruited from community based settings. 98 women 18-75 years old (mean age 36) and 74 men aged 18-73 (mean age 34).	Discrepancy scores higher for females than males. Obese women under-estimated body size and did not consider their desired body size to be attainable.
Smith, Thompson, Raczynski & Hilner (1999) USA	Cross-sectional study of community based population recruited as part of epidemiological study of cardiovascular risk factors (CARDIA). 1,837 men (mean age 32) and 1,895 women (mean age 32).	Women more dissatisfied with shape and appearance than men. Black women more satisfied with body shape and appearance than white women. Obesity strongly associated with body dissatisfaction.

Table 2.4 Continued. Cross-sectional/Intervention Studies Investigating the Relationship Between Obesity and Body Image.

Author Publication Date Country	Design Participants Sample size	Key findings
Wardle, Waller & Fox (2002) UK	105 obese women (mean age 44) contacted via clinical settings and a GP surgery.	Body dissatisfaction was related to age of onset of obesity. Early onset of obesity had negative effect on body image regardless of current BMI. Self-esteem associated with poorer body image.
Adami, Gandolfo, Compostano, Meneghelli, Ravera & Scopinaro (1998) Italy	110 obese patients compared to a group of formerly obese patients who had maintained a healthy weight (n = 131).	Body dissatisfaction in formerly obese subjects with adult-onset obesity was similar to never obese persons. However, formerly obese with early onset obesity were more dissatisfied with their bodies.
Matz, Foster, Faith & Wadden (2002) USA	Cross-sectional study of participants enrolled in clinical trial of behavioural interventions of weight management. 79 overweight and obese women (mean age 45).	Body Image dissatisfaction was associated with low self-esteem.
Friedman, Reichmann, Costanzo & Mustante (2002) USA	Cross-sectional study of 110 participants recruited from residential treatment programme. 80 obese women (mean age 47) and 30 obese men (mean age 49).	Body Image evaluation related to depression and self-esteem. Degree of obesity correlated with body image evaluation. Degree of obesity correlated with depression and self-esteem. Relationship between weight and depression/self-esteem mediated by body image.
Foster, Wadden & Vogt (1997) USA	Intervention study of 59 women (mean age 40) before, during and after 48 weeks of weight loss treatment.	Weight loss was associated with significant improvement in ratings of appearance and body satisfaction.

Three community samples have demonstrated that obesity is strongly associated with body dissatisfaction (Hill & Williams, 1998; Smith, Thompson, Raczynski & Hilner, 1999). Furthermore, Smith *et al* found that women were more dissatisfied with their body shape and appearance than men. Similarly, Leonhard & Barry (1998) showed that body image discrepancy scores were higher for females than males and that obese women underestimated their body size and felt their desired size was realistically unachievable.

Green & Pritchard (2003) investigated predictors of body image dissatisfaction in males and females. They found that all predictors (media, age, family pressures and self-esteem) were significant contributors to body dissatisfaction among women. However, only self-esteem and family pressures were significant predictors among males. Additionally, two clinical studies investigated the age of onset of obesity as a risk factor for body dissatisfaction (Adami, Gandolfo, Compostano, Meneghelli, Ravera & Scopinaro, 1998; Wardle, Waller & Fox, 2002). Both studies found that the early onset of obesity is related to body dissatisfaction.

Finally, two studies assessed ethnicity and found conflicting findings. Cachelin, Cachelin, Rebeck, Chung & Pelayo (2002) demonstrated that Black, Hispanic and White women reported similar levels of body dissatisfaction and Asian women experienced less dissatisfaction. In contrast Smith *et al* (1999) found that Black women were more satisfied with their bodies than white women. However, this discrepancy could be explained by the study design as Cachelin *et al* compared a number of racial groups, whereas Smith *et al* only compared Black and White women and therefore may have obtained different results if they had looked at a wider range of ethnic groups.

Community based and clinical studies investigating the relationship between obesity and body image have found that self-esteem is related to body image dissatisfaction. For example, Green & Pritchard found that self-esteem was a significant predictor of body

image dissatisfaction. Likewise, Friedman, Reichmann, Costanzo & Mustante (2002) found that body image evaluation was related to depression and self-esteem. Furthermore, Friedman *et al* suggest that the relationship between obesity and depression/self-esteem is mediated by body image.

Self-esteem and negative body image have been shown to be associated with exposure to negative stigmatisation (Myers & Rosen, 1999). Therefore, the final section of this chapter will provide a synopsis about obesity and stigma.

2.5 Obesity & Stigma

Stunkard & Sobal (1995) argue that obesity *per se* does not cause psychological distress, but that society creates distress through negative attitudes, prejudice and discrimination:

“Obesity does not create a psychological burden. Obesity is a physical state. People create the psychological burden” [p417].

Western post-industrial societies value thinness and a “cult of thinness” prevails (Hesse-Biber, 1996). As a result, obesity is a highly stigmatised condition and stigma results from being culturally and medically deviant from a ‘healthy’ weight. Public and medical opinions about overweight tend to focus on the notion that people are overweight because they eat too much and therefore the responsibility for the excessive weight is attributed to the individual (Sobal, 1999).

Research with children has consistently shown that negative attitudes are learnt, cultural values about obesity being ‘bad’ stem from an early age and non-obese children tend to hold negative and discriminatory attitudes towards obese children (Stunkard & Sobal, 1995). Richardson, Hastorf, Goodman & Dornbusch (1961) studied a group of 10 and 11 year old children and asked them to rank six line drawings which depicted the same child as physically normal, obese or with one of four different disabilities (crutches and brace on

leg, sitting in a wheelchair, no left hand or facial disfigurement). The children were asked to rank the drawings in order of preference and the researchers found that the normal child was ranked first, and the obese child was ranked last. Latner & Stunkard (2003) replicated Richardson *et al*'s study using the original line drawings and confirmed that children were strongly biased against the obese child. Furthermore, they found that the bias was even stronger than it had been in 1961.

Recent studies investigating children's attitudes towards overweight have confirmed that children have a negative perception of overweight and view overweight children as lazy, stupid and unpopular (Hill & Silver, 1995; Wardle, Volz & Golding, 1995). Furthermore, Krahnstoever-Davison & Lipps-Birch (2004) demonstrated that parents and children share similar attitudes. They found that 9-year-old girls and their parents believed that fat children experienced difficulties making friends, were lazy and had few friends.

Health care professionals also hold negative attitudes about obese people and it has been well documented that doctors and medical students possess negative attitudes towards obese patients. For example Maddox & Liederman (1969) asked a group of doctors and medical students to attribute a number of characteristics to their fat patients. 97% of the doctors and medical students judged their patients to be stupid, 86% thought they were lazy, 60% weak-willed and 54% ugly. Recent research has shown that doctors still hold anti-fat attitudes and perceive obese patients as awkward, unattractive, lazy, stupid and worthless (Schwartz, Chambliss, Brownell & Blair, 2003; Foster, Wadden, Makris, Davidson, Sanderson, Allison & Kessler, 2003).

However, overweight bias is not just limited to doctors. In a study of registered dietitians and dietetics students, both were found to have negative attitudes towards the obese patient (Oberrieder, Walker, Monroe & Adeyanju, 1995) and in a study of nurses 24.3% of the

nurses agreed with the statement “caring for an obese patient usually repulses me” (Bagley, Conklin & Isherwood, 1989).

Discrimination can occur as a result of prejudicial attitudes and Roehling (1999) found evidence of weight-based employment discrimination at every stage of the employment cycle: selection, placement, promotion, discipline and discharge. Additionally, obese people were stereotyped as lazy, lacking self-discipline and were less likely to be accepted by colleagues.

Cossrow, Jeffery & McGuire (2001) conducted a focus group study to explore weight stigmatisation and found that participants reported that they experienced discrimination and harassment in a number of situations, including whilst exercising and going out in public. Similarly, Myers & Rosen (1999) conducted two studies to assess the level of stigmatising situations and found that respondents had experienced a large number of stigmatising situations such as teasing from children, not being able to fit into seats at restaurants, not being able to find clothes that fit and negative comments from doctors.

2.6 Summary

This chapter has highlighted a number of pertinent points with regard to the relationship between obesity and psychological health. Firstly, recent cross-sectional and prospective population studies have demonstrated associations between obesity and depression. However, on the whole findings about the relationship between obesity and depression are inconsistent.

The findings are inconsistent with regard to gender, as some studies have shown no association between psychological health and obesity for women, whereas others have shown that obesity is associated with an increased risk of depression among females. Furthermore, current studies either find no association among males or that obesity

protects males from developing depression. Therefore, more studies investigating the role of gender in the relationship between obesity and depression are required.

Secondly, studies investigating the relationship between obesity and body image have generally focused on female participants seeking treatment for obesity. Therefore, less is known about body image in men and it also raises the question of whether the samples are representative. There are only a handful of studies that have investigated the relationship between obesity and body image using both male and female participants. Studies with representative samples of males and females should be conducted to investigate the relationship between obesity and body image.

Finally, studies about body image dissatisfaction have emphasized the link between self-esteem, depression and body dissatisfaction. Therefore, self-esteem and body dissatisfaction should be taken into account when assessing the relationship between obesity and psychological health.

Chapter 3: Methodology

3.1 Introduction

The literature review revealed the need for further investigation into the relationship between obesity and psychological health. Due to the lack of consistent research findings, it seemed appropriate to investigate the psychological health of both obese and non-obese adults in a community setting.

Ellaway & Macintyre (2001) state that, “many area-based studies of health or risk factors associated with health have studied only men” (p265) and, although recent population studies of the associations between obesity and depression have studied both males and females, the majority of studies investigating body image have concentrated on adult and adolescent females. Likewise, research investigating obesity and self-esteem has tended to focus on children, adolescents and adult females. As a result, I felt it was imperative to study both males and females in order to explore potential gender differences. Social class is also a risk factor for obesity and, although no social class differences have been found among men, women in manual social classes are more likely to be obese than are women in non-manual social classes (Scottish Health Survey, 1998).

The age group 30-60 was chosen for a number of reasons: death in middle age in Scotland is twice as likely as in many western European countries and over 2,600 people under 65 die each year from coronary heart disease, over 4,000 from cancers and around 700 from strokes (Scottish Office, 1996). The widespread media coverage in Scotland about “The Big Three” killers (as heart disease, cancer and stroke have come to be collectively known) means that health and diet are likely to be salient topics for this age group.

It has been shown that people’s risk of obesity varies over the life cycle and that men are most susceptible to obesity during their late thirties and women experience increased risk

when they get married, have children, during the menopause and at retirement (Glenny, O'Meara, Melville, Sheldon & Wilson, 1997). In addition, individuals in this age group, particularly women, would be or would have been responsible for the diet of other family members within the household (Anderson & Hunt, 1992). Finally, as mentioned in the literature review, studies of middle-aged adults have demonstrated that obese men and women have poorer psychological health than those of a healthy weight (Brown *et al*, 1998; Larsson *et al*, 2002).

3.2 Aims & Objectives of the Study

The main aim of this study was to investigate the links between obesity and psychological health in a community sample of men and women aged 30-60 years old living in deprived and affluent areas of Greater Glasgow.

The specific objectives of the study were:

1. To determine the relationship between obesity and psychological health (taking into account body satisfaction and self-esteem) and investigate whether the relationship between obesity and psychological health is similar or different for men and women.
2. To explore participants' knowledge about the causes of obesity.
3. To explore the mechanisms through which weight and psychological health are linked using semi-structured interviews.

3.3 Methodological Justification

This study has a mixed methods design, incorporating both a quantitative and qualitative component. Over the last few decades, there has been continuing debate in the social

sciences about the superiority of quantitative methods over qualitative methods and vice versa, with many positivists and interpretivists choosing not to adopt mixed methods because they believe that the paradigms that underpin their associated methodologies are incompatible (Tashakkori & Teddlie, 1998). Qualitative researchers have stressed the importance of ontology and epistemology informing methodological choices (Sciarra, 1999; Mason, 2002). For example, the ontological position of the quantitative paradigm has been characterized as insisting, “that there is only one truth, an objective reality that exists independent of human perception. Epistemologically, the investigator and investigated are independent entities” (Sale, Lohfeld & Brazil, 2002 p44). In contrast, the ontological position of the qualitative paradigm stipulates that people’s experiences are socially constructed and there are multiple realities, and epistemologically speaking, recognises the role of interaction between the researcher and the research participant (Mason, 2002). According to Onweugbuzie (2002) purists argue that paradigms and methods should not be mixed. For example, Blaikie (1991) has criticized the use of mixed methods arguing that it is inappropriate to combine methods founded on different epistemological and ontological assumptions. In contrast, pragmatists combine quantitative and qualitative methods to study a research problem, appreciating the benefits of quantitative and qualitative methods and acknowledging that research can be both inductive and deductive.

Using multiple methods to investigate a research problem is not a new concept and Campbell & Fiske first used triangulation for purely quantitative data collection in 1959. However, Jick (1979) was one of the first social scientists to combine quantitative and qualitative approaches (Creswell, 2003).

Greene, Caracelli & Graham (1989) define mixed methods designs as:

“...those that include at least one quantitative method and one qualitative method, where neither type of method is inherently linked to any particular inquiry paradigm.” [p256]

As mixed method researchers base knowledge claims on pragmatic grounds, their methodological choices are informed by the research question (Creswell, 2003). This study is based on pragmatic principles because the methodological choices were problem-focused and not theoretically or philosophically driven. Accordingly, the current study is not paradigmatically linked as, “one cannot be both a positivist and an interpretivist or constructivist” (Sale *et al*, 2002 p47).

Hammersley (1996) argues that quantitative and qualitative research methods have been presented either as opposing paradigms or as providing a basis for a form of methodological eclecticism, enabling them to “be used as and when appropriate, depending upon the focus, purposes and circumstances of the research” (p160). Similarly, Brannen (1992) acknowledges that methodology does not always have to be informed by epistemology and that the decision to combine quantitative and qualitative methods is often based on practical considerations (i.e. study design, skills and resources) rather than theoretical reasons.

Ponterotto & Greiger (1999) encapsulate the sentiments of mixed methods by proposing that a researcher who wears “two hats” (i.e. uses quantitative and qualitative methods) will be better equipped to understand the complexities of the social phenomena being studied. Likewise, Snape & Spencer (2003) argue that “quantitative and qualitative methods can and should be seen as part of the social researcher’s ‘toolkit’,” (p15) reiterating that methodological choices should be based on the research question with which a study is dealing.

Mixing quantitative and qualitative approaches has become more common in health services research (McDowell & MacLean, 1998). Barbour (1999) summarises the three

main reasons for combining quantitative and qualitative approaches as contributing “to the different stages in a project, to compensate for each other’s shortcomings and for the purposes of triangulation” (p40). It has also been suggested that mixed methods are useful for complementary purposes as they can enhance, elaborate and expand the findings of the other method (Greene *et al*, 1989; Pope & Mays, 2000; Creswell, 2003). Statistical analysis has its limitations and qualitative methods can be useful for informing the interpretation of statistical data and formulating explanations (Hakim, 2000; Clarke, 2001).

Researchers have highlighted the importance of mixed methods for corroborating findings (Rossman & Wilson, 1994; Scandura & Williams, 2000) and the effectiveness of qualitative methods for “validating” quantitative results (Pope & Mays, 2000). Rossman & Wilson (1994) have gone as far as to suggest that validation through the use of qualitative data helps to “put meat on the bones of quantitative findings.” However, Pope & Mays (1995) emphasise the point that using qualitative research to validate quantitative research in a mixed method study:

“...is not simply a matter of joining two techniques, or tacking one on the end of a project. Researchers need to be aware of the different types of answers derived from different methods”[p44].

In this thesis, the two methods functioned as complementary components and strengthened the comprehensiveness of the study. The quantitative component collected data regarding the level of obesity and enabled the relationships between the variables to be investigated. In contrast, the qualitative component generated data concerning individuals’ experiences of being obese and their understandings about the causes and consequences of obesity.

A sequential mixed method approach was used, whereby a community health survey was firstly conducted and, after preliminary analysis of the quantitative data, one to one interviews were carried out with a purposive sample of obese respondents. The rationale for the sequential approach was to use the questionnaire to gather data about the sample

population and then to use this data to inform the development of the qualitative component, in order to explore individual accounts of being obese. The questionnaire provided a comprehensive means of developing a rich sampling frame for the qualitative interviews, which allowed for the issues outlined in the questionnaire to be explored in more depth, moving from the identification of relationships to attempting to explain the mechanisms through which the variables are linked.

Although mixing quantitative and qualitative methods facilitated the completion of a more comprehensive thesis, adopting “two hats” was often challenging because it required working in two distinctly different ways, particularly during data analysis, and I had to develop my analytical skills in order to move fluidly between the quantitative and qualitative data.

3.4 Study Approval & Ethical Issues

3.4.1 Ethical Approval

Ethical approval for the study was granted from Greater Glasgow Community and Primary Care Local Research Ethics Committee prior to the recruitment of the GP practices and patients. As a member of the British Psychological Society and British Sociological Association, I adhered to the ethical guidelines of these professional bodies. The main ethical considerations are detailed in the following section.

3.4.2 Ethical Issues

Informed consent – All patients aged 30-60 registered at the GP practices were sent a letter to fully inform them about the study and they were asked to sign a consent form before completing the questionnaire. The information letter contained my direct dial number and participants were asked to contact me if they had any questions.

Participants who consented to interviews were contacted by letter and telephone and were interviewed at a mutually convenient location. Before the interview commenced, the purpose of the interview was explained and interviewees were encouraged to ask questions if they were unsure about the interview process. The interviews were recorded with the participants' consent on the basis that only I would listen to the interview and that the full written transcript of the interview would be seen only by my supervisor and myself.

Right to withdraw - Individuals who did not wish to take part in the survey were asked to opt out of the study by completing a yellow form and returning the blank questionnaire to ensure that they were not contacted again. Interview participants were informed that they did not have to answer a question if they didn't wish and that they had the right to withdraw from the interview at any point.

Anonymity - As the main investigator, I was the only person to have access to participants' names and addresses. In order to maintain anonymity all questionnaires were assigned an identity number. The interview invitation forms were detached from the back of the questionnaires and were coded using the same unique identity number. All of the interview transcripts were anonymised by assigning pseudonyms to both participants and family members to whom they referred. Place names were omitted from the transcripts in order to maintain anonymity.

Confidentiality - All questionnaires, the coding system information and consent forms were kept separately in a secure lockable filing cabinet to protect confidentiality. Participants' names and addresses were held in a password protected computerised database for record keeping and to enable interview participants to be contacted. The questionnaire responses were stored in a separate password protected database that contained no personal details about the respondents. The interview mini-discs were labelled with the interviewee's identification code and date of the interview and stored securely in a lockable drawer.

Appropriate Handling of Participants – The participants had to be handled sensitively as the interview addressed some very sensitive and emotive issues and consequently some questions were not fully probed in those instances where the respondent appeared to be uneasy or distressed.

Debriefing – At the end of the interview, I spent at least ten minutes debriefing the interviewee to ensure that s/he had not experienced any harm answering any questions. In addition, I verified that the interviewee had my contact phone number so that s/he could contact me later with any further queries that might arise. However, if the respondent asked a question that only a medically qualified professional could accurately answer s/he was advised to contact an appropriate person - usually her/his GP.

A copy of the information sheet and consent forms given to the respondents can be found in Appendix A.

3.5 Quantitative Component: Community Health Survey

The community health survey was an appropriate choice of method for addressing the research questions, as I was able to achieve my objectives of collecting data about the level of obesity and subsequently investigate the relationship between obesity and psychological health. The purpose of the survey was not to determine the epidemiological prevalence of obesity, but rather to ascertain the level of obesity in a community sample and to investigate the psychosocial effects of obesity on a population level.

3.5.1 Research Setting

Despite significant improvements in health over the last fifty years, Scotland continues to have the reputation as being the “sick man of Europe,” because of high mortality rates. In addition, Scotland and particularly Glasgow, has gained notoriety for its “deep fried

culture;” a diet high in fatty foods and deficient in fruit and vegetables. The Central Clydeside Conurbation (CCC) is a predominantly urban area centred around Glasgow City and has the highest levels of socio-economic deprivation and highest all-cause mortality for both sexes in Britain. Although the CCC is generally regarded as being highly deprived, there are pockets of “social heterogeneity within it and therefore [it] should not be regarded as [being] extremely socio-economically deprived”(West, Ford, Hunt, Macintyre & Ecob, 1994 p102).

Measures of deprivation based on area of residence have been used for several decades as markers of an individual’s socio-economic status (Ben-Shlomo, 1999). The Department of Environment first used census variables to identify localities with a high proportion of urban deprivation (Bartley & Blane, 1994). Several deprivation indices have been developed since the 1980s using census data. The Jarman underprivileged area (UPA) Index was developed as a predictor of demand for primary care services, rather than to measure deprivation *per se* (Bartley & Blane, 1994). The Townsend Index and Carstairs Index are frequently used area-based measures, which contain items that reflect material deprivation (Townsend, Phillimore & Beattie, 1988; Carstairs & Morris, 1991). There is a high degree of inter-correlation between the Townsend Index and Carstairs Index (0.96). The Carstairs Index was chosen for the current study because it was specifically developed for analysing Scottish health data and afforded opportunities for comparison with current Scottish census data.

The Carstairs Index uses four indicators of deprivation (male unemployment, proportion of all persons in household where head of household is social class IV or V, overcrowding and car ownership) to create a composite score. This score is divided into seven separate deprivation categories (DEPCAT). DEPCATS range from 1 to 7 and the higher the score, the higher the level of deprivation. In Scotland, Greater Glasgow has the largest number

and proportion of people living in DEPCAT 6 or 7 and 80% of those living in DEPCAT 7 reside within the GGHB area (Scottish Executive, 1998).

Area-based measures are often criticised because of the “ecological fallacy,” the notion that some households may be misclassified, as populations are not homogeneous (Carstairs & Morris, 1991). However, this problem is more likely to occur in rural, rather than urban areas (McLoone & Boddy, 1994). Within GGHB there is a strong correlation between household deprivation and the level of deprivation in a given area:

“...Carstairs scores identify relatively affluent (middle class) urban localities as deprivation categories 1 and 2 and relatively deprived urban areas –such as the peripheral local authority housing estates of Glasgow as categories 6 and 7.”
[McLoone & Boddy, 1994 p1468]

The current study focuses on three contiguous socially contrasting neighbourhoods northwest of Glasgow, situated within the CCC. The three areas are all within the remit of NHS Greater Glasgow. However, they are under the authority of three different local councils. The three neighbourhoods selected for this study differ in history, local amenities and socio-demographic characteristics. For example Practice A is located within an affluent town, which has low unemployment and is atypical of Greater Glasgow, as the majority of patients registered at this surgery live in DEPCAT 1. Practice B is a large health centre situated within one of the specially created housing schemes that were built in the 1950s to ease the housing problems in Glasgow. The area is very deprived, with all the patients registered at this surgery, living in DEPCAT 6 or 7. Finally, Practice C is located in an area undergoing vast amounts of urban regeneration, where economic changes in the last two decades due to local industries closing (mainly shipyards and factories) have created high unemployment, low household incomes and poor health. Although the area is deprived, with the majority of patients living in DEPCAT 5 and 6, there are also patients living in DEPCAT 3 and 4.

DEPCATS were also taken into account with regard to purposive sampling for the qualitative component of the study (see section 3.6.1).

3.5.2 Sample Size

Alex McConnachie, a Statistician employed in the Department of General Practice at Glasgow University, provided advice on power calculations. Prevalence figures for depression and overweight were used to determine the sample size. The Scottish Health Survey (1998) indicated that 55-60% of the general population was overweight and Healy (1998) demonstrated that the prevalence of depression in the general population was approximately 10%. Assuming a 15% prevalence of psychological health problems in the overweight group and 10% in the non-overweight group, then there would be 80% power to detect this difference at the 5% significance level, provided that the total sample size was approximately 1650 participants.

3.5.3 Recruitment

The Department of General Practice has strong links with primary care providers working for NHS Greater Glasgow. Eighteen GP practices located in contiguous affluent and deprived areas west and northwest of Glasgow City were selected from the GP practice contact details folder in the department using random cluster sampling. Information about the study and a consent form were sent to the practices and follow-up telephone calls were made to non-responding practices after three weeks. Seven practices agreed to take part in the study, and two practices (1 in an affluent area and 1 in a deprived area) within close proximity were chosen. However, because 16% of questionnaires in the deprived practice were returned undelivered by Royal Mail, the decision was made to use one of the remaining five practices located in a neighbouring deprived area in order to supplement the data obtained from the deprived areas. The data obtained from patients in the two deprived practices has been combined for the purposes of the analysis.

The Practice Managers, with the permission of the Principal GPs, provided names and addresses of all male and female patients aged 30-60 registered at the practice and all of these patients were sent a questionnaire pack.

A copy of the letter sent and consent form to the GP's surgeries can be found in Appendix B.

3.5.4 Constructing the Community Health Survey Questionnaire

Self-completion questionnaires are widely used research tools that have a number of advantages; they reduce interviewer bias, collect large amounts of data relatively quickly and are fairly straightforward to analyse because the questions are standardised (Oppenheim, 1992; Robson, 1993). Questionnaires also protect respondent anonymity and participants can complete them at their leisure. However, in addition to the strengths, questionnaires also have a number of limitations because response rates tend to be low, data quality can be affected by uncompleted questions and there are problems with motivating respondents because few people are motivated to complete questionnaires unless they see the topic as having personal relevance (Gillham, 2000).

Simmons (2001) advises that appearance of the questionnaire has a significant influence on whether respondents feel like completing it. As a result, the questionnaire was produced in a booklet format to give it a professional appearance and make it easier for participants to turn the pages, and to prevent pages from being lost (Sudman & Bradburn, 1982). The University of Glasgow Crest and Department of General Practice logo were printed on the front cover to make the origin of the survey clear. In addition the front cover stressed that all answers would remain confidential and that it would take no more than 15 minutes to complete. The questionnaire was six pages long and had a pastel coloured front page,

which was blue, lilac or orange depending on the GP surgery. This made recording returned questionnaires easier in the access database and coloured paper also helped to give an overall impression of grandeur (Social and Community Planning Research, 1972).

The ordering of the questionnaire was important and questions were arranged in a logical order, moving from general questions to more specific ones (Hayes, 2000). Although it has been suggested that demographic questions are sensitive and should be put at the end of a questionnaire (Sudman & Bradburn, 1982; Simmons, 2001), I started the questionnaire with demographic questions because I felt they were easier to answer and less threatening than questions about weight and psychological health. The questions were presented clearly and instructions for contingency (skip) questions were printed in bold capital letters in a grey shaded box. A note of thanks was included at the end of the questionnaire and respondents were invited to volunteer for interviews by completing a form, which was subsequently detached from the questionnaire (see section 3.4.2 for further details).

The questionnaire was divided into five sections and each section had a specific purpose:

1. *About You* This section collected demographic data about gender, age, marital status, ethnicity, and socio-economic markers including employment status, educational qualifications and postcode (which was used for assigning a DEPCAT – see section 3.5.1).
2. *Your Health* Four established and validated measures¹ were embedded in this section to investigate psychological health, self-esteem, body image perception and body satisfaction.

¹ These were used in a study investigating the psychological health of obese women in a non-clinical sample (Hill & Williams, 1998). However the study had several limitations, as the sample was entirely female, atypical of the British population (because they were subscribers to a specialist magazine for 'big women'), mainly white and of relatively high social class.

2a) Psychological Health was assessed using the Mental Health Inventory-5 (MHI-5), a five-point scale developed from one of the subscales of the SF-36 (Berwick, Murphy, Goldman, Ware, Barsky & Weinstein, 1991). It has been deemed to perform as well as the GHQ-12 and it has been validated for use with the UK population (McCabe, Thomas, Brazier & Coleman, 1996). Although the MHI-5 assesses the presence of anxiety, depression, general positive affect and behavioural/emotional control, it is not a diagnostic tool (McCabe *et al*, 1996). Participants were asked to rate the frequency of a symptom or feeling over the past four weeks on a six-point scale. The responses range from 1 (none of the time) to 6 (all of the time). The scores for all of the items are added together to give a total score ranging from 5 to 30. Higher scores indicate less favourable psychological health and a cutoff score of 16/17 has been suggested (Berwick *et al*, 1991). The MHI-5 was chosen because it performs as effectively as the GHQ-12. However, it is shorter, achieves better rates of completion and, unlike the GHQ-12, it is not copyrighted and consequently is free to use.

2b) Self-esteem was measured using the Rosenberg Self-Esteem Scale, which is one of the most widely used scales for assessing self-esteem (Rosenberg, 1965). It is a 10 item self-completion scale and each of questions has a four-point response; from strongly agree to strongly disagree. Half of the items are worded positively and agreement with these statements indicates high self-esteem, and the remaining half are worded negatively and agreement with these indicates low self-esteem. The scores on the scale are totalled and higher scores indicate lower self-esteem. The Rosenberg Self-Esteem Scale was chosen because the questionnaire is short, free to use and extensive information about reliability (internal consistency and test-retest) and validity (convergent and discriminant) exists for this scale.

2c) Body Image Perception was investigated using a series of nine line drawings of a female or a male figure ranging from very underweight to very obese (Stunkard, Sorensen

& Schulsinger, 1983). Each figure had a corresponding letter and participants were asked to choose the letter that they thought best described their current shape and another letter to represent their ideal shape. The distance between the current and ideal shape was calculated to give a discrepancy score. This scale has been widely used and therefore afforded opportunities for comparison with other studies.

2d) Body Satisfaction was assessed using a modified variant of the Body Cathexis Scale (Mintz & Betz, 1986). This instrument is designed to measure an individual's attitude towards his/her body and uses a 7-point scale and asks the respondent to rate how satisfied s/he is with 12 body parts and their overall height, weight and body size. The response scale ranges from 1 (extremely satisfied) to 7 (extremely dissatisfied). The individual ratings are added together and then averaged to give an overall score of body satisfaction, ranging from 1 to 7 and a higher score indicates more dissatisfaction. This scale was chosen because it is quick to complete and results could be compared with other studies.

In addition to the four measures described above, this section of the questionnaire collected data about diagnosed health problems, weight and height measurements to calculate BMI², weight satisfaction and health behaviours (smoking, alcohol consumption and exercise).

3. *Diet & Eating Habits* This section contained questions about dieting and included some dietary questions about take-away meals and fruit and vegetable consumption. In addition, some items based loosely on (although not taken from) the Dutch Eating Behaviour Questionnaire (Van Strien, Frijters, Bergers & Defares, 1986) were used to obtain data about comfort eating, overeating and dietary

² There has been a vast debate about the appropriateness of using self-reported height and weight and some researchers have argued that height and weight must be measured to ascertain accurate BMI and avoid errors (Steward, Jackson, Ford & Beaglehole, 1987). However, self-reported weights and heights have been shown to be acceptable for monitoring the prevalence of obesity in Scotland (Bolton-Smith, Woodward, Tunstall-Pedoe & Morrison, 2000).

restraint. The DEBQ was not used because it takes 10 minutes to complete and is copyrighted.

4. *Your Family's Health* This section used two checklists to obtain data about family health problems to provide comparative data about the health of family members.
5. *Health Beliefs* Seven attitudinal questions were designed for this section and were based on topics that had been identified whilst conducting the literature review, and initial discussions with colleagues about topics that appeared to be salient for participants in a qualitative weight management study that was being conducted in the Department of General Practice. The attitudinal questions used a five-point scale and participants were asked to indicate whether they agreed or disagreed with the seven statements. These questions were further explored in the qualitative component of the study (see section 3.6.3).

A copy of the questionnaire can be found in Appendix C.

3.5.5 Piloting the Questionnaire

The questionnaire was pre-piloted with friends and colleagues. Following this, eight patients aged 30-60 registered with a GP colleague's practice, which covered a range of DEPCATS, agreed to complete the questionnaire while I was present. The main aim of this pilot was to check the usability and acceptability of the questionnaire and to identify any ambiguous questions. This pilot was necessary because it provided valuable feedback from potential members of the study population regarding the questionnaire structure, design and content (Peat, Mellis, Williams & Xuan, 2002). As a result of the feedback from peers and patients some questions were removed to shorten the questionnaire, some questions were worded differently, an icon was added to the top of the body dissatisfaction question to help participants remember that 1 represented very satisfied and 7 meant very

dissatisfied and a form inviting respondents to volunteer for interviews was added to the final page.

In addition, 100 male and female patients were systematically sampled from each of the three age bands 30-39, 40-49, 50-60. 11 patients in each group were sampled from the top of the list, middle of the list and bottom of the list and an extra patient was randomly sampled from the 40-49 group. The main aim of the postal pilot was to estimate the possible response rate in the main study. Social and Community Planning Research declares that “the only really effective way of estimating the likely response is to carry out a small pre-test, in advance of the main survey” (SCPR, 1972). The postal pilot response rate was around 30% and highlighted the need for at least one reminder to be sent out in the main data collection phase of the study.

3.5.6 Data Collection

The main data collection commenced in September 2001 and batches of 400 questionnaires were sent out to patients from each surgery. A small batch was initially used for each surgery in order to assess any potential methodological problems and that is when the undelivered mail problem in the deprived surgery was highlighted (see section 3.5.3). The questionnaire mailings were terminated from late November to beginning of January as it has been suggested that mailings at Christmas and holiday periods affect response rates (de Vaus, 1996). The remaining questionnaires were sent out by second-class post and replies were received between mid January and the end of May 2002.

Participants who did not wish to take part in the study were asked to return their questionnaire pack and to complete a form to ensure that they were not contacted again with a reminder. The budget costs for the survey were small and, in an attempt to keep the costs to a minimum, returned questionnaire packs were recycled, repackaged and sent out to the next participants on the list. Unfortunately, due to the restrictive budget, only one

reminder could be sent to the participants and this letter was sent three weeks after the initial mailing.

A copy of the reminder letter can be found in Appendix D.

3.5.7 Response Rate

Maxim (1999) has argued that mail surveys have the lowest response rate of all survey types and that commercial mail surveys are often considered successful if the response rate is beyond 20%. Dillman's Total Design Method for mail surveys results in response rates of 60-75% for heterogeneous general population groups (de Vaus, 1996). However this method for increasing the response rate relies on a number of factors that add additional expense to a mail survey; pre-survey contact, persistent reminders, incentives such as free pens, and personalising envelopes with stamps rather than business franking.

Yammarino, Skinner & Childers (1991) conducted a meta-analysis of mail survey response rates to determine which factors increase response rates. They found that preliminary contact, reminders, inclusion of a return envelope and monetary incentives were effective in increasing reminders. Similarly, a systematic review of methods to increase postal response rates found that the response rate more than doubled when a monetary incentive was used or questionnaires were sent by recorded delivery, and the response rate also increased when questionnaires were sent by first class post (Edwards, Roberts, Clarke, DiGuseppi, Pratap, Wentz & Kwan, 2002).

These ways of increasing the response rate are expensive and were not possible for this study due to the limited budget. However, in order to try to increase the response rate I implemented a number of suggestions made by Streiner & Norman (1989). Firstly, I included a covering letter, emphasising why the study and individual responses were important, and stressed that the responses would be confidential. In addition I enclosed a

pre-paid envelope and sent a reminder letter after three weeks to follow up non-responders, as reminders have been shown to add 20-30% to the response rate and act as a way of jogging people's memory about completing the questionnaire (SCPR, 1972).

A total of 6589 questionnaire packs were sent out. However, the possible attainable sample was only 6227 as 362 questionnaires were returned undelivered by Royal Mail. In one of the GP practices 224 (16.3%) questionnaire packs were returned "addressee unknown." 2601 questionnaires were returned, making the overall response rate 42%.

The response rate for the study can be regarded as fairly successful given that a response rate of 10-50% is common for a mail survey (Neuman, 2000). The response rate may have been affected by the level of illiteracy in the deprived areas. In addition, the survey contained questions that were of a sensitive nature and this may have decreased the return rate (Edwards *et al*, 2002). Nevertheless, 2601 questionnaire returns was greater than the recommended sample size of 1650 defined by the power calculations. Questionnaires where weight and/or height was missing and those completed by pregnant women were excluded from the analysis and the final sample size was 2508 participants.

Scotland has a relatively homogenous population in terms of ethnicity as 97.99% of the total population is White (Scottish Executive, 2004). Therefore the sample of participants recruited for the study was an accurate reflection of the general population as 96.9% were White.

The data for non-participants was compared to the survey data to ensure that the sample was representative. Non-participants were slightly younger (mean age 42.8) than the survey participants (mean age 45.6) and the fewest responses were received from men in their thirties and early forties.

A comparison of median ages was made using the 2001 census data at council area level. The results summarised in table 3.1 appear to indicate that the median age of the patients registered at the practices was greater than the general population for each council area. However, this apparent discrepancy can be explained by the fact that the the median is a measure of central tendency which is calculated by ranking all the scores and taking the one in the middle, and the difference arises because this study only focused on the age group 30-60 whereas the median calculation for the census data included age groups 0-75 and over.

Table 3.1 Median ages of participants, non-participants and general population in the three council areas.

	Median Age (Males)	Median Age (Females)
Practice A		
Participants	46.0	47.0
Non-participants	41.0	42.0
Census Data (Council A)	38.0	41.0
Practice B		
Participants	45.0	43.0
Non-participants	41.0	42.0
Census Data (Council B)	35.0	37.0
Practice C		
Participants	48.0	45.0
Non-participants	41.0	43.0
Census Data (Council C)	36.0	39.0

3.5.8 Data Entry

Two computerised password protected databases were set up in Access. To protect patient confidentiality one database was used for recording questionnaire returns and the other one was used for entering the questionnaire data (see section 3.4.2). The data entry process proved to be extremely time consuming and, after three months, a data entry clerk was hired to enter the questionnaire data for three days a week for a three-month period. All questionnaire returns were recorded, coded and interview invitation forms were detached before the questionnaires were given to the data entry clerk. The accuracy of the data entry was checked at regular intervals. This help was extremely beneficial as it enabled me to start the preliminary analysis of the quantitative data and prepare for the qualitative component of the study.

3.5.9 Analysis

The quantitative data analysis was performed using SPSS 10.0 for Windows and is presented in chapters 4 of this thesis. Pearson's product moment correlation was used to determine the strength of the relationship between BMI and psychological health and to establish whether this relationship was statistically significant. In addition, logistic regression was used to establish which variables significantly predicted psychological health.

3.6 Qualitative Component: Semi-Structured Interviews

The community health survey informed the development of the qualitative component of the study by providing a rich sampling frame for the semi-structured interviews. Gillham (2000) favours the use of mixed methods and has argued that questionnaires are:

“...of most value when used in tandem with other methods. This multi-method approach to real-life questions is important, because one approach is rarely adequate; and if the results of different methods converge then we can have greater confidence in the findings.” [p2]

The semi-structured interviews were conducted following the survey to explore the mechanisms through which weight and psychological health are linked. The quantitative component provided data about the psychosocial aspects of obesity on a population level, and the qualitative component enabled a detailed exploration of individual accounts about experiences of being obese and their understandings about the causes and consequences of obesity.

Hakim (2000) describes qualitative research as “a direct window on the lives of the participants” because it is concerned with the participants' accounts of their experiences:

“Qualitative research is concerned with individuals' own accounts of their attitudes, motivations and behaviour. It offers richly descriptive reports of individuals' perceptions, attitudes, beliefs, views and feelings, the meanings

and interpretations given to events and things, as well as their behaviour.”
[p34]

Qualitative data can be generated in a number of ways including participant and non-participant observation, case studies, in-depth interviews and focus groups (Pope & Mays, 2000). Interviews are one of the most commonly used qualitative methods in health care settings and are useful for exploring experiences, behaviour, feelings and knowledge (Britten, 2000). Semi-structured interviews were selected for the qualitative component of the study because I considered that the interviews would help to contextualise the survey findings and accordingly the questionnaire responses were used to inform the development of the interview schedule. Interviews were also the most effective way to elicit individual accounts about experiences of being obese and understandings about the causes and consequences of obesity.

Other researchers have used participant observation of weight loss groups (English, 1991; English, 1993) and focus groups to study children’s perceptions of fatness and thinness (Dixey, Sahota, Atwal & Turner, 2001). However, in this study observation was not a feasible option because it is best suited to naturally occurring situations. Additionally, focus groups were an impractical means of generating the data because I wanted to use the interviews to explore responses given in the questionnaires, which were confidential.

3.6.1 Interview Sampling

Participants were selected for the interviews using purposive sampling. Neuman (2000) states that a researcher can use purposive sampling for three main reasons. Firstly, “to select unique cases that are especially informative,” secondly, “to select members of a difficult-to-reach, specialized population,” and finally for “when a researcher wants to identify particular types of cases for in-depth investigation” (p198). In the current study, purposive sampling on the basis of six criteria was used to obtain a diverse pool of participants. To enable potential for comparison, the participants were sampled on the

basis of BMI, gender, age group (30s, 40s, 50s, 60s), DEPCAT and psychological health (MHI score and reported past psychological problems). Table 3.2 illustrates the sampling matrix for the final sample of participants.

Table 3.2 Purposive Sampling Matrix

BMI CATEGORY		GENDER			
Obese (9)	Morbidly Obese (11)	Male (6)	Female (14)		
✓✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓		
✓✓✓✓	✓✓✓✓	✓	✓✓✓✓✓✓✓		
DEPRIVATION		AGE GROUP			
Affluent DEP 1-2 (8)	Deprived DEP 5-7(12)	30s (5)	40s (6)	50s (8)	60 (1)
✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓	✓
✓✓✓✓	✓✓✓✓✓		✓	✓✓✓	
MHI SCORE		REPORTED PAST PSYCHOLOGICAL HEALTH			
<17 (16)	>17 (4)	None (9)	Anxiety (2)	Depression (2)	Both (7)
✓✓✓✓✓	✓✓✓✓	✓✓✓✓✓	✓✓	✓✓	✓✓✓✓✓
✓✓✓✓✓		✓✓✓✓			✓✓
✓✓✓✓✓					

In addition to these main criteria some of these participants were sampled on the basis of their reported dieting and eating history in the questionnaire. For example, whether they had previously dieted or never dieted and whether or not they reported comfort eating or overeating.

Cases, which were unusual or unique, were also selected for interview (Patton, 1987).

Two ex-anorexics were included in the sample as I felt that this would help to

contextualise the interview findings as they had experienced both ends of the spectrum (i.e. being underweight and being obese). Three participants who had been diagnosed with type II diabetes were chosen in order to explore the impact of co-morbidity on their health status. Finally, three obese respondents who reported that they participated in sport more than five times a week were sampled because I wanted to explore the notion that an individual can be “Fat but Fit” as the medical profession assumes that if someone has a BMI greater than 30 they are unhealthy.

The chart in Appendix E illustrates the characteristics of the participants.

3.6.2 Recruitment

Potential interviewees who matched the sampling criteria were contacted by letter and asked to complete a form to ascertain their availability. Forty letters were sent out resulting in 21 replies and I subsequently contacted 20 participants by telephone to arrange a mutually convenient time and location for the interview. Access to the participants was facilitated because they had already completed the form on the back of the questionnaire, indicating that they were willing to participate in an interview.

A copy of the letter, availability form and consent form can be found in Appendix F.

3.6.3 The Development of the Interview Schedule

The interview schedule acts as a framework or aide mémoire for the interview, and its purpose is to ensure that the interviewer addresses the same themes in all of the interviews (Clarke, 1999). The interview schedule is flexible and permits the interviewer to alter the sequence of the questions during the interview and adapt the interview questions depending on the participant’s level of comprehension and articulacy (Fielding & Thomas, 2001).

The interview schedule was developed from the preliminary analysis of the questionnaire responses, which highlighted topics that warranted further exploration. The preliminary analysis of 494 obese respondents found that 23% of them had a MHI-5 score that was higher than the cut off point (indicating psychological distress). The survey design was not prospective and, as any causal relationship between obesity and psychological health could not be examined statistically, this was one of the main reasons for exploring this topic in the interviews. The preliminary analysis also demonstrated that, as weight increased, body dissatisfaction also increased, and that the morbidly obese group ($\text{BMI} \geq 40\text{kg/m}^2$) had the greatest body dissatisfaction. As a result of this pattern, I wanted to explore whether the heaviest respondents endured the most psychosocial problems.

Health promotion literature and the media constantly highlight what is healthy or unhealthy and as a result I wanted to explore respondents' conceptions of the healthy/unhealthy dichotomy and the characteristics that they felt made someone healthy or unhealthy. In addition, I was interested in how their own health had changed during their lifetime. Some of the attitudinal health belief questions from the final section of the questionnaire were used as a starting point to explore these issues in more depth (see section 3.5.4).

Respondents were asked for their theories about what they thought caused weight gain and were asked about coping with being overweight (which led on to talk about depression and body dissatisfaction). The interviews also explored health behaviours such as healthy eating and exercise and participants were asked about their perceptions of the benefits of weight loss and possible motivations to lose weight.

The first draft of the interview schedule was pre-piloted with friends and colleagues to verify that the questions were both readily understandable and salient. The pilot interviews were conducted with four respondents from the questionnaire study and only minor modifications were made to the interview schedule. For example, the original schedule

included a question about the HEBS “Big 3” campaign and this was removed, because on reflection, it was acknowledged that the purpose of the interview study was not to assess the effectiveness of the campaign. Piloting the interviews was essential as it enabled me to become acquainted with the interview schedule and practise my interview technique (Fielding & Thomas, 2001).

A copy of the final interview schedule can be found in Appendix G.

3.6.4 Safety Protocol

Researchers conducting fieldwork place themselves at risks, which are often overlooked (Green, Barbour, Barnard & Kitzinger, 1993). Lee-Treweek & Linkogle (2000) highlight the importance of anticipating and identifying potential threats whilst conducting fieldwork in participants’ homes, workplaces and communities. They argue that all qualitative fieldwork is potentially dangerous and that although risky situations are unpredictable researchers should consider the possible risks. Likewise, Lewis (2003) argues that risk minimisation is essential and safety arrangements should be made before commencing fieldwork.

In order to minimise the risks that I might face during fieldwork, a safety protocol was instigated before fieldwork commenced. Craig, Corden & Thornton (2000) suggested a number of helpful points for risk minimisation and the steps that I took to limit my physical and emotional risks are detailed below:

1. Assessing the Fieldwork Site

As part of my assessment, I made an accompanied visit to determine the easiest mode of public transport and the distance of participants’ houses from the train station or bus stop. The visit also gave me the opportunity to establish any potential safety issues - for example wide-open spaces, poorly lit streets and un-staffed train stations. Where visits posed a

potential risk to my physical safety, I arranged for an escort to drive me to the interview and wait in the car until the interview was completed.

2. Interview Precautions

Some of the practical tips that I implemented included dressing appropriately (which often involved 'dressing down' in the deprived areas), carrying a wallet without credit cards but containing a sensible amount of change and an 'emergency fund' of £10 in case I urgently needed a taxi. In addition, following the advice of the Suzy Lamplugh Trust, I carried a personal attack alarm and a mobile phone.

3. Maintaining Contact

The importance of maintaining contact with the office for a researcher working alone has been emphasised strongly (Lee- Treweek & Linkogle, 2000; Craig *et al*, 2000; Ritchie, 2003). When interviews took place during daytime hours I phoned the receptionist at the Department of General Practice when I was on my return journey from an interview. Some of the interviews took place during the evening and on these occasions I either contacted one of my flatmates or my supervisor. In addition to phoning a nominated person, I ensured that someone always had an itinerary of my movements and the name and address of the participant I was visiting, which was kept in a sealed envelope to protect participant confidentiality.

4. Strategies for Handling Risk Situations

It was important to envisage strategies for minimising risk situations whilst in participants' homes. One of the strategies that I used included having a one-button speed dial function on my mobile phone in order to let a nominated person know I was in danger. In addition, I implemented Craig *et al*'s (2000) suggestion to ask participants to put household dogs into

another room. This was partly to minimise the disruption to the interview but also because I am uncomfortable with dogs.

5. Protecting Emotional Well-being

Lee-Treweek & Linkogle (2000) consider emotional risks to be as significant as physical risks. They argue that:

“...serious threats to a researcher’s emotional stability and sense of self are often involved when undertaking qualitative research with participants undergoing stressful life events.” [p13]

In cases where interviews were unsettling, I felt it was necessary to contact my supervisor and de-brief in order to minimise any potential emotional harm.

Maintaining the safety protocol was essential during fieldwork and I felt that because I had considered the potential risks I was equipped with the knowledge of how to respond and as a result could concentrate fully during the interview.

3.6.5 Conducting the Interviews

The interviewees were encouraged to choose the location and time of the interview and, as outlined by Britten (2000), this sometimes involved interviewing participants during the evening. Fifteen interviews were carried out in respondents’ homes and in order to accommodate participants who worked during the day, eight of these interviews were carried out in the evening. Two interviews were conducted at interviewees’ workplaces during office hours and three interviews took place in a room in the Department of General Practice.

Before commencing the interview, I explained the purpose of the interview and encouraged participants to ask questions about the interview process. In qualitative research the researcher acts as the research instrument and therefore the persona of the interviewer is important (Fielding & Thomas, 2001). It is also widely recognised that a researcher's personal characteristics (e.g. gender, age, social class and ethnicity) can influence the data generated during the interviews. The influence of professional roles is important and researchers have to decide how to present themselves (King, 1996; Richards & Emslie, 2000). Emslie, a sociologist chose to introduce herself to respondents as a researcher and to distance herself from medical professionals. I informed participants that I was a PhD student and that I was not qualified to answer any medical or nutritionally related questions. I also felt it was necessary to distance myself from health professionals because health professionals tend to hold implicitly negative attitudes and stereotypes towards obese patients (Teachman & Brownell, 2001).

Before recording the interviews, I explained that I would be transcribing all of the interviews myself in order to protect their confidentiality and the full anonymised transcripts would be seen only by my supervisor. Interviewees were asked to sign a consent form and all of the participants gave their consent for the interviews to be recorded and for anonymised quotes to be used in this thesis and dissemination of the research findings.

A copy of the interview consent form can be found in Appendix H.

Arksey & Knight (1999) suggest that interviews should begin with "ice-breaker" or "easy-to answer" questions and proceed in a logical order. The "ice-breaker" question that I used asked interviewees for their views about health generally in the West of Scotland, which has a reputation for being unhealthy. Before I introduced the question I mentioned that I

had only moved up to Scotland two years previously and by doing this I was able to position myself as wanting to learn about Scotland and Scottish culture.

Bogdan & Biklen (1992) state that:

“...the qualitative researcher enters the participant’s world, not as a person who knows everything, but as a person who has come to learn; not as person who wants to be like them, but as a person who wants to know what it is like to be them.” [p79]

I felt that by positioning myself in this way, it helped to establish a rapport with the respondents and allowed them to talk freely from the start of the interview. I felt that establishing a rapport with the participants was essential to encourage them to open up. However, it was equally important to remain neutral and listen without passing judgement (Patton, 1987). The majority of participants offered me a cup of tea when I arrived and an informal chat with the participants during this time initiated rapport.

The interview questions continued in a logical but flexible way, and the sequence of the questions was altered depending on the issues raised by the participants. For example, although I intended to ask sensitive questions about the participant’s weight and body image in the middle of the interview, some participants freely introduced these topics in the early stages of the interview.

Marshall & Rossman (1999) suggest that interviewers should be good listeners and should be skilful at personal interaction, question framing and probing. Similarly, Mason (2002) highlights that interviewers need to be good at multi-tasking, as they need to listen to what is being said and understand it, decide how it relates to the research questions and decide how to follow up a particular point that the interviewee has made. Active listening was also critical for judging the participant’s emotional tone to ensure that the respondent was not distressed (see Section 3.4.2).

Patton (1987) recommends that probes should be used for elaboration, clarification and obtaining more details. During the interview I used a number of verbal and non-verbal probing techniques suggested by Fielding & Thomas (2001) including expectant glances, head nodding, eye contact, and brief utterances (e.g. um, hmm).

Follow-up questions³ were also used when unanticipated topics arose during the interview and this required me to think on my feet:

“Researchers routinely ask follow up questions in order to pursue new ideas, unanticipated themes or the implications of what has just been said. In contrast to probes, though, follow up questions cannot be drawn up in advance.”
[Arksey & Knight, 1999 p98]

Questions near to the end of the interviews focused on a more neutral topic and participants were asked for their views about how obesity should be treated by health professionals and what they thought the government could do to stem the epidemic of obesity. I ended the interview by asking participants if they would like to add any further comments.

3.6.6 Recording & Transcription

The interviews were recorded using a mini-disc recorder and microphone. Recording the interviews allowed me to concentrate on the interview and engage in appropriate eye contact and non-verbal communication, as I was not taking notes (Kvale, 1996).

Mini-discs have many advantages over tape recording. For example, they provide high quality recordings and tape hiss is non-existent, which makes transcription easier. In addition, they are portable and have long recording times (Stockdale, 2002). I found that the digital interface was useful because it moved up and down to show when the interview

³ Relevant follow-up questions that arose during the interview were noted on the interview schedule and raised during subsequent interviews if appropriate.

was being recorded. I could also upload the recording onto the computer and compress it as an MP3 file, making it possible to back-up all of the interviews on one CD.

The interviews lasted, on average, for 45 minutes and ranged from 25 minutes to 71 minutes. I fully transcribed all of the interviews and it took approximately five to six hours to transcribe an interview. Participants' identities were protected because all of the participants and family members to whom they referred were assigned pseudonyms. In addition, place names were omitted from the transcripts (see section 3.4.2).

The transcripts were double spaced to make them easier to read and there were generous sized margins, which were used for making analytical notes and coding. Listening to the interviews whilst reading the written versions ensured that each transcript was accurate (Kitzinger & Barbour, 1999). Although transcription was a time consuming and slow process, it helped me familiarise myself with the data and whilst transcribing I made a note of potential themes for analysis.

3.6.7 Analysis

The interviews produced vast amounts of data and analysis was a systematic and rigorous process (see section 3.6.8 for a brief discussion regarding rigour). An eclectic approach, which combined elements of framework analysis, grounded theory and analytical induction, was taken to analyse and interpret the qualitative data. Although Computer Assisted Analysis of Qualitative Data (CAQDAS) packages such as N-Vivo and NUD*IST are useful for data management purposes such as indexing and retrieving codes, I decided to use manual coding because it is "sufficient and speedier for small-scale research projects" (Arksey & Knight, 1999 p163). Although manual coding is demanding and may be regarded by some as old fashioned, it offers an unique hands on approach and according to Pope, Ziebland & Mays (2000):

“...repeated physical contact and handling of the data has much to recommend it; the process of re-reading the data and sorting it into categories means that the researcher develops an intimate knowledge of the data, even if the process is laborious.” [p80]

Furthermore, CAQDAS has some limitations, as recognising and refining themes are unavoidably the researcher’s job:

“Computers cannot perform the creative and intellectual task of devising categories, or of deciding which categories or types of data are relevant to the process being investigated, or what is a meaningful comparison, or of generating appropriate research questions and propositions with which to interrogate the data.” [Mason, 1994 p108]

Boyatzis (1998) proposes that qualitative researchers require a number of skills in order to analyze data effectively. These skills include pattern recognition, the ability to organize data into a useable system and “cognitive complexity” which is the ability to perceive multiple patterns and conceptualise the relationships between the patterns. All of these skills were used during the analysis process. The analysis was conducted in four main stages and although this explanation implies that analysis was linear, it was in reality, iterative, because it involved moving back and forth between the coding frame and transcripts, continually revising the coding frame and re-coding the transcripts.

Before the data was coded and organised, it was essential to become familiar with the interview data. Fielding & Thomas (2001) believe that familiarisation is an essential part of the analytical process:

“[The] key to successful analysis is the need for the researcher to become thoroughly familiar with the data and to devise a practical system that enables rigorous comparison to be made between interviews.” [p 137]

After each interview the recordings were listened to and potential themes were noted. In addition, notes were also made when the transcripts were read whilst listening to the recordings. Themes that were included in the early stages of the provisional coding frame were fairly descriptive and based on “a priori issues,” themes that were “informed by the

original research aims and introduced into the interviews via the topic guide” (Ritchie & Spencer, 1994 p180). Once the interviews had been transcribed, each transcript was read and potential themes were noted. The identified themes were grouped together under broad headings to form the basis of the provisional coding frame. The themes that were identified in one interview were compared to the other interviews in order to check for recurring themes. This process was iterative, as the coding frame was revised when new themes emerged in subsequent transcripts.

Following the development of the coding frame, all of the transcripts were reread and coloured pens were used to annotate segments of the transcripts using the coding frame. According to Coffey & Atkinson (1996) coding has three main functions as it helps the researcher notice relevant phenomena, collect examples of the phenomena and analyse the phenomena to find patterns. In addition to coding the data using the coding frame, ‘in vivo’ coding (Kelle, 1997) was used on occasion as it highlighted concepts that had been used by the participants themselves, for example “weekend millionaire” (see Chapter 5). Once the transcripts had been coded sections of the data that were alike or related were selected and grouped together under thematic headings by cutting and pasting them into separate computer files.

After the initial coding had been completed, I implemented Berg’s (2001) suggestion of data reduction in order to make the data more accessible. A synopsis of each coded interview was made, which included the main themes and relevant page numbers to facilitate cross-referencing. The data was then organised using charts “to build up a picture of the data as a whole, by considering the range of attitudes and experience for each issue or theme” (Ritchie & Spencer, 1994 p182). Charts were constructed using the thematic headings and were used to condense and summarize the key themes that had emerged and to enable thematic connections and comparisons to be made between the interviews.

Coding and charting of the data are part of the analytical process that enables the researcher to identify themes and patterns. However, before the move from coding to interpretation could take place the codes had to be further explored and revised (Coffey & Atkinson, 1996). This was done by splicing and linking codes and identifying variations on the themes to create new categories and sub-categories. The transcripts were then re-visited and any new categories were included and coded using coloured pens.

Once this stage had been completed the data was interrogated using a number of questions which included identifying the respondent characteristics which were associated with particular views, the concepts that the respondents appealed to and exploring the similarities and differences between the viewpoints (Barbour *et al*, 2000). In order to enhance validity and make generalizations about the data it was essential to seek out negative instances that contradicted the themes (Seale, 1999). Searching for deviant cases and formulating explanations for the exceptions essentially achieved this and ensured that the analysis was rigorous. Constant comparison, in which portions of data were compared to other portions of data, was used to build the analytical categories.

Finally, it is important to acknowledge that “the interpretive act remains mysterious in both qualitative analysis and quantitative analysis” (Marshall & Rossman, 1999 p153) as discoveries can be made by chance and at unexpected times. I often experienced important insights out of the blue similar to Okely (1994):

“Thoughts came at unexpected times; on a walk, in the night, not necessarily when seated with pen and paper at a desk....The ideas and theories, having fermented in the subconscious, emerged by free association.”[p31]

3.6.8 Methodological Rigour

A mixed method design can improve the overall quality of the research and allow the researcher to have greater confidence in the findings (Clarke, 1999). However, in order to ensure rigour, it is essential that the quantitative and qualitative components of the study are well designed and data collection and analysis are systematic (Pope & Mays, 1995; Neuman, 2000).

Although the “concepts of reliability and validity cannot be imported from positivist approaches to qualitative ones” (Arksey & Knight, 1999), a number of techniques can be used to ensure reliability and validity in qualitative research. For example, organising the data generated in a standardised method and keeping meticulous records of the analysis process and conceptual development can ensure reliability (Silverman, 2001; Pope & Mays, 1995). In addition, the reliability of the analysis can be improved by cross-checking analysis categories and comparing agreement using multiple coding. Although explicit multiple coding was not used, discussions between my supervisor and myself helped to inform the development of the coding frame and analysis.

In order to ensure reliability in this study the data was systematically organised to facilitate accessibility, for example all mini-discs were clearly labelled with the date of the interview and participant identification code, MP3 files were created to enable the interviews to be stored on one CD; transcripts were coded using coloured pens and the coding frame and transcripts were stored collectively. Detailed notes were also made throughout the analytical process.

Triangulation and respondent validation are regularly cited as methods for improving validity (Pope & Mays, 1995; Silverman, 2000). However, Barbour (2001) believes these

have often been adopted as “technical fixes” for securing grant funding and publication, and emphasises that “none of these technical fixes, in itself, confers rigour” (p1115). Similarly, Silverman (2000) considers triangulation and respondent validation to be of limited value and recommends, instead, the use of constant comparison and deviant-case analysis to enhance validity. Quantitative and qualitative data were collected to provide parallel data rather than for triangulation purposes. Respondent validation was not used because it makes considerable demands on participants’ time and reading the transcripts can sometimes be distressing for the participants, particularly when the research is on a sensitive topic (Barbour, 2001). However, as mentioned in the preceding section, constant comparison and deviant-case analysis were used to seek out negative instances and compare and contrast the findings within the dataset and with published research.

In addition to reliability and validity, the generalizability of qualitative research is often questioned (Kvale, 1996). In quantitative research, generalizability is achieved by statistical sampling to ensure representativeness and enable the researcher to make inferences about the whole population. (Silverman, 2000) however representativeness is not the main objective of qualitative research. Pope & Mays (1995) state:

“The purpose is not to establish a random or representative sample drawn from a population but rather to identify specific groups of people who either possess characteristics or live in circumstances relevant to the social phenomenon being studied. Informants are identified because they will enable exploration of a particular aspect of behaviour relevant to the research.”

Although representativeness was not the main purpose of the qualitative component, the generalization of qualitative findings was nonetheless important. Theoretical generalisation involves demonstrating that the findings are applicable to the wider population and it is an issue, which has been raised by a number of authors (Seale, 1999; Bryman, 1988; Silverman, 2001). The theoretical generalizability of the research findings was maximised by including an extensive review of the relevant medical, sociological and psychological

literature. In the qualitative analysis, constant comparison was used to contextualise the findings within the existing literature as:

“Constant comparison does not stop within the researcher’s own data set. Theoretical insight and comparative material comes from other research, perhaps outside the substantive field of interest.” [Green, 1998 p1065]

In order to achieve theoretical generalisation, the analysis must be rigorous and empirical (Seale, 1999). Combining qualitative and quantitative methods and using purposive sampling in this study strengthened the generalizability of the research findings (Silverman, 2000).

Chapter 4: Quantitative Results

4.1 Introduction

The aims and objectives of the study were outlined in the preceding chapter and this chapter will focus on the quantitative component of the study. This chapter will provide descriptive information about the participants who completed the community health survey and will investigate which variables are the most significant predictors of poor psychological health. In addition, the analysis will examine whether the relationship between obesity and psychological health is similar or different for men and women.

4.2 Participants' Demographic Characteristics

2601 people returned questionnaires for the community health survey. However, 93 participants were excluded from the final analysis, which provided a final sample size of 2508. 76 participants did not give their height and/or weight, which meant that BMI could not be calculated and 17 female participants were excluded because they reported that they were pregnant.

The demographic data presented in table 4.1 overleaf shows that the majority of the sample was white (96.9%), 41.1% were male and 58.9% were female. More participants 50-60 years old (39.1%) took part in the community health survey compared to the other age groups. Although male participants were slightly older (mean age 46.0) than female participants (mean age 45.3) this age difference was not significant ($\chi^2 = 33.14$, $df = 30$, $p = 0.32$).

The sample was predominately affluent as 48.6 % lived in DEPCAT 1 or 2, 15.8% of participants lived in DEPCATS 3 and 4 and 35.6% lived in a relatively deprived area (DEPCAT 5, 6 or 7).

Table 4.1 Participants' Demographic Characteristics

	Male		Female		Total Sample	
	n	(%)	n	(%)	n	(%)
Overall	1032	(41.1)	1476	(58.9)	2508	(100)
Age group						
30-39	293	(28.4)	459	(31.1)	752	(30.0)
40-49	311	(30.1)	464	(31.4)	775	(30.9)
50-60	428	(41.5)	553	(37.5)	981	(39.1)
Ethnic group						
White	993	(96.2)	1437	(97.4)	2430	(96.9)
Black	1	(0.1)	2	(0.1)	3	(0.1)
Asian	16	(1.6)	20	(1.4)	36	(1.4)
Mixed Race	6	(0.6)	1	(0.1)	7	(0.3)
Other	2	(0.1)	6	(0.3)	8	(0.3)
No Answer Given	14	(1.4)	10	(0.7)	24	(1.0)
Marital Status						
Single	123	(11.9)	134	(9.1)	257	(10.2)
Co-habiting	69	(6.7)	91	(6.2)	160	(6.4)
Married	755	(73.2)	1002	(67.9)	1757	(70.1)
Separated	28	(2.7)	75	(5.1)	103	(4.1)
Divorced	42	(4.1)	118	(8.0)	160	(6.4)
Widowed	13	(1.3)	55	(3.7)	68	(2.7)
No Answer Given	2	(0.2)	1	(0.1)	3	(0.1)
Education level						
No Qualifications	206	(20.0)	350	(23.7)	556	(22.1)
Secondary School	215	(20.8)	400	(27.1)	615	(24.5)
Degree	327	(31.7)	462	(31.3)	789	(31.5)
Professional/Postgraduate	210	(20.3)	196	(13.3)	406	(16.2)
Other (e.g. Apprenticeship)	63	(6.1)	49	(3.3)	112	(4.5)
No Answer Given	11	(1.1)	19	(1.3)	30	(1.2)
Employment status						
Working Full-time	765	(74.1)	616	(41.7)	1381	(55.1)
Working Part-time	57	(5.5)	502	(34.0)	559	(22.3)
Unemployed (Seeking work)	56	(5.4)	43	(2.9)	99	(3.9)
Unemployed (Sick/disabled)	90	(8.7)	124	(8.4)	214	(8.5)
Unemployed (Carer)	15	(1.5)	86	(5.9)	101	(4.0)
Full-time student	3	(0.3)	12	(0.8)	15	(0.6)
Retired	46	(4.5)	92	(6.2)	138	(5.5)
No Answer Given	-	-	1	(0.1)	1	(0.1)
DEPCAT						
1-2 (Affluent)	514	(49.8)	704	(47.7)	1218	(48.6)
3-4	168	(16.3)	228	(15.4)	396	(15.8)
5-7 (Deprived)	350	(33.9)	544	(36.9)	894	(35.6)

4.3 Level of Obesity

The means and standard deviations of the anthropometrical data are presented in table 4.2.

There was quite a range in height as the smallest participant was 4 feet 6 inches and the tallest was 6 feet 11 inches. In terms of weight, the lightest participant was 5 stones 3lbs and the heaviest participant weighed 26 stones. The mean BMI of the total sample was 26kg/m^2 , which is classified as overweight.

Table 4.2 Anthropometrical Data

	Total Sample (s.d.) (n =2508)	Males (s.d.) (n = 1032)	Females (s.d.) (n = 1476)
Mean Height (m)	1.7 (0.1)	1.7 (0.1)	1.6 (0.1)
Mean Weight (kg)	73.8 (15.7)	82.7 (14.0)	67.5 (13.7)
Mean BMI (kg/m^2)	26.0 (4.7)	26.5 (4.1)	25.7 (5.0)

Table 4.3 presents the data on BMI and demonstrates that 52.2% of the participants were either overweight or obese and 16.5% were classified as obese. With regard to gender differences, 61% of men had a BMI greater than 25kg/m^2 and 16.6% were obese (0.7% were morbidly obese). 46% of women had a BMI greater than 25kg/m^2 and 16.3% were obese (1.8% were morbidly obese).

Table 4.3 BMI Data by Gender

BMI Category		Males (n =1032)		Females (n =1476)		Total Sample (n =2508)	
		n	(%)	n	(%)	n	(%)
Underweight	(<18.5)	9	(0.9)	22	(1.5)	31	(1.2)
Healthy weight	(18.5-24.9)	394	(38.2)	775	(52.5)	1169	(46.6)
Overweight	(25-29.9)	458	(44.4)	438	(29.7)	896	(35.7)
Obese	(>30-39.9)	164	(15.9)	214	(14.5)	378	(15.1)
Morbidly obese	(≥40)	7	(0.7)	27	(1.8)	34	(1.4)

BMI was also calculated by DEPCAT to investigate any differences between affluent and deprived areas. 58.2% of the sample living in the most deprived areas (DEPCAT 5, 6 & 7)

were either overweight or obese (22% were obese). In contrast, the level of overweight and obesity was lower in the more affluent area (DEPCAT 1 & 2) as only 47.5% of the participants had a BMI greater than 25kg/m² and 11.7% were obese (see table 4.4 below).

Table 4.4 BMI Data by DEPCAT (Total Sample)

BMI Category		DEPCAT 1 & 2 (n = 1218)		DEPCAT 3 & 4 (n = 396)		DEPCAT 5, 6 & 7 (n = 894)	
		n	(%)	n	(%)	n	(%)
Underweight	(<18.5)	4	(0.4)	5	(1.3)	22	(2.5)
Healthy weight	(18.5-24.9)	634	(52.1)	184	(46.5)	351	(39.3)
Overweight	(25-29.9)	437	(35.8)	135	(34.0)	324	(36.2)
Obese	(≥30)	143	(11.7)	72	(18.2)	197	(22.0)

Table 4.5 presents descriptive data regarding the level of obesity among males and females living in deprived and affluent areas. The combined level of overweight and obesity was comparable among men in the affluent and deprived areas (60.9% versus 61.7%). However, a greater number of men living in the deprived areas (20.3%) were obese compared to men living in the affluent areas (13%) and this difference was significant ($\chi^2 = 29.05$, $df = 6$, $p = <0.000$). The level of overweight and obesity was higher among women in the deprived areas as 56.1% were either overweight or obese and 23.2% were obese. In contrast, 37.9% of the women living in the affluent area were overweight or obese and only 10.8% were obese. The difference between women living in deprived and affluent areas was significant ($\chi^2 = 63.44$, $df = 6$, $p < 0.000$).

Table 4.5 BMI Data by DEPCAT and Gender

BMI Category		Males DEPCAT 1 & 2 (n = 514)		Females DEPCAT 1 & 2 (n = 704)		Males DEPCAT 5, 6 & 7 (n = 350)		Females DEPCAT 5, 6 & 7 (n = 544)	
		n	(%)	n	(%)	n	(%)	n	(%)
Underweight	(<18.5)	-	-	4	(0.6)	9	(2.6)	13	(2.4)
Healthy weight	(18.5-24.9)	201	(39.1)	433	(61.5)	125	(35.7)	226	(41.5)
Overweight	(25-29.9)	246	(47.9)	191	(27.1)	145	(41.4)	179	(32.9)
Obese	(≥30)	67	(13.0)	76	(10.8)	71	(20.3)	126	(23.2)

4.4 Psychological Health

Psychological health was assessed with the use of the Mental Health Inventory-5 (MHI-5), which contains 5 items measuring anxiety, depression, positive affect and emotional/behavioural control. Scores range from 5, indicating most favourable psychological health to 30, indicating least favourable psychological health. The accepted cut off point for detecting poor psychological health is a score of 17 or more (Berwick *et al*, 1991).

Figure 4.1 indicates that mean MHI scores were all below the cut off point, except for underweight males. Further analysis showed that the prevalence of categorically defined psychological health (MHI-5 score of 17 or above) was 15% for men and 19.4% for women. A univariate Analysis of Variance (ANOVA) using the MHI-5 scores was performed separately for males and females to test for significant differences in the mean MHI-5 scores between the BMI categories. The differences between the groups for MHI-5 scores were more significant for males ($F = 6.50$, $p < 0.001$) than for females ($F = 3.6$, $p = 0.01$).

The “See Me” campaign was launched in Scotland in October 2002 to challenge stigma and discrimination around mental health. According to “See Me Scotland” <http://www.seemescotland.org> 1 in 4 people living in Scotland will experience a mental health problem at some point during their lives. The community health survey found that a higher percentage of women reported a previous diagnosis of anxiety (24.3%) compared to men (12.8%), which was significant ($\chi^2 = 44.53$, $df = 1$ $p < 0.001$). Women were also more likely than men to report a previous diagnosis of depression (23.7%) compared to 12% of men and this was also significant ($\chi^2 = 61.03$, $df = 1$ $p < 0.001$).

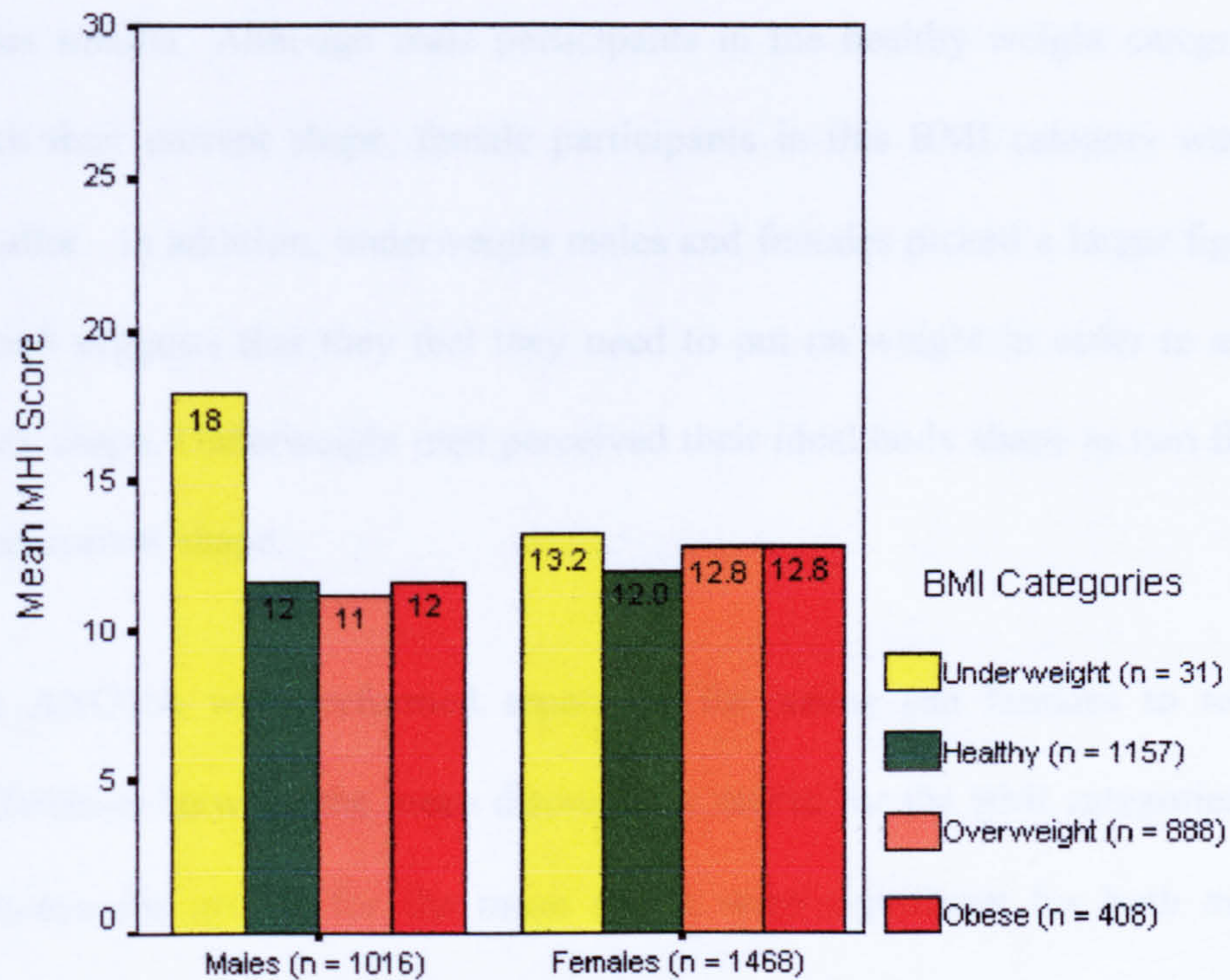


Figure 4.1 MHI-5 (mean scores) by Gender and BMI

4.5 Body Image

As mentioned in chapter 3, body image was assessed using two types of measures. The first measure (perceptual body image) asked the participants to look at a series of nine line drawings of a female or a male figure ranging from very underweight to very obese and choose the figure that they thought best described their current shape and another figure to represent their ideal shape. The distance between the current and ideal shape was calculated to give a discrepancy score and this is illustrated in figure 4.2. On this bar chart zero represents “no discrepancy” between perceived current body and ideal body, indicating satisfaction with current body shape.

Figure 4.2 indicates that both male and female obese participants believed they were furthest away from their ideal body shape. The mean scores demonstrate that on average obese men and women perceived their ideal body shape to be two figures smaller.

Overweight men wanted to be a size smaller and overweight women wanted to be two sizes smaller. Although male participants in the healthy weight category were satisfied with their current shape, female participants in this BMI category wanted to be a size smaller. In addition, underweight males and females picked a larger figure as their ideal, which suggests that they feel they need to put on weight in order to achieve their ideal body shape. Underweight men perceived their ideal body shape as two figures bigger than their current shape.

An ANOVA was performed separately for males and females to test for significant differences between the mean discrepancy scores for the BMI categories. The differences between the groups for the mean scores were significant for both male ($F = 163.82$, $p < 0.001$) and female participants ($F = 257.74$, $p < 0.001$).

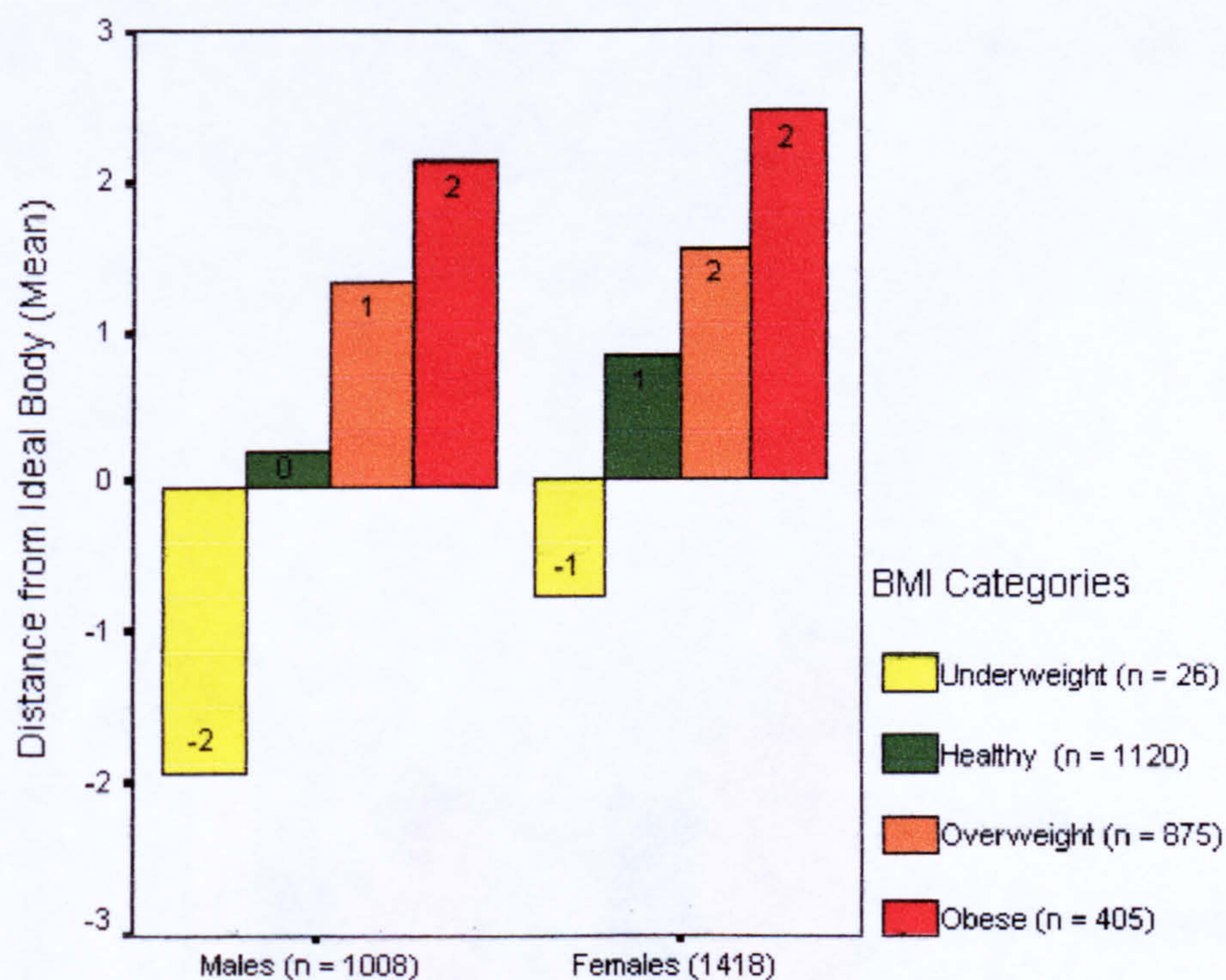


Figure 4.2 Discrepancy Scores (mean scores) Between Current and Ideal Body by Gender and BMI

The second measure of body image was a measure of body satisfaction, which was assessed using a variant of the Body Cathexis Scale. Participants were asked to rate the appearance of 15 individual body regions plus their weight, height and body shape. The individual ratings were added together and then averaged to give an overall measure of body satisfaction. This overall measure of body satisfaction ranged from 1 (very satisfied) to 7 (very dissatisfied). Figure 4.3 illustrates a possible relationship between body weight and body dissatisfaction because as BMI increased, the level of body dissatisfaction also increased. However, there was an exception for underweight males as the mean scores were nearly as high as for obese females (4.3 and 4.6 respectively).

An ANOVA was performed to investigate differences in the mean body dissatisfaction scores between the BMI categories. Body dissatisfaction was used as the dependent variable and the analysis was performed separately for males and females. The differences between the groups for the mean scores were significant for both male ($F = 15.41$, $p < 0.001$) and female participants ($F = 70.98$, $p < 0.001$).

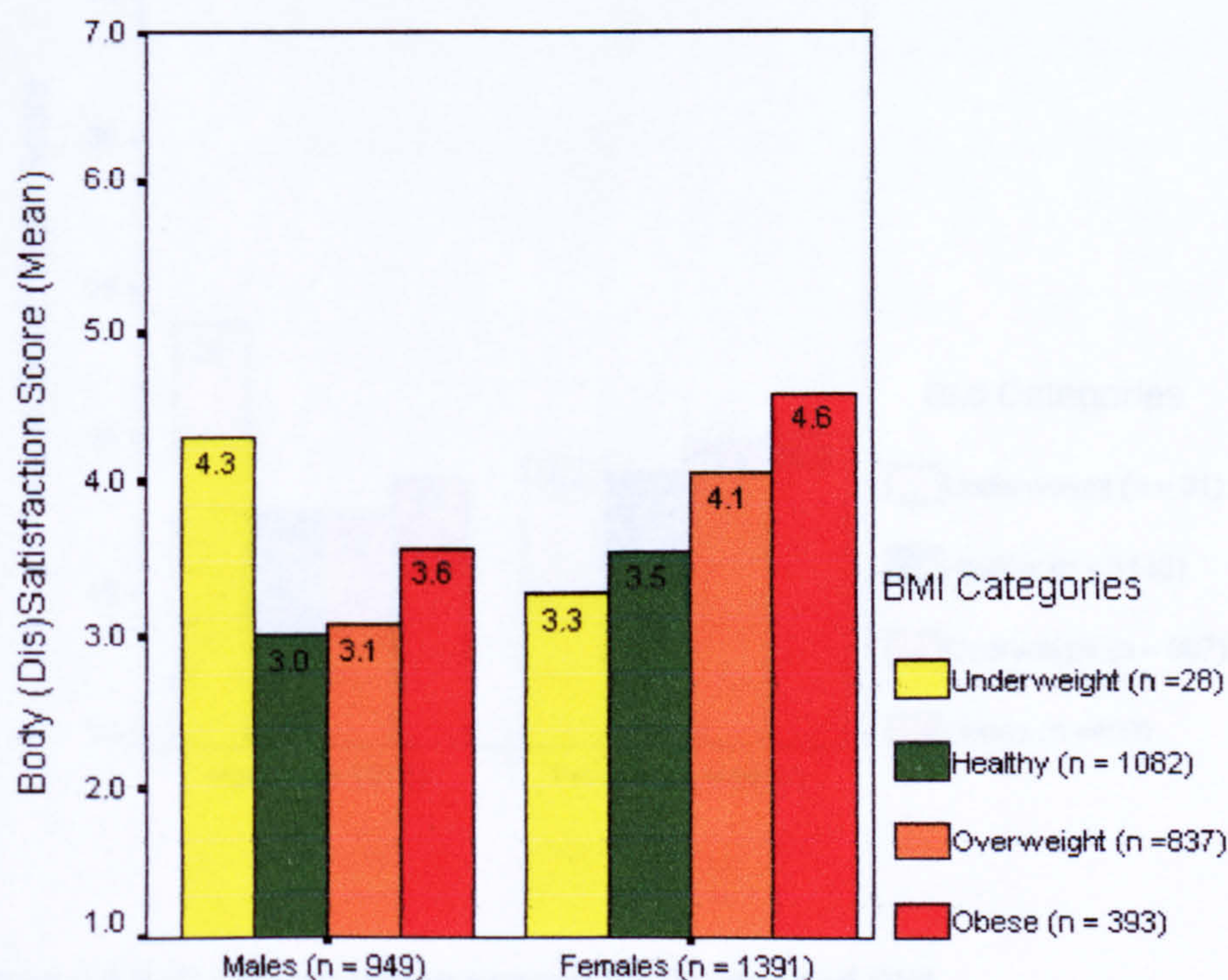


Figure 4.3 Body Dissatisfaction (mean scores) by Gender and BMI

4.7 Weight Satisfaction

4.6 Self-Esteem

As previously mentioned in chapter 3, self-esteem was assessed using the Rosenberg Self-Esteem Scale. The scores were totalled and higher score indicates lower self-esteem. The results presented in figure 4.4 show that there was little difference in the mean self-esteem scores except for underweight males who had the lowest self-esteem. An ANOVA was run in order to assess whether or not there were significant differences between the BMI categories for the mean self-esteem scores. As with previous ANOVAs described above, the analysis was run separately for males and females. The differences between the groups for the mean scores were significant for both males ($F = 7.07, p < 0.001$) and female participants ($F = 5.55, p = 0.001$).

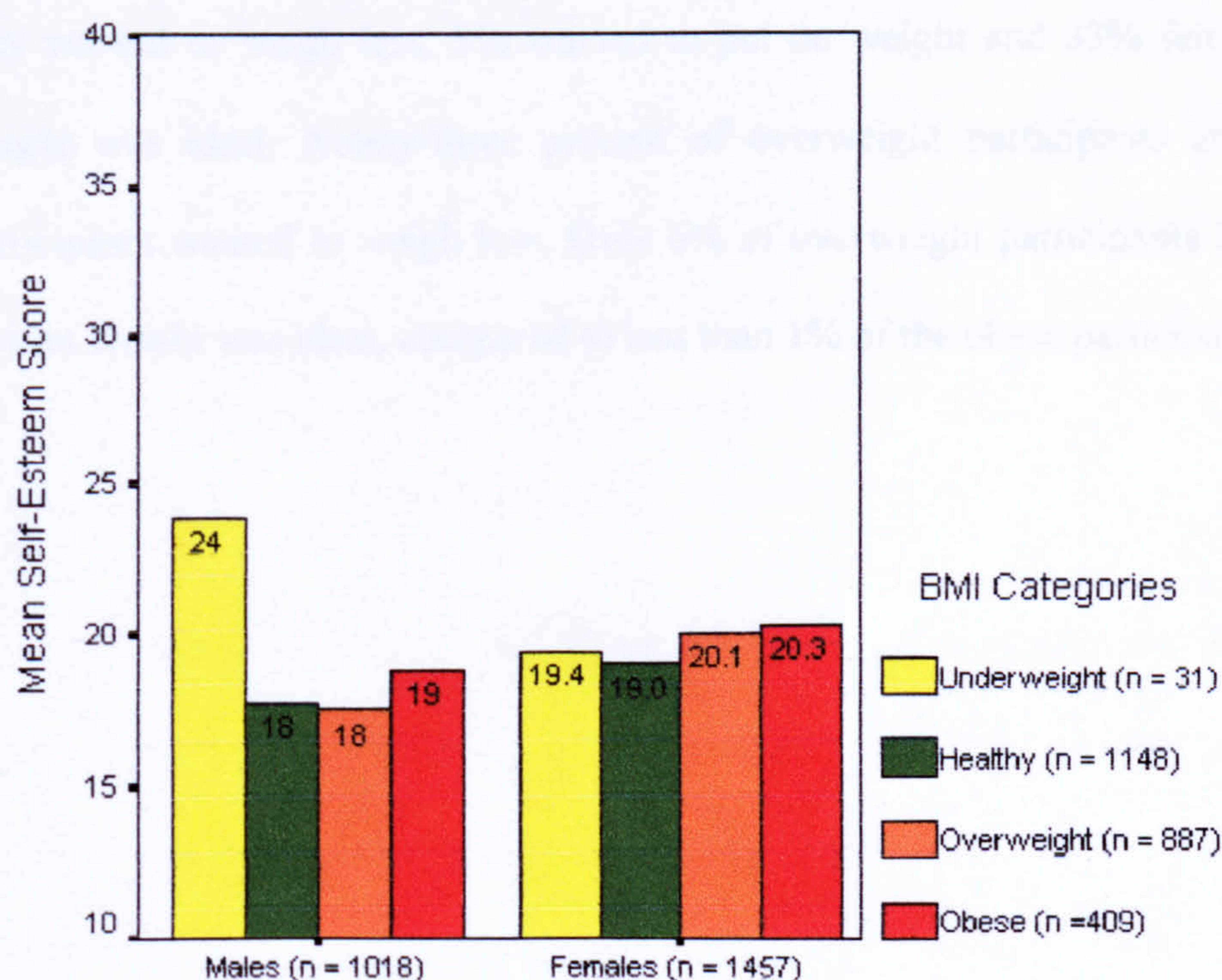


Figure 4.4 Self-Esteem (mean scores) by Gender and BMI

4.7 Weight Satisfaction

Sixty-seven percent of women and 58.4% of men regarded themselves as overweight (figure 4.5 details the responses by BMI). Furthermore, 71.5% of men and 81.8% of women wanted to weigh less.

A high percentage (85.4%) of overweight people with a BMI greater than 25kg/m² recognised that they were overweight and 98.5% of obese participants considered themselves to be overweight. Only 4 obese men and 2 obese women did not perceive themselves to be overweight. Healthy weight participants were the most satisfied with their weight with only 36% perceiving themselves as overweight.

None of the underweight participants wanted to lose weight, 70% wanted to gain weight and 30% felt they were their ideal weight. 59% of healthy weight participants reported that they wanted to weigh less, 8% wanted to put on weight and 33% felt that their current weight was ideal. Ninety-three percent of overweight participants and 98% of obese participants wanted to weigh less. Only 6% of overweight participants believed that their current weight was ideal, compared to less than 1% of the obese participants.

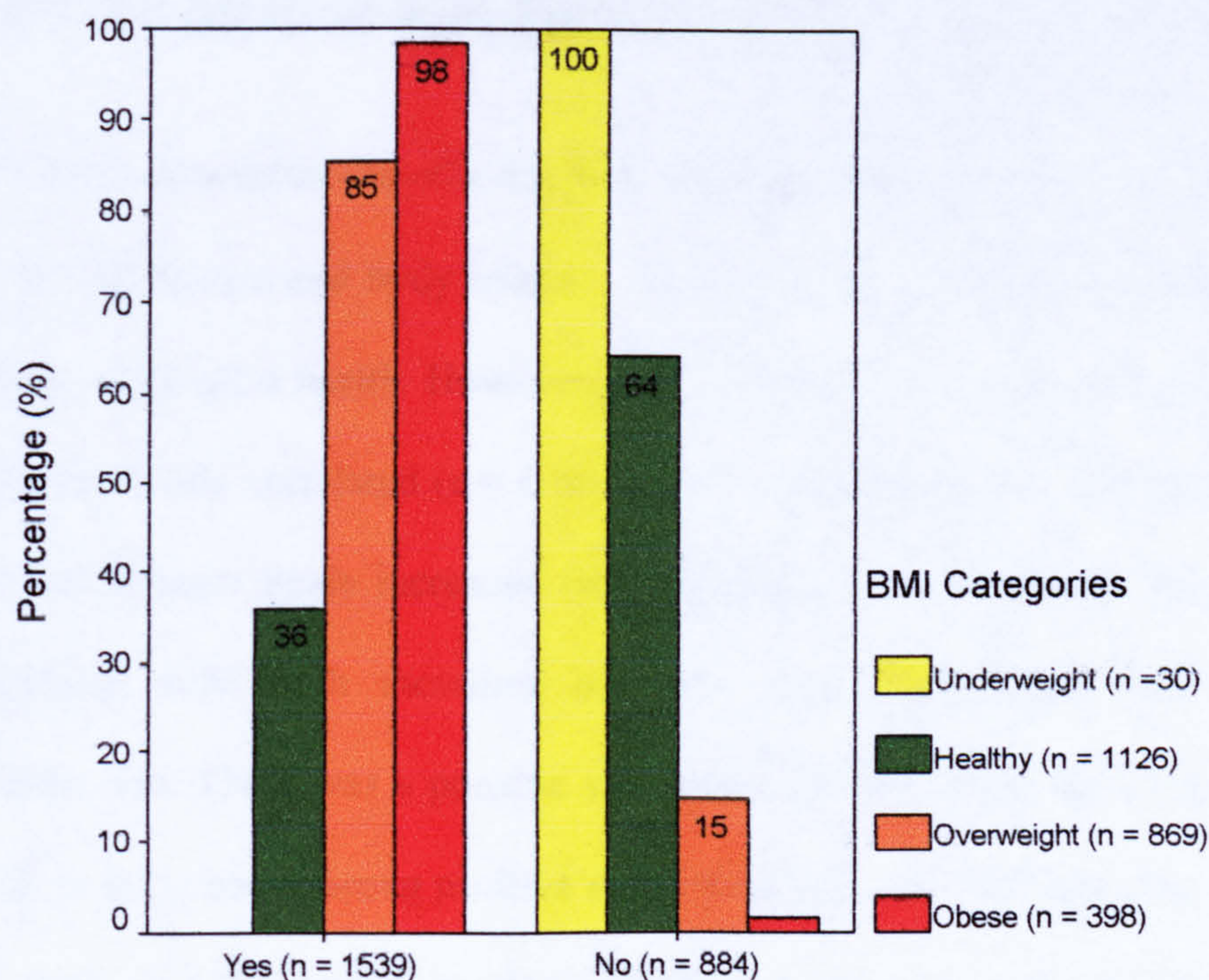


Figure 4.5 Participants' Responses to the question "Do you think you are overweight?"

20 survey participants indicated that they had previously been diagnosed with an eating disorder. 12 women aged between 33 and 50 (mean age 40) reported a previous diagnosis of anorexia nervosa and 8 participants 1 male and 7 females aged 31-43 (mean age 38) indicated that had been diagnosed with bulimia nervosa. 2 participants who reported a previous diagnosis of anorexia were morbidly obese (these participants were purposively selected for the qualitative component – see section 3.6.1).

Almost seventy percent of women and 38.3% of men reported that they had previously dieted in order to lose weight. 12.7% of women were currently dieting and 5.4% of men reported that they were currently on a diet. Furthermore, 86.7% of obese participants reported that they had previously tried to diet. However, only 17% of obese participants reported that they were currently on a weight loss diet.

4.8 Correlation Analysis

Pearson's correlation co-efficient was used to investigate the associations between BMI, MHI, self-esteem and body image. There was no significant relationship between BMI and psychological health. However, the SPSS analysis revealed that BMI and self-esteem were positively correlated ($r = 0.06$, $p < 0.01$), suggesting that as BMI increases, scores on the Self-Esteem Scale increased (indicating poorer self-esteem). Furthermore, BMI was correlated with both measures of body image (perceptual body image and body satisfaction). There was a positive association between BMI and body dissatisfaction ($r = 0.27$, $p < 0.01$) and a strong positive association between BMI and distance from ideal body ($r = 0.60$, $p < 0.01$) suggesting that as BMI increases the level of body dissatisfaction also increases.

Self-esteem was also strongly correlated with both measures of body image. For example, there was a positive relationship between self-esteem and distance from ideal body ($r = 0.20$, $p < 0.01$) and a positive correlation between self-esteem and body dissatisfaction ($r = 0.44$, $p < 0.01$). There was also a strong positive correlation between self-esteem and MHI-5 ($r = 0.61$, $p < 0.01$) and MHI-5 and both body image measures. Table 4.5 illustrates the correlational analysis data.

Table 4.5 Pearson's correlation r values and p values

Variable	BMI	MHI-5	Perceptual Body Image	Body Satisfaction	Self- Esteem
BMI	1.00	0.02	0.60**	0.27**	0.06**
	-	0.32	0.00	0.00	0.00
MHI-5	0.02	1.00	0.13**	0.32**	0.61**
	0.32	-	0.00	0.00	0.00
Perceptual Body Image	0.60**	0.13**	1.00	0.36**	0.21**
	0.00	0.00	-	0.00	0.00
Body Satisfaction	0.27**	0.32**	0.36**	1.00	0.44**
	0.00	0.00	0.00	-	0.00
Self-Esteem	0.06**	0.61**	0.21**	0.44**	1.00
	0.00	0.00	0.00	0.00	-

**Significant at 0.01 level (two-tailed)

4.9 Logistic Regression

The main preparation for the logistic regression analysis involved dichotomising the outcome (dependent) variable psychological health using the cut-off points for the MHI-5. Therefore “favourable” (good) psychological health was defined as a MHI-5 score of less than 17 and “less favourable” (poor) psychological health was defined as a MHI-5 score of 17 or more.

Bivariate regression analyses were performed to investigate the relationship between a) obesity and psychological health and b) gender and psychological health. Table 4.6 indicates that, although obese participants were more likely to have poor psychological

health than overweight or healthy weight participants, this was not significant. Furthermore, the logistic regression demonstrated greater odds for poor psychological health for the underweight participants (OR =2.75, $p<0.01$). In addition, female participants had increased odds of poor psychological health (OR =1.47, $p<0.001$).

Table 4.6. Bivariate Logistic Regression - Odds Ratios (OR) of Poor Psychological Health by BMI and Gender

Variables	OR (95% CI)	p Value
<i>BMI</i>		
Underweight (BMI <18.5)	2.75 (1.30 – 5.85)	0.01
Healthy Weight (BMI 18.5 - 24.9)	1.00	
Overweight (BMI 25.0 - 29.9)	1.00 (0.79- 1.28)	0.99
Obese (BMI \geq 30)	1.21 (0.90-1.63)	0.20
<i>Gender</i>		
Male	1.00	
Female	1.47 (1.18 – 1.84)	0.001

Since there was a significant obesity by gender interaction ($p<0.001$) the relationship between obesity and psychological health can be considered as different for men and women. This was the rationale for running the multivariate logistic regression analyses separately for males and females.

The aim of the multivariate logistic regression was to investigate to what extent obesity, self-esteem, body satisfaction and perceptual body image predict psychological health. In addition to obesity, the variables discussed individually in sections 4.5 and 4.6 were used as predictor variables for the multivariate logistic regression (perceptual body image, body satisfaction and self-esteem). The outcome variable was the dichotomised MHI-5 variable

(as used in the previous bivariate logistic regression analyses). The data is displayed in the following tables separately for males (table 4.7) and females (table 4.8).

Table 4.7 Multivariate Logistic Regression – Factors Associated with Poor Psychological Health (Male Participants)

Variables	OR (95% CI)	p Value
<i>BMI</i>		0.36
Underweight (BMI <18.5)	1.63 (0.20-13.09)	0.65
Healthy Weight (BMI 18.5 - 24.9)	1.00	
Overweight (BMI 25.0 - 29.9)	0.62 (0.35- 1.09)	0.10
Obese (BMI ≥30)	0.64 (0.30-1.36)	0.25
<i>Body Satisfaction</i>	0.99 (0.79-1.26)	0.96
<i>Perceptual Body Image</i>	1.01 (0.84 –1.23)	0.88
<i>Self-Esteem</i>	1.37 (1.29-1.45)	0.000

Table 4.8 Multivariate Logistic Regression – Factors Associated with Poor Psychological Health (Female Participants)

Variables	OR (95% CI)	p Value
<i>BMI</i>		0.61
Underweight (BMI <18.5)	2.19 (0.58-8.23)	0.25
Healthy Weight (BMI 18.5 - 24.9)	1.00	
Overweight (BMI 25.0 - 29.9)	1.13 (0.76- 1.66)	0.55
Obese (BMI ≥30)	0.96 (0.56-1.66)	0.88
<i>Body Satisfaction</i>	1.14 (0.94-1.39)	0.19
<i>Perceptual Body Image</i>	0.94 (0.78 –1.13)	0.52
<i>Self-Esteem</i>	1.33 (1.28-1.39)	0.000

The data presented above in tables 4.7 and 4.8 demonstrate that there is no significant relationship between obesity and psychological health either for men or women. Furthermore, self-esteem is the most significant predictor of poor psychological health (MHI-Score ≥ 17) in both males and females. After adjusting for obesity, perceptual body image and body satisfaction, the odds of females having poor psychological health are multiplied by 1.33 (CI 1.28-1.39, $p < 0.001$) for every additional point on the self-esteem scale. The odds for males are similar – multiplied by 1.37 (CI 1.29-1.45, $p < 0.001$) for each additional point on the self-esteem scale.

4.10 Summary

The level of obesity in this community sample was 16.5% and although a higher percentage of men were overweight, the levels of obesity for men and women were similar. However, there were differences in the level of morbid obesity between men and women with women being twice as likely to be morbidly obese (1.8%) compared to men (0.7%). There were also notable differences with regard to DEPCAT, as a larger percentage of men and women living in the most deprived areas (DEPCATS 5, 6 & 7) were obese compared to the relatively affluent areas (DEPCATS 1 & 2).

The findings that 61% of men and 46% of women were either overweight or obese are comparable to data from the Scottish Health Survey (1998). The Scottish Health Survey found that 56% of men and 53% of women living in the Greater Glasgow region were either overweight or obese. However, the level of obesity is slightly lower in the current study compared to the Scottish Health Survey, which found that 19.6% of men and 20% of women were obese.

It has been well documented that the prevalence of obesity is higher among lower socio-economic groups (see section 1.4.4). The current study found that men living in affluent areas were less likely to be obese than men living in the most deprived areas. This is in contrast to the Scottish Health Survey, which found no clear social class differences for men. However, in common with the Scottish Health Survey, the level of obesity was found to be greater among women living in the most deprived areas than among women living in the affluent areas.

A high percentage of men and women reported that they were dissatisfied with their current weight (71.5% and 81.8% respectively). A key finding of the current study was that 98.5% of the obese survey participants perceived themselves to be overweight and 98% of

them wanted to weigh less. In addition, 86.7% of the obese participants had previously dieted to lose weight. Weight satisfaction and dieting will be further explored in the qualitative findings chapters.

On the whole, studies about weight satisfaction have indicated that women are more likely than men to perceive themselves as overweight (Ziebland, Thorogood, Fuller & Muir, 1996; Emslie, Hunt & Macintyre, 2001). Furthermore, women of a higher SES tend to be thinner than women of lower SES and women of a higher SES are more likely to be concerned about their weight and be dissatisfied with their bodies (Ogden & Thomas, 1999; Jeffery & French, 1996; Wardle & Griffith, 2001). This is a possible reason for the differences in the levels of obesity among the affluent and deprived areas.

The bar charts in section 4.5 illustrated links between BMI and body image and the correlational analyses confirmed significant positive associations between BMI and both body image measures. In contrast to underweight males who reported a high level of body dissatisfaction, figure 4.3 illustrates that for women, the level of body dissatisfaction also increases in line with increases in BMI. This finding is similar to McLaren & Gauvin (2001), who examined the prevalence of body dissatisfaction in Canadian women and found that the proportion of women reporting body dissatisfaction increased as BMI increased. Likewise, Pingitore, Spring & Garfield (1997) found that satisfaction with body weight and shape decreased as body mass increased for both genders. However, women showed significantly greater body and weight dissatisfaction compared to men. The results from the correlational analyses show that body image was significantly correlated with both self-esteem and psychological health and this is consistent with findings from recent studies (Friedman *et al*, 2002; Green & Pritchard, 2003).

One of the main aims of this chapter was to investigate whether or not obesity was a significant predictor for poor psychological health. In summary, the results of the bivariate and multivariate logistic regressions demonstrate that obesity is not a significant factor for predicting poor psychological health using the MHI-5. However, it was an unexpected finding that the mean MHI-5 scores were highest for underweight males. Carpenter *et al* (2000) also found an association between being underweight and having an increased risk of clinical depression and suicidal tendencies among males.

The MHI-5 was used by Hill & Williams (1998) to examine predictors of psychological distress, and although obesity was not a significant predictor, they found that self-esteem and peer relationships were highly significant predictors of poor mental health. Similarly, in the current study self-esteem was shown to be the most significant predictor of poor mental health both for men and women.

The quantitative component of the study has a number of limitations. One of the main limitations involved relying on self-reported data to obtain measures of height and weight, and as a result, the level of obesity may be distorted as previous research has shown that women tend to under-report their height and weight (Strauss, 1999). Secondly, although the MHI-5 achieves high rates of completion (see section 3.5.4), it is a self-report measure and could result in over or under-reporting of psychological symptomatology. In addition, the MHI-5 is a sub-scale of the SF-36, which is a generic measure of HRQL. A number of studies outlined in chapter 2 demonstrated that the SF-36 did not establish a relationship between obesity and psychological health.

Studies that have found an association between obesity and psychological health have specifically investigated the relationship between obesity and depression. As mentioned in chapter 2, the most reliable way to measure depression involves using a standardised psychiatric interview. Unfortunately, this was not a feasible option for a sole researcher.

Although the MHI-5 includes depression as an item, it might have been more appropriate to use a depression specific screening tool such as the Beck Depression Inventory.

Finally, another limitation of this study is that it employs a cross-sectional design. Whilst cross-sectional studies can provide a 'snapshot' of the relationship between obesity and psychological health, they cannot provide evidence about causality since they are unable to address whether obesity causes psychological health problems or whether psychological health problems cause obesity. Although causality can only be established through the use of prospective studies, the qualitative findings (presented in chapters 8 and 9) will explore the potential mechanisms that link obesity and psychological health.

Chapter 5: Self-Rated Health & Health Perceptions

5.1 Introduction

The term 'health' is widely used and a substantial emphasis is currently placed on the importance of a 'healthy lifestyle.' However, health is not an easily defined concept, as being 'healthy' is the norm for the majority of people (Ogden, 1996). Calnan (1987) distinguishes between 'negative' and 'positive' definitions of health. In the biomedical model of health, health is defined as the absence of disease, which is a negative definition of health. In contrast, the social model of health provides a positive definition of health. This is often illustrated by the WHO definition of health, which views health as a state of complete physical, mental and social well-being (WHO, 1946). The biomedical model relies on the objective measurement of physical and chemical data to define disease. However, the social model of health recognises that illness or sickness can exist without being defined as 'disease.' For example, pain can make an individual feel unwell but does not mean that they have a disease (Bowling, 2000).

The majority of sociological and psychological research exploring concepts of health and illness has tended to focus on illness - in particular people's experiences of illness, beliefs about the causes of disease and perceived risk of developing certain diseases; for example cancer or coronary heart disease. Although many studies have looked at lay health beliefs in relation to specific conditions, there is only a relatively small body of work, which has explored lay health beliefs in general (Lawton, 2003). Nettleton (1995) argues that it is imperative to take lay perspectives into account when conceptualising health. Therefore, the main aims of this chapter are, firstly, to present the participants' self-ratings of health and secondly, to explore their perceptions of health and their explanations of the causes of poor health in the West of Scotland. Finally, the chapter will explore the participants' constructions of a 'healthy person' and an 'unhealthy person.'

5.2 Self-Rated Health

An individual's perception of his or her health is important because self-ratings of health are related to the physical, mental, social and functional components of health (Bailis, Segall & Chipperfield, 2003). Self-rated health is widely used in survey research as an indicator of health as it can predict subsequent mortality and functional decline (Manderbacka, Lundberg & Martikainen, 1999).

The survey respondents were asked to rate their general health over the preceding twelve months as 'good', 'fairly good' or 'not good'. Overall, 56% of participants rated their health as 'good', a third (33%) perceived their health as 'fairly good' and one in ten rated their health as 'not good'.

The 2001 Scottish Census used the same 3-item categorical response format and found that for the total Scottish population 68% rated their health as 'good', 22% 'fairly good' and approximately 1 in 10 rated their health as 'not good'. This data is also available for the NHS Greater Glasgow area, where 63% of those living within the NHS Greater Glasgow area rated their health as 'good', 24% as 'fairly good' and over 1 in 10 (14%) perceived their health to be 'not good.' (General Register Office for Scotland, 2001).

A smaller percentage of the participants in the current study rated their health as good compared to the general Scottish population and those residing in the NHS Greater Glasgow region. A higher percentage of the participants in this study rated their health as fairly good. The percentage of participants who rated their health as 'not good' was comparable to the Scottish data and lower than the percentage of those rating their health as 'not good' in the NHS Greater Glasgow region.

59.2% of men who participated in the survey, perceived their health to be 'good' compared to just over half of women (53.9%). Over a third of women (35.4%) perceived their health as 'fairly good' compared to 30% of men. 1 in 10 men and women (10.7%) rated their health as 'not good'. This data is comparable to findings from the Scottish Health Survey (1998). The Scottish Health Survey incorporated a similar question to measure self-assessed general health, using five categorical response choices; 'very good', 'good', 'fair', 'bad' and 'very bad'. 77% of men and women who participated in the Scottish Health Survey perceived their health to be either 'very good' or 'good' and 18% men and 17% women reported their health as 'fair'. One in twenty adults (6%) felt that their health was 'bad or 'very bad'.

In the present study 60% of men aged 30-49 reported that their health was 'good'. However, a slightly smaller percentage (58%) of those aged 50-60 reported 'good' health. Men aged 30-39 were less likely to perceive their health as 'not good.' The majority of women 30-39 years old (57%) perceived their health to be 'good' and only 8% in this age group perceived their health to be 'not good.' The highest percentage of women (12.9%) reporting that their health had been 'not good' in the preceding year were aged 50-60. The Scottish Health Survey calculated self-assessed health for adults aged 16-74 and found it was strongly related to age. Over 80% men and women under 45 years old reported good health. However, the percentage of men and women aged 45-54 reporting good health fell sharply from 77% and 74% to 61% and 64% among those aged 55-64.

Finally, self-rated health was investigated with regard to obesity. The bar chart demonstrates that a higher percentage of obese respondents rated their health as 'fairly good' rather than 'good'. A Pearson's Chi-Square Test was performed to calculate the association between obesity and self-rated health. A significant relationship was found ($\chi^2 = 58.63$, $df = 2$, $p < 0.0001$), indicating that obese participants rated their health less

favourably than non-obese participants. Ross (1994) demonstrated an association between overweight and self-rated health, and argued, "the more overweight a person is, the worse is his/her self-rated health" (p69). Similarly, Ferraro & Yu (1995) found that obese participants rated their health more negatively than non-obese participants. Trakas *et al* (1999) also confirmed the association between self-rated health and obesity.

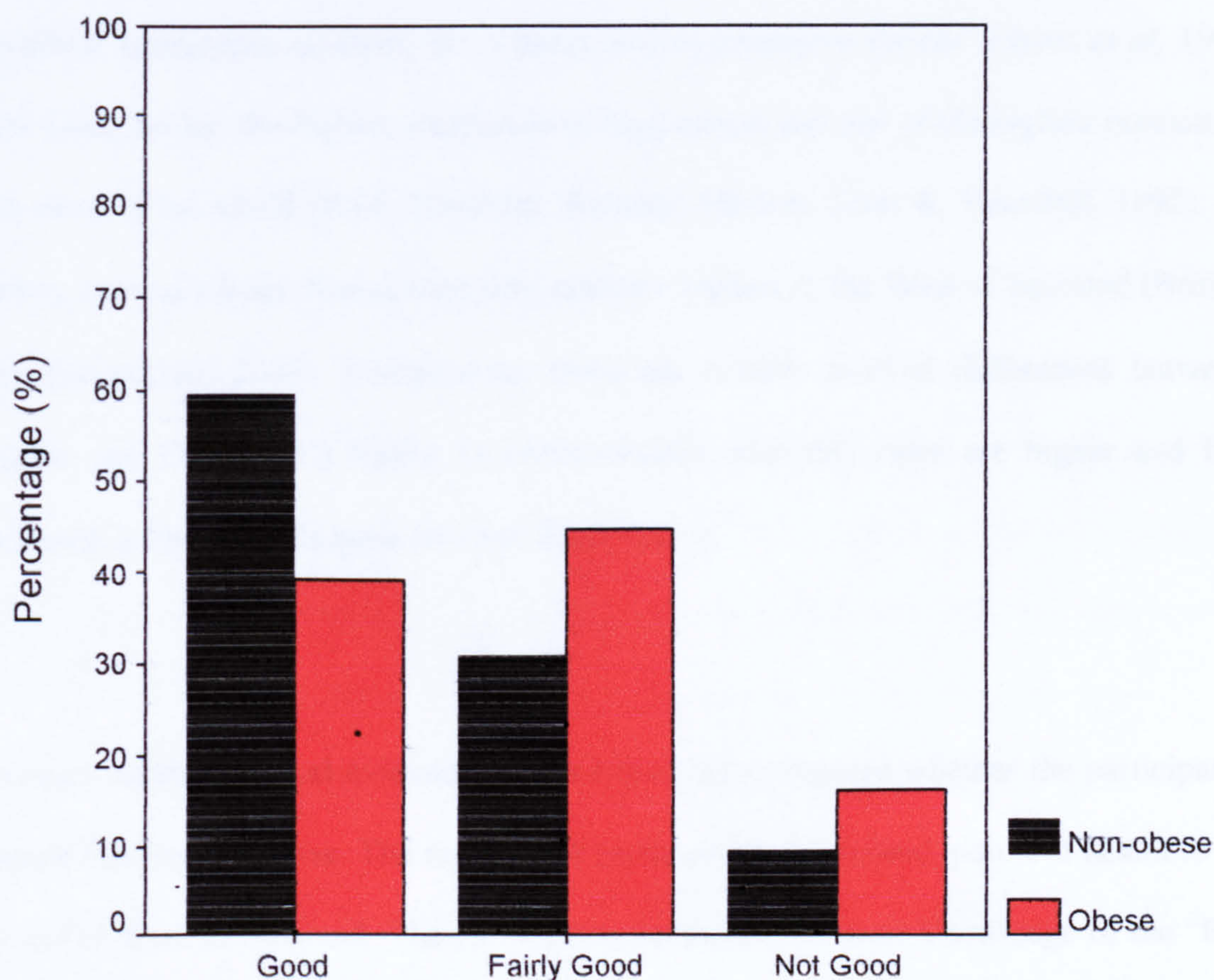


Figure 5.1 Self-rated Health of Obese and Non-obese Respondents

5.3 Perceptions of Health in the West of Scotland

Coronary heart disease, stroke and cancer are major causes of death and ill health in Scotland and were identified as priority health topics by the Scottish Executive in the public health White Paper "Towards a Healthier Scotland" (Scottish Office, 1999). As previously mentioned in Chapter 3, heart disease, cancer and stroke have come to be

collectively known as “The Big Three” killers due to high mortality from these diseases. Each year 2600 people under 65 die from coronary heart disease, over 4,000 die from cancers and around 700 die from strokes (Scottish Office, 1996).

Scotland's health, compared to that of other European nations, is poor and life expectancy is shorter (Scottish Executive, 2000). The West of Scotland - and Glasgow in particular - has an infamous reputation for being unhealthy. In the West of Scotland there are “prevailing stereotypes of short, fat, wheezy and hypertensive people” (West *et al*, 1994 p109). Glasgow has the highest incidences of lung cancer and one of the highest premature death rates in the world (Reid, Rapallini, Ramsay, Hanlon, Scott & Tannahill, 1992). In addition, coronary heart disease mortality rates are highest in the West of Scotland (British Heart Foundation, 2004). Furthermore, there are notably marked differences between Glasgow and Edinburgh's health as cardiovascular mortality rates are higher and life expectancy is lower in Glasgow (Watt & Ecob, 2000).

As a result of this medical evidence, it was important to explore whether the participants accepted this basic premise. The majority of participants did, indeed, perceive health to be poor in the West of Scotland. The participants demonstrated some knowledge of the “Big Three” killers in Scotland, as they were aware that coronary heart disease and cancer (in particular lung cancer) were common health problems in the West of Scotland. The most frequently cited health problems were heart disease, cancer, overweight and diabetes. However, it is important to note that only three out of twenty participants viewed overweight/obesity as health problems and only one participant mentioned stroke.

The respondents demonstrated different types of lay knowledge during this section of the interview, including ‘theoretical knowledge’ and ‘experiential knowledge’ (Meillier, Lund & Gerdes, 1997). For example, Thomas demonstrates his theoretical knowledge about health and draws on his professional knowledge of economics and health expenditure:

“Statistically it’s proven that the level of heart disease and all these other things are such that the average Scots person is not as healthy as the average Briton erm and that is borne out by the fact that in Scotland we spend 20% more per capita on the health service than they do in the rest of the UK and we don’t get any better result than we do in the rest of the UK erm so therefore the answer to your question is yes the Scots people are not as healthy as the average Briton.” Thomas [Morbidly obese, 59, DEPCAT 1]

Participants living in affluent areas tended to offer more general and less personalized statements. However, they demonstrated greater theoretical knowledge, which was possibly due to their higher levels of education. Parmenter, Waller & Wardle (2000) have demonstrated that there is a relationship between health knowledge, educational level and socio-economic status.

“I think probably you’ll find that most of it is obesity, heart disease er probably smoking, there’s still probably an element of industrial diseases coming through like emphysema, asbestos as well just from the heavy industries they’re probably the main you know health things I’d say.” Stuart [Obese, 33, DEPCAT 1]

Although the majority of the participants (16) perceived health to be poor in the West of Scotland, this was not a universally accepted concept. Out of the remaining four participants, two agreed, that in principle, health seemed poor in the West of Scotland. Gillian felt that the West of Scotland has developed a stereotypical reputation for being unhealthy and she questioned the stereotype for concentrating on the negatives:

“We do have a reputation for being unhealthy, using bad diets, also for excessive drinking and things like that ...I’m not saying there isn’t any truth in it, but part of it I think is umm stereotypical as well...because they’re focusing on the bad health, bad eating habits, bad drinking habits...” Gillian [Obese, 37, DEPCAT 6]

Fuller, Backett-Millburn & Hopton (2003) suggest that the media continues to perpetuate the stereotype of the unhealthy “Scottish diet” and presenting scientific information in this way, may increase scepticism about expert advice.

Isobel questioned whether it was worse in the West of Scotland compared to elsewhere and emphasized the importance of weighing up the evidence:

“Yeah I think the people in the West of Scotland do suffer from poor health in general, well that seems to be the impression, but sometimes it’s quite hard to tell...maybe other people’s health is just as poor as in the West of Scotland.”

Isobel [Morbidly obese, 43, DEPCAT 6]

Only two participants actively challenged the negative perception of poor health in the West of Scotland. Penny, who lived in an affluent area, highlighted the problems in cities such as London, and perceived a number of benefits of living in the West of Scotland:

“I’ve no idea why they pick us (laughs). I’d have thought London would have been a better place ‘cause you’ve got the water situation, you’ve got the smog, you’ve got everything else... where as up here we don’t have that problem we’ve got decent water, we’ve got decent air.” Penny [Obese, 40, DEPCAT 1]

Theresa, like Penny, felt that the West of Scotland had been singled out and did not believe that health problems were confined to the West of Scotland.

“I don’t really know to be honest if there’s any more issues erm in the West of Scotland than there is in the East, the South or the North of Scotland. I really don’t know if I would agree with that to be perfectly honest. I mean I think there are health issues everywhere. I don’t think it should really be pin-pointed into the West of Scotland.”

Theresa [Obese, 40, DEPCAT 5]

The majority of participants in this study perceived health in the West of Scotland to be poor. In spite of this, when they were questioned about differences between the west and the rest of Scotland, no participants believed that the West of Scotland was worse than the rest of Scotland in terms of health. Interviewees living in affluent areas drew attention to the social differences between the East and West of Scotland. For example, Thomas sought to explain these differences as a product of the demographic profile:

“I think that in the West of Scotland...history says that there is a tremendous immigrant population...in terms of Irish and all the rest of it that have come in to the West, which is heavily populated, was heavy industry and therefore the social demographics are such that there is a different population mix in the West of Scotland than the East of Scotland it’s just a fact.” Thomas [Morbidly obese, 59, DEPCAT 1]

Maeve suggested that the social class differences between Edinburgh and Glasgow were possible causes of unhealthy diets in the West of Scotland:

“I think because Glasgow is really a blue-collar city as opposed to Edinburgh for example, I think therefore that economic factors come into it. I think that Edinburgh people probably eat a healthier diet because they’re better off and they have less parochial tastes.” Maeve [Morbidly obese, 58, DEPCAT 1]

People living in the affluent areas appealed to their own professional knowledge and applied it in a broader context. However, those living in deprived areas were more likely to admit that they had no formal knowledge and that they gained their knowledge about health problems from media coverage:

“Well ehm I’ve heard on telly, I’ve never sort of studied it like, the West of Scotland is renowned for heart disease and strokes and we’ve got the highest percentage of population having these sort of problems.” Hazel [Obese, 37, DEPCAT 6]

Interviewees in deprived areas tended to use experiential knowledge when they spoke about health issues. They often spoke about their own experiences or the experiences of people in their social circle. For example, Helen has depression and she knows a number of people who have had cancer or heart disease:

“I would think depression plays quite a... I know quite a few people at my age are bothered with depression and what have you. Heart disease as well I think, and I know an awful lot of people that have got cancer as well in this area you know, so really those three to me are the three that I come across or know somebody that has had you know...”

Helen [Obese, 47, DEPCAT 6]

Likewise Ann, who has type II diabetes, talks about diabetes, overweight and heart disease being common problems in the West of Scotland:

“Well, only going by what I hear and sorta people I know, I think probably now the overweight and diabetes and well obviously the heart thing as well it’s really just quite bad here.” Ann [Female, 56, DEPCAT 6]

The above findings demonstrate that lay concepts of health involve a complex understanding and people acquire information about health from a variety of sources.

Davison, Frankel & Davey Smith (1991) argue:

“...individuals interpret health risks through routine observation and discussion of cases of illness and death in personal networks and the public arena, as well as from formal and informal evidence arising from other sources, such as television and magazines.” [p428]

5.4 Explanations of poor health in the West of Scotland

A number of reasons were offered for the causes of poor health in the West of Scotland. Diet was the most frequently cited reason for poor health in the West of Scotland and this will be fully explored in the subsequent chapter in relation to healthy eating. Behaviours such as poor diet, smoking, inactivity and drinking were frequently cited as the principal causes of poor health. Although Thomas (as demonstrated above) drew on his professional knowledge, he did not completely discount the importance of health behaviours:

MC: What do you think are the reasons for poor health in the West of Scotland:

Thomas: Diet.

MC: Uh-huh.

Thomas: High levels of fat, high levels of smoking, high levels of drinking

Thomas [Morbidly obese, 59, DEPCAT 1]

Maggie, in her explanation, acknowledges that the causes of poor health are complex and that poor health can be a combination of everything and cannot be pinned down to one particular health behaviour:

“Maybe smoking, I don’t know whether your smoke yerself or whether you’re in the house with people who smoke I don’t know if that’s got something to do wi’ it as well cos we smoke quite heavily in the West of Scotland. And the drink. I think it’s a combination of everything isn’t it?” Maggie [Morbidly obese, 50, DEPCAT 6]

Participants living in affluent areas frequently referred to the concept of 'lifestyle' in their explanations of the reasons for poor health. They perceived that the main lifestyle problems were an unhealthy diet, smoking and alcohol consumption.

Darren, who lived in DEPCAT 5, appealed to the concept of lifestyle and perceived lifestyle to be an important risk factor for coronary heart disease:

"...Heart attacks and heart disease is caused through oor living and drinking and what we eat and all that." Darren [Morbidly obese, 32, DEPCAT 5]

Joan who lived in DEPCAT 5 used the term lifestyle, demonstrating that this term was not restricted to those living in the affluent area:

"Well it's just basically lifestyle (my emphasis), we're not vegetable eaters and we're not fruit eaterseh we probably don't do enough sport mhmm, watch telly all the time you even see that with kids now, you know." Joan [Morbidly obese, 60, DEPCAT 5]

The term "lifestyle" and its meaning are well understood in everyday language (Badura, 1984). The fact that the participants stated lifestyle as a cause of health echoes Blaxter's (1990) sentiments that "the public has learned well the lessons of health education, and answers about 'healthy lifestyles' were the ones which came first to their minds" [p153]. The participants' perceptions of a 'healthy lifestyle' in relation to obesity will be further explored in Chapter 6.

In addition to lifestyle, a number of environmental and social factors were perceived to be causes of poor health in the West of Scotland. Three participants referred to the impact of industry on health and two spoke specifically about the shipyards and asbestos. Although Helen does not explicitly mention asbestos she talks about industrial diseases "coming to light" and the possibility that the factory and shipyard workers may pass these diseases

onto their children, highlighting both the immediate impact of exposure on individuals and the hereditary implications:

“I think my area is an industrial town and ehm it’s a high unemployment area as well so you know, a lot of people took what jobs they could and ehm it’s come...well my way of thinking it’s coming more to light that these jobs have affected people’s health. Not only their health, but their children, they’ve passed it on.” Helen [Obese, 47, DEPCAT 6]

Other participants referred to environmental issues. For example, Theresa felt that the close location of a nuclear base and electricity pylons were possible causes of poor health:

“Probably because we’re so near to the nuclear base down at Faslane....and there’s pylons. I’ve got a friend that stays in [location] right next to the pylons, and they say that you can get cancer from that...” Theresa [Obese, 40, DEPCAT 5]

The impact of poverty on health, especially in relation to the cost of food was discussed by a number of participants and this will be explored in the following chapter. However, one participant, Isobel believed that poverty itself was the sole reason for health problems in the West of Scotland and that poverty meant people were likely to accept ill-health as the norm:

“I think poor health is related to poverty to be honest with you almost exclusively. I think people are stressed because of poverty and I think that people have difficulty accessing services and asking for the right sort of help or knowing the right sort of help to ask for. I think that people have got other concerns and they just sort of accept a level of health”

Isobel [Morbidly obese, 43, DEPCAT 6]

Isobel’s comments echoes Blaxter & Paterson’s (1982) findings that the women living in relatively deprived areas in Aberdeen had low expectations of health. For example, the

respondents frequently described their health as 'good' despite their experience of serious illness and accepted some conditions as part and parcel of getting older.

Smoking was viewed by some interviewees as so pervasive that its implications for health were not considered. Sandra demonstrated this in her account where she admits that she had never thought about the impact of smoking on her own health:

"I've never even thought about it, it's never even crossed my mind. I suppose my mum and dad died wi lung cancer but then it's the West of Scotland ain't it?"

Sandra [Morbidly obese, 50, DEPCAT 6]

It is evident that Sandra had not considered that smoking was a risk factor for health problems such as heart disease and lung cancer. Further evidence to support this was found later in the interview when she admitted that after her heart attack, she had been advised to give up smoking and had done so for about six months and then started smoking again. It seemed as if Sandra accepted that her parents had died of lung cancer because they lived in the West of Scotland, rather than because they smoked.

Graham (1984) explored the smoking habits of single mothers on low incomes and established the importance of considering the context of everyday life when addressing behavioural change. Graham found that the women in her study continued to smoke because smoking performed a number of functions: it was used as an appetite suppressant, a form of relaxation and as a social event, enabling them to interact with other young mothers. Stead, MacAskill, MacKintosh, Reece & Eadie (2001) conducted focus groups with smokers and non-smokers in three deprived Glasgow communities. Like Graham, Stead *et al* discovered that smokers in these communities had concerns other than health and that smoking provided a means of coping with the stresses of living in a deprived community.

Davison, Frankel & Davey Smith (1992) suggest that non-compliance to health education is due to “the existence of an attitude which sees health as being largely determined by forces outside the control of the individual ” (p676). Similarly, Tiggemann & Rothblum (1997) propose that people with an ‘internal locus of control,’ believe that their individual behaviour determines what happens to them whereas people with an ‘external locus of control’ believe that fate, chance or significant others determines their lives. Davison *et al* (1992) found that it was extremely common for participants to make references to chance as participants frequently spoke about being ‘lucky’ or ‘unlucky’ in avoiding or succumbing to an illness. The complexity of pinpointing a cause for ill health was evident in many of the participants’ accounts. Some of the participants appealed to the notion that poor health was down to a number of factors including lifestyle, hereditary factors and an element of chance:

“I say to my family, there’s three things: stay slim, take lots of exercise and eat well and that’s about the three main things you can do to stay healthy. Ermm, other than that, it’s a matter of genes and good luck.” Kenneth [Obese, 52, DEPCAT 2]

Kenneth takes a combined active-passive stance in the sense that he firstly states the ‘active’ behaviours that one can do to prevent illness – remaining slim, exercising and eating a healthy diet. However, at the same time he alludes to the notion that even though you do all those things it can still be down to chance and inheritance.

In contrast to Kenneth, Bill appears to be passive and does not believe that he can actively do anything to prevent illness:

“I think poor health can be hereditary, er poor health can be circumstantial or unlucky. I’ve had many operations myself and er you could really put them down to being unlucky,

er as opposed to doing anything particularly er so I think it's a real mixture of all those situations." Bill [Obese, 45, DEPCAT 1]

The majority of participants were aware of the risks connected to certain health behaviours. However, smokers were more likely than non-smokers to appeal to fatalistic constructs, particularly the notion of being knocked down by a bus. For example, Theresa acknowledged that she was a smoker in the first part of the interview and then later in the interview talked about her family history of heart disease and cancer:

"I do smoke, I've got to admit that... I'm not a heavy smoker, but I do smoke... There is a lot of things with hereditary factors, erm I mean... my mum died of heart attack so what is the chances of me dying of heart attack? I suppose stronger than or higher than somebody's parents that hasn't. God forbid me ever being diagnosed with cancer. Again that one's on my father's side of the family, so really... but again I could go out tomorrow and get knocked down by a bus and not die of either (laughs)"

Theresa [Obese, 40, DEPCAT 5]

Interestingly, Laurier (1999) also found that the smokers in his study talked about mortality and chance in the same way appealing to the possibility of being knocked down by a bus.

In constructing accounts of poor health, it seems that some participants find it important to weigh up the perceived risks. People tend to judge the risks for themselves, often relying on lay epidemiology. Ness, Frankel, Gunnell & Davey Smith (1999) demonstrated this using sun-tanning as an example and suggested that complex lay beliefs about the benefits of sun exposure, allow people to justify continuing to sunbathe and to disregard health promotion messages about malignant melanoma.

"It won't happen to me"

Some of the participants argued that there was an “it won’t happen to me” mind-set in the West of Scotland:

“I think there’s still that kind of element of ehm “it won’t happen to me” you know that kind of thing” Ann [Obese, 56, DEPCAT 6]

“You know it’s like people don’t realise the whole implications but I think that has quite a lot to do with it the “it won’t happen to me” type thing.” Hazel [Obese, 37, DEPCAT 6].

Stuart eloquently attempted to expand on the “it won’t happen to me” phenomenon. He suggests that there is a certain mind-set in the West of Scotland, where some people participate in a cycle of moderation and excess:

“The other aspect about health up here is there’s very much a weekend millionaire type society because we live for the weekend and at the weekend we go out and in general we drink too much, eat too much, probably exercise poorly and eh just generally don’t obey you know any of the healthy rules which you know many of us probably adhere to during the week.” Stuart [Obese, 33, DEPCAT 1]

Blaxter (1990) argued that attitudes are susceptible to change through health promotion but the effectiveness depends on people’s attitudes and behaviours. The “it won’t happen to me” construction demonstrates the possible tensions between health promotion and the ways in which lay people appeal to ideas about risk. This enables the potential for resisting health promotion messages because if people do not perceive that they are at risk they will not attempt to change their actions.

5.5 Constructions of a 'Healthy' & 'Unhealthy' Person

In addition to exploring participants' beliefs about health in the West of Scotland and their perceptions about the causes of poor health, the interviews set out to explore participants' conceptualisations of a 'healthy person' and an 'unhealthy person.'

5.5.1 A 'Healthy Person'

The main themes that emerged from the analysis were the concepts of health as appearance, health as contentment with one's life and health as fitness. Participants conceptualised health in terms of physical appearance and both men and women who viewed this as an important element of health emphasized the importance of being slim or lean. Participants also referred to features such as hair and skin complexion:

"I would take it that they would be slim and fit and erm, lovely complexion, nice teeth and lovely shine off their hair. You know erm very enthusiastic and happy"

Helen [Obese, 47, DEPCAT 6]

"A typical healthy person would be somebody that is lean, muscular, athletic in build there's a difference in vibrance in their skin and in their hair"

Stuart [Obese, 33, DEPCAT 1]

Interestingly, although Stuart perceived slimness as an important characteristic of being healthy, there was a degree of contradiction. For example, with further prompting, Stuart admitted that slim people were not necessarily healthy, indicating that sometimes appearances can be deceptive:

MC: Are slim people always healthy?

Stuart: (laughs). No I think that's a fallacy. That's a lie erm I think people who are slim give off an aura of healthiness but not necessarily that they are healthy. I know people who have done no exercise since school but are thin as a rake but I wouldn't class them to be healthy. Stuart [Obese, 33, DEPCAT 1]

Participants also talked about the degree of slimness and emphasized that a healthy person would have to be slim but not thin:

"Healthy... you know someone who looked healthy, like have a good complexion, someone who didn't look too fat but wasn't too thin either you know."

Hazel [Obese, 37, DEPCAT 6]

"Slim but not skinny, no' really thin" Sandra [Morbidly obese, 50, DEPCAT 6]

It is rare to find examples of health being related to appearance in the literature on lay health beliefs. However, Blaxter (1990) refers briefly to it when discussing her findings about health as fitness. She found that women regarded slimness, complexion, bright eyes and shining hair as important elements of being healthy. Mullen (1993) in his study of the health beliefs of Glaswegian men found that some of the men mentioned complexion. However, a number of the men had great difficulty describing health as physical appearance and the men often talked about people "just looking healthy." Watson (2000) found that physical appearance was related to participants' notions that health and well-being were interconnected. In addition, Watson found that participants' linked appearance to notions of fitness, particularly when discussing overweight and fitness levels.

"Happy with yerself"

As previously mentioned above, Helen spoke about the constellation being healthy as being happy. However, other participants specifically emphasized the importance of being content with oneself and one's life:

"Someone who is healthy to me is someone that is content with their self, they don't feel any pain, they're not tired, they're content with their life. Basically, they're happy, they feel healthy, they can walk they can move they can do whatever they want and they're not going to feel any pain. To me that's basically healthy you know."

Peter [Morbidly obese, 52, DEPCAT 6]

Gillian refers to the importance of being happy in oneself and talks about this in the context of behaviour, highlighting that she does not view the health promotion advice of regular exercise, drinking water and eating fruit and vegetables as part and parcel of being healthy:

"Someone who is healthy is er someone who is happy in themselves (my emphasis), doesn't get ill on a regular basis um someone who feels that they can cope with their life. It doesn't have to be someone who's got a tan which isn't necessarily healthy for you anyway or someone who er goes to the gym four or five times a week I mean you know that's not what I see as health. It's more eh sort of like if you're healthy your inner self, without getting into all philosophy or anything like this, but if you're healthy you're usually happy with yerself and I think that comes across if you're happy with yerself then I think that actually affects your health more than five portions of fruit a day and a litre of water and all the rest of it." Gillian [Obese, 37, DEPCAT 6]

Studies about men's health beliefs have shown that a positive mental attitude and mental well-being feature prominently in men's conceptualisations of health (Mullen, 1993;

Watson, 2000). For example, Watson (2000) demonstrated that some of the men in his study perceived happiness as an important component of being healthy.

Only one participant talked explicitly about both physical and mental health. Maeve emphasized the importance of balance:

“Well my interpretation of health is not just physical health. I think it’s sort of the triangle of social, mental and erm physical health so therefore I don’t necessarily see people who are athletes as particularly healthy if they’ve obsessively got to win and that kind of thing. So my idea of a healthy person is somebody who has got these three in balance.”

Maeve [Morbidly obese, 58, DEPCAT 1]

This concept of balance has also been referred to by Herzlich (1973) and Torsch & Ma (2000). Herzlich found that middle class participants living in Paris and Normandy provided a positive definition of ‘health as equilibrium’ and considered the importance of relaxation, well-being and social relationships. Likewise, in a study of Chinese Americans Torsch & Ma (2000) found that people used the traditional Chinese concepts of ‘ying’ and ‘yang’ to describe the importance of balance in health.

The final theme reflects participants’ view of fitness as an important part of being healthy. Participants saw being active as an important part of being healthy. For example, Maggie spoke about how she felt that healthy people would be more active than her and compared her activity levels unfavourably with those of her sons:

MC: How would you describe someone that was healthy?

Maggie: "Probably more active, more on the go, faster at moving about. I've got two sons and I always feel as if I'm dead slow compared to them I think probably from that point of view the speed at which they can move about and get about."

Maggie [Morbidly obese, 50, DEPCAT 6]

People who were physically active were regarded as fit and healthy:

"My wife, who is a highland dancing teacher, who is fit..."

Thomas [Morbidly obese, 59, DEPCAT 1]

"My fitness instructor... she's really healthy, she's tall, slim. She's fit."

Penny [Obese, 40, DEPCAT 1]

Participants frequently placed an emphasis on being slim and fit and believed that weight and fitness were interconnected and some participants felt that people who were overweight were unfit:

"Erm I think slim would be...erm you'd imagine somebody who could run twenty miles not to be overweight particularly" Bill [Obese, 45, DEPCAT 1]

"Obviously if somebody is nice and slim, they've got a bit of energy about them, they're obviously more healthy than somebody that's pretty obese and sitting doing nothing."

Theresa [Obese, 40, DEPCAT 5]

However, not all of the participants believed that overweight people were necessarily unfit.

For example, Stuart felt that it was more important for overweight people to be fit than

slim and Peter described some large men who played football each week on the football pitch behind his house:

“There’s a football park that belongs to the school and on a Sunday afternoon, there’s these guys and they’re a lot fatter than me, but these guys can run up and down there and they don’t stop for ninety minutes and they’re not stopping. I couldnae do that, I’d be puffed out and they’re running up and down but they’re all big fat guys you know and I mean big fat guys and they’re running up and down and it doesn’t matter about the weather.” Peter [Morbidly obese, 52; DEPCAT 6]

Blaxter (1990) found that respondents viewed physical fitness as an integral part of health. Young men talked about strength, athletic ability and the importance of sport. Blaxter found that the word ‘fit’ was most commonly used in descriptions of a “healthy person” by men under the age of forty. Williams (1983) described the word ‘fit’ as being “synonymous with ‘healthy’ and ‘strong’.” Likewise, Mullen (1993) found that people tended to use the word fit in their constructions of health and he observed, “To be healthy was to be fit.”

5.5.2 An ‘Unhealthy Person’

The main themes that occurred in participants constructions of an ‘unhealthy person’ were similar to their constructions of a ‘healthy person.’ The majority of people tended to utilize their understanding of healthy in defining unhealthy. Being unhealthy was also viewed in terms of appearance with overweight cited frequently:

“Unhealthy would be somebody who is overweight” Stuart [Obese, 33, DEPCAT 1]

The participants who admitted to being overweight in the early part of the interview, referred to themselves as unhealthy. Helen who had previously appealed to skin

complexion and hair in her construction of a healthy person, reversed this for her construction of an unhealthy person:

“They would be overweight like myself (laughs) erm dull complexion er and their hair wouldn’t be...you know they wouldn’t have a nice shine in their hair, to me that’s a sign that they’re erm not as good health as what they should be.”

Helen [Obese, 47, DEPCAT 6]

Hazel, like Helen, had previously mentioned skin complexion. However, she highlights her perception that unhealthy people can be either overweight or underweight:

“Well they would be overweight or underweight, dull hair, a kind of dullness in their skin, a lack of lustre in their eyes.” Hazel [Obese, 37, DEPCAT 6]

Participants also defined ‘unhealthy’ in terms of appearance and visible health problems:

“Like me, overweight... probably bad skin, chesty, wheezy that kind of thing.”

Maggie [Morbidly obese, 50, DEPCAT 6]

In addition to visible health problems, unhealthy people were perceived to be lacking energy and vitality:

“Overweight, lack of energy, bad breathing erm looking like they’ve got a cold like I have at the moment.” Bill [Obese, 45, DEPCAT 1]

Blaxter (1990) found that women, rather than men, tended to use the concepts of ‘energy’ and ‘vitality’ in their definitions of health.

Behaviour featured strongly in participants' conceptualisations of an 'unhealthy person.' For example, Kenneth felt that unhealthy people consumed a poor diet and were physically inactive:

"Tend to be overweight, er tend not take exercise, tend to eat a poor diet."

Kenneth [Obese, 52, DEPCAT 2]

Smoking was perceived as unhealthy and participants often illustrated their accounts with descriptions of other people's smoking and the impact that smoking had on the individual's health:

"Well unhealthy...like my husband because he smokes like a chimney (laughs). As a matter of fact we're away to the doctors today because he's so bad with the coughing and everything..." Joan [Morbidly obese, 60, DEPCAT 5]

"I don't know, people who are unhealthy... well I've got a personal eh hatred with cigarettes and eh a pal of mine last year, well early this year ...he died very very suddenly you know and I think anyone that smokes cigarettes or does anything like that is stupid you know... I used to see him in the morning times and I always remember his eyes when he was puffing and I'd say "why are you smoking?" ...But that's just me that's a personal thing that I've got..." Peter [Morbidly obese, 52, DEPCAT 6]

Oakley, Bendelow, Barnes, Buchanana & Husain (1995) explored children and young people's knowledge about health and found that smoking was frequently cited by both secondary and primary school children as a factor that contributed to ill-health.

Only Sandra and Theresa were smokers and smokers tended to play down the impact of their own smoking on health. Sandra's beliefs about smoking and health were discussed previously. Theresa did not talk about the impact of smoking on health and questioned

whether or not health could be actually be conceptualised into broad categories of healthy and unhealthy:

“Erm, is there anybody really healthy? Is there anybody 100% healthy? I’ve heard of people in their thirties that have died of heart failure and they’re out jogging three, four times a week, taking aerobics classes, doing X, Y and Z and they still pop their clogs...I used to work in [job] and it was amazing the elderly people that I used to go in to - they were in their late eighties and nineties, and they sat and smoked twenty cigarettes, forty cigarettes a day.” Theresa [Obese, 40, DEPCAT 5]

Theresa’s comments reflect several of the strands in the lay epidemiology described by Davison, Davey Smith & Frankel (1991). Davison *et al*’s work in South Wales explored respondents’ ideas about the kind of person who was likely to develop coronary heart disease. The knowledge of the risk factors for coronary heart disease are well known and it is often believed that people who are overweight, unfit, eat too much and are often stressed are likely to be candidates for heart disease. Davison *et al* coined the term ‘coronary candidacy’ to describe this phenomenon and talked about two characters: “Uncle Norman” and the “Last Person.” Uncle Norman is represented as living an unhealthy lifestyle (overweight, unfit, poor diet and a smoker) yet despite this, lives to be 90. In contrast the “Last Person” is young and lives a healthy lifestyle and is “the last person you would expect” (p18). In her account, Theresa uses lay epidemiology about coronary heart disease to defend her construction of health and as a result demonstrates that this is likely to be a common reason that people do not follow health promotion advice. However, it becomes apparent later in the interview that Theresa is currently losing weight, by changing her dietary habits and increasing her physical activity, suggesting that she does not consistently relate to lay epidemiology and allow this to determine her own behaviour.

5.6 Summary

The self-rated health results indicated that the majority of participants perceived their health to be 'good' and that men were more likely than women to rate their health as 'good.' In addition, younger men and women were least likely to perceive their health as 'not good.' In terms of obesity, obese respondents were more likely to rate their health less favourably than non-obese respondents.

The qualitative findings demonstrated that participants used both theoretical and experiential knowledge to define their beliefs about health. Furthermore, health is a complex concept to define and the participants provided a number of social and environmental reasons for poor health in the West of Scotland. Likewise, they perceived chance, fate and inheritance to be important components of health.

The participants seemed to find it easier to describe a person that was 'unhealthy' compared to a person that was 'healthy.' However, it must be acknowledged that the participants rarely talked about these concepts of health in isolation and there was often overlap between 'healthy' and 'unhealthy.' Interestingly, the participants placed more emphasis on mental health than on physical health and viewed happiness as a vital component of being healthy.

Finally, although this study is not concerned with coronary heart disease, one participant highlighted that the issue of coronary candidacy is a component of lay perceptions of general health. This finding demonstrated that lay epidemiology might provide people with a rationalization to resist health promotion advice.

Chapter 6: Obesity & 'Healthy Lifestyle'

6.1 Introduction

The concept of lifestyle is widely used in health promotion and has been central to the development of a socially based model of health (Backett & Davsion, 1995). As health-related behaviours form part of an individual's social experience, lifestyle has become an increasingly important concept (Abel, 1991). Lifestyle approaches to improving health have focused on decreasing smoking, alcohol consumption and drug misuse, and encouraging people to eat a healthier diet and increase their levels of physical activity.

Davison, Frankel & Davey Smith (1992) argue that

“informing the public of the risks associated with certain behaviours, and exhorting the adoption of a ‘good’ diet, regular exercise and abstention from society’s two main legally sanctioned non-medical drugs has become an important part of both General Practice and the newer state sectors of Health Education and Health Promotion (p675).”

‘Healthy eating’ and physical activity are regarded as fundamental components of a ‘healthy lifestyle’ particularly because the links between nutrition and a variety of diseases have been well documented (Bush & Williams, 1999). Furthermore, approximately one-half of all premature deaths in Europe are diet-related and are therefore preventable (Robertson, Brunner & Sheiham, 1999). The National Service Frameworks for coronary heart disease and diabetes emphasise the importance of tackling obesity (Read, Ramwell, Storer & Webber, 2004).

Kerr, Maslin, Orford, Dalton, Ferrins-Brown & Hartney (2000) argue “a common underlying assumption in planning health education efforts is that people adopt risky or unhealthy behaviours because they do not fully understand the consequences of such acts and just do not know any better” (p231). This chapter aims to explore the participants’ knowledge about the causes of obesity, their perceptions about healthy eating and exercise

and the reasons that might prevent people from putting health promotion advice into practice. Finally, the chapter will present participants' suggestions for tackling the problems of overweight and obesity.

6.2 Perceived Causes of Obesity

At a very basic level, some of the participants perceived that the cause of obesity was independent of health-related behaviour, and was due to familial or genetic origins:

"The thing is like, my family we're all big, we always have been, but my sister in law is as thin as a rake yet my brother eats the same as her. I think it's the way you are and the way your family are I mean all her family are like sticks, all of my family are big."

Deborah [Obese, 46, DEPCAT 1]

Although Maggie thought it was possible for obesity to be familial, she highlighted the complexity of pinpointing a cause for obesity:

"Thinking back to my Aunt and looking at other members of my family maybe it's in the genes and this was how I was going to end up anyway I don't know. It must just be a combination of everything." Maggie [Morbidly obese, 50, DEPCAT 6]

Kenneth acknowledged the possibility of a hereditary connection, but argued that the prevalence of obesity was due to people eating too much and exercising too little:

"There could be genetic factors I suppose and family factors I'm not entirely sure that that would account for most of the obesity that you see around you now and just in my lifetime people are far heavier than they ever were. You don't see fat people who don't eat a lot, or I very rarely see fat people who don't eat a lot and people who take lots of exercise they tend to be slim." Kenneth [Obese, 52, DEPCAT 2]

However, it was not just people in affluent areas who perceived an unhealthy lifestyle as the main cause of obesity. For example, Peter had acquired his knowledge of obesity from his doctor and accepted the concept that weight gain was caused by consuming too many calories and insufficient physical activity. Peter's comments also highlighted the importance of different stages in the lifecourse:

"Like the doctor told me, its basically arithmetic, the more you put in, the more you have to burn off so when you were younger you were burning it off because you were doing more but the older you get, you tend to do less so it's turning into fat."

Peter [Morbidly obese, 52, DEPCAT 6]

Although health promotion is not intended to be didactic, the health promotion message about obesity is essentially 'eat healthily' and exercise in order to lose weight. Daykin & Naidoo (1995) argue health education focuses on the individual and re-emphasises the notion that the individual should be responsible for his or her health. The health education message about obesity has moral overtones as it strongly suggests that obese people fail to lose weight because of their sloth and gluttony. It was evident that the participants understood and had absorbed the scientific discourse about the causes of obesity. Additionally, it was clear that people understood the individualized message:

"I think it's down to the individual erm you have some people and it doesn't matter how much motivation or how much encouragement they will never participate... you can do it by advertising, you can do it by you know promotional offers erm but some people will never be interested in being healthy, they'll just be interested in who they are so it's very difficult." Stuart [Obese, 33, DEPCAT 1]

In addition to these relatively straightforward explanations about the causes of obesity, a number of interesting cultural explanations emerged. For example, Hazel believed that upbringing and Scotland's "deep fried culture" were likely causes for obesity:

"I think a lot of it is culture as well isn't it? You know, like the way that we've been brought up, deep fried mars bars and all that you know, if you're gonna cook something you should fling it in the fryer." Hazel [Obese, 37, DEPCAT 6]

Frying typically 'Scottish' foods such as potato scones was also highlighted by Gillian who felt that some types of food could not be cooked in an alternative way:

"There are some things that you just can't get round and you have to cook it like that, like a fried egg you can't put a fried egg in a microwave and a fried egg is really nice sometimes you know but there's no other way... Potato scones, they're another big thing in Scotland and there's no other way to cook them apart from frying them."

Gillian [Obese, 37, DEPCAT 6]

Some of the participants felt that there had been a cultural shift, and that the environment had become more obesogenic⁴. For example, Penny felt that the increase in obesity was because more people were using cars and less people were walking:

"It could have a lot to do with transport because people are not getting out and about as much as they should do they're just sort of getting in their cars. There are more cars on the road than there used to be so therefore they're just taking that. The transport I'd say is pretty rubbish so they're using their cars, they're not walking."

Penny [Obese, 40, DEPCAT 1]

⁴ Term used by Egger & Swinburn (1997) to describe the effects of environmental factors, which predispose an individual to obesity (see section 1.3).

Mirroring the finding in Chapter 5 that individuals in the more affluent areas tended to explain ill-health in terms of broader demographics and environmental factors, Kenneth believed that obesity in the West of Scotland was due to a decline in industry, coupled with the increased accessibility of fast food:

“If you think back thirty years and think about what people in Glasgow and the West of Scotland did thirty years ago, the vast number was working down the mines, working in heavy engineering, built ships, they built trains, they were making things constantly, now they sit in call centres and answer the phone or they serve fries and the other thing is obviously, a huge rise in cheap nasty fast food. Fat, saturated and it’s so easy to buy and it’s sold in every single cash checkout counters, sweets, and chocolate and crisps are just available and widespread.”

Kenneth [Obese, 52, DEPCAT 2]

Likewise, Stuart believed that the increase in the prevalence of obesity was caused by increased consumption of fast foods. He believed certain foods such as fish and chips were no longer viewed as a ‘treat,’ but part of normal consumption:

“I think fast food, processed food is probably the main culprit... you go back and when you think about fast foods and the chip culture a lot of people had fish and chips on a Friday night and that was a treat, maybe a chip supper on the way home from the pub... The first McDonalds in Scotland opened up in 1985, ‘86 and now you can’t turn round without seeing one you know and that kind of aspect of our lives wasn’t there before and that has to be one of the prime reasons for more and more people becoming obese.”

Stuart [Obese, 33, DEPCAT 1]

Older participants perceived a number of ways in which eating habits had changed throughout the course of their lifetime. For example, Maeve perceived that there had been an increase in snacking:

“I think there’s also a cultural thing of grazing you know. One of the things that amuses my husband very much is that when we go to the pictures we don’t ever eat cause it’s the kind of food that I don’t really like very much you know the junky stuff. He says I get this glower on my face because everybody’s in and out to get more, they can’t seem to watch a film without hot dogs and popcorn and all that sort of thing you know and erm the crunching it all makes, the noise it all makes and then they go and get more and er and he finds it funny because I’m getting all flustered.”

Maeve [Morbidly obese, 58, DEPCAT 1]

However, this view was not limited to older participants living in the affluent areas. For example, Joan talked about eating out:

“I can remember the change over you didn’t go out to restaurants you know that’s been a big change just in my life time.” Joan [Morbidly obese, 60, DEPCAT 5]

The above findings demonstrate that the participants were highly knowledgeable about the causes of obesity and had clearly given some thought to the issue. The next section of the analysis will address their attitudes towards the importance of living a ‘healthy lifestyle.’

6.3 ‘Healthy Eating’

Health promotion literature has emphasized five main areas of dietary change: a reduction in the consumption of visible fat, a reduction of fat used during cooking, a reduction in fat obtained from milk, a reduction of foods high in fat and an increase of foods high in fibre-

rich carbohydrates, such as fruit and vegetables (Anderson & Hunt, 1992). During the course of the interviews, all of the participants talked about the ways in which they tried to eat healthily and it appeared that they had absorbed health promotion messages and sought to incorporate them into their daily routines. For example, Peter highlighted that his family ate lots of white meat, removed the fat from food and tended to grill their food:

"We don't get much fish in this house because no-one else likes it but I quite like fish and we eat a lot of chicken and any meals we prepare we try and use olive oil stuff rather than the fats and things and we try and take all the fat off that we can and grill things or if we have to fry something it's in olive oil." Peter [Morbidly obese, 52, DEPCAT 6]

Pamela's account demonstrates that she is aware of the importance of exercise and not eating fatty foods:

"Exercise is good for your heart and I think the fact that I do walk and I generally keep myself reasonably active must do something good because my blood pressure is okay do you because obviously the fact that my blood pressure by all accounts it was 120 over 80 and that's practically spot on ehm I must be doing something right but I don't eat fats I don't use spread or butter on my food." Pamela [Morbidly obese, 37, DEPCAT 5]

It was also common for the participants to mention health promotion advice about fruit and vegetables:

"I eat plenty of fruit and veg and erm...I've tried to drink more water. I never ever drink tea or coffee erm and I drink bottled water all the time. I mean I drink litres of water every day." Theresa [Obese, 40, DEPCAT 5]

The participants often spoke about the importance of moderation. Maggie demonstrates that she understands that losing weight involves cutting out the fattening foods and being more physically active:

“I think the answer to losing weight is to look at your diet, not as in “a diet” just to try and cut out some of the rubbish that you don’t need and I think that way you’d be thinner and that’s all I don’t think you needed to do anything else maybe mair walking or whatever.” Maggie [Morbidly obese, 50, DEPCAT 6]

“I know all the things, but.....”

Nancy was also aware of what she should be eating and how much exercise she should be participating in. However, in contrast to the other interviewees quoted above while Nancy accepted that she knew what she should be doing, she did not do it:

“I don’t do enough exercise whilst I know all the things (my emphasis) that I should eat erm that are said to be healthy I do all of that plus more plus the things that I know to be unhealthy.” Nancy [Morbidly obese, 51, DEPCAT 1]

Deborah’s account shows she is aware of the health promotion advice and has tried to take a number of steps to try and lose weight:

“You should try to eat you five fruit and veg a day and I hate vegetables so mine is mainly fruit I try to cut back on how much I’m eating but I know I do it I mean I know all the things (my emphasis) get a smaller plate, eat slower, take a glass of water before a meal all that sort of stuff. I don’t fry food or anything, we don’t have desserts we don’t have like a three course meal at night or anything...” Deborah [Morbidly obese, 46, DEPCAT 1]

It was clear that the participants knew the ‘theory’ about healthy eating and losing weight. However, it was important to explore what prevented people from putting the theory about healthy eating and physical activity into practice. The main barriers that seemed to prevent people from eating more healthily were the availability and accessibility of healthy food, cost, lack of time and family responsibilities. The first major factor that people believed prevented people from eating more healthily was the cost of food. For example, Helen believed that the cost of fruit and vegetables were expensive and tended to hunt around for reduced price foods to keep the cost of her food bill low:

“I generally look about for “oops” bargains that can be used that day because the erm the price of food is quite expensive. I mean two pounds for a packet of cereal it’s a lot of money isn’t it and a pound for a pound of butter (laughs) you know uh huh the food is expensive. I’m quite surprised erm at the price of fruit it’s just jumped up you know. If you’ve got three kids that’s three apples every morning or three bananas and what you get about two and a half, three in a pound of bananas you know that’s...that’s ridiculous. You know so the fruit has jumped up and the potatoes and the vegetables as well they’ve all just jumped sky high.” Helen [Obese, 47, DEPCAT 1]

Dowler, Turner & Dobson (2001) suggest that this is a common strategy for people on low incomes as they tend to shop in freezer or discount stores and rely heavily on bargains and money-off offers in supermarkets. In Chapter 5, the interviewees cited poverty as a cause of ill-health in the West of Scotland. Theresa felt that people living in a nearby deprived area, who were on a limited budget relied heavily on freezer stores such as Farm Foods:

“A lot of people in [area] they’re on income support with a very limited income and they’ve got a lot of debts to pay out, they go to places like Farm Foods where they can just buy cheap burgers that you don’t know what’s in them erm d’you know deep fried chips and things for quick meals.” Theresa [Obese, 40, DEPCAT 5]

Peter acknowledged that foods in freezer stores were very cheap and he seemed to be doubtful about the healthiness of cheap food that was sold in freezer stores such as Farm Foods:

"I mean you've got these Farm Foods places that are selling things how they can sell them so cheap I have no idea so if that's got goodness in it well my goodness for a pound you know how they can make it for a pound I'd have thought the box would cost that."

Peter [Morbidly obese, 52, DEPCAT 6]

It was common for people living in the deprived areas to talk about the types of food that they thought was available for their budget:

"When you're passing any of the shops you know places...it's like fish and chips you know or macaroni and chips or steak pie and chips or things like that eh everything's with chips you know, erm if you go into to most cafeterias that I can afford in my price range that is the main thing that's offered." Helen [Obese, 47, DEPCAT 6]

A recent report by NCH demonstrated that a typical basket of healthy food costs 17% more than a basket of unhealthy food and that over the last 15 years, the average cost of a healthy shopping basket has increased by half, compared to only a 33% increase for an unhealthy basket (NCH, 2004). Participants living in the deprived areas tended to find that the *actual cost* of healthy food was expensive. However, nearly all of the participants living in the affluent area thought that healthy food was inexpensive and that the *perceived cost* could possibly discourage someone on a low income from buying fruit and vegetables:

"I suspect that if you're poorer you make poorer food choices. I'm not entirely sure why I really don't know if...er well obviously one would imagine that if you haven't got much

money you can't buy the best steak and maybe you opt for sausages and cheap cuts of meat and cheap pies and crisps instead of bananas, but I don't know if fruit and vegetables are actually all that expensive they're actually quite cheap so you could in fact have a good diet cheaply if you knew how to make it, eating beans and pulses and things like that, but maybe a lot of folk don't know how to do that." Kenneth [Obese, 52, DEPCAT 2]

James, Nelson, Ralph & Leather (1997) suggest that a low income restricts the ability to buy foods rich in nutrients such as fruit and vegetables. Ellaway & Maintyre (2000) found that the price of food was an important determinant of where to shop for people living in deprived areas. Similarly, Dowler *et al* (2001) argue that for people on low incomes, it is the cost of food that governs what foods they buy. Some of the participants living in the affluent area felt that participants on low incomes did not have the knowledge about how to cook vegetables and suggested that it was cheap and nutritious to eat meals like soup:

"What stops them from eating healthily? Not being brought up probably, people on lower incomes can buy plenty of vegetables, they can buy plenty of fresh fruit and you can make plenty of meals with them. It's just being not educated on the right way to use that stuff and that comes through your upbringing, if mother's not taught them how to do it then they won't know about it. Also it's not widely advertised, well it's advertised that if you eat lots of fruit and vegetables that's good for you but nobody has said well if you're on a low income there's a way of doing your family meal a big pot of vegetables or something like that soups and things." Penny [Obese, 40, DEPCAT 1]

Although Stuart lived in an affluent area, he was the exception because he acknowledged that fruit and vegetables were expensive:

"To be honest with you eh the price of eating healthy is ridiculous erm we go to the supermarket and you can buy processed foods er frozen foods, cheap sausages, cheap

chicken er burgers, anything like that um and you can buy it dirt cheap. You go and try and buy fruit and veg and it's ridiculously expensive and that stops er prevents a lot of people from eating healthily." Stuart [Obese, 33, DEPCAT 1]

However, this may be because Stuart had recently married a vegetarian and the amount of fruit and vegetables in his diet had increased. It is quite possible that he was spending increased amounts of money on purchasing fruits and vegetables.

Hazel raised an important issue about cost and accessibility on the housing estates:

"I think cost is quite a lot to do with it because if you're living in like a scheme and you're going to the corner shop fruit and vegetables tend to be really expensive and there's a limited choice and you can get fed up eating like six apples a day or six oranges and that's kind of it apples, oranges and bananas are all you tend to get in these sort of shops erm and things like bread tends to be just like white bread and it sits on the shelf for a long time and it's not particularly very healthy. To get to somewhere where you can maybe get more healthy food at a cheaper cost it maybe involves getting a bus or a taxi and to them it's not cost effective so they do tend to shop in the corner shops." Hazel [Obese, 37, DEPCAT 6]

Dowler *et al* (2001) have highlighted that the number of shopping journeys made by car and the average distance travelled to shops has increased. People on lower incomes are often unable to travel to shopping centres to buy cheaper good and tend to rely on a local supermarket or corner shops, where the choice of food tends to be limited and more expensive.

Stuart also pointed out that people who lived in affluent areas automatically had improved accessibility to a wider range of fruit and vegetables:

"I think people in affluent areas, just by the fact that they live in an affluent area, have greater access to fresh food because you tend to find that the supermarkets actually stock more of it and also they have more disposable income to actually buy you know fresh fruit and vegetables compared to you know other areas where your shops are only stocking up on the economy goods, you know which are unhealthy by definition."

Stuart [Obese, 33, DEPCAT 1]

In addition to cost, lack of time was perceived to be a barrier that stopped people from eating healthily:

"Probably time because people think its quicker to go out and buy something than actually cook, I think time, quickness have got a lot to do with it. I've got a lot of meetings on myself, so I go from here to the house to quickly get something to eat then you're on the run. I'm on the run five nights a week at least I'm on the run so it's as quick as you can get something down you and go." Maggie [Morbidly obese, 50, DEPCAT 6]

Long working hours had an impact on the types of food choices that people made:

"If I do an early I finish at quarter past three and I can have an easy shift or I can have a really really bad shift. If I've had a really bad shift I'll come home, get off at the top of the hill, go into the chippy, come haim, have you're dinner and that's you. Even if you don't go into the chippy, you're just sitting here and you're too tired and you cant be bothered to cook so the chances are you'll end up phoning and getting a Chinese because you're just too tired to cook." Darren [Morbidly obese, 32, DEPCAT 5]

The TUC has demonstrated that people in the UK work the longest hours in Europe - an average of 43.6 hours a week compared with 38.4 hours in Belgium, 38.5 hours in Italy, 38.9 hours in Germany, and 39.6 hours in France. People also spend an average of fifty minutes commuting to work and it may be the case that people have very little time or inclination left to cook (TUC, 2000). Steptoe, Wardle, Lipsey, Oliver, Pollard & Davies (1998) demonstrated that there was a link between stress and food choice and provide an explanation for reliance on fast food or convenience food, arguing that “when people are preoccupied with work or other stressful events they may consume more fast or convenience foods” (p42).

Working life combined with family responsibilities meant that there was an over-reliance on convenience foods:

“If I think back to my childhood my mother was a housewife, she was in the house on her own and her job was to look after the family and she made fresh food every day and there was almost nothing that wasn’t freshly made it was all home baking and it wasn’t chocolate and sweets. If I look round the people who are in my office, most of the women who have families in my office work full-time or part-time and they very rarely make fresh food, they buy pizzas and they buy convenience foods um so that’s got to make a big difference.” Kenneth [Obese, 52, DEPCAT 2]

Gillian explained that most people were time-poor and that processed foods and delivery meals enabled people to get on with doing household chores:

“[Life] is faster, it’s more stressful it’s more clock watching ehmm and ok you’ve got a lot of this fast food and microwave food and things like that and I mean if you’re really busy and you’ve got a lot of things to do in a day whether it’s through work umm whether it’s through education whether it’s through taking care of your family whatever then you’re going to go for the easiest and the quickest option you know. If there’s microwaveable

meals that are there or if it's easier to drive past the chippy or order I mean...you don't even have to go out now most of them deliver. Order it into your house while you're carrying on doing the housework, doing the washing, taking care of the kids, doing your studying. Lift the phone, make a phone call and it's at your door in half an hour. The half hour that you're waiting on it you can be doing something else that needs to be done its convenience." Gillian [Obese, 37, DEPAT 6]

In their study about healthy eating in Scotland Fuller, Backett-Milburn & Hopton (2003) found that women were mainly responsible for food provision and that there was a heavy reliance on convenience foods.

Finally, some participants recognised that, on the simplest level, although people knew what they should be doing they were choosing not to do so:

"I think again it's back to what we were talking about, like the factors that influence what people choose to eat you know like. I mean people want to eat bars of chocolate and crisps and they know they're not meant to but they still choose to do it you know it's like smoking you tell people that smoking is really bad for them but they still choose to smoke cause it's not gonna be them that dies (my emphasis) you know it's not gonna be them that has the heart disease (my emphasis) in ten years, twenty years time and things like that and I think it's the same sort of thing with eating you know like "oh that won't harm me, "och I'm only a wee bit overweight but I'll go on a crash diet and I'll be fine in a month or whatever." Hazel [Obese, 37, DEPCAT 6]

In her account, Hazel refers to lay epidemiology, which encompasses the "prevention paradox" as referred to by Davison *et al* (1991). The "it won't happen to me" construction was previously discussed in Chapter 5.

6.4 Physical Activity

Although the participants talked about the benefits of exercise, they felt that the cost of structured exercise such as gyms, health clubs and swimming pools were expensive. This was also acknowledged by some of the participants living in an affluent area:

“You look round here you know there’s three gyms in the area [lists the names] and alright the cost of joining [one of the gyms] itself isn’t expensive but if you want to go to the gym it’s about £30 a month, if you join [another one] it’s £40 a month and if you join [other gym] it’s £50 a month and if you’re talking about a couple or family you start multiplying it up and that becomes expensive, it’s not cheap.”

Stuart [Obese, 33, DEPCAT 1]

For participants living in the deprived areas, the cost of exercise coupled with the cost of travelling to get to a location such as the swimming pool was discouraging:

“I don’t think there is a lot of erm places that you can go and get exercise without it costing you a lot of money. I mean I’ve got three kids so if I took three kids swimming plus myself you know you’re ...you’re talking about ten pounds, not to mentioned bus fares and you know everything so to exercise if you...if you know if you’re taking the kids to the swimming or you’re taking them even to the sports centre you know for most of them you’ve got to pay out a membership and then you’ve got to pay your classes on top, not everybody can afford that you know.” Helen [Obese, 47, DEPCAT 6]

Walking and cycling are frequently cited in the health promotion literature as activities that people should be doing to improve their health. However, these were not always viewed as viable options. For example, Gillian perceived walking to be impractical due to the weather and provided a number of examples related to exercise and cost:

“I know they say walking but we live in the West of Scotland come on it’s not always the best weather to go walking in and then there’s cycling but it costs you to get a bike and it costs you to maintain it even if it’s just oil and a puncture repair kit and then there’s the aspect of the road safety and ok there’s swimming but it costs you to go swimming I mean you need a swimming costume, shampoo or whatever it is and even any kind of gym the fees are astronomical because they’re all private health clubs you know so umm keeping fit costs it shouldn’t but it does. Even council places cost you’ve got to pay membership fees and in order to get discounts you have to pay a fee upfront and then you still have to pay.”

Gillian [Obese, 37, DEPCAT 6]

In addition to cost, lack of time was perceived to be an important factor for the reasons why people could not exercise:

“Probably time again because people can be very busy with their day to day life and maybe they think having a walk or going for a walk for a good half hour or three quarters of an hour is half an hour when they could be doing the ironing or washing up or doing something else that needs to be done within the house so they don’t spare the time to do the walk.” Pamela [Morbidly obese, 37, DEPCAT 5]

Bill also suggested that there were barriers even for someone living in an affluent area that had a bicycle and the time to engage in cycling:

“I do think that I would do bike things if there was somewhere easy to get to for a bicycle path, I’m not encouraged and I’ve not discovered that and I don’t feel like cycling through [notoriously rough area] kind of thing on the bicycle path, I find that a fairly daunting prospect.” Bill [Obese, 45, DEPCAT 1]

Both men and women in affluent and deprived areas viewed exercise that took place as part of a social group as beneficial. For example, Stuart viewed playing rugby as an activity, which alleviated stress and allowed him to maintain his social network:

“I play rugby and I’ve been playing rugby for the same team off and on now since I was about fourteen or fifteen years old...I enjoy it and I want to keep on doing it, it’s a get out clause, it’s different from work as it alleviates the stress and strain of work and it’s a good social environment, lots of my mates...we all started playing rugby together and you know it’s probably an excuse for us to go out and get together.” Stuart [Obese, 33, DEPCAT 1]

Likewise, Hazel talked about how, when she was working near the city centre, a group of workmates used to go to exercise classes together and socialise afterwards:

“I’ve worked in places where we used to go to gym classes and things like that and it was a social event because we’d go and we’d work out and then we’d go to the pub and have tea on the way home and things like that. That was good fun we’d have a healthy tea you know go somewhere on Byres Road and have some things that were reasonably healthy kidding ourselves on that we were doing well you know like have our wine with loads of soda water in it and things like that (laughs)” Hazel [Obese, 37, DEPCAT 6]

It became clear that some of the participants were reluctant to exercise on their own, suggesting that social groups are important for encouraging people to exercise:

“I love badminton and I used to meet folk from the work but everybody drops out you know people are terrible for dropping out of things because they cannae be bothered getting ready and they cannae be bothered you know eh travelling to the place to do it and all that and I find that quite annoying and then it ends up you’re giving it up you know and I wouldn’t go by myself.” Joan [Morbidly obese, 60, DEPCAT 5]

Peter provided a list of reasons as to why he found it difficult to exercise, acknowledging that these were ‘excuses:’

“I’ve joined a gym but I’ve never been to it right? There’s lots of excuses like when I did join they’re supposed to send you a card out and when you go in you show your card and I get maximum discount because of [my work]. But the lady that deals with that is off on pregnant leave and none of them are going out so that’s the excuse I’m using just now (laughs).” Peter [Morbidly obese, 52, DEPCAT 6]

However, it became clear later in the interview, that another important factor that was stopping him from exercising was that he felt insecure about going to the gym on his own and wanted someone to take the time to show him around to be able to give him the confidence to go on his own:

“I would like to start this gym thing up regular as I used to do it but the other thing is as I was saying to the doctor, I’ve never been in this place before and when you go to a new place sometimes its quite nice for someone to take you by the hand and say this is the dressing room and this is the restroom and this is that and you know (laughing). Its so you know where you are and you don’t make yourself look like a twit you know that’s the only thing...” Peter [Morbidly obese, 52, DEPCAT 6]

Stähl, Rütten, Nutbeam, Bauman, Kannas, Abel, Lüschen, Diaz, Rodriguez, Vinck and van der Zee (2001) argue that there is strong association between physical activity and social support. Furthermore, friend and family support has been consistently shown to influence participation in physical activity.

Some of the female participants felt that embarrassment about their bodies prevented them from taking part in exercise:

“I think embarrassment has got a lot to do with it... If you go to these swimming clubs and gyms and things that you see all the body beautifuls up there as soon as you walk in the door... I think that’s half the problem that puts people off is other people’s perception of them.” Maggie [Morbidly obese, 50, DEPCAT 6]

Although some participants had even gone to the length of acquiring exercise equipment this did not necessarily lead to an increased level of exercise. For example, Nancy had incorporated the exercise equipment into her daily routine in an imaginative way as she ruefully commented:

“In my sitting room I have an exercise bicycle, it’s used almost on a daily basis, the handle bars are the right height see like when you’re ironing your blouses and your tops, you can just pop them on do you know what I mean er absolutely wonderful. I suppose if I get a battery and slot it in wherever it’s supposed to go, I can’t quite remember I think it’s somewhere underneath, then it gives you a wee kind of print out like heart rate and you attach a wee thing to your finger and if I learn to tighten the disc that goes round...”

Nancy [Morbidly obese, 51, DEPCAT 1]

The Health Education Population Survey found that there were a wide range of personal, social and environmental barriers which prevented people from taking part in exercise. For example, personal barriers included feeling too fat, ill health and not having the confidence to do exercise. Social barriers included having nobody to go with and a lack of money and environmental barriers included lack of suitable local facilities and being put off by the weather (HEBS, 1998).

6.5 Participants' Solutions to the Obesity 'Epidemic'

The participants were asked to provide solutions that they thought would be useful for tackling obesity. Interestingly, the majority of the participants perceived the need for community/environmental interventions. For example, Hazel was aware of a food co-operative operating in a nearby deprived area. However, she explained, it was only open during the day, which was not accessible for people who worked:

"I would like to see more food co-operatives open at night as well as during the day that would make it a lot more accessible for people." Hazel [Obese, 37, DEPCAT 6]

Stuart was one of the interviewees who had sought to explain both ill-health and the prevalence of obesity with reference to environmental and demographic factors. He argues that a number of steps could be taken including controlling television advertising, making P.E. compulsory in schools and making use of community areas to have supervised exercise sessions for children:

"I'm not a great believer in the Scottish Parliament but the idea of actually trying to control advertising on telly with regards to food which is specifically targeted at children should be one of the first steps. Secondly to be honest with you we need to actually encourage people to get back into exercise. I mean I've always been involved in sports and what have you but the fact that you know to do P.E. in school you have to take it as a subject seems totally hypocritical of the government because they say they're worried about obesity in the general population but especially school children when they don't need to do P.E...I also think that you know there kind of has to be protected play areas for kids where they can go and be left between the hours of 4 and 7 to kick a ball about... there's a school park [nearby] if every child could go across there for a few hours if they

wanted under 5 or 6 different adults and actually kick a ball about in a semi-organised way." Stuart [Obese, 33, DEPCAT 1]

As previously mentioned, body dissatisfaction and embarrassment play an important role in an individual's self-efficacy regarding exercise and some participants believed that exercise classes specifically for overweight and obese people should be set up:

"I mean I go down to the gym and one of the reasons I'm not very happy about it is because I'm beside somebody who's about a size six who's pounding it out on the treadmill or something you know (laughing). My sister goes to one and it's for fat people she said it's much, much nicer, and er and you know and it's got a name it's not called rounded tums but it's called something like that and you know she goes in the morning and, and she said that it's, it is not, so something like that where you wouldn't be exposed to people that are not in your category (laughs) you know I'm sure that would be a good idea."

Maeve [Morbidly obese, 58, DEPCAT 1]

Although this suggestion was confined to the women in the study, setting up classes specifically for overweight and obese people could possibly improve exercise participation, because if people were a similar size they may be more inclined to go.

Finally, some participants wanted to see more health checks and a more proactive community based approach:

"The local health centre has got a weigh-in programme where you can go and you can get weighed in and erm there's a dietician who kinda talks to you about food but to me it's too clinical, too medical. If there was maybe like a kinda like a drop-in centre or something like that it could maybe give you advice on you know maybe your weight and your food but nothing too heavy and maybe at the same time even have an exercise class you know to me

that would be a good and also one that you can take the kids. You know that while you're in doing your exercises the kids can be maybe having a wee kinda exercise class for their self or games or something to get them into sport." Helen [Obese, 47, DEPCAT 6]

6.6 Summary

Scientists have experienced difficulties in attempting to pinpoint a cause for obesity and this chapter demonstrates that the participants also perceived the aetiology of obesity to be complex. However, in addition to referring to the medical discourses regarding obesity the participants appealed to a number of cultural reasons. For example, they felt that changes in eating patterns such as snacking and the increased availability of fast foods were important causes of obesity.

It was clear that the participants had absorbed and understood the health promotion discourses about 'healthy eating.' However, the participants identified a number of barriers, which they felt prevented people from fully implementing the health promotion advice. The main barriers were the availability and accessibility of healthy food and the cost of healthy food. In addition, being 'time poor' restricted food choice and created an over-reliance on convenience and take-away foods.

Although the participants viewed fitness as an important component of being healthy, the participants identified a number of barriers that prevented them from engaging in physical activity. In common with the barriers to 'healthy eating,' cost, time and accessibility featured prominently.

Finally, participants provided a number of solutions to the obesity 'epidemic.' The main solutions either focused on community/environmental interventions or Governmental policy.

Chapter 7: Accounting for Weight Gain

During the course of the interviews, participants talked about their current weight status and were asked about their experiences of weight change. Participants were also asked whether they considered weight gain to be inevitable in middle age.

7.1 Perceived Weight Status

Nineteen of the participants spoke about their own weight and acknowledged that they were overweight. Penny was the exception and did not talk about her own weight or feelings towards her weight at all during the interview. Penny was purposively selected because she was “Fat but Fit” (see 3.6.1). Penny exercised regularly and consumed a healthy diet and did not appear to regard herself as overweight.

All of the participants who acknowledged that they were overweight, candidly stated that they were overweight and it was common to hear the following phrase:

“I mean I know I’m overweight” Joan [Morbidly obese, 60, DEPCAT 5]

Although all of the participants that were interviewed were either obese or morbidly obese, they rarely used the term ‘obese’ during the interviews. Only three participants, Thomas, Sandra and Theresa, declared themselves to be ‘obese’.

Sandra demonstrates her knowledge of obesity and also highlights her perception of the differences between being overweight or obese. In her acknowledgment, she talks about needing to lose five stone and reveals her dissatisfaction with being obese:

“I’m obese I know that. I’ve read it in books, and if I was a wee bit overweight I don’t think that would bother me the same, even if I was just a wee bit maybe a stone or something overweight that wouldnae bother me. I’m looking to get about five stone off, that’s a lot of weight.” Sandra [Morbidly obese, 50, DEPCAT 6]

Theresa acknowledges that she is obese but appears to defend her weight by giving an account of other people’s observations about her weight, appealing to the notion that she didn’t look as heavy as she was:

“I am obese...I am 16 stone and people say to me Theresa you don’t look 16 stone.”

Theresa [Obese, 40, DEPCAT 5]

On the whole, the participants avoided using the term ‘obesity’ and referring to themselves as ‘obese’. The participants’ reluctance to use the terms ‘obesity’ and ‘obese’ can possibly be attributed to the fact that obesity has been traditionally regarded as a moral, rather than medical problem and the word ‘fat’ tends to be used in a pejorative manner. Wadden & Didie (2003) found that obese men and women rated the terms fatness and obesity as undesirable and argue, “Patients do not like, and are offended by, the terms obesity and fatness. The comments of a woman with a BMI of 38kg/m² are representative: “I’m not obese. That’s for people who are really fat”(p1140).

Degher & Hughes (1999) argue that when obese people become cognitively aware that obesity is regarded as abnormal and deviant within society they adopt a ‘fat’ identity and begin to use a range of terms to describe their body shape and size, for example, ‘big boned’, ‘heavy’, ‘stout’, ‘solid’ and ‘tubby’. The term ‘obese’ was reserved for very fat people by those participants who understood the quantitative difference between

overweight and obesity. For example, Stuart talked about the importance of distinguishing body fat from body weight:

“Again you look at some of the statistics and if you’re 25% over your ideal body weight you’re classed as obese and my ideal body weight is about 11¹/₂, 12 stone. Therefore, by that definition you could class me as obese. I think if you’re talking about overweight by a percentage of body fat that’s a different kettle of fish from pure statistics, if you’re at the point where your fat percentage is above that then I don’t think you’re healthy.”

Stuart [Obese, 33, DEPCAT 1]

Kenneth refuted the idea that he could be considered obese, either indicating that he was in denial about his weight or simply that he did not want to be regarded as obese because of the negative connotations:

“I’m not quite obese. I’m almost obese apparently but then I don’t believe in these charts anyway cause on these charts with super-fit athletes there’s not an ounce of fat on them and they’re all classed as obese, it means there’s something wrong with the charts.”

Kenneth [Obese, 52, DEPCAT 2]

Kenneth regards the height-weight charts as an inaccurate tool because they essentially classify someone as fat that he would consider to be “super-fit.”

Gillian also questioned the validity of the weight charts and believed that they should be updated to accurately reflect current body weights:

“I mean what do you class as a major medical problem is it a stone overweight or is it ten stone overweight? I mean these weight charts, I don’t know how old they are but that’s

another thing. The body shape and the body size of people have changed so much eh I think those weight charts are actually something that need to be looked at as well because as far as I'm aware they've been the same as when I was a kid going to the doctor and I think that they need to be looked at again"

Gillian [Obese, 37, DEPCAT 6]

The use of weight charts and BMI index appeared to have an impact on how participants perceived their weight and subsequently their health:

"A lot of erm statistics say that if you are 5ft 9in you must weigh around 12 stone and then you get the people like me who weigh 15 stone you know and the doctor says you're overweight. I don't consider myself to be overweight as such by statistics but yes I am overweight but I would say I am healthy myself."

Stuart [Obese, 33, DEPCAT 1]

Stuart appears reluctant to define himself as overweight because he perceives overweight people as unhealthy (see 5.5.2). However, although the participants tended to define an 'unhealthy person' as overweight, it was common for them to make the distinction that overweight did not automatically equate to being unhealthy. Therefore, the concepts of 'weight' and 'health' appeared to be intricately linked.

In general participants believed that it was possible to be both overweight and healthy. However, they speculated about the degree to which an individual could be overweight without it having an impact on their health:

"You can be slightly overweight and healthy erm but I think you know to be healthy you need to be...not so much your ideal weight maybe... maybe a stone over it but not as much as what I am three stone you know." Helen [Obese, 47, DEPCAT 6]

The general consensus appeared to be that one could be slightly overweight and remain healthy. However, being very overweight had serious health implications:

“ I don’t think it’s a crime [to be overweight] but erm there’s degrees actually of being half a stone overweight or eight stone overweight... a friend of mine who’s very heavy it’s a concern to me that his weight erm will affect his general health in the long-term.”

Bill [Obese, 45, DEPCAT 1]

Some of the participants validated their “healthiness” by talking about a recent check-up at the doctors:

“I’m not unhealthy cause I was at the doctors a couple of weeks ago and blood pressure and everything is spot on for being so [overweight].”

Pamela [Morbidly obese, 37, DEPCAT 5]

It is important to re-iterate here that Pamela was an ex-anorexic who had been encouraged by her GP and Practice Nurse not to diet because of her past eating disorder.

7.2 Personal Experiences of Weight Change

During the course of the interviews, the participants were asked whether they had noticed any changes in their weight and to surmise the possible reasons for their weight gain. Peter, Darren and Maggie perceived themselves as having always been overweight and talked about their weight during adolescence:

"I've always been big...I mean I've been this size since, Christ since when I left school."

Darren [Morbidly obese, 32, DEPCAT 5]

Peter admitted that he had been overweight during adolescence and that he had gained weight each year since his sixteenth birthday.

Women tended to invoke reproductive histories as possible causes of weight gain. Maggie was the only female participant who had been overweight as a young person and believed that she had gained weight as a result of childbearing:

"I would say that until I was 25, I wasn't thin, but I was half the weight I am now and then I had my first son when I was 29 and I never lost a pound from that day to this and I've never been below and I had another baby six years later and my weight shot up again."

Maggie [Morbidly obese, 50, DEPCAT 6]

Deborah perceived weight gain to be a natural part of the lifecycle and weight gain occurred as a result of childbearing:

"I think you do because your body does change and after having babies as well you find that out that's what happens." [Morbidly obese, 46, DEPCAT 1]

Two female participants believed that their weight gain stemmed from using the contraceptive pill:

"I would say that when I was younger I was extremely healthy erm I was the sort of person like my daughter I was like tall, thin and I ate well. The first time I put on weight was when I was 17 or 18 when I first started taking the contraceptive pill I put on about 3 stone in the first year and the way that the weight went on it didn't occur to me that that's

what it had been you know and it wasn't till maybe about 3 or 4 years later that I realised and kinda made the connection." Hazel [Obese, 37, DEPCAT 6]

Joan also believed that the pill had acted as a trigger for her weight gain and that her weight had continually gone up as she got older:

"I tell you the first thing that triggered me putting on weight was when I was on the pill and that was the first time I ever put on weight before that nothing and once it triggered it that was it I just started getting heavier and heavier over the years."

Joan [Morbidly obese, 60, DEPCAT 5]

The analysis found that the majority of participants had steadily gained weight during adulthood. However, Helen and Theresa both perceived that they had experienced rapid weight gains in the previous seven or eight years. Helen believed that her weight gain was due to an under-active thyroid that developed at the age of forty:

"I was never always this size. I was always about eight and a half, nine stone till I became forty and then I took erm thyroid under-active thyroid and I just seem to have went whoosh (upwards movement with hand)." Helen [Obese, 47, DEPCAT 6]

Likewise, Theresa put her weight gain down to adverse life events and believed that her weight had increased between her thirties and forties due to the stressful break-up of her marriage:

"I turned forty there last month and I would say that probably the last ten years really was when I started to put on weight, more so the last seven, eight years definitely and that was going through the break-up of my marriage Apart from that erm I was very slim."

Theresa [Obese, 40, DEPCAT 5]

There was a tendency for participants to reflect on their weight status when they were younger, often comparing their current view of themselves with their adolescent self:

“I was so thin when I was young no matter what I ate. I used to do a lot of ballet dancing and tap dancing and things like that eh but then I used to eat everything and hope that I’d put on weight, now I’ve got my wish tenfold (laughs).”

Joan [Morbidly obese, 60, DEPCAT 5]

The female participants who had been slim and had gained weight, talked about their dissatisfaction with their weight. For example, Ann explained that although she had been equally dissatisfied with her weight as a teenager because she thought she was too thin, she admitted that she would rather be thin than obese, having experienced both ends of the spectrum:

“When I got married I was 7 ½ stone and I was always 7 ½ stone right from when I was a teenager ehm and I thought I was skinny and that bothered me. Now I’m overweight and that bothers me you know so I’ve kind of thingmied for both sides if you know what I mean but I would prefer to be skinny now that I’ve experienced being overweight. I would prefer to be skinny, I used to hide my arms you know and always wear maybe a cardigan because I thought I had awful skinny arms and things like that but I wouldnae now ehm I definitely think from my point of view I would rather be the way I was rather than the way I am.”

Ann [Obese, 56, DEPCAT 6]

The male participants often spoke about inactivity as a possible reason why they had gained weight during adulthood:

“I’ve noticed that anybody who has been kinda active, in their younger days and then they’re less active when they get older they tend to just run into fat because they seem to be living the same but not getting as much active you know like myself for instance when I was younger I used to be an awful lot more active...”

Peter [Morbidly obese, 52, DEPCAT 6]

In relation to activity, it was quite common for men to talk about the impact of sporting injuries on their lifestyle and weight:

“I got a very bad knee injury when I was eighteen. I’d just left school and I was very fit, that stopped me doing sport of any kind or taking any feasible exercise for a year, and at that time I played rugby and instead of training I drank beer and put on a lot of weight and then you never kind of lose it again properly.”

Kenneth [Obese, 52, DEPCAT 2]

Bill, also spoke about how problems with his back had caused him to become less active and subsequently gain weight:

“I had my disc operation when I was twenty years old so for the last twenty-five odd years erm it has had an effect on what I’ve been able to do. My golf swing isn’t very good because of my back.” Bill [Obese, 45, DEPCAT 1]

Halliwell & Dittmar (2003) explored male and female body image concerns and attitudes towards ageing using in-depth interviews. They found that men considered ageing to negatively affect the body’s physical capabilities and changes in appearance were either regarded as unimportant or positive. Conversely, women’s attitudes towards the changes in appearance were pessimistic, as they believed that ageing reduced their attractiveness and

they wanted to maintain a youthful appearance. The notion of ageing being detrimental to physical ability was virtually exclusively a male concern.

In addition to physical activity, participants referred to other health-related behaviours, which were possible causes of weight gain. For example, Stuart talked about how his lifestyle when he was at university had caused him to put on weight:

“When I was a student my lifestyle was exceptionally bad with not enough exercise, too much alcohol, too much smoking, too much cheap nasty food erm and that really progressed till the time I was in my mid-twenties.” Stuart [Obese, 33, DEPCAT 1]

All of the participants who were ex-smokers perceived smoking cessation as a critical event that had prompted their weight gain:

“I’ve no always been overweight. I stopped smoking 19 or 20 years ago and it was then my weight changed and I never had a weight problem before that...”

Ann [Obese, 56, DEPCAT 6]

Bill admitted that he had never particularly paid much attention to his weight. However, when he gave up smoking, both his appetite and weight increased:

Bill: I kind of ignored it [his weight] historically and er and I suppose as I've put on weight more it's become more of a thought.... I mean I gave up cigarettes and that was a miracle, I can't work it out till this day how I ever did it.

MC: Did you put weight on when you gave up smoking?

Bill: Totally. Your appetite improves because the best time to have a cigarette is after a meal and therefore you know I never had a sweet in the past because I was looking forward to a cigarette and coffee and that [having a sweet] became the next thought after a main course.

Bill [Obese, 45, DEPCAT 1]

Thomas felt that he had experienced a contradictory effect of health-related changes because although he stopped smoking and drinking his weight increased. His account highlights the complexities of health-related behaviours and demonstrates that it is not a straightforward equation of 'giving up' in order to reap the health benefits:

"I mean smoking kept my weight down, there is no doubt about that erm so therefore some of the things that I have done to improve my health like stopping drinking and stopping smoking have in fact worked against me in terms of my body weight."

Thomas [Morbidly obese, 59, DEPCAT 1]

Flegal, Troiano, Pamuk, Kuczmarski & Campbell (1995) found that 16% of men and 21% of women who had stopped smoking in the previous ten years had gained 15kg or more. Flegal *et al* argue that smoking cessation has a number of health benefits but despite the long-term benefits it may involve an initial weight gain or 4-5kg or more. They conclude that rather than attempting to prevent this initial weight gain, it would be more useful to limit further weight gain.

Bradley (1985) conducted a questionnaire study and also found that female respondents reported that their weight gain was associated with pregnancy, psychological stress, medications and surgical procedures. Similar to the findings of the current study, male respondents in Bradley's study cited lifestyle factors such as physical inactivity, smoking cessation and excessive alcohol consumption as the main causes of their weight gain.

All of the participants had gained weight since adolescence and two participants felt that they had gained weight rapidly during the last ten years. Therefore, it was important to explore the participants' views about whether or not weight gain was an inevitable part of ageing.

7.3 Inevitability of Weight Gain

Just over half of the respondents believed that it was inevitable for people to gain weight in middle age, whereas the remaining participants believed that weight gain in middle age was preventable.

The concept of "the middle age spread" was frequently used in the participants' descriptions of weight gain and ageing and only two participants firmly dismissed the concept of the "middle aged spread." Theresa regarded it as "an old wives tale" and Stuart regarded it as a fallacy:

"I think the middle-age spread is one of these fallacies of life as such, I don't think you put on any weight just because you reach a certain age. I think age catches up on you and you feel you can't do stuff and therefore you have to stop it."

Stuart [Obese, 33, DEPCAT 1]

Similarly, Sandra believed that weight gain was preventable and that people used the “middle age spread” as an excuse for attempting to rationalize weight gain:

MC: Do you think that as people get older they always put on weight?

Sandra: No, you shouldnae really, I think people just say it's the middle age spread... [Morbidly obese, 50, DEPCAT 6]

Maeve, like Sandra, firmly believed that weight gain was not an automatic occurrence and compared her experiences to people of a similar age:

“No, because I know a lot of people who haven't, people of my own age who haven't put on weight.” Maeve [Morbidly obese, 58, DEPCAT 1]

The participants who felt that weight gain was preventable believed that it occurred because people became complacent:

“I think it happens because you make it happen I definitely do I mean you settle into a routine and you don't bother so much and that's probably why and that's part and parcel of it.” Maggie [Morbidly obese, 50, DEPCAT 6]

Likewise Hazel believed that weight gain occurred as a result of complacency and that people gained weight because they chose to be less active:

“I think its more that people become more complacent and a bit more comfortable as they kind of get older and they tend to sit in more rather than running about every night out and about on the town and doing things they tend to spend more time at home”.

Hazel [Obese, 37, DEPCAT 6]

Peter believed that keeping active in old age helped to prevent one gaining weight:

“My wife’s got an auntie, she’s in her eighties and she’s fit as a fiddle and she’s no got a pick on her, but she plays golf and goes to yoga” Peter [Morbidly obese, 52, DEPCAT 6]

Penny agreed that in principle it was possible for people to gain weight, as they got older. However, she also perceived that weight gain occurred as a result of an involuntary decline in functional ability:

“They do put on a wee bit of weight yes as they get older I don’t think there’s anything you can do about that ...When you’re getting older you’re starting to be less active because your body just won’t let you do it, it just says, “forget it I’m getting old leave me in peace.”

Penny [Obese, 40, DEPCAT 1]

Some of the participants used sophisticated arguments to try and explain their views about weight gain and middle age. For example, participants used scientific terms such as “metabolism,” indicating that medical terms are embedded in lay knowledge.

Helen’s account illustrates the tension between lay and medical knowledge because the medical knowledge obtained from her doctor about metabolism reinforces the concept of “the middle age spread” yet it is clear that Helen is reluctant to accept her doctor’s assurance because none of her friends have experienced weight gain:

“My doctor assures me it’s just the middle-age spread, you know, your metabolism and he explained to me your metabolism slows down but as far as I’m concerned I’m the only one who’s like this you know because the rest of my friends they’re okay...”

Helen [Obese, 47, DEPCAT 6]

Gillian also disputed the idea that metabolism slowed down and people automatically gained weight:

“Well apparently everyone’s metabolism slows down but then there’s people who are older than me and they’re still like stick thin you know so obviously their metabolism is still going...” Gillian [Obese, 37, DEPCAT 6]

As a way of illustrating individual differences, Kenneth talked about Oriental culture and famine in Africa to explain the middle age spread. He perceived that it was not necessarily a universal phenomenon but that it was more likely to occur in Westernized societies:

“I think in our society it’s almost inevitable but imagine if you were in the Japanese society or Chinese society it’s not inevitable at all. Who are these people walking about the plains of Africa? They’re old and skinny” Kenneth [Obese, 52, DEPCAT 2]

The participants who believed weight gain was inevitable tended to view it as a ‘natural’ part of ageing:

“I think people are more prone to that [putting on weight] as you get older...”

Nancy [Morbidly obese, DEPCAT 1]

Men and women both viewed ‘middle age spread’ as a part of growing older and suggested that it possibly occurred as a result of changes in lifestyle:

“I think that your lifestyle changes, I think that your physical attributes change erm I think that it is natural that you will put on weight”

Thomas [Morbidly obese, 59, DEPCAT 1]

As demonstrated above, participants used their observations of family or friends’ experiences of weight gain to question the inevitability of weight gain. However, participants also used comparisons to justify that weight gain in middle age was inevitable.

For example, Ann recalls the change in her mother’s weight, as she grew older:

“I can remember my mother was a wee skinny thing you know and then just all of a sudden she was big...” Ann [Obese, 56, DEPCAT 6]

Likewise, Joan spoke about talked about the bodily changes that she had observed in her younger friends and felt that the middle age spread was not preventable as the changes occurred in people who were conscious of their appearance and exercised regularly:

“I can see it in my friends, it just so happens that everyone I go about with is actually ten or twenty years younger than me, so I can actually see it happening to them. They’re quite glamorous and always very aware of their looks and things like that. They go to really hard aerobics exercise and things like this but you can still see it happening you know in the stomach and the midriff and everything like that it’s getting fatter and cellulite (laughs)...” Joan [Morbidly obese, 60, DEPCAT 5]

Ziebland, Robertson, Jay & Neil (2002) explored healthy weight and overweight men and women’s body image and experiences of weight change in middle age. Less than half of

their participants believed that weight gain was an inevitable part of growing older. They also found that it was common for participants in early middle age to talk about friends and family members' experiences.

7.4 Weight & Gender

The participants highlighted a number of gender differences, especially the differences with regard to where men and women gain weight on their bodies, the ways in which they gain weight and the social acceptability of weight for men and women.

Women tended to theorize about the differences between men and women. They perceived that men tended to gain weight around the abdomen area, whereas women gained weight all over their bodies:

Isobel: I think women tend to gain weight differently from men.

MC: In what ways do women tend to gain weight differently?

Isobel: I think women sort of tend to gain weight all over their body and a lot of men, it sort of all goes to their tummy when they get older you know like a beer belly thing (laughs).

Isobel [Morbidly obese, 43, DEPCAT 6]

Another example of this was given by Helen who believed that men tend remain more or less the same shape as they get older whereas women tend to gain weight when everything "goes south":

"[My husband] he carries it a lot better than me you know. He's five ten so his frame's big, er but he doesn't look fat, you know. I'm small, I'm only five foot and you can see every pound on me...A lot of men are taller so they do get away with it a lot better than what women do erm you know and I mean you would get to a certain age where everything just goes whoosh (downward movement with hands) you know so that doesnae help any does it? You know the men still kinda keep their shape I think they still keep their broad shoulders and things like that I mean [husband]'s got a bit of a pot belly ..."

Helen [Obese, 47, DEPCAT 6]

The participants cited a number of gendered reasons why men and women gain weight including inactivity, comfort eating and beer drinking. For example, Peter perceived women to be generally more inactive than men as he believed that women spent most of their time at home:

" I think it has to be a bit different ehm because if a man has been a lot active you know doing harder work and doing more and then he stops doing that well like footballers, athletes...once they stop training and all of the physical stuff you get quite a few of them that get heavier but unless a woman is in the same sort of a thing if she was maybe active, I could say it was the same but if she's in the house all the time you know..."

Peter [Morbidly obese, 52, DEPCAT 6]

Joan also perceived women to spend more time in the household and believed that men were less likely to gain weight because they were more active and primarily gained weight because of drinking:

"Men it's probably with drinking really but some men do just eat a lot all the time probably men are working all the time and the women are in the house a lot more, the men are probably physically working so much off themselves."

Joan [Morbidly obese, 60, DEPCAT 5]

Like Joan, Ann also perceived a man's weight gain to be a result of heavy drinking:

"I think it depends on lifestyle I mean there's the men that like to go for a couple of pints everyday and then men that don't...the only thing that I can think of maybe somebody who kinda drinks a bit more." Ann [Obese, 56, DEPCAT 6]

Ziebland *et al* (2002) also found that the participants in their study viewed comfort eating and beer drinking as gendered activities. In addition, both men and women thought that it was more acceptable for a man to be larger. The current study also found that on the whole, the participants believed that it was more socially acceptable for men to be overweight than for women:

"I think you see it's more acceptable in a man so there's not the pressures on them, they can still... I mean an overweight man is I think is far more acceptable to society than an overweight woman." Maeve [Morbidly obese, 58, DEPCAT 1]

Pamela felt that overweight women were viewed as being complacent about their appearance:

"Men can get away with carrying excessive weight and it's not necessarily frowned upon the same way as it is for women "oh like she's let herself go" or "he's got a beer belly, he needs to stay out the pub!" It's not like he's let himself go, I do think people look upon it differently." Pamela [Morbidly obese, 37, DEPCAT 5]

Nancy agreed with Pamela and felt that it was seen as acceptable for a man to have a beer belly:

"It's okay for the guy to get the paunch and all the rest of it do you know what I mean erm but it's apparently not alright for the woman to er to get that."

Nancy [Morbidly obese, 51, DEPCAT 1]

Bill reinforced the idea that a 'beer belly' was more socially acceptable by stating, *"some men are actually quite happy to pat their beer belly, quite proud of it."*

Bill [Obese, 45, DEPCAT 1]

Men tended to believe that there was more pressure on women not to be overweight.

Darren believed that women were subjected to a lot of societal pressure from the media:

"I think it would be worse for a woman than it is for a man because there's more pressure on women now see on the telly an all that." Darren [Morbidly obese, 32, DEPCAT 5] Likewise, Deborah felt that overweight men were accepted by society unless they were very obese and that women had to conform to societal pressures and ideals that women should be slim in order to be attractive: *"People don't bother about men being overweight not unless they're absolutely obese but women are expected to be nice and pretty and all these sort of things..."*

Deborah [Morbidly obese, 46, DEPCAT 1]

Kenneth agreed that there was less pressure on men, but argued that women placed the pressure on themselves:

"I think there's far less pressure on men than there probably is on women but then a lot of it's put on women by themselves and the modelling industry where everyone has got to be as thin as a rake." Kenneth [Obese, 52, DEPCAT 2]

However, Stuart, as one of the younger males in the study, perceived that there was also a pressure on men which was driven by media images that alienated overweight men:

“I think if you look at the media, if you look at the telly if you turn on the telly you get these er you know athletic people erm the stars are all athletic they’ve all got big chiselled jaws and a six pack you know and that’s the media image of a healthy man erm the fat guys are there to take the mickey out of and I think you know there is a pressure on a lot of people these days to you know fit that kind of media stereotype you know.” Stuart [Obese, 33, DEPCAT 1]

Sandra also felt strongly about the negative portrayal of overweight people in the media, particularly women:

“If you look on the television and there are all these talk shows, Graham Norton or some of these ones, talking about ‘fat women’ and all that, I mean and it’s always fat women, it’s never fat men or anything.” Sandra [Morbidly obese, 50, DEPCAT 6]

Maeve believed that the media provided young people with images of how they should look and felt that the media images were unrealistic portrayals of current body sizes, particularly in the West of Scotland:

“I think also there is the image thing I know because I can see working with teenagers there’s a lot of pressure on these young girls to match the image and so I think probably maybe the media and film and probably some of their heroes and role-models again they have the pressure on them because I think actually people, not only are people in the West of Scotland a lot fatter but a lot of the media people are a lot thinner than they used to be.”

Maeve [Morbidly obese, 58, DEPCAT 1]

Isobel like Maeve, believed that both young boys and girls have become acutely aware of image and that role models such as popstars influence children's opinions about appearance and fashion:

"I think girls, at a much earlier age, girls and boys are...are much more aware of their appearance, much more aware of their appearance and what they will wear and how they will look and how other people look...I've got a grandson of 6 who's very particular about his appearance and erm my grand-daughter's just turned eight...they're interested in what people wear and what people look like or what they wear or what colour their clothes are...you know they're very interested in their appearance. There's a lot of marketing on things like make-up and clothes to young, to really quite young children now and erm the sort of appearance of pop stars and more interest I think in things that are a bit more adult" Isobel [Morbidly obese, 43, DEPCAT 6]

Ann also believed that media images reinforce children's perceptions, attitudes and choices about clothes:

"Young girls and boys and that eh well everything you see and the clothes are wee flimsy things but I think young people get the message that that's the way they have to be and I don't think that that's a good thing." Ann [Obese, 56, DEPCAT 6]

Hazel also felt that the media placed a pressure on young children to be aware of their weight and describes how her daughter appears to have developed a fear of becoming fat:

"There's all these glamorous film stars who've all been on these sort of scary diets you know where people are fainting and they're becoming really sick and all these young girls especially think that it must be okay because she's doing it, you know. That's quite

frightening and I'm quite scared for like [daughter] because she keeps saying "mum look at me I'm getting fat" and you know there's not a pick on her I mean she's pencil thin and I find that quite sad you know that children is this day and age are carrying on like that."

Hazel [Obese, 37, DEPCAT 6]

However, the fear of becoming fat was not restricted to young children. Sandra talked about her daughter's comments affecting her confidence and felt that her daughter was preoccupied with her own weight because she was afraid of becoming overweight, like her mother:

"I've no confidence at all and my daughter keeps saying that I'm dead fat and I should be going to slimming clubs. She keeps saying, 'oh these trousers are too tight, oh this is too tight, oh everything's too tight' I think its cause she's buying the wrong size lately. She just buys the right size but it's in her mind that she's too fat she's all glad rags and handbags and I think that maybe she's frightened, she's terrified I think that she'll go the same way as me." Sandra [Morbidly obese, 50, DEPCAT 6]

Gillian felt that if someone was constantly being demoralized and put down about their weight it could have an impact on their self-esteem:

"If you're constantly being told umm you're not this you're not that you should do this so you will be this or you should do that so you will be that. Yeah of course it's going to affect people because the more negative things you're told about yourself the more negative you feel about yourself and it gives you a more negative attitude and well what's the point of doing this I'm stupid, I'm fat, I'm ugly you know whatever it is you're told umm will eventually come to be what you believe about yourself if you're told it enough."

Gillian [Obese, 37, DEPCAT 6]

The way in which an individual feels about himself or herself is connected with their feelings of self-worth and identity. As demonstrated in Chapter 2, obesity has become a stigmatised state and the participants' experiences of being obese will be explored in the following chapter.

7.4 Summary

The findings presented in this chapter demonstrate that all of the participants acknowledged that they were overweight and that they were reluctant to use the terms 'obese' and 'obesity.'

All of the participants had gained weight during adulthood and women tended to use their reproductive histories as an explanation for their weight gain. It was evident that women who had previously been slim were dissatisfied with their current weight.

The male participants tended to perceive that a decline in physical activity had caused them to gain weight. The decline in physical activity had sometimes occurred as a result of a sporting injury. In addition, male and female ex-smokers perceived smoking cessation to be a contributory factor in their weight gain.

Overall, the participants did not believe that weight gain in middle age was inevitable. A decline in physical activity was perceived to be main factor for weight gain in middle age and this decline was either involuntary (caused by a decline in functional ability) or voluntary.

A number of gender differences were identified particularly with regard to the differences in where men and women gain weight on their bodies, the ways in which they gain weight and the social acceptability of overweight for men and women.

In general, men and women felt that it was more socially acceptable for a man to be overweight rather than for a woman to be overweight. Participants also believed that young boy and girls were exposed to societal pressures and were developing a fear of fatness.

Chapter 8: The Experience of Being Obese

8.1 Anti-Fat Attitudes

Although there is insufficient research to determine the prevalence of weight stigma, there is consistent evidence to show that obese people face weight prejudice (Puhl & Brownell, 2003). Isobel strongly felt that overweight people were viewed negatively by society:

“I do think that people tend to underestimate people that are overweight and think that they’re not as bright as they might be and I do think that people have a view and people are quite prejudiced and erm I think people are discriminated against if they’re overweight because they’re treated differently and I think people make assumptions like for example that the person might be less intelligent or assumptions like erm why does that person not just go on a diet, so that’s what I mean about making a judgement, an assumption about someone.” Isobel [Morbidly obese, 43, DEPCAT 6]

Crandall (1994) has shown that complete strangers often make disparaging remarks about overweight people particularly about their body and food intake. Overweight is believed to be controllable and being overweight is generally regarded as lacking self-discipline. Sandra felt that people judged her for being overweight and stereotyped her as greedy:

“People think you’re fat because you eat too much they think oh look greedy pigs, greedy pigs...” Sandra [Morbidly obese, 50, DEPCAT 6]

Similarly, Stuart felt that overweight people could be bullied about their weight:

"I think if you're overweight then you can either be bullied or there's jibes which will cause you more psychological problems." Stuart [Obese, 33, DEPCAT 1]

Darren spoke about his experiences at school and how he felt that he had been bullied because of his weight:

MC: What happened when you were at school?

Darren: "People picked on you because you were bigger, because you were fatter, because you stood out just the usual stuff... People don't really express it until you get into an argument with them and then it will come out because they've nothing else to call you except "Fat Bastard"." Darren [Morbidly obese, 32, DEPCAT 5]

Darren went on to talk about his daughter and the effect that her weight had on her experience of attending school:

"I've got a wee lassie she's 11 that's her there (pointing to picture) and she's a big big lassie, she's big and she feels it because she gets taunted because of her age and her size."

Darren [Morbidly obese, 32, DEPCAT 5]

Although not all of the participants spoke about job discrimination as an issue, some of them talked about friends and family members' experiences of trying to get a job:

"My sister who's overweight she's said that when she was going for an interview she was conscious on one or two occasions that people thought she was overweight er and she saw in her file for one of the jobs who actually took her she saw that they had put that - overweight." Maeve [Morbidly obese, 58, DEPCAT 1]

Similarly, Deborah felt that potential job applicants were judged on the basis of appearance rather than capability:

“I’ve seen the ways that some people react to people who are overweight I mean I’ve got a friend she’s a honours graduate and she’s had to try so hard to get a job because she’s overweight she’s had a terrible time getting accepted in a practice to do her [further qualifications] and she was really really clever but the job applications...now they’re wanting your photograph with your job application so they’re judging you before they’ve even seen what kind of person you are.” Deborah [Morbidly obese, 46, DEPCAT 1]

Bill believed that an overweight person was more likely to get a job if they were working in an office, but less likely to get a job if they were to be seen by members of the public:

“I don’t think that a slim person will necessarily get a job over a fatter person but I think in some degree you know if somebody’s going to work in an office and this fatter person was as qualified as the slimmer person erm but had more personality, the fatter person might get the job. If the slimmer person and the fatter person were going to sell to the public there’s a very good chance that they’ll take the slimmer person because the perception of the public is erm that fatter people can be lazy.”

Bill [Obese, 45, DEPCAT 1]

Maeve had experienced negative comments from others and felt that she had been a target of size discrimination.

“I’ve had comments and I think that’s why you know. I have to say that I feel that in all my life I’ve had more er discrimination because of my size than because I’m a women.”

Maeve [Morbidly obese, 58, DEPCAT 1]

Breseman, Lennon & Schulz (1999) argue that obesity discrimination is widespread in society and discrimination on the basis of body size is accepted as being politically correct. The anger and frustration felt by the participants is exemplified by Sandra's emotionally charged account, comparing sizeism to racism:

"You're talking about racialism that's...that's racist to heavy people ain't it more or less? Racist against heavy people. If you call somebody a fat bastard naebody says anything about it." Sandra [Morbidly obese, 50, DEPCAT 6]

8.2 Health Care Professionals' Attitudes

It is clear from the findings presented above that the participants perceived society to hold a negative view of overweight people. However, as demonstrated in Chapter 2, medical professionals also hold negative beliefs about overweight and obese people. The participants felt that in general GPs put "two and two together" and made assumptions that all of their medical problems were caused by their weight.

"I think a lot of doctors make assumptions er I actually had a comment from a doctor at one point that eh it was um it was looking into some of these health problems that I have at the moment and the comment from the doctor was people like you find that if they lose weight all their problems disappear that was from a man who was like a toothpick you know". Gillian [Obese, 37, DEPCAT 6]

It is possible that Gillian felt her GP lacked empathy and subsequently there is the potential for individuals to discount advice from someone who is perceived as too thin to understand their experience of being obese.

Maeve felt that her GP would say that an unrelated condition was related to her weight:

“I mean my GP for example, every time I see him...I’m sure if I went because I had an ingrown toenail he would tell me it’s because I was overweight.”

Maeve [Morbidly obese, 58, DEPCAT 1]

Isobel felt that her GP disregarded her health concerns and showed no respect for her during consultations:

“I’ve already been there with Dr [name] my GP and I just... I think he’s a cheeky, arrogant man erm to be honest I really do and I had spoken to him about the fluid in my knees and my ankles and everything and basically what he said to me was erm if I lost weight then that would go he’s one of these doctors that doesn’t look you in the eye, he’s actually looking at the computer or looking at his notepad in front of him and you think “hello, I’m here”, d’you know?” Isobel [Morbidly obese, 43, DEPCAT 6]

Some of the participants reported avoiding seeing their doctor because of concerns about what he or she might say:

“I don’t go [to the doctor’s] because I feel as if I would go in and he’d say right you need to get that weight off...” Pamela [Morbidly obese, 37, DEPCAT 5]

Drury & Louis (2002) found a positive relationship between BMI and delay and/or avoidance of health care. Additionally, as body weight increased, the rate of health care delay and/or avoidance also increased. More than 60% of the morbidly obese respondents cited being “told to lose weight” as a deterrent to seeking medical care.

Participants talked about their weight loss attempts and felt frustrated at their GP's attitudes towards weight loss:

"I really did try when that doctor said to me you need to lose weight, come back next week and I had literally stuck to everything on the diet and I went to them and I hadnae lost a thing and I went to see him and he said 'well you've not lost anything' and he was the size of a pin and really cheeky and I says 'well I've really done everything, I havenae overeate' and he said 'what yer havin?' And I said 'I've had a boiled egg and a half a slice of toast or a slice of toast' and he said 'well have half a boiled egg this week' you know what I mean and that was it, I just come out and I went 'ach!'"

Sandra [Morbidly obese, 50, DEPCAT 6]

Similarly, Helen felt that being told that she was going to get heavier if she did not stop eating was ineffective advice and she felt she needed to know how to go about doing it, just not be told to do it:

"I went to the doctor and he said that if I don't cut down on my eating that I'm just going to get fatter and fatter and fatter and fatter and he's right I am getting fatter and fatter and fatter you know but how do you stop the circle? I really don't know how you know I really need to take no well I think or get my mouth sewn up (laughs)."

Helen [Obese, 47, DEPCAT 6]

In general the participants felt that they were not receiving enough support from their GPs to try and lose weight and made comparisons with other health-related behaviours:

"People need help it's like smoking you go to the doctors and say I want to stop smoking they say well stop, beat it but they give you patches and chewing gum and everything and

you get help but the rest is down to you but for the likes of dieting they're like "and?""

Darren [Morbidly obese, 32, DEPCAT 5]

Likewise Maeve felt that obese patients did not receive practical help and were just expected to know what to do:

"If I had been an alcoholic (laughs) I would have got lots of support I think medically. I don't think there is anything in the same way erm for obese people. I mean there is no...yes there are things like over-eaters anonymous I've been there as well and I did find a lot of good there erm but there is no... there's not this kind of support. You know if you'd been a drug addict for example they would have been all kinds of help, they would have given you help whereas it is more or less left for you just to get on with it."

Maeve [Morbidly obese, 58, DEPCAT 1]

It was clear that the participants experienced prejudice and discrimination from both society and some doctors. The following section will explore the ways in which participants coped with the stigma of obesity.

8.3 Adopting a 'Fat' Identity

Degher & Hughes (1999) have proposed that obese individuals adopt a 'fat' identity as a result of internalising external and internal status cues related to the negative perceptions of obesity. External cues are those that are features of the social environment and they can be active or passive. Active cues include comments made about the individual's size or appearance whereas passive cues are those experienced by the individual, for example difficulties in buying clothes or fitting into airline seats.

Both male and female participants reported problems with buying clothes and felt that clothes for overweight people were comfortable rather than fashionable:

“You never see any nice clothes in Evans you know for the older, heavier woman and... and you go to the other shops and they only do up to a size 16 and after that they don’t do 18s or 20s and things like that er the fashion for older, heavier and... and even shoes again it’s whatever’s comfortable not whatever looks nice, you know. The shoes are horrible (laughs).” Helen [Obese, 47, DEPCAT 6]

Maggie also felt that clothes for overweight people were old fashioned and commented on ‘novel’ designs for dresses:

“You’ve nearly always got to buy stuff that is old fashioned for your age and that used to drive me nuts and the other thing and I don’t know why they always think this about fat people but it’s quite funny and I can laugh about it now, I used to buy quite a lot of dresses but they always used to sell these dresses with pockets in them, why in god’s name would I want 2 pockets in my dress? What was that for my sweets or something you know, what a bloody stupid thing” Maggie [Morbidly obese, 50, DEPCAT 6]

The general perception among the participants appeared to be that clothing choice was limited for overweight people and also that they had difficulties in finding clothing which was tailored in the correct proportions:

“Clothes are quite difficult to buy if you’re overweight erm they tend to be for taller people as well, erm and I would tend to go for something with a shorter sleeve because if I go for my size in a long sleeve thing you know, it’s...it’s about 8 inches too long, the sleeves, so they tend to say oh if you’re bigger, you must be taller, so they’re all sort of proportionally

wrong as well and I don't know who it is that fits these...you know jackets and...and stuff like that, so I don't think the clothes are really designed for real people."

Isobel [Morbidly obese, 43, DEPCAT 6]

Likewise, Darren perceived the cost of clothes to be expensive and was prepared to do without certain items, including a coat:

"I've no' had a jacket in years 'cause I cannae get wan and I grudge paying the prices that Slaters want because as I said they just rip the money right oot o' you because of your size.... You cannae say that making an XL jacket and making an XXXL jacket is going to take tons of material, you're only talking about a couple of sizes bigger, it shouldn't cost that much..." Darren [Morbidly obese, 32, DEPCAT 5]

Two of the male participants Peter and Darren were considering shopping trips to Canada and the United states to buy clothes because they felt that there would be more choice, cheaper clothes and they would not feel that they were being judged on account of their size:

"I'm laughing but some of the sizes in America oh it makes me look like Skinny Minnie you know." Peter [Morbidly obese, 52, DEPCAT 6]

Degher & Hughes (1999) suggest that internalising external cues creates stress for the obese individual and they develop a number of coping strategies in order to minimise the levels of stress experienced and the consequences of being labelled as 'fat.'

8.4 Coping Strategies

Pearlin & Schooler (1978) referred to coping as “the things that people do to avoid being harmed by life strains” (p2). In more psychological terms, coping can be defined as cognitive and behavioural efforts to manage specific demands that are appraised as exceeding the resources of the individual (Folkman & Lazarus, 1980). There are two main types of coping strategies: problem-focused and emotion-focused. Problem-focused strategies involve reducing stress by minimizing the effects or tackling the problem. In contrast, emotion focused coping attempts to minimize negative affect and protect self-esteem (Miller & Major, 2000). Emotion-focused coping strategies, in particular avoidance strategies, were most commonly used by the participants and involved avoiding particular situations. Some of the situations that were avoided included swimming pools and gyms. As previously demonstrated in chapter 6, embarrassment about one’s body deterred some of the female interviewees from participating in physical activity. Furthermore, the notion of not wanting to be ‘judged’ by others was seen as a reason for avoiding certain situations. For example, Maeve avoided wearing a swimming costume on the beach whilst on holiday:

“I don’t want to do anything when I think I’m going to be judged erm I don’t think I would appear on the beach for example in a swimsuit...”

Maeve [Morbidly obese, 58, DEPCAT 1]

It became clear later on the interview that Maeve had internalised past comments made by her husband comparing her to a whale and this comment may have been at the root of her decision not to wear a swimming costume on holiday:

“I mean cause I remember at one stage saying that I didn’t like to swim in the sea and he said, “fear of the harpoon perhaps?”” (laughs)Maeve [Morbidly obese, 58, DEPCAT 1]

Avoiding certain situations appears to occur because of body dissatisfaction and the majority of female participants avoided taking part in exercise classes or swimming because they felt uncomfortable about their bodies especially when those around them were slimmer:

“Well some of the health clubs that I’ve been to erm local centres and whatever have all these wee stick-thin girls and you know er they’ve got all the equipment for doing it and even the instructors who’s teaching you is erm about a size 8 or a size 10 and she’s about 20 you know...so that kind of puts me off...in case anybody’s looking at you cause you know you’ve got all the fat going all over the place (laughs) er so you tend not to go back you know...” Helen [Obese, 47, DEPCAT 6]

Some of the participants employed withdrawal strategies, where they restricted their social activities and although these strategies are similar to avoidance strategies, they are qualitatively different because rather than avoiding specific situations the women appeared to withdraw totally from the outside world and become socially isolated:

“I’m not happy with my weight...maybe with overweight people, if I’m anything to go by, it restricts what you do...I won’t go out, I wouldn’t go into a pub...I don’t go out socialising with my friends, I don’t go out. I go out through the day and do the things I’ve got to do...I do some voluntary work and various things through the day but I don’t go back out. I won’t mix because of my weight, because I’m not confident enough to mix in company. And again it’s down to my weight I’ll walk along the road and watch the ground, I don’t look at people because I feel too self conscious about the way I look.”

Pamela [Morbidly obese, 37, DEPCAT 5]

Occasionally the withdrawal strategies used by some of the respondents affected their relationships with significant others. For example, Helen describes feeling resentful towards her husband when he has gone out without her:

“It’s affected my relationship with my husband because I won’t go out, I’m quite happy to stay in but I’m not really happy to stay in, you know what I mean? So if he’s been out and he comes back in, I’m a wee bit jealous that he’s been out and about and I’ve been sitting in and then I feel sorry for myself.” Helen [Obese, 47, DEPCAT 6]

Laitinen, Ek & Sovio (2002) argue that stress-related eating is an emotion-focused coping strategy that is associated with obesity, especially among women. Likewise, the current study found that some participants ate in response to negative comments.

Feminist writer Zimberg (1993) states “when a woman first gives up dieting she may go through a period of what I call “fuck you” eating” (p142). This rebellious eating often occurs as a response to deprivation and in Maggie’s case occurred as a combined response to deprivation and negative comments from a nurse:

“One week I went in and my feet were really swollen and I said to the woman I thought I’d better come anyway even though my feet are swollen and she weighed me and said, “you’ve put on 5lbs, I’d better let the dietician know” and I was like, “I’ll let her know myself for god’s sake. I don’t like your attitude. I’m not coming back here” ...I came out of there and I was really upset and I thought, “that’s bloody that I’m no going back there anymore” and you just get yourself on a downer so what do you do? Eat.”

Maggie [Morbidly obese, 50, DEPCAT 6]

Degher & Hughes (1999) propose that obese people use “Compensation” as a strategy. Compensation involves offsetting the negative consequences of obesity by attempting to

overachieve in other areas such as striving hard in the workplace. Thomas identified himself as a workaholic and he talked about his motivation to become a successful businessman:

“I mean I’ve been relatively successful, this business... I started it twenty odd years ago with no clients, we’ve now got two thousand clients, we’ve now got nearly 100 employees eh and several offices and erm there’s a huge element of drive within me to succeed.”

Thomas [Morbidly obese, 59, DEPCAT 1]

Degher & Hughers (1999) also suggest that obese people use “Compliance” as a strategy. There are two types of compliance: stereotype compliance and face compliance. Stereotype compliance involves adopting the ‘jolly fat’ persona – someone who gives the impression that they are constantly cheery, do not mind if people make jokes about them and as a result cannot be insulted because the jokes are meant to be humorous. Peter demonstrated the “jolly fat” persona and constantly cracked jokes throughout the interview and demonstrated that his way of coping was through self-acceptance:

“Well I think we’ve all got what’s perfect in our own heads and you might look at someone and say, “Oh that’s the perfect shape or size” and someone might look and say, “Oh I disagree it should be bigger or this or smaller or whatever.” We’ve all got a personal thing in our heads like if I was six inches taller and I was this and I was that you know but we just have to accept what we’ve got. I mean really I’m not overweight at all; I’m just three feet under height (laughing).” Peter [Morbidly obese, 52. DEPCAT 6]

Myers & Rosen (1999) found that the most frequently used coping strategies used by obese people involved ‘heading off’ negative remarks and positive self-talk. They found that people tried to prevent negative comments by attempting to catch people off guard who they thought might be critical. One way of doing this involved making eye contact and

saying 'hi' to people who they thought were staring at them. Positive self-talk involved the use of statements such as "It's who I am on the inside that matters" and "I think no one has the right to judge me."

Face compliance occurs when the obese person agrees to go on a diet for someone else - for example, a loved one who is continually insisting that they do something about their weight. However, when engaging in face compliance the obese person is only half-heartedly attempting to lose weight and may feign dietary restriction when others are around yet binge when they are alone and sometime hide evidence of the food such as empty food packets in the bin:

" I think to myself then why do I still have to have the chocolate biscuit or that packet of crisps or whatever but you don't need it, you just take it and sometimes I hide the stuff in the bin so naebody knows I've taken it and that's even better."

Maggie [Morbidly obese, 50, DEPCAT 6]

Rydén, Karlsson, Persson, Sjöström, Taft & Sullivan (2001) conducted a study in Sweden to examine the coping strategies of obese patients and identified that the patients used three main coping strategies: Social Trust, Fighting Spirit and Wishful Thinking. Social Trust was a problem-orientated strategy as the individual talked about their weight and turned to other people for support. Fighting Spirit was also problem focused, as the individual regarded problems as challenges and did not allow their obesity to affect their psychological well-being. Finally, Wishful Thinking was emotion-orientated as it involved the patients focusing on dreams of becoming slim. Rydén *et al* suggest that Wishful Thinking was maladaptive and increased distress as there was dissonance between reality and fantasy.

Degher & Hughes (1999) suggest that emotion focused strategies can involve the individual not thinking about being fat and many of the respondents in their study did not think about their fatness on a day-to-day basis. Degher & Hughes have argued that

“Fat people who disregard their condition are intellectually aware of the fact that they are fat. They simply choose to ignore it” [p19]

In the current study, several of the female participants spoke about how they perceived their bodies differently in their minds and they did not actively consider themselves to be obese on a day-to-day basis. The majority of women who experienced this phenomenon had not always been obese and in their mind they were still slender. Some of the women involved in the study talked openly about how they perceived their bodies differently in their mind. The women expressed shock and discomfort when confronted with their actual bodies especially if they had not been cognitively aware that they had been continually putting on weight:

“I think it just comes upon you and then you look in the mirror one day you think “My god what’s happened to you?” You still perceive in your mind somebody completely different until you see yourself in the mirror.” Maggie [Morbidly obese, 50, DEPCAT 6]

A number of the women began to avoid looking in the mirror to prevent themselves feeling down or becoming depressed about their size:

“Aye it’s a bit depressing because funnily enough you never think, I mean you’ve got in your mind’s eye about what you look like and then you see yourself in the mirror and you go “Arggh” and you’ve got a different idea in your mind and then when you actually see yourself so probably you tend not to bother looking at yourself.”

Joan [Morbidly obese, 60, DEPCAT 5]

Pamela, an ex-anorexic, explained that when she was anorexic she believed she was overweight even though she was very much underweight and succinctly articulates her feelings about being morbidly obese:

"Sometimes I look in the mirror and obviously when you're anorexic you look in the mirror you still feel heavy right? I mean I could count my ribs and they could count the discs on my back and various things and I used to still think I was still overweight and obviously the standing joke now is I'm heavy and I look in the mirror and see a slim person you know, trying to have a laugh about it but sometimes I forget that I'm so fat"

Pamela [Morbidly obese, 37, DEPCAT 6]

Millman (1980) has argued that splitting the body from the mind is a common adaptation to being fat and involves the fat person avoiding mirrors and situations that make them feel uncomfortable about their body. This disembodiment enables the individual to distance him/herself from his/her real image and 'forget' that s/he is fat. However, photographs or a mirror reflection forces them to question their bodily appearance and sense of self. Re-addressing their actual body size often results in body dissatisfaction and can prompt desire for weight loss:

"It's as if the person inside you know ... I feel I'm me and I'm the same person I've been for twenty odd years, thin or fat, but sometimes I'll get a wee jab to remind me that I'm fat and I think "Oh!" (laughs) you know erm I still feel that I'm the same person inside for the last twenty odd years. The slim person. I like to think I have a different image in here (points to her head) to the image here if that makes sense you know. I still see myself as a size 12 and I'm not I'm a size 16, I'm a size 18, but trying to get my brain to think, "Oh you are fat, come on you know do something about it," I just can't get motivated to go and do it, you know." Helen [Obese, 47, DEPCAT 6]

Helen's account demonstrates that it is not only the morbidly obese participants who experience the concept of disembodiment. Furthermore, body dissatisfaction can prompt an individual to want to be slimmer. Therefore the impetus of whether or not to attempt to lose weight appeared to depend on the individual's level of satisfaction with his or her own body and weight.

8.5 Attitudes Towards Own Body and Weight

In general the male participants appeared to be happy with their current weight even though some of them were making attempts to lose weight. For example, Darren wanted to lose some weight, but believed that overall he was happy being overweight:

MC: Are you happy with your current weight?

Darren: To a degree, aye. I'd like to lose a couple of stone but I've always been big and I suit being big. Darren [Morbidly obese, 32, DEPCAT 5]

The older males appeared to be less concerned about losing weight. Thomas provides a rationalization for not trying to lose weight, arguing that he would rather be fat and happy rather than thin and miserable:

"The bottom line is do you wanna have sixty years on this planet feeling very unhappy with yourself or round the other way sixty years feeling extremely happy with yourself, as opposed to eighty years feeling absolutely lousy about yourself, and I'll take the former, that's my view now." Thomas [Morbidly obese, 59, DEPCAT 1]

Kenneth also appeared to be satisfied with his current weight and did not perceive himself to be under any pressure to make an effort to lose weight:

“I think lots of people will feel put under external pressure [to lose weight] fortunately I’m at that stage of life at last where I don’t care what anyone thinks about me, which is an excellent stage to get to.” Kenneth [Obese, 52, DEPCAT 2]

The older women, Joan and Maeve in particular, admitted that they had accepted as their weight as they had aged:

“I really feel that erm I just have... I don’t know whether it’s my age...I’m trying to just accept it now and put less pressure on myself, and maybe I just have to accept that it’s maybe what...something I just have to accept.” Maeve [Morbidly obese, 58, DEPCAT 1]

However, this attitude was not restricted to the older participants. For example, Hazel admits that she would still like to lose weight, but that she has tried to accept her body:

“I would say that when I was younger I wasn’t happy with being overweight but I’d say now I’ve accepted it erm I’d still like to be skinny and glamorous and good looking and all the rest but I’ve accepted that this is like the way that I am and I don’t get upset about it and things like that anymore you know like I might have done in the past when I might have looked at myself and gone “Yuck I look absolutely awful” and I just tend to sort of be myself a wee bit more now, I’m more tolerant of it but ehm I would still like to be a lot thinner.” Hazel [Obese, 37, DEPCAT 6]

Gillian felt that it was important to recognize that it is possible for people who are overweight to be happy and accept their weight and that when people are unhappy with their weight the last thing they need is someone contributing to their insecurities about their body:

“If you’re happy with it umm and I’m not talking about the oh fat people are jolly or anything like that. Some people are overweight and they’re perfectly happy because maybe they’ve been fighting with their weight all the time and they’re so fed up of dieting and everything and their weight has settled and if they’re happy being the way they are nobody else has really got a right to say to them you need to lose a few pounds or anything like that. If they’re unhappy with it then it can be really difficult especially if people come up and say you could do with losing a few pounds, you know if you lost a few pounds that top would look nicer on you or you’d be able to buy this or you’d be able to wear a bikini or wear shorts or wear you know.”

Gillian [Obese, 37, DEPCAT 6]

The dissatisfaction felt by many of the female participants can be summed up by Joan’s simple comment “I hate being fat.” Joan [Morbidly obese, 60, DEPCAT 5]

Helen described how her weight was making her feel down and was impacting on her level of self-esteem:

“Right now the way I’m feeling, I feel really down, depressed, fat, that I don’t want to do anything...I keep thinking that if I could lose weight I would maybe get a wee bit interest in myself because you tend to put on the same things every day; elasticised waist, baggy T-shirts and a cardigan you know I really feel awful depressed about it and ashamed of myself because I’ve let myself go.” Helen [Obese, 47, DEPCAT 6]

Helen’s account demonstrates the possible link between depression and obesity and although the statistical analysis revealed that there was no significant association between obesity and psychological health, it was important to explore participants’ views about the mechanisms which link obesity and psychological health, specifically depression.

8.6 Obesity and Psychological Health

During the course of the interviews, six of the participants admitted that they had been previously diagnosed with depression and spoke candidly about their experiences and how they thought depression had affected their weight. For example, Helen describes how depression made her less active and less willing to socialise:

"I mean if you are depressed at all erm you put on a lot of weight because then again yer not as active, yer don't really want to make the effort to go out you just cannae be bothered er that's what I feel anyway in my position in that I just got I just didnae want to go out and meet anybody else, I didnae want to go out and socialise (sigh) or anything like that so. This is what happens, you sit in and the weight just goes on you know erm. I think that...that the depression helped me put on a lot of weight you know."

Helen [Obese, 47, DEPCAT 6]

Hazel suggested that there could be a vicious cycle between depression, reduced activity and eating:

"I definitely think there's a link with depression and weight gain because I think if you're fed up and you're sitting in the house - like I've got friends that will sit and eat packets and packets of biscuits and watch daytime television all day long because they're so disgusted with themselves and fed up and they don't want to do anything or they've not got anything to do. I've got one friend in particular that's springing to mind with that and you know she'll just sit and eat all day eating chocolate biscuits and she's not on anti-depressants or anything like that but she probably should be because her daughter is the same age as [daughter] and she's no partner or any other kids, so there's nothing stopping her going

out and getting a job and getting a life. But she chooses to sit at home and eat chocolate biscuits and watch daytime telly you know and I think it's like a vicious circle, but she's got to find the motivation to break the circle and sort of, take the step to get back out again and get a life." Hazel [Obese, 37, DEPCAT 6]

Darren's mother died from cancer, which was a big shock for the family and as a result of her sudden death, he was forced to take sick leave from his job. Darren admitted that initially he was comfort eating after the death of his mother, but he then alluded to boredom as a secondary reason for overeating. The boredom principally occurred because he was not able to work and highlights that not being able to work (reduced activity) resulted in a vicious cycle of depression and overeating:

"When my mom died I took really bad depression and I think the biggest problem was boredom because I was off sick for just short of six months because it was a sudden death thing and at first it was just comfort eating and then it was just boredom because you're sitting in the house all day and I just started eating crisps and drinking that bloody stuff (points to the Irn Bru bottle) and that's all you do and you don't realise that you've ate 10 packets of crisps in a couple of hours..." Darren [Morbidly obese, 32, DEPCAT 6]

Sarlio-Lähteenkorva (1998) conducted qualitative interviews with obese men and women and found that there was a vicious circle between eating and emotion, particularly loneliness. Furthermore, feelings of isolation and negative emotions were found to trigger compulsive eating and episodes of bingeing.

Kenneth exercises five times a week and he makes the important point that depression can impede enjoyment of hobbies, as he didn't want to exercise when he felt depressed. He also appeals to the concept that reduced activity can contribute to weight gain.

However, Kenneth emphasises the importance of individual differences:

“Depression can make you unhappy, fed up and not wanting to do exercise- just sit about all the time. So, in that way, it would help you gain weight, but some people in fact, might, because they’re depressed not eat at all. There might be other people who react differently.” Kenneth [Obese, 52, DEPCAT 2]

Five participants (Hazel, Helen, Pamela, Darren and Theresa) mentioned that they had previously been prescribed anti-depressants and talked about the impact of anti-depressants on their appetites.

Theresa, for example, believed that the anti-depressants had increased her appetite and she believed that they might have been a possible cause of her weight gain:

“I’m not on the antidepressants now and I think probably that was why I put on a lot of weight.... A lot of people don’t eat when they’re depressed, I was the opposite. Anti-depressants gave me an appetite (laughs).” Theresa [Obese, 40, DEPCAT 5]

Similarly, Helen had found that she had gained weight since taking anti-depressants and felt that they made her crave for chocolate:

“I think I’ve put on a lot of weight since taking the anti-depressants... I don’t know if the anti-depressants made me crave for sweet things or not or if it was just you know another symptom of your depression but it [chocolate] gave me some kind of comfort.”

Helen [Obese, 47, DEPCAT 6]

In contrast, Maggie spoke about her sister’s experience of taking anti-depressants and believed that it was the anti-depressants that made her sister gain weight rather than her eating habits:

“I’ve got 2 sisters, one who is really really slim and has gone through bad patches in her life. Her weight shot up and she put on 4¹/₂ stones and then she did a stupid thing and swallowed a lot of pills and ended up in hospital. I definitely do think that there is some connection between it all because she was on anti-depressants and I don’t even think that she was eating a lot. I think it was the pills that was making her weight balloon.”

Maggie [Morbidly obese, 50, DEPCAT 6]

Darren and Hazel did not believe that the anti-depressants had affected their appetites. Hazel experienced postnatal depression a year following the birth of her first child and was prescribed anti-depressants and she raised an important issue that anti-depressants are also used for treating eating disorders such as bulimia nervosa.

MC: Do you think that the anti-depressants affected your appetite?

Hazel: I can’t say that I noticed anything. Some anti-depressants are used for treating bulimia aren’t they?

Hazel [Obese, 37, DEPCAT 6]

This demonstrated Hazel’s knowledge about anti-depressants and it has been shown that tricyclic antidepressants are effective for bulimia nervosa and that selective serotonin reuptake inhibitors (SSRIs) are more effective for anorexia nervosa (Bacaltchuk, Hay & Trefiglio, 2002).

Maeve perceived that depression can result in compulsive eating but also highlighted that depression can result in a loss of appetite and contribute to weight loss:

“I have not been a depressive type and I don’t think I eat because I’m depressed erm though I know people who do (nervous laugh) ... but I do think that there are quite a number of people that either go totally off their food if they’re depressed and can’t eat at all or who eat compulsively when they’re depressed so I think there probably is some connection you know.” Maeve [Morbidly obese, 58, DEPCAT 1]

Thomas believed that depression, low self-esteem and comfort eating were interconnected:

“I think that there are all sorts of psychological triggers to being overweight and a hell of a lot of it is to do with...with lack of self-worth erm...I mean ...at the end of the day, if you don’t like yourself then you find ways of being comfortable with yourself and one of the ways you can do that is by putting food in your mouth, another way is to inject yourself with opium or whatever drug of choice that you have or smoking marijuana or drinking whisky erm these are all mood altering drugs and sad to say there is no doubt that eh in my opinion changes that take place in the body erm with comfort eating.”

Thomas [Morbidly obese, 59, DEPCAT 1]

8.7 Relationships with Food

Zimberg (1993) argues:

“food surrounds us and is an intricate part of our celebrations...food and eating are filled with meaning. Food can be sensuous, soothing, social, a stimulant, and a depressant. Clearly when we eat, it is often for other reasons than pure physiological hunger” [p138]

On a very basic level, the participants regarded eating as an essential part of human nature.

Bill described his perceived values about food:

“Food is enjoyable, social, pleasurable erm it’s a necessity.”

Bill [Obese, 45, DEPCAT 1]

The participants' demonstrated how attitudes towards food had become ingrained as a child:

"You've got this attitude what you've got on your plate you've got to finish, it's the way we were brought up finish your dinner, so you've got a plate you will try and finish it and you get taught not to waste food." Darren [Morbidly obese, 32, DEPCAT 5]

Paisley, Sheeshka & Daly (2001) found childhood 'rules' about food define what and how much people eat and the participants in their study recalled three childhood 'rules:' "clean your plate," "just try it" and "you'll eat what is served."

The psychosomatic theory of obesity, proposed by Kaplan & Kaplan (1957) suggested that overeating is linked with early childhood experiences in which eating and comfort were linked. Isobel spoke about childhood and the symbolism of food as a reward and a celebration:

"I think that when you're younger if food can become a reward so I think there's that going on... If you're not well I'll make you something nice we'll celebrate something with food...and food is maybe used as a sort of reward and it's not about fuel it's about you know reward really so I think that's got a lot to do with it."

Isobel [Morbidly obese, 43, DEPCAT 6]

Maeve admitted that she used chocolate as "a pick me up" and suggested that she viewed it as symbolic of happiness:

"[Chocolate] is the food that I crave and if I'm tired, I find it if I get very tired or if I get very bored that is the thing that I want. It's not just foods and it's not necessarily er sweet things it's just that is one that seems to have erm a symbolic... I don't know whether it is

just physical or whether it's also something in my head, some sort of symbol of cheering me up or something." Maeve [Morbidly obese, 58, DEPCAT 1]

It was evident that some of the participants appeared to use food as a psychological crutch. For example, Thomas believed that food gave him a psychological boost, which helped to make him feel better about himself:

"I want reinforcement to make myself feel good erm or whatever it maybe so it's psychological... the body doesn't require the food but the mind seems to have to have some form of reinforcement that erm makes me feel better....There's an urge either for something sweet or an urge for something fatty erm it's comfort eating erm and it usually comes when you're tired or down or I hate to say at a loose end because it's not really when you're at a loose end, it's really....it's...it's more...erm it's more when your reserves of inner strength are erm depleted so it's... it gives you a lift psychologically when physically you feel kind of drained."

Thomas [Morbidly obese, 59, DEPCAT 1]

Stuart also believed that psychological comfort could be sought by eating foods that he enjoyed such as chips:

"If you've got psychological problems which means you're looking for something for comfort, food is a great thing for comfort you know erm if you're not feeling well like I had chips and cheese and onion pasty tonight other people turn to chocolate if they've had a crappy day and that's another comfort aspect."

Stuart [Obese, 33, DEPCAT 1]

Zimberg (1993) argues, "emotional eating exists on a continuum – from those who rarely engage in emotional eating to those who constantly and compulsively eat for emotional

reasons.” Two of the participants, Maeve and Deborah identified themselves as compulsive eaters.

Maeve gave an account of how she came to realise that she was a compulsive eater:

Maeve: I think I'm probably a compulsive eater in some ways ...I bought a tape once and they were saying there were three reasons for it and I fitted all three...

MC: Can you remember what the three reasons were?

Maeve: The first reason they said was that some people have what we call alcoholic foods and if they eat certain foods it starts...it stimulates something and they go off on a binge that was one reason and if I leave chocolate alone I don't have a problem The second reason was that people use food as an anaesthetic to escape from having to deal with their lives and though that was the reason that I thought was the least of the ones that I have but I could recognise that there are people that do that. The third reason was that you had a compulsive personality and that you did everything compulsively and I thought I fitted very much into that because when when I'm sorting out photographs I can remember after my mother died, it was about three days I was sorting out slides and you know not cooking or anything so I do everything obsessively and I have to watch myself about what I'm doing...

Maeve [Morbidly obese, 58, DEPCAT 1]

Deborah had experienced a difficult up-bringing with an alcoholic father and admitted that she coped with emotional pain by eating. Deborah vehemently believed that there was a link between abuse and emotional eating:

"I think its because of what happened to us I mean when I went to that compulsive eaters group everybody was overweight and every single person had suffered from some form of abuse some of it was emotional, some of it was physical, some it was sexual abuse but

every single person in there had been abused so yeah I think that has a lot to do with it and from what I've seen going to things that seems to be the basic cause it's abuse in the family of some kind." Deborah [Morbidly obese, 46, DEPCAT 1]

Deborah explained that sometimes compulsive eaters had an unstoppable, desperate urge to eat:

"For someone people its worse than for others one woman that I knew she could eat absolutely anything when she was in that state I mean once she even ate dried up macaroni in a pan I wouldn't get to that stage but so it can get really bad."

Deborah [Morbidly obese, 46, DEPCAT 1]

Chamberlain (2004) argues that concerns about the concept of "you are what you eat" carry connotations of immorality, over-indulgence and lack of control. Deborah explained that control, or lack of control over eating was a common experience of a compulsive eater:

"I was at the compulsive eaters group and she said it's a lot to do with control that you can let that part of your life be out of control because it's food whereas you control other parts of your life because you have to control them and you let eating get out of control and that's what happens and you put on the weight."

Deborah [Morbidly obese, 46, DEPCAT 1]

Orbach (1998) suggests that compulsive eaters "may eat everything in sight" and believes that there is a vicious cycle of dieting and bingeing. There is evidence to show that individuals eat in relation to stress and that eating is stressful for people who frequently attempt to control their weight (Solomon, 2001).

Stuart perceived that there was a relationship between overweight and comfort eating and he emphasised the tensions between overeating and guilt:

“If you’re in the position where you do feel overweight then you know it [eating] can make you feel better for a small time and then you get the guilt pangs don’t you? You know you feel guilty afterwards and you go back round the cycle because people feel upset so they comfort eat then they eat and feel guilty so they eat.”

Stuart [Obese, 33, DEPCAT 1]

Thomas talked about the pleasure he got from eating “forbidden” food and although eating improved his psychological well-being, it was very much interlinked with feelings of guilt:

“I know that I eat because it makes me feel good so therefore er if I’m tired at the end of a week and I’m driving past [place name] there’s a fish and chips shop that sells fritters I’ll go and get a portion of fritters and it will make me feel good and it’ll do dreadful things to my body and then I’ll feel guilty.”

Thomas [Morbidly obese, 59, DEPCAT 1]

English (1991) found that people who were enrolled in a weight loss programme often felt guilty about excessive eating or binge eating. Participants who were trying to lose weight often expressed feelings of guilt after comfort eating:

“I suppose you do comfort eat and then you feel really guilty after it and think why did I let that get to me and I went away and ate that, why did I eat that, I shouldn’t have done.”

Theresa [Obese, 40, DEPCAT 5]

Likewise, Helen recalls how her husband made her feel guilty about eating a scone, while she was trying to lose weight:

“Last night, erm I made myself a scone and butter about half past ten (laughing) and he just looked at me you know and I felt like smashing his face in with the scone (laughing)... I then go to my bed and I think to myself “I shouldn’t have took that, why did I take that?” (laughing) psychoanalysed by a scone at half ten at night (laughing) you know so it’s stupid umm and I thought oh god what have I just eaten it, was just at the time it was in my mouth before I knew that it was there (laughing)”. Helen [Obese, 47, DEPCAT 6]

Disordered eating and obesity are both prevalent within society and may be associated with weight cycling (Solomon, 2001). All of the participants had dieted, lost weight and regained weight during their lives and their experiences of weight loss will be explored in the following chapter.

8.7 Summary

The main findings of this chapter demonstrate that obese individuals experience anti-fat attitudes and can be bullied and discriminated against because of their weight. The findings also demonstrate that the respondents perceived that GPs hold prejudicial views about overweight people and automatically view overweight as the cause of all health problems. The analysis highlighted that participants used a number of emotion-focused coping strategies including avoidance, withdrawal and emotional eating.

Some of the participants perceived there to be a cyclical relationship between depression and comfort eating. Additionally, a number of the participants appeared to view food as a psychological crutch and engaged in emotional eating to improve their psychological well-being. Furthermore, it appears that participants have developed a complex and dysfunctional relationship with food as, especially for those who regular engage in dieting, food has become associated with feelings of guilt. The participants’ experiences of dieting will be explored in the penultimate chapter.

Chapter 9: Tackling Obesity

9.1 Triggers Initiating Change

Chapter 1 demonstrated that there are a number of physical complications associated with obesity including CHD and type II diabetes. Whilst not all of the participants experienced the conditions associated with obesity, three participants (Maggie, Deborah & Ann) had been diagnosed with type II diabetes and were aware that it was related to their weight. For example, Maggie is acutely aware that she is experiencing a number of health problems that are directly related to her weight:

Maggie: I've been a diabetic for three years now, my joints are going and I think that's weight that's caused that, that's why I want to do something about it.

MC: Is your diabetes related to your weight?

Maggie: Yes its type II, my own stupidity.

[Morbidly obese, 50, DEPCAT 6]

Maggie also admitted that since being diagnosed with type II diabetes she had made a number of changes to her diet:

MC: Have you made many changes to your diet?

Maggie: Yes, well sugar for a start, that's out the window and I've had to change a lot of things ...changed to brown bread, more fruit and vegetables erm not as much fatty stuff and things like that. I have to watch the fat content, I've changed from creamed milk to skimmed milk, low fat spread instead of butter, it would break your heart (laughs) but I've done these things because I had to and that's that. [Morbidly obese, 50, DEPCAT 6]

Ann had also made a number of changes to her diet in an attempt to control her weight and type II diabetes:

“Eh, well I try not to eat the obvious, you know a just kind of general healthier diet, try to eat more fruit. We do eat quite a lot of veg, we don’t fry, I use skimmed milk and low-fat spread you know we really try quite hard just try and watch it.”

Ann [Obese, 56, DEPCAT 6]

Deborah appeared reluctant to recognize that her diabetes had occurred as a result of being overweight and instead believed it was hereditary because her two sisters (who were both overweight) had also been diagnosed with type II diabetes:

Deborah: I’ve been diagnosed with diabetes now ...

MC: Is your diabetes type I or type II diabetes?

Deborah: Type II, but it seems to be hereditary in my family, as my two sisters have got it as well. [Morbidly obese, 46, DEPCAT 1]

However, further prompting revealed that although she was reluctant to accept that the diabetes was related to her weight she did admit that she knew it was associated with being overweight:

MC: Do you think diabetes is associated with being overweight?

Deborah: Ah-ha it’s supposed to start if off quicker.

[Morbidly obese, 46, DEPCAT 1]

Later in the interview, Deborah admitted that she had made a number of dietary changes since being diagnosed with type II diabetes and mentioned that her children had also lost weight as a result of drinking more water and cutting out fizzy drinks from their diet.

Two of the male participants knew that type II diabetes was associated with being overweight and perceived that there was a family history of diabetes. This knowledge had prompted them to arrange to be tested for type II diabetes. For example, Darren, by his own admission consumed Irn Bru everyday and was experiencing a number of side-effects if he didn't drink it:

"If I've not had a bottle of Irn Bru I feel dead tired and shaky, I suppose it's like an alcoholic with drink" Darren [Morbidly obese, 32, DEPCAT 5]

When Darren was asked if he was concerned about this, it became clear that he had previously worried that he might be at risk of developing diabetes:

Darren: "I've been tested for diabetes and I've been told I've no' got it."

MC: "Was that something that worried you whether or not you had diabetes?"

Darren: "Yep because it runs in my grandmas side...but it's like borderline it can go either way." [Morbidly obese, 32, DEPCAT 5]

Turning fifty and the knowledge of the link between overweight and diabetes prompted Peter to consult his doctor:

"I went to the doctor when I turned 50 because my father had er what do you call it the sugar thing...diabetes and that was caused through his weight and I was wondering if that

was gonna happen to me and he took checks and there was nothing like that but he did advise me try and lose [weight] so I said I'll try."

Peter [Morbidly obese, 52, DEPCAT 6]

Ageing appeared to have an impact on attitudes towards weight and health and some of the participants felt that as they grew older they felt less healthy:

"I think until recently, maybe until the last few years, I think I felt quite healthy despite the fact I was overweight...in the past I felt as if I was quite sort of strong and quite healthy and quite able to go about doing things, where as now I notice that I'm not you know... I would get out of breath more easily if I climbed four flights of stairs."

Isobel [Morbidly obese, 43, DEPCAT 6]

Participants also described the impact that reaching age-milestones, such as turning 30, 40 or 50 had on their perceptions about health:

"Since the age of 30 I've become much more conscious of my health, I've become much more conscious of what I eat. Also since I got married you know I'm not living a bachelor type existence so I tend to watch what I eat a lot more, erm when I eat, what I eat you know, in some respects I've probably got healthier since I turned 30."

Stuart [Obese, 33, DEPCAT 1]

Likewise, Maggie spoke about how approaching 50 had prompted her desire to want to lose weight and how since turning 50 she has been attempting to lose weight:

“I keep promising myself that I’ll do it but ...I said I’d do it before I was 50 but I was 50 last March...I’m trying, I’m a wee bit lighter than I was.”

Maggie [Morbidly obese, 50, DEPCAT 6]

Although age milestones prompted Stuart and Maggie to reassess their attitudes and work towards improving their health or weight, age milestones did not always result in positive outcomes. For example, Helen spoke about how turning 40 had impacted on her psychological well-being:

“Forty seemed to be a right downer (laughs)...I don’t know it might be maybe just a combination of things, I started to get really bothered with depression and erm then the weight came on and it’s just been slowly going downhill you know and at the beginning you thought you could pick yourself back up again but I don’t see it.”

Helen [Obese, 47, DEPCAT 6]

Helen’s account demonstrates that she perceived that there was a plausible link between depression and weight gain (see section 8.6). The analysis identified two main types of motivation for weight loss: Intrinsic and extrinsic motivation. Intrinsic motivation tended to be when the person wanted to lose weight for his/herself and reasons included losing weight in order to be healthier or more agile. Older participants tended to want to lose weight for health reasons. For example, Peter wanted to lose weight, as he felt less ‘healthy’:

“The only reason I want to lose weight is because I’m feeling a bit less healthy...”

Peter [Morbidly obese, 52, DEPCAT 6]

Similarly, Maeve who was also in her fifties wanted to lose weight because she perceived that she had a family history of stroke:

“My two parents and my four grandparents died of strokes eventually, admittedly it was quite late on, but I’m sure that all this sort of thing leads to strokes and heart disease and things and I get concerned about that erm so it’s more for physical health that I would like to lose it....” Maeve [Morbidly obese, 58, DEPCAT 1]

Maggie wanted to lose weight because she was concerned about developing some of the conditions associated with type II diabetes:

“When I first got diabetes my mum said “oh my god you’re going to have to check your feet everyday because sometimes you have to get your feet amputated, you’ll need to watch or you’ll end up with gangrene” and I was like “oh my god.” I really do want to do something about it because I know there’s other things like my eyesight could go and that would drive me nuts because I like to knit and I like to read and I would not be able to cope with that and that is why I want to try and do something about it.

Maggie [Morbidly obese, 50, DEPCAT 6]

Extrinsic motivation tended to involve trying to lose weight for a particular occasion such as a wedding. For example, Helen wanted to lose weight as she had been invited to a wedding and wanted to improve her appearance by losing weight:

“We’re going to a wedding that’s coming up quite soon, I keep saying “oh I need to try and lose weight” because I know that I’ll not enjoy it you know. You know it’s gonna be a beautiful wedding but I know that I’m gonna feel uncomfortable and eh I’m not gonna be able to get up and dance I’m gonna feel as if everybody is gonna be looking at me and erm I’m no even gonna feel comfortable with what I’m gonna put on.”

Helen [Obese, 47, DEPCAT 6]

Appearance was the main reason for weight loss cited among the younger participants. For example, Gillian talks about wanting to lose weight to improve her confidence, which involves dropping down a number of dress sizes:

“I don’t feel as if I’ve been me for a long time you know. I’m not saying I want to go back to being a size 10, I’d be happy being a 12 or a 14 but I’d be happyI want to lose weight because I want to feel happier in myself. I want to feel more confident. I want to be able to go out with my friends againwe used to swap clothes all the time as well and I can’t do that...they can still borrow my clothes because I’ve got a various range of sizes but I cant borrow theirs anymore...it’s just something we always used to do and I miss that part of it you know there are things that are missing now from my life and I would like to have back.” Gillian [Obese, 37, DEPCAT 6]

However, some of the participant’s motivations for weight loss could not be placed into dichotomous categories, as they often wanted to lose weight for intrinsic and extrinsic reasons. Thomas stated that his main motivation for losing weight was his daughter’s upcoming wedding, but when questioned further about his motivations he revealed that he also wanted to lose weight for health reasons in order to be able to live longer:

“My daughters wedding but also... well the second one also probably is the fact that four months ago I became a grandfather and I actually would like to see him go to school and er hopefully maybe even come out of school. So on that basis, I would maybe like to live a bit longer is really the issue.” Thomas [Morbidly obese, 59, DEPCAT 1]

Hankey, Leslie & Lean (2002) found that the motivating factors for weight loss differ with age. For example, in their study of men, they found that younger men (aged 30-49) considered appearance as the primary reason for wanting to lose weight whereas men aged

40-55 years old considered the health benefits to be the most important reason to lose weight.

This section has demonstrated that health concerns, ageing and special occasions can act as triggers for reassessing health status and prompting weight loss regimes. The following section of this chapter will explore the participants' perceptions about the benefits of losing weight.

9.2 Perceived Benefits of Weight Loss

The participants perceived a number of benefits to losing weight, which included both physical and psychological benefits. For example, Peter perceived losing weight would have a number of benefits:

“The health things...your heart because you're carrying extra weight it's giving you more fatigue and you're getting tired a lot quicker, cracking joints, stiffness and things like that. I mean the lighter you are, the more you're gonna be able to cope with erm and that's the reason I'm gonna try because I feel as if I could lose a good bit of weight, I'd still have the old tight joints and whatnot but carrying less weight, I definitely would not be as tired.”

Peter [Morbidly obese, 52, DEPCAT 6]

Likewise, Isobel felt that losing weight would improve her health, particularly her fitness:

“I think the benefits are for me it would be that I would feel more healthy, that erm I'd be more able to do things, you know like going up stairs, which I do but I feel exhausted...I'd recover better you know I wouldn't be so out of breath for so long.”

Isobel [Morbidly obese, 43, DEPCAT 6]

However, it was not only morbidly obese participants who believed that losing weight would improve their health. Kenneth, who regularly exercised believed that losing weight would improve his energy levels and lower his blood pressure:

“I think there are largely health benefits. To me there are lots of health benefits. The benefits to me would be that I would probably feel a bit lighter, probably feel a bit more energetic, erm my joints would last me longer, I guess my blood pressure would drop a wee bit. I suspect for other people it would be more to be with erm self-esteem benefits and how they looked but they’re probably more concerned with how other people view them.” Kenneth [Obese, 52, DEPCAT 2]

Stuart perceived self-esteem as the main benefit of losing weight and felt that weight loss increases an individual’s self-confidence:

“...you’ll have more self-esteem, you’ll also have the ability to do more so I think once you start to lose weight you get a little bit of self-confidence, a little bit of self-esteem and instead of only being able to walk ½ a mile you can walk two miles. It becomes a cycle you just get better and better you feel more valued you become more self-confident and more confident in your own ability to a point.” Stuart [Obese, 33, DEPCAT 1]

Likewise, Hazel perceived that weight loss would lead to an increase in self-esteem and talked about one of her previous experiences of weight loss:

“It would increase your self-esteem, I mean I remember one time losing weight and I must have went from about 14 stone down to about 10 stone and I couldn’t believe how good I felt and how good other people told me I looked and things like that when I went out and like guys were coming up when I went to the pub and saying “can I buy you a drink?” and things like that and I felt really really good.” Hazel [Obese, 37, DEPCAT 6]

Helen felt that losing weight would improve her self-confidence and enjoyment of life:

“I think the benefits of losing weight to me I would feel better in myself and erm I would feel more confident and eh I would start to enjoy life a wee bit better and do things that I used to do.” Helen [Obese, 47, DEPCAT 6]

Improving quality of life through weight loss was especially important to some of the morbidly obese participants. For example, Nancy wanted to lose weight as she had previously experienced difficulties during an operation:

“The benefits will be that if I require an urgent operation, I’m sure they won’t lose me like they nearly did the last time on the operating table and I think it would make life easier for any future surgeon or whatever...I do know in my heart of hearts that the less weigh as I get older then I think that will give me a better quality of life...”

Nancy [Morbidly obese, 51, DEPCAT 1]

In addition to health and self-esteem, some of the participants believed that other people’s opinions of them would change:

“I think there is for your health, for your own self worth, your family’s opinion of you, for your family to stop worrying about you and maybe other people’s perceptions of you as well - to have people not look at you that would sometimes be nice as well.”

Maggie [Morbidly obese, 50, DEPCAT 6]

Finally, both male and female participants talked about weight loss improving their appearance and being able to buy smaller clothes.

“I would physically feel better and I probably would feel better because I knew I was wearing a smaller size or something you know in my clothes.”

Joan [Morbidly obese, 60, DEPCAT 5]

The above findings have highlighted the participants’ motivations to lose weight and their perceptions regarding losing weight. The final section of this chapter will explore their previous weight loss attempts.

9.3 Previous Weight Loss Attempts

As previously demonstrated in chapter 7 all of the participants acknowledged that they were overweight and that they had gained weight, as they had aged. Thomas firmly perceived that his obesity was not intentional:

“Nobody sets out to be obese, nobody has it on their CV that this is what they want to do, if they’re asked at school what do you want to be when you’re a big boy, Tommy umm you don’t say obese.” [Morbidly obese, 59, DEPCAT 1]

Similarly, Maeve believed that people did not choose to become overweight and that people are not happy with being overweight as they are trying to change their weight status:

“I mean I don’t think anybody chooses to be overweight I can’t think of any reason why you would make this lifestyle choice “oh I must be overweight.” And I think that nobody you know who is overweight is happy at that weight in the sense that they do try to do something about it.” Maeve [Morbidly obese, 58, DEPCAT 1]

Experiences of weight cycling, losing then regaining the weight were common amongst the participants:

“I’ve been on diets, tried to lose weight erm at various times in my life and sometimes I’ve been successful and sometimes I haven’t but mainly it’s been successful for a while then you gradually put weight back on again.” Isobel [Morbidly obese, 43, DEPCAT 6]

Some participants felt that they were regularly on a diet and people lost weight and then put on more weight than they lost:

“Well I’m constantly on a diet. Most of my friends have lost and put it back on and yo-yo if you like for want of a better word. They seem to have some form of success and then they put the weight back on again then they lose it again then they put back on and generally when they put it back on they put back on maybe half a stone more than they were than they lost.” Pamela [Morbidly obese, 37, DEPCAT 5]

Both the male and female participants had tried to diet in the past and although they initially experienced weight loss, they described how their weight would stabilize after a certain period of time:

“I’ve tried everything and I know people say that but I’ve tried dieting and I don’t lose weight believe me I don’t. I maybe lose about a stone and a half but thereafter it’ll just no shift.” Darren [Morbidly obese, 32, DEPCAT 5]

It was evident that the participants felt frustrated about their weight loss attempts. For example, Sandra talked about how she felt she could not lose weight even when she was really strict about it:

“I’ve been in every slimming club in [area] I think. I try to lose weight going by the book and I cannae lose anything...I mean I was going on a pound, a pound off, a pound on, two pound off, a pound on and I was just eating exact same every single week.

Sandra [Morbidly obese, 50, DEPCAT 6]

Likewise Maeve felt that she had tried everything to lose weight:

“I think there isn’t a diet been published that I haven’t tried at some time and I don’t think there is a slimming club that exists that I haven’t been to at some time and it works sometimes for a little while.” Maeve [Morbidly obese, 58, DEPCAT 1]

Sometimes the participants had taken drastic measures in an attempt to lose weight. For example Helen had used non-prescription slimming pills:

“There was a place in [area] that sold slimming pills and I went to them and got the slimming pills and the weight come off me, but when I stopped taking the pills I put on twice as much weight you know and it was on the TV actually the lady that was supplying the slimming pills erm she lost er lost her licence or whatever you know but it did everybody put the weight back on again” Helen [Obese, 47, DEPCAT 6]

Hazel, who lived in the same are, knew other people who had also taken the slimming pills and reinforced Helen’s account:

“There was a clinic here and this woman was selling tablets and there were a lot of people going there and they ended up having a lot of problems and things from that plus I mean it was expensive you know I think it was like £20 for a fortnight or something like that and the more they were taking them, the more they were needing them so it was starting to increase and all that sort of thing and people like that shouldn’t be let loose you know she caused loads of problems and I know a lot of people that went there and they were taking the tablets then they’d come off the tablets and their weight just soared you know.”

Hazel [Obese, 37, DEPCAT 6]

Thomas had tried a number of ways to lose weight and talked about how one of his clients had been desperate enough to resort to illegal drug taking:

“I’m the longest serving unsuccessful member of Scottish Slimmers, um I’ve even tried pills...fat pills, erm I haven’t tried speed, although a client of mine has, erm, he says it’s very good eh for losing weight.” [Morbidly obese, 59, DEPCAT 1]

Maeve had even been prepared to compromise her physical health for weight loss in the past:

“The other thing is I think for about twenty years I wanted the fast fix and I have tried things. I mean the worst probably was the Cambridge diet I don’t know if you’ve ever heard of it? You eat 400 calories a day and I was losing a pound a day, wonderful! And the fact I was feeling ill the whole time was neither here nor there and I was totally dizzy and I had to pull over twice in the car because I thought I was going to black out (laughs).

[Morbidly obese, 58, DEPCAT 1]

It became apparent that participants felt that weight loss needed to be fast to be successful. Their definition of success depended on their experiences with the scales and disappointing results interrupted a weight loss attempt:

“I mean at the moment I’m going through a phase er I am on a diet erm and I will step on the scales every day and if the scales don’t go the way I want them to go, then I’ll stop going on the scales and if I stop going on the scales then it’s not a problem anymore and if it’s not a problem anymore then I’m okay and if I’m okay then I can do what I want to do until then I start to do what I want to do and I start to feel guilty and uncomfortable and then I start the whole circle again” Thomas [Morbidly obese, 59, DEPCAT 1]

It was quite common for participants to let experiences on the scales dominate their weight loss attempts. For example, Maeve admits that if she is not losing as much weight as she wants she subsequently gives up her weight loss plan:

“I get knocked off course you know, like for example my husband and I started erm I suppose it was the nearest thing to a diet... I don’t like to call it that because I think that’s a bit obsessive erm and the first week I didn’t lose anything at all even though I was being religious to it you know and he lost eight pounds and the second week he lost four pounds and I lost one and so he had lost twelve pounds in two weeks and I had lost one and I gave up at the weekend and I just thought “ah to hell with it!”

Maeve [Morbidly obese, 58, DEPCAT 1]

Likewise, Helen has also tried a number of ways to lose weight. However, she claims that two weeks is the longest most weight loss attempts last for her as suggests that a disappointing weight loss or family commitments hinder her efforts:

“Slimming pills...My daughter got me a...for Christmas she got me a membership for a gym, that lasted two weeks (laughs). Erm, swimming, I went swimming for a couple of weeks, but that seems to be that I just do it for a couple of weeks and then I just give up you know whether it’s because I don’t see any results or it’s because of family commitments. So about two weeks is as far as I...I stick anything you know” Helen [Obese, 47, DEPCAT 6]

Siegler (1993) suggests that unsuccessful dieting can result in low self-esteem, guilt, anxiety and self-hate. Joan felt depression could be related to dieting attempts, particularly if people were not successful:

“They probably get depressed if they’re on a diet and they don’t lose eh that could depress them and I think then they’re more inclined to eat because they’re depressed you know and then it’s like going round in a circle I think it’s like an addiction it’s like eating chocolate eh it’s just because they’re depressed that they’ll eat it and if they’re not doing that there’s a kind of empty feeling whereas if you do that and then you think to yourself argh I’m doing this and I’m putting on weight and then that’s you depressed so you go and eat more you know.” Joan [Morbidly obese, 60, DEPCAT 5]

Isobel also thought that it was possible that dieting and feelings of failure could make people depressed:

“I think for particularly people who you know want to lose weight, they diet a lot and I think if that’s really important and that sort of constant failure which I think dieting really could you know certainly make people feel quite depressed.”

Isobel [Morbidly obese, 43, DEPCAT 6]

Tiggemann & Rothblum (1997) propose that a lack of success of weight loss and continued dieting may produce a cycle leading to shame, sense of failure and low self-esteem.

Additionally they argue, “If diets actually worked, people would not have to keep going on them.” Feelings of failure about dieting were common among the participants, even among those who had previously achieved their goal weights. For example, Maeve had previously reached her goal weight twice at Weight Watchers but perceived that the class leader regarded her as a cheat because she was not losing as much weight as other people:

“I went to places like Weight Watchers and I was always the slowest [to lose weight] and I always felt “but I’m doing everything I can” and I don’t think the wifey always believed me, I think she thought I was cheating.” Maeve [Morbidly obese, 58, DEPCAT 1]

Other people’s attitudes towards the dieter also impacted on whether or not they maintained their weight loss. For example, Hazel describes how she stopped going to Weight Watchers after being made to feel like a failure by the class leader:

“The last one I was on was a Weight Watchers diet and I followed it to the letter and I lost about three stone between Christmas and April which was quite a lot of weight to lose but then the club leader changed and the person before was really motivating and she’d been there from the beginning and she’d make a big fuss of you when you went in which was really good but this other person came along and would say “you’ve only lost ½ a pound this week” and you’re like that (shocked expression) “excuse me I’ve just lost 3 stone and ½ a pound” and I found that a wee bit demoralising and I kinda stopped going.”

Hazel [Obese, 37, DEPCAT 6]

Pamela, an ex-anorexic, had experienced both ends of the spectrum and spoke openly about her experiences of anorexia and obesity, regarding her experiences of dieting as a “battle:”

“When I was fourteen I became anorexic, from fourteen to maybe about sixteen, seventeen. Obviously I battled with being very underweight and the health risks that went with it. I didn't have periods. I was very tired all the time, different things that come along with that. I put on some of the weight and since then I've basically put more on and obviously I've not lost it all again but I've battled continually with my weight”

Pamela [Morbidly obese, 37, DEPCAT 5]

Pamela talked about how, when she was anorexic, she frequently weighed herself and described the behaviour as obsessive:

“I haven't weighed myself again. I don't want to weigh myself because I think it's a trait from being anorexic it ended up I was on the scales maybe 2 or 3 times a day thinking “oh my god I shouldn't have ate that” and obviously that's not the way it works but it was starting to become obsessive.” Pamela [Morbidly obese, 37, DEPCAT 5]

However, it became evident that obsessive behaviour was not restricted to anorexia as Maeve and Hazel both regarded their behaviour whilst on a diet as obsessive:

“I had to weigh my food and I mean I was becoming obsessive, weighing things and, and everything and my whole focus of my day... I remember when even if I was at work I'd be writing down erm you know what I was going to buy on the way home, what I've to buy, what I've to...” Maeve [Morbidly obese, 58, DEPCAT 1]

Hazel also found that she was always thinking about food and what to eat:

“I've stopped all this obsession like the thing with dieting is you become totally obsessed with food, I mean you're constantly planning the next thing that you're going to eat, so

you're thinking about it more you know like and it's a nightmare (laughs) you're lying in your bed and you're going "now well what am I going to have tomorrow?" (laughs) "I'll have this and I'll have that and I'll have this and ooh that means I can have that the next day" (laughs) and the more you think about it the more you want to eat and it's just totally crazy." Hazel [Obese, 37, DEPCAT 6]

Hazel perceived that her behaviour was unhealthy and had taken a number of steps to combat the obsession:

"I tend not to diet anymore because I think all this dieting and things has made me even worse because the things are going up and down and you're constantly on the scales you know, off and on the scales and it can become really really obsessive and I think that's really not healthy so the scales got ditched and now I don't really care you know I know I've lost weight because my clothes are loose on me and things like that and people say to me "have you lost weight?" and I'll say "I dunno" Hazel [Obese, 37, DEPCAT 6]

Likewise, Maeve moved the scales from the bathroom to prevent herself from weighing herself everyday:

"We've moved the scales from the bathroom and I have them in the utility room and on a Sunday morning I do weigh myself ...why I don't have them in the bathroom is because I would go onto them every time I got out the shower, er so I have to go into there [utility room] to do it so that's why I do it there." Maeve [Morbidly obese, 58, DEPCAT 1]

"Diets Don't Work"

The notion that "diets don't work" was almost a mantra among the participants. Kenneth decisively stated his opinions about dieting and the reasons why he thought diets are ineffective:

Kenneth: Diets don't work. I think we should all be aware of that now, diets don't work they actually make you fatter. I think there's a huge amount of evidence saying that dieting makes you fatter People don't lose weight on diets, I think they should be banned.

MC: Why do you think diets should be banned?

Kenneth: Because people get fatter every time they go on a diet, the more money we spend on diet, diet fads, diet books and joining weight watchers, er the fatter the population gets constantly. [Obese, 52, DEPCAT 2]

Kenneth's point of view can be illustrated using Maeve and Joan's experiences of dieting:

"I think I have dieted myself to this weight erm that sounds a bit crazy...I think I have probably been on a diet most of my adult life and I have gained about half a stone a year in all my adult life." Maeve [Morbidly obese, 58, DEPCAT 1]

Joan paralleled dieting attempts to smoking cessation in order to explain how the weight gain rebounds:

"You end up putting on more weight... it's a bit like smoking because I used to smoke years ago eh you try and stop smoking say you smoke fifteen a day you try stopping smoking and you end up smoking twenty a day you try stopping smoking you're smoking twenty-three a day and actually weight does the same thing it does exactly the same thing"

Joan [Morbidly obese, 60, DEPCAT 5]

It was evident that the participants had lost confidence about dieting because their previous attempts - particularly crash diets - had been unsuccessful. However, it was also clear that

they felt there was a lot of contradictory and confusing advice around. For example, Isobel suggests that the popularity of certain foods is cyclical:

“I think what often happens is that something that is good for you for a while turns out not to be so good for you and something that has been a bad food becomes a good food, you know things sort of go in cycles, you know when potatoes were bad for you and now they’re... they’re better for you and you know that sort of thing. It sort of changes with different maybe research that comes out or there’s some sort of fad or... it’s almost like fashion, you know, food fashion (laughs).” Isobel [Morbidly obese, 43, DEPCAT 6]

The general feeling among the participants was that scientific evidence about diets was disputable:

“There’s all these different diets like food combining diets that tell you if you eat this with this, this happens you know all this scientific stuff that you just have to take with a pinch of salt sometimes. Like some of it you think “that can’t be right” because it sounds extremely dangerous, like the one just now where you’re eating all this protein and no carbohydrates” Hazel [Obese, 37, DEPCAT 6]

It was also evident that media attention about certain diets had caused the participants a great deal of confusion:

“I think these Atkins things and all this has caused a lot of confusion about carbohydrates and non-fatty foods and a bit of fats good for you and don’t worry about this and don’t worry about that and then that’s got too much protein in it, that’s got too much of this carbohydrate and fat, salt. So I think there’s...well to me there’s so much going on that it’s kind of confusing, confusing us all.” Bill [Obese, 45, DEPCAT 1]

Similarly, Pamela's account demonstrates that she has absorbed the health promotion advice about increasing starchy products, cutting down on fat and eating fruits and vegetables. However, she highlights the contradictions currently causing dieters to be confused:

"I watched a programme about that Atkins diet and obviously what that proved is that it worked in the short term. I think it was on Trevor Macdonald a couple of weeks ago and obviously they're eating fry-ups and what not. The concept of that seemed to have been you have no carbohydrates...I always thought pasta and rice you cannae go wrong, right? But unless you eat pasta and rice and go and work out for half an hour or an hour after it your body will store [fat] which I only found out very recently so the general consensus of things is that there's too many different stories. I mean you need to eat fat you don't need to eat fat you should eat pasta you shouldnae really eat pasta you should eat loads of veg and fruit but you need to watch your fruit because there's lots of sugar in fruit and again your body will just store that if you don't do the exercise."

Pamela [Morbidly obese, 37, DEPCAT 5]

Many of the participants' echoed Maeve's opinion about trying to lose weight:

"I wanted a quick fix and now I've realised that it's going to have to be a lifestyle change, you know it's not just going to be a fix (laughs)." [Morbidly obese, 58, DEPCAT 1]

In addition to the concept of lifestyle change, the participants emphasised the importance of 'healthy eating' rather than dieting:

“I think healthy eating is more of a good way to go rather than dieting because they say that dieting makes you think that you’re depriving yourself and all that sort of thing whereas you should be saying to yourself I’m going to change the way I eat and things rather than I’m going on a diet you know instead of eating all this rubbish that I eat I’m going to start making healthier choices and all that sort of thing.” Hazel [Obese, 37, DEPCAT 6]

Chapman (1999) explored women’s constructions of dieting and ‘healthy eating’ and found that healthy eating involved greater self-monitoring and self-regulation. ‘Healthy eating’ also provided the women with a sense of psychological well-being as they were in control of their food choices, rather than following a regimen dictated by someone else. Whilst the participants in the current study viewed ‘healthy eating’ as important, they identified a number of barriers (see sections 6.3 and 6.4).

9.4 Summary

The main findings of this chapter are that a number of triggers can initiate change, particularly the diagnosis or perceived family history of type II diabetes. Reaching an age milestone such as turning fifty prompted participants to re-assess their health status and consider losing weight. Participants perceived a number of physical and psychological benefits to losing weight. Furthermore, all of the participants had experiences of dieting and experiences of weight cycling were common. Participants had previously resorted to a number of drastic measures to lose weight but understood that lifestyle changes would be more beneficial in the long-term.

Chapter 10: Discussion & Recommendations

This chapter firstly summarises the key findings of the thesis and secondly provides a critical reflection with regard to the strengths and limitations of the study. The implications of the findings for health care professionals managing obesity are outlined and new avenues for research are suggested the final section of the chapter.

10.1 Main Findings

The main findings of the thesis will be discussed with reference to the aims and objectives of the study outlined in chapter 3. The following sub-sections will focus on:

- ◆ The relationship between obesity and psychological health.
- ◆ Participants' knowledge about the causes of obesity.
- ◆ Participants' experiences of weight change and dieting.

10.1.1 Obesity & Psychological Health

The logistic regression analysis presented in chapter 4 found that there was no association between obesity and psychological health (as measured by the MHI-5). However, the analysis demonstrated that low self-esteem was the most significant predictor of poor psychological health for both men and women. This finding is unsurprising because self-esteem is one's evaluative appraisal of the self and negative self-evaluation is predictive of an increased risk of depression (Brown, 1993). Previous research has also found that body image dissatisfaction is related to lower self-esteem (Grilo, Wilfley, Brownell & Rodin, 1994; Matz, Foster, Faith & Wadden, 2002).

The bi-variate correlational analyses demonstrated a significant positive association between self-esteem and the MHI-5 scores. Self-esteem was also correlated with both measures of body image. This is an important finding because body image has not typically been considered when investigating the relationship between obesity and psychological health. However, Friedman *et al* (2002) conducted research in a clinical setting and demonstrated that body image evaluation was related to self-esteem and depression. Therefore, the current study provides support for the applicability of their findings in a community sample.

The qualitative findings highlight that the mechanisms, which link obesity and psychological health, are complex. The findings presented in chapter 8 indicate the possibility of a cyclical relationship between depression, reduced activity and emotional eating. There was also evidence of 'disordered eating' as some of the participants regarded the purpose of food as being for psychological rather than for physiological needs. These participants sought comfort from food and engaged in emotional eating to improve their psychological well-being. However, it is important to account for individual differences as depression can also involve a loss of appetite.

With regard to weight satisfaction, 98.5% of the obese survey participants perceived themselves to be overweight and 98% wanted to weigh less. The qualitative findings presented in chapter 7 corroborate this finding as nineteen of the interviewees acknowledged that they were overweight. However, there were some gender differences because female participants experienced dissatisfaction and disembodiment (see section 8.4) whereas male participants appeared to be happy with their weight. Although this might be linked to social acceptability of men being overweight (see section 7.4) both male and female participants talked about the difficulties of buying clothes. Furthermore, two male participants' coping strategies involved shopping trips to the United States and Canada, as they perceived that there would be more choice for over-size clothing.

10.1.2 Knowledge About the Causes of Obesity

The participants were knowledgeable about the causes of obesity, yet perceived the aetiology of obesity to be complex. Participants tended to reproduce the scientific discourses about overeating and inactivity as causes for obesity and used medical terms such as 'metabolism' and 'genetics' in their explanations. However, they also appealed to a number of cultural reasons for the prevalence of obesity and perceived that changes in eating patterns and the increased availability of fast foods were important causes.

The findings presented in chapter 6 demonstrate that participants had absorbed the health promotion discourses about 'healthy eating' and physical activity. However, a number of barriers prevented the participants from putting health promotion advice into practice.

The main barriers that prevented people from eating more healthily were the availability and accessibility of healthy food, cost, lack of time and family responsibilities. Participants living in deprived areas were inclined to shop locally as they could not afford bus fares to the supermarket. Although these local shops were easily accessible, the availability of fruit and vegetables was limited and the *actual cost* of healthy food was expensive. All but one of the participants living in the affluent area thought that healthy food was inexpensive but that the *perceived cost* could possibly discourage someone on a low income from buying fruit and vegetables.

In addition, participants were 'time-poor' as a busy working life combined with family responsibilities such as childcare and housework restricted food choices and created an over-reliance on convenience and take-away foods. This echoes the findings of previous studies by Ellaway & Macintyre (2000) and Fuller *et al* (2003).

Although participants talked about the importance of physical activity, they felt that the cost of structured exercise such as gyms, health clubs and swimming pools was a deterrent.

In addition, walking and cycling were not regarded as feasible activities, partly due to the lack of facilities, but also due to weather and the cost of maintaining a bike.

Psychological factors can affect exercise participation and the findings in chapter 8 highlighted that female participants experiencing body dissatisfaction were less likely to attend gyms and swimming pools in order to protect themselves from potentially embarrassing situations. Research by Carryer (2001) found that obese females were deterred from exercise participation due to fear of injury, embarrassment and ridicule.

10.1.3 Experiences of Weight Change & Dieting

The survey found that 86.7% of the obese participants reported that they had previously tried to diet and this result is enhanced by the qualitative findings, which provide information about the types of weight loss strategies used and motivations to lose weight. Whilst talking about their previous weight loss attempts, interviewees stated that they had used a number of 'quick-fix' strategies including slimming pills, 'fad' diets, and slimming clubs. Research has shown that overweight individuals are more likely to have previously dieted to lose weight, to have participated in a formal weight loss program or be currently dieting to lose weight (Jeffery, Folsom, Luepker, Jacobs, Gillum, Taylor & Blackburn, 1984).

Obese and morbidly obese interviewees were aware of the physical and psychological benefits of losing weight. For example, the findings presented in chapter 9 demonstrate that motivations for weight loss included appearance, special occasions (e.g. weddings) and psychological factors such as increased self-esteem and self-confidence. Furthermore, reaching certain age milestones appeared to prompt a re-assessment of their current health status and motivations to lose weight primarily focused on the perceived health benefits.

These findings are consistent with earlier research, which demonstrated that health concerns, warnings and knowledge of risk factors can initiate change and prompt weight loss (Potter, Vu & Croughan-Minihane, 2001; Roberts & Ashley, 1999).

Finally, the interviews revealed that weight cycling – losing and regaining weight – was a common experience for the obese interviewees. Although the beneficial effects of weight loss are well documented and include reductions in blood pressure and cholesterol, the research regarding the effects of weight cycling is inconclusive. However, Cogan (1999) argues “disproportionate attention has been paid to the risks of obesity, while the average person is unaware of the health threats associated with weight fluctuation” (p244). Furthermore, there are possible psychological consequences to weight cycling as Wadden & Stunkard (1993) claim that the patients report feelings of disappointment, disgust and shame when they regain weight.

10.2 Strengths & Limitations of the Study

This study makes a contribution to the evidence base about the links between obesity and psychological health. One of the main strengths of the study is that it was a mixed methodology design that was capable of addressing a wide range of questions through the use of a community survey and semi-structured interviews. The two methods functioned as complementary components and the quantitative and qualitative findings reinforced each other and this strengthened the comprehensiveness of the study.

The community survey contained four established and validated measures that had been used in previous studies, which enabled the findings to be compared and discussed with reference to previous research. Furthermore, the qualitative findings provide a unique and detailed exploration of the experiences of being obese, which have largely been neglected in obesity research (Sarlio-Lähteenkorva, 1998).

Secondly, this study was conducted as part of a health services research studentship, allowing a wide range of disciplines to be drawn upon. Therefore, this study is unusual in the sense that it brings together and synthesises medical, epidemiological, psychological and sociological research. Thereby acknowledging that obesity is a multi-faceted problem and providing a more comprehensive picture about the psychosocial aspects of obesity.

Although the study design and multidisciplinary approach facilitated the completion of a more comprehensive thesis, the study has a number of limitations. Firstly, although the response rate was respectable for a community health survey (42%), data about weight and psychological health is not available for non-respondents. Depressed respondents may not have been motivated to complete the questionnaire and although the results are statistically significant, the relationship between obesity and psychological health may have been different if the response rate had been higher.

Secondly, as previously mentioned in chapter 4, a limitation of the quantitative component of the study is that it is a cross-sectional design. Although a cross-sectional study can highlight an association between obesity and psychological health, it cannot illuminate causal pathways as this can only be achieved by using prospective studies. In addition, although the quantitative results are statistically significant the West of Scotland has a reputation for poor health and the findings might not be transferable to the general population living outwith this region.

Finally, as the computerised systems at the GP practices did not have up to date information about BMI, the questionnaire was sent to all patients aged 30-60 registered at the practice, rather than solely to obese patients. If current data about BMI had been available the questionnaire could have been designed to include more obesity specific items such as onset of obesity and binge eating and could have potentially addressed the issue of weight cycling.

In conclusion, despite these limitations, a mixed method design ensured that the study was comprehensive. The community health survey provided a rich sampling frame for the qualitative interviews and the qualitative findings explored explanations for results identified in the analysis of the survey data. The implications of the findings for health care professionals and future research will be discussed in the following sections.

10.3 Implications for Health Care Professionals

As discussed in section 10.1.2, the participants used medical terms such as ‘metabolism’ and ‘genetics’ in their explanations about the causes of obesity. Ogden *et al* (2001) found that patients were more likely to attribute obesity to a gland/hormone problem, slow metabolism and stress, whereas GPs were more likely to blame obesity on overeating. Similarly, Foster *et al* (2003) found that primary care physicians view obesity as a behavioural problem. The doctors in their study rated physical inactivity as the most important cause of obesity, with overeating and a high-fat diet rated second and third.

It is a widely accepted theory that obesity is self-induced and caused by controllable behaviours such as overeating and physical inactivity (Cogan, 1999). However, despite this argument, obesity is regarded as a medical disease rather than a behavioural ‘problem.’ Furthermore, health care professionals have tended to use diet and exercise interventions to treat obesity, even though the evidence base about the most effective intervention is inconclusive (Glenny *et al*, 1997).

The National Audit Office Report (2001) recommends that obesity should be managed within general practice. However, GPs believe that they do not have the time to treat obesity and do not feel that it is a priority role for them (Owen, 2004). GPs also believe that they have little influence on weight management (Morris, Lean, Hankey & Hunter, 1999) and strategies of dealing with overweight patients include avoiding discussing the subject of weight management with their patients (Potter *et al*, 2001). This could be

because weight is a sensitive topic and patients and clinicians are reluctant to discuss it during a consultation (Scott, Cohen, DiCicco-Bloom, Orzano, Gergory, Flocke, Maxwell & Crabtree, 2004).

Nineteen out of twenty patients acknowledged that they were overweight and were aware of some of the health risks associated with being overweight. However, they avoided using the terms 'obese' and 'obesity' to describe their current weight status. Wadden & Didie (2003) found that obese men and women rated the terms 'fatness' and 'obesity' as negative descriptors for doctors to use in consultations about body weight. However, the terms 'weight', 'excess weight' and 'BMI' were more acceptable. It would therefore seem prudent for health care providers to avoid using negative descriptors when broaching the topic of weight management with patients.

Despite the evidence indicating that GPs lack motivation to treat obese patients, one to one communication with a GP is one of the most influential factors in changing behaviour (Hiddink, Hautvast, Van Woerkum, Fieren & Van't Hof, 1997). Likewise the presence of a GP at a weight management group has been shown to improve attendance and weight loss (Pritchard, Hyndman & Taba, 1999). Although there is limited evidence regarding effective weight loss interventions, weight management groups delivered in primary care have been fairly successful (Coupar & Kennedy, 1980; Pritchard *et al*, 1999; Read, Ramwell, Storer & Webber, 2004). Read *et al* (2004) demonstrated that using a group intervention to target obese people with CHD risk factors such as hypertension, type II diabetes and a family history of heart disease resulted in significant weight loss, improvement in CHD risk factors and psychological well-being in a three month period.

Montaye, De Bacquer, De Backer & Amouyel (2000) conducted an interview study of patients with CHD and highlighted the usefulness of written recommendations. Montaye

et al found that although more than 80% of obese participants had received advice, less than 40% had received written material and less than 20% had visited a nutritionist. Montaye *et al* suggest that oral advice during an appointment will have little impact and at least some of the recommendations have to be written down. They also recommend that input from a nutritionist will help to transform recommendations into daily meals (i.e. to make it easier to put things into practice).

Structured interventions that combine nutritional education and behavioural strategies also provide peer support and a group intervention could be offered in primary care as an option for obesity management. The Counterweight Project is currently being conducted in seven areas in the UK (Aberdeen, Bath, Birmingham, Glasgow, Hammersmith, Leeds and Luton). It uses a multi-strategy evidence based-approach to treating obesity. The main role of the GP is to identify suitable patients for the weight management intervention and refer them on to the practice nurses who have been shown to be more motivated to work with obese patients (Mercer & Tessier, 2001).

Practice Nurses involved in the study have received structured training on a number of topics including patient screening and assessment, principles of healthy eating, dietary approaches to weight management, physical activity guidelines, behaviour change strategies and patient monitoring. Although the findings for the Counterweight Project are not expected until 2005, preliminary results indicate that implementing a structured model for weight management is both feasible and effective in primary care (Gibbs *et al*, 2004).

The findings presented in chapter 8 demonstrate that some of the participants had negative experiences when consulting with their GPs and felt that GPs regarded all of their medical problems to be caused by their weight. As a result of anticipating some GPs' negative attitudes, participants admitted that they might delay or avoid medical consultations.

Furthermore, the majority of patients felt that GPs did not offer adequate advice or support to help them lose weight. The practical advice given by GPs to their patients about losing weight has generally been poor (Evans, 1999). Cade & O'Connell (1991) found that GPs tended to give out leaflets about healthy eating, advise patients to eat less and take more exercise.

However, the simplistic weight loss advice of "eat less and exercise more" provided by health care professionals appears to have unrealistic long-term benefits, as people who lose weight tend to regain the weight they have lost. Unsuccessful dieting and a failure to maintain weight was a common experience for participants, as demonstrated in chapter 9.

As weight cycling is a potentially damaging health problem, it might be more appropriate to encourage obese individuals to maintain a stable weight and improve their health by re-focusing the issue on fitness rather than fatness.

Miller & Jacob (2001) argue that diet and exercise interventions are ineffective and are contributing to the prevalence of obesity. They propose an alternative approach to obesity intervention – the Health At Any Size Paradigm. The main emphasis of this intervention is to motivate the individual to stop dieting and exercising solely for the purpose of losing weight.

Non-dieting approaches to obesity have produced beneficial results for obese individuals. For example, Miller, Wallace, Eggert & Lindeman (1993) used a 'healthy eating' and exercise intervention and found that participants experienced weight loss and reductions in cholesterol and blood pressure. Research by Blair, Kohl, Barlow, Paffenbarger, Gibbons & Macera (1995) has also highlighted that increasing fitness levels rather than changing body weight may reduce mortality. Blair *et al* conducted a prospective study to evaluate the relationship between physical fitness and mortality in men. They found that men who had

been unfit at baseline, but increased their fitness levels by the follow-up assessment reduced their mortality risk by 44%.

Erlichman, Kerbey & James (2002) argue that there is robust evidence to show that physical activity, when considered independently of other factors, is an important preventive measure for avoiding weight gain. Ross & Katzmarzyk (2003) demonstrated that physical activity reduces abdominal obesity, which is strongly associated with developing type II diabetes and CHD (see chapter 1). Moreover, in addition to the physical benefits, exercise can help to reduce depression and can improve mood, self-perceptions and quality of life (Fox, 1999; Mutrie, 2000; Paluska & Schwenk 2000).

As previously discussed in section 10.1.2, the interviewees identified a number of factors, which deterred them from taking part in physical activity including cost, lack of facilities, embarrassment and lack of social support. In order to effectively implement the recommendations regarding fitness, it will be necessary to tackle these barriers, both at an individual and community level. It would perhaps be worth investigating the effectiveness of subsidised gym memberships and family friendly venues with free childcare and/or physical activity sessions for children. Additionally, exercise programs tailored to the needs of obese people may encourage them to feel less dissatisfied about their bodies and more positive about incorporating physical activity into their daily routines.

10.4 Implications for Health Promotion

The findings from this study have established that participants have absorbed and understand the health promotion messages regarding healthy eating. Fuller *et al* (2003) argue that there is “a need to acknowledge that patients are not homogeneous, passive recipients of information about diet and healthy eating” (p1043). A recent study in the Netherlands investigating consumers’ information needs regarding food topics found that

overweight people wanted more information about how to lose weight (Van Dillen, Hiddink, Koelen, de Graaf & van Woerkum, 2004). It may be appropriate to tailor the health information needs of obese patients, instead of the current "one size fits all" approach.

The Scottish Executive has allocated £1.4 million for 2004-2005 to promote healthy living through the mass media (Scottish Executive, 2004). Four 30 second television commercials have been produced and the adverts aim to motivate individuals to make health improving decisions about eating and physical activity. However, as demonstrated by the findings in chapter 6 respondents were knowledgeable about dietary guidelines and physical activity and overexposure to health promotion messages can be counterproductive (Van Dillen *et al*, 2004). Fuller *et al* (2003) highlighted that attempting to change health behaviour in Scotland using the mass media may not be successful as participants in their study felt they were being bombarded with health promotion information especially from the media and tended to ignore what was being said because they perceived expert advice as constantly changing and contradictory.

Yen & Syme (1999) propose that community interventions are more successful than individually based interventions. Community interventions such as food co-operatives would improve access and availability of fresh fruit and vegetables. This would enable people living in deprived areas to implement healthy eating advice, as they would be able to afford and access a range of fruit and vegetables.

As previously mentioned in chapter 6, food choice is influenced by cost and experimental studies have demonstrated that manipulating the price of food can increase consumption of healthy food. For example, Horgen & Brownell (2002) compared price change and health message interventions in a delicatessen-style restaurant and found that price decreases

significantly increased sales of healthy foods. Furthermore, they suggest that subsidies on healthy foods may encourage consumers to experiment with food choices and buy healthier foods.

The findings discussed in chapter 6 show that participants attribute the prevalence of obesity to the increased availability of fast foods. Prentice & Jebb (2003) share this viewpoint and provide a number of suggestions, which they believe fast food vendors could implement to help prevent obesity. The suggestions include providing and promoting a wider range of healthy options, reducing the amount of fat in foods, providing clear nutritional information and stop the practice of 'super-sizing.' Earlier this year, in March 2004, McDonald's introduced a new range called "Salads Plus" which includes salads, Quorn fillet sandwich, grilled chicken sandwich, fresh fruit and water (McDonald's, 2004). Additionally, a recent BBC news report states that McDonald's aims to eradicate the practice of 'super-sizing' by December 2004 (BBC News, 2004).

10.5 Implications for Future Research

The findings from this study highlight the complexity of the relationship between obesity and psychological health. Furthermore, given that obesity and depression are both prevalent in society, it is essential to further investigate this causal pathway, using prospective studies. Currently, due to the variability of study designs, samples, outcome variables and lack of prospective studies, research about the psychological aspects of obesity remains inconclusive.

In addition, further research is needed to address the effectiveness of treatment interventions. Mulvihill & Quigley (2003) conducted a review of diet, physical activity and behavioural approaches for treating obesity. They recommend that the long-term effectiveness of low calories diets should be investigated, the effectiveness of meal

replacement products should be explored and the effectiveness of self-management interventions (e.g. diet books, over the counter medication and slimming clubs) should be investigated and evaluated. Additionally, they highlighted the need for randomised controlled trials of behaviour therapy combined with diet and physical activity in primary care settings. Furthermore, research investigating the effectiveness of clinical psychology input in primary care should be considered as combining psychological and nutritional interventions in the form of group work has been shown to be beneficial and straightforward to implement (Coupar & Kennedy, 1980).

Finally, the quantitative and qualitative findings for this study highlighted that dieting and weight cycling were common experiences for obese participants. It seems essential that a systematic review about the consequences of weight cycling should be conducted. Ernsberger & Kolestsky (1999) argue that the evidence regarding the health risks associated with obesity is selectively presented and whilst the National Task Force for the Prevention and Treatment of Obesity widely publicises the 'dangers' of obesity, they dismiss concerns about weight cycling. In addition, prospective and longitudinal studies investigating the psychological consequences of weight cycling and dieting should be conducted as it has been shown that being overweight is positively associated with dieting and dieting is positively associated with depression (Ross, 1994).

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Appendix A:
Survey Information Letter & Consent Form

Dear Patient,

Your GP Practice (**GP Practice Name & Address**) has been recruited for a research study that is looking at the health of people living in different parts of Glasgow. I would like to invite you to take part in the research by completing a short questionnaire. However before you decide whether or not you wish to take part please take some time to read the following information carefully.

Why is this study being carried out?

There has been a lot of interest in the health of people living in Scotland. You will probably remember seeing TV adverts about beating "The Big 3"- heart disease, cancer and stroke. This study will look at the health, body image and eating habits of people living in Glasgow and how attitudes and beliefs about health influence day to day lives.

Why have I been chosen?

You have been chosen because you are a man or woman aged 30-60 living in Glasgow. Your lifestyle changes a lot during this period of your life and as your lifestyle changes normally there are also changes to your health. Research in the UK has shown that the changes to health are most noticeable in this age group.

Do I have to take part?

It is up to you whether you decide to take part as your participation is voluntary. If you are willing to take part in the study please fill in the consent form and then fill in the questionnaire. **If you decide to take part in the study you will be entered into a draw for £100 of gift vouchers as a way of showing that we appreciate you taking part in the study.**

Will my treatment be affected if I take part?

No, your treatment will not be affected. The questionnaire will remain confidential and will not be seen by your GP as you will be returning it direct to the researcher.

What will I have to do?

All you have to do is answer the questionnaire and return the completed booklet to the researcher. **The questionnaire takes no more than 15 minutes to complete and you will not have to pay for any stamps or envelopes as there is a reply paid envelope with the questionnaire booklet.**

What will happen to the information I give?

The information that you give will be kept strictly confidential. Your identity will not be disclosed and your consent form(s) will be kept separately from the questionnaire to keep your responses confidential. The data will be securely locked away and only myself and my research supervisor will be allowed to look at the answers you give. All the data collected from the people who take part will be analysed together so it will be impossible to identify you as individual in the report. The study will be written up as my PhD thesis and may also be published in a medical journal.

Thank you for reading this information sheet. If you would like to take part in the study please fill in the attached consent form and then complete the questionnaire.



Glasgow Community Health Survey

CONSENT FORM

Thank you for agreeing to take part in this study.

If anything about this study is still unclear and you have any questions please contact the researcher **BEFORE** signing this form.

Mary Cawley (the researcher) can be contacted directly on ☎0141 211 1663 or via the Department of General Practice Main Telephone Line ☎ 0141 211 1666

CONSENT

- ◆ I confirm that I have read and understand the information in the letter.
- ◆ I understand that taking part in this study will not effect my treatment in any way.
- ◆ I understand that my participation is voluntary and I am free to withdraw at any time.
- ◆ I understand that all of the information that I give will be held in the strictest confidence.
- ◆ I have been given the researcher's contact details in case I wish to ask any further questions about the study.

I _____ (*print name*) agree to take part in the study.

Signed _____

Date _____

If you would like to be entered into the prize draw for £100 worth of gift vouchers please fill in your contact details:

Contact Telephone Number _____

OR e-mail address _____

PLEASE RETURN THIS CONSENT FORM WITH YOUR QUESTIONNAIRE TO THE RESEARCHER IN THE REPLY PAID ENVELOPE.

Appendix B: GP Letter & Consent Form

<<GP Name>>

<<Address >>

<<Post Code>>

<<Date>>

Dear <<GP Name>>,

Glasgow Community Health Study

I would like to invite you and your practice to take part in a research study which is investigating the differences in health behaviours between people living in deprived and affluent areas of Glasgow. The level of obesity will be determined as part of the study and should you decide to take part, this study could provide you with an informal audit regarding the number of overweight/obese patients in your practice. The work involved for you and your practice staff would be negligible as I am keen to minimise any inconvenience. The study design involves asking all patients (both male and female) aged 30-60 to complete a short postal questionnaire.

Your practice would be asked simply to provide patients' names and addresses - either in the form of a list or adhesive labels. I will put the questionnaire packs together myself and post them out to the patients. I am willing to do all this in the Surgery in order to help protect patient confidentiality. The patients will be provided with a reply paid envelope to enable them to return the questionnaire free of charge. Greater Glasgow Community/Primary Care Local Research Ethics Committee has approved the study and the questionnaire has been extensively piloted.

If you or any other members of your practice would like further information, I would be happy to visit the practice to explain the study further, or to speak to you by telephone. Alternatively, you may contact my Supervisor Dr Rose Barbour (Senior Lecturer in Primary Care R & D).

I have enclosed a form and a pre-paid envelope for your reply so that you can let me know if your practice would be agreeable to co-operating with this study.

Yours sincerely

Ms. M. Cawley
PhD Research Student

Appendix C: Questionnaire



DEPARTMENT OF
GENERAL PRACTICE

I.D. CODE



UNIVERSITY
of
GLASGOW

Glasgow Community Health Survey



Thank you for agreeing to take part in this survey

**Please work your way through this booklet and try to
answer the questions as honestly and accurately as you can.**

The questionnaire should take no more than 15 minutes to complete

ALL ANSWERS WILL REMAIN CONFIDENTIAL

About You

1. Are you

Male? Female?

2. What is your date of birth?

--	--	--	--	--	--

Day Month Year

3. What is your marital status?

- Single
 Living with Partner
 Married
 Separated
 Divorced
 Widowed

4. How would you describe your ethnic group? (e.g. White, Mixed Race, Asian etc)

5. Do you have a job at the moment?

- Yes No **IF No**
PLEASE GO TO
QUESTION 7

6. Are you working full or part time?

- Full-Time Part-Time

(Please give your job title)

PLEASE NOW GO TO QUESTION 8

7. If you are not working are you:

- Unemployed, seeking work
 For how long have you
 been unemployed? years months
- Unemployed, because sick or disabled
 Unemployed, Carer
 Full-time student
 Retired (Please give your previous job title)

8. Which of these qualifications do you have? (please tick all boxes that apply)

- No Qualifications
- 'O' Levels/Standard Grades/GCSES/CSE or equivalent
- Highers/ A-Levels/AS Levels or equivalent
- College Certificate or Diploma (e.g. HNC/HND)
- Degree
- Other (please state)

9. What type of housing do you live in?

- Flat in purpose built block or tenement
 Terraced House
 Semi-Detached House
 Detached House
 Bungalow
 Other (please give details)

10. Do you and your household own or rent the accommodation?

- Own outright
 Own with a mortgage or loan
 Pay part mortgage, part rent
 Rent (from private landlord or letting agency)
 Rent (from council or housing association)
 Living with friends or relatives

11. Please give your full post code

12. How many people live in your house?

Adults (18+) Children (Under 18)

13. Do you have any sons/daughters living elsewhere? (please include any 18+)

- Yes No

Your Health

14. How tall are you?

Feet (ft) Inches (ins)
 OR Centimetres (cm)

15. What is your current weight?

Stones Pounds (lbs)
 OR Kilograms (KG)

16. Over the last twelve months would you say that your health has on the whole been:

- Good
 Fairly Good
 Not Good

17. During the past 4 weeks, have you been a very nervous person?

- None of the time
 A little of the time
 Some of the time
 A good bit of the time
 Most of the time
 All of the time

18. During the past 4 weeks, have you felt calm and peaceful?

- None of the time
 A little of the time
 Some of the time
 A good bit of the time
 Most of the time
 All of the time

19. During the past 4 weeks, have you felt downhearted and low?

- None of the time
 A little of the time
 Some of the time
 A good bit of the time
 Most of the time
 All of the time

20. During the past 4 weeks, have you been a happy person?

- None of the time
 A little of the time
 Some of the time
 A good bit of the time
 Most of the time
 All of the time

21. During the past 4 weeks, have you felt so down in the dumps nothing could cheer you up?

- None of the time
 A little of the time
 Some of the time
 A good bit of the time
 Most of the time
 All of the time

22. Has a doctor or nurse ever told you that you have any of the following:
 (please tick yes or no for each item)

	YES	NO
Anxiety		
Anorexia		
Asthma		
Bulimia		
Cancer		
Depression		
Diabetes		
Heart Attack		
High Blood Pressure		
High Cholesterol		

WOMEN ONLY

MEN PLEASE GO TO QUESTION 29

23. What is your dress size?

24. Have you ever been on the contraceptive pill?

- Yes No IF NO PLEASE GO TO QUESTION 26

25. Are you on the contraceptive pill

- Yes No

26. Are you pregnant?

- Yes No

27. Have you ever had HRT?

- Yes No IF NO PLEASE GO TO QUESTION 31

28. Are you having HRT now?

- Yes No

PLEASE NOW GO TO QUESTION 31

MEN ONLY

WOMEN PLEASE GO TO QUESTION 31

29. What is your chest measurement?

- Inches (ins) OR Centimetres (cm)

30. What is your trouser waist measurement?

- Inches (ins) OR Centimetres (cm)

END OF MEN ONLY SECTION

31. How often do you exercise for at least 20 minutes?

- Never IF NEVER PLEASE GO TO QUESTION 33
 Less than once a week
 Once a week
 2-3 times a week
 More than 3 times a week

32. When you take some exercise for at least 20 minutes what do you normally do? (e.g play football, cycle etc)

33. How do you like to wind down and relax?

- Watching TV/Videos/DVDs
 Playing Computer Games
 Using the Internet
 Reading
 Listening to Music
 Going to the pub/bingo
 Other (please give details)

QUESTIONS 34 TO 43 ARE STATEMENTS DEALING WITH YOUR GENERAL FEELINGS ABOUT YOURSELF.

PLEASE SHOW HOW STRONGLY YOU AGREE OR DISAGREE WITH EACH STATEMENT:

34. On the whole I am satisfied with myself

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

35. At times I think I am no good at all

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

36. I feel that I have a number of good qualities

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

37. I am able to do things as well as most people

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

38. I feel I do not have much to be proud of

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

39. I certainly feel useless at times

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

40. I feel that I am a person of worth at least on an equal level with others

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

41. I wish I could have more respect for myself

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

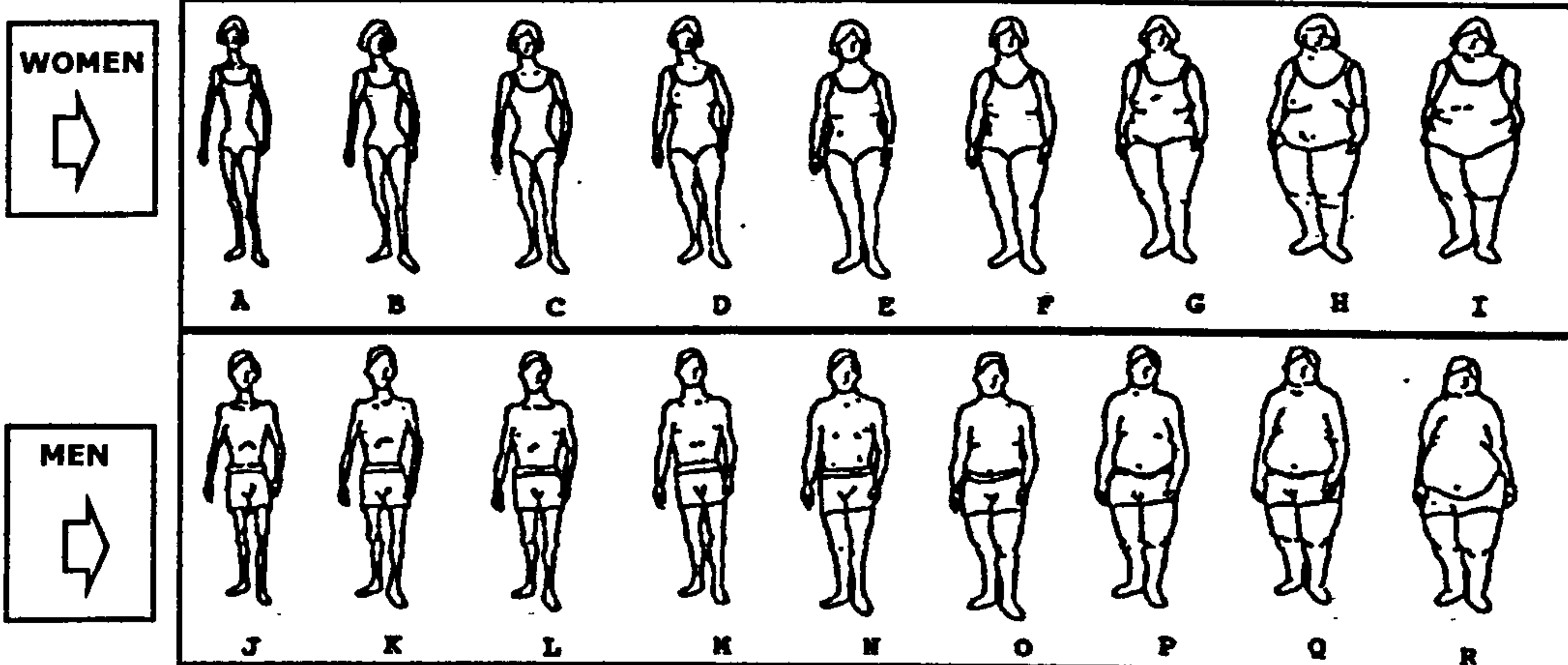
42. All in all I am inclined to agree that I am a failure

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

43. I take a positive attitude towards myself

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

44. Please take a moment to look at the following pictures:



Please pick the picture that you think best describes:

Yourself now

Your ideal self

FOR EXAMPLE IF YOU THINK THAT PICTURE D DESCRIBES YOURSELF NOW WRITE "D" IN THE BOX.

Yourself now

 D

45. Do you smoke?

- Yes No **IF NO PLEASE GO TO QUESTION 47**

46. How many cigarettes do you smoke a day?

cigarettes per day

47. If you are currently a non-smoker, have you ever smoked?

- Yes No **IF NO PLEASE GO TO QUESTION 49**

48. How long ago did you give up smoking?

years ago months ago
 days ago (if you have recently given up)

49. How often do you take alcoholic drinks?

- Never **IF NEVER PLEASE GO TO QUESTION 51**
 Once a week or less
 2-3 times a week
 4-5 times a week
 Every day

50. How many units of alcohol do you think you drink in a week? (For example 1 unit = 1/2 pint beer, measure spirit, small glass of wine)

Units per week

51. If you could choose your ideal weight what would it be?

- More than I weigh now
 Less than I weigh now
 My weight now is my ideal weight

52. Do you think that you are overweight?

- Yes No

53. Have you ever been told that you are overweight?

- Yes No **IF No PLEASE GO TO QUESTION 55**

54. Who told you that you were overweight?

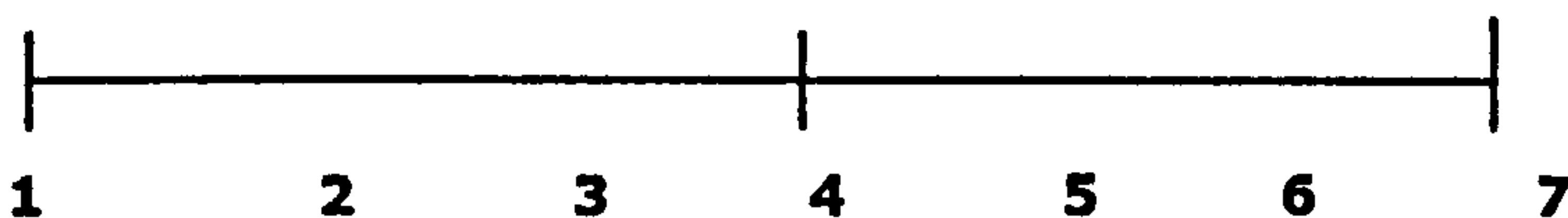
- Doctor
 Practice or Clinic Nurse
 Dietician
 Friend or Family Member
 Partner
 Other (please state)

55. How would you describe yourself?

- Very overweight
 Moderately overweight
 Slightly overweight
 Just right
 Slightly underweight
 Moderately underweight
 Very underweight

56. Using the following scale, please circle one number to indicate how satisfied you are with the appearance of different parts of your body:

 Very satisfied   Very dissatisfied



Face	1	2	3	4	5	6	7	Hips	1	2	3	4	5	6	7
Neck	1	2	3	4	5	6	7	Bottom	1	2	3	4	5	6	7
Shoulders	1	2	3	4	5	6	7	Thighs	1	2	3	4	5	6	7
Upper Arms	1	2	3	4	5	6	7	Calves	1	2	3	4	5	6	7
Forearms	1	2	3	4	5	6	7	Ankles	1	2	3	4	5	6	7
Hands	1	2	3	4	5	6	7	Feet	1	2	3	4	5	6	7
Breasts/Chest	1	2	3	4	5	6	7	Weight	1	2	3	4	5	6	7
Waist	1	2	3	4	5	6	7	Height	1	2	3	4	5	6	7
Stomach	1	2	3	4	5	6	7	Body Shape	1	2	3	4	5	6	7

Diet & Eating Habits

57. Are you on a special diet?

- No
- Slimming diet, prescribed by the doctor
- Slimming diet you decided for yourself
- Diabetic diet
- Cholesterol lowering diet
- Other medical diet
- Vegetarian diet
- Vegan diet

58. Have you ever tried to lose weight by dieting?

- Yes
- No **IF NO PLEASE GO TO QUESTION 60**

59. How many times have you tried to lose weight by dieting?

- 0-1 times
- 2-5 times
- 6-12 times
- 13-25 times
- So many times I've lost count

60. What type of milk do you use?

- Whole Milk
- Semi-Skimmed Milk
- Skimmed Milk
- Soya Milk
- Goat's Milk
- Do not use Milk

61. How many portions of fruit or vegetables do you eat each day?

62. How often do you eat take-outs? (indian, chinese, pizza, fish n chips etc)

- Every day
- 2-4 times a week
- 1 a week
- 1 or 2 times a month
- Never

63. Do you ever "comfort eat?"

- Yes
- No

64. Do you think you overeat or eat big meals?

- Yes
- No

65. Do you eat breakfast?

- Yes
- No

66. When you go shopping do you consciously buy low fat or reduced calorie foods?

- Yes
- No

67. Do you ever eat even though you don't feel hungry?

- Yes
- No

Your Family's Health

68. To your knowledge have your parents ever suffered from the following?

Please tick yes, no or don't know for each item
Y= yes N= no ?= don't know

	Mother			Father		
	Y	N	?	Y	N	?
Anxiety						
Anorexia						
Bulimia						
Depression						
Diabetes						
Heart Attack						
High Blood Pressure						
Weight Problems						

69. Have your children ever suffered from the following?

IF YOU HAVE NO CHILDREN PLEASE GO TO QUESTION 70

	YES	NO
Anxiety		
Anorexia		
Asthma		
Bulimia		
Diabetes		
Weight Problems		

PLEASE GO TO QUESTION 70 ON NEXT PAGE

**OFFICE
USE
ONLY**

Health Beliefs

70. "A little bit of what you fancy does you good".

- Strongly agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly disagree

71. Exercise is a good way to make yourself feel happier.

- Strongly agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly disagree

72. You have to eat five portions of fruit and vegetables every day for a healthy diet.

- Strongly agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly disagree

73. There's not much I can do about my weight, it's down to my genes.

- Strongly agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly disagree

74. Its up to the individual to control their weight.

- Strongly agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly disagree

75. It is important to look good to be able to feel good.

- Strongly agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly disagree

76. You can be overweight AND be healthy.

- Strongly agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly disagree

Thank you for completing the questionnaire
 Please return the questionnaire in the reply paid envelope

We are hoping to explore some of the issues further by carrying out some face to face interviews. The interviews are likely to last for around 1 hour and would be carried out in the place which is most convenient for you.

Any information that you choose to share with the researcher will be treated in the strictest confidence and will only be used for research purposes.

Are you willing to be interviewed? Yes No

The researcher will detach your contact details from the questionnaire to keep your responses confidential.

Contact Details

Name

Address

Contact

Telephone number

**Appendix D:
Reminder Letter**

«First_Name» «Last_Name»
«Address»
«Post_Code»

«Date»

Dear «First_Name» «Last_Name»,

About 3 weeks ago I wrote to you inviting you to take part in the Glasgow Community Health Survey. The response so far has been good but I am keen to include the views and experiences of as many people as possible. I would, therefore, be really grateful if you could complete your questionnaire as soon as you have the time. Obviously there is no obligation to take part, but your answers are very important to me as they will help to give a better picture of the health and lifestyles of people living in Glasgow.

However, if you have decided that you do not want to fill in the questionnaire **please return this letter and the blank questionnaire to me to make sure that another reminder is not sent out to you.**

If you did not receive a questionnaire or it has been mislaid please leave a message for me on 0141 211 1663 and I will post one out to you.

Thank you for your help.

Yours Sincerely



Mary Cawley

Researcher (Glasgow Community Health Survey)

PS If you have recently posted the questionnaire back to me please accept my thanks and ignore this letter.

Appendix E: Interview Participants' Characteristics

No	Name	Age	BMI	Gender	DEPCAT	Job Status	Notes From Survey Responses
1	Peter	52	41.4	Male	6	Shift-work	High BP, no past psychological problems, MHI Score (14), dieting history.
2	Ann	56	30.6	Female	6	U/E (Sick)	Heart problems, type II diabetes, past anxiety & depression, MHI Score (20), dieting history & comfort eats.
3	Maggie	50	49.3	Female	6	W/FT	Type II diabetes, no past psychological problems, MHI Score (15), dieting history & comfort eats.
4	Pamela	37	43.8	Female	5	U/E	Ex-anorexic, past depression & anxiety, MHI Score (12), dieting history & comfort eats.
5	Nancy	51	42.0	Female	1	W/FT	Ex-anorexic, no past depression/anxiety, MHI Score (8) dieting history & comfort eats.
6	Deborah	46	42.1	Female	1	U/E	Type II diabetes, past depression, MHI Score (12), dieting history & comfort eats.
7	Gillian	37	35.1	Female	6	W/PT S/PT	Past anxiety and depression, MHI Score (19), dieting history & comfort eats.
8	Joan	60	40.4	Female	5	R	High BP, past anxiety, MHI Score (14) dieting history & comfort eats.
9	Isobel	43	40.3	Female	6	W/FT	No past psychological problems, MHI Score (6), dieting history & comfort eats.
10	Sandra	50	43.2	Female	6	W/FT	Heart attack, asthma, high BP, past anxiety and depression, MHI Score (16), dieting history & comfort eats.

U/E - Unemployed

W/FT - Working Full Time

R - Retired

W/PT - Working Part Time

S - Married

11	Thomas	59	40.2	Male	1	W/FT	High BP, past anxiety and depression, MHI Score (11) dieting history & comfort eats.
12	Penny	40	31.9	Female	1	W/FT	"Fat but Fit," no past psychological problems, MHI Score (14) comfort eats, dieted few times.
13	Bill	45	36.0	Male	1	U/E	No past psychological problems, MHI Score (10) dieting history & comfort eats.
14	Theresa	40	38.5	Female	5	W/FT	Past depression, MHI Score (20) dieting history & comfort eats.
15	Kenneth	52	32.5	Male	2	W/FT	High BP, "Fat but Fit," past anxiety and depression, MHI Score (10), comfort eats, dieted few times.
16	Helen	47	31.0	Female	6	U/E	High BP, past anxiety and depression, MHI Score (27), dieting history & comfort eats.
17	Maeve	58	46.9	Female	1	W F/T	Cancer, high BP, past depression, MHI Score (9), dieting history & comfort eats.
18	Darren	32	44.2	Male	5	W F/T	Past depression, MHI Score (16), past dieting attempts & comfort eats.
19	Stuart	33	30.7	Male	1	W/FT	"Fat but Fit," no past psychological problems MHI Score (9) dieted few times & comfort eats.
20	Hazel	37	33.4	Female	6	W/FT	Past depression, MHI Score (12), past dieting attempts & comfort eats.

Key:

W/PT = Working Part-Time

U/E = Unemployed

S/PT = Studies Part-Time

W/FT = Working Full-Time

R = Retired

Appendix F:
Interview Invitation Letter & Availability Form

<<First_Name>> <<Surname>>
<<Address>>
<<Post_Code>>

Date

Dear <<Title>> <<Surname>>,

A few months ago you kindly took part in the Greater Glasgow Community Health Survey. When you completed your questionnaire you said that you would be willing to be interviewed. I am contacting you again to make arrangements to meet with you to explore some of your views in more depth. The interview will give you an opportunity to talk freely about your attitudes and beliefs about health, weight and body image.

The interview will last for around 1 hour and can be carried out at the University of Glasgow, at your home or other convenient place. If an interview is carried out at the University, your train or bus fare will be reimbursed.

All of the information that you give during the course of the interview will be kept strictly confidential and the tapes will be locked away securely. The information that you give will be coded to make it impossible for anyone to identify you. You do not need to answer all questions and you are free to terminate the interview at any time.

If you are still willing to be interviewed please fill in and return the attached form in the enclosed pre-paid envelope. If you no longer wish to be interviewed please contact me on 0141 211 1663.

I would like to thank you for your help and for taking the time to complete the questionnaire. The response has been encouraging and the answers are currently being processed.

I look forward to meeting you.

Yours Sincerely,

Ms Mary Cawley
Researcher (Glasgow Community Health Survey)

Interview Availability Form

<<First_Name>> <<Surname>>

<<Address>>

<<Post_Code>>

Please provide a contact telephone number

I will contact you to arrange a suitable time for the interview but it would be really helpful if you could indicate the days and times when you are usually available:-

	Mornings	Afternoons	Evenings
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			

Are there any dates (e.g. holidays) when you know you will be unavailable?

.....

Where would you like to be interviewed? Please tick the appropriate box.

1) At Home

2) At Glasgow University Department of General Practice, 4 Lancaster Crescent, Glasgow, G12 0RR

3) At another location (e.g. workplace).....

If an interview is carried out at the University, your train or bus fare will be reimbursed.

Thank you for completing this form. Please return it in the pre-paid envelope to:

Mary Cawley

Department of General Practice

4 Lancaster Crescent

Glasgow

G12 0RR

**Appendix G:
Semi-Structured Interview Schedule**

Semi-Structured Interview Schedule

Before Interview Starts:

- Stress importance of confidentiality – anything said in the interview is confidential.
- Tell respondent that all data will be coded and stored securely.
- Point out not a dietician or a doctor and so not qualified to answer any specific questions that they may have about nutrition, treatment etc.
- Give them consent form to fill in.
- Ask them if they have any questions about the interview.
- Tell them putting recorder on.

Introduction:-

You will probably remember filling in a questionnaire for the community health survey?

1. As you can tell by my accent, I'm not from the West of Scotland myself, but since I've moved up I've noticed that there are lots of reports about health in the West of Scotland. Do you think there is a need for concern about health here?

PROMPT Any differences between rest of Scotland versus West?

2. What do you think are the reasons for poor health in the West of Scotland?
3. Could you describe someone who you think is unhealthy?
4. What would you say makes someone healthy? Could you describe someone who you think is healthy?
5. What do you think encourages someone to exercise and eat healthily? What do you think motivates someone to exercise?

PROMPT Are there any reasons why some people find it hard to eat healthily and exercise regularly?

PROMPT Do you think that there is anything that stops people from eating healthily and exercising?

6a) Has your health/weight changed over the course of your life?

PROMPT If so in what ways? Does it differ now from your teens/twenties, since having children?

6b) What things do you do to try and keep yourself healthy now?

6c) Would you say you are more or less healthy now?

7. There has been a rise in the number of people in Scotland who are overweight. Do you think that if someone is overweight they are unhealthy?

PROMPT Do you think slim people are always healthy? Does it matter if someone is slim or overweight?

8a) Have you any ideas about what makes people put on weight? **PROMPT** Do you think it's the same for everybody? Are there any differences for men and women?

8b) Do you think that people always gain weight as they get older? Have your views about weight changed as you have matured? What do you think are the physical problems with being overweight if any?

9. How easy do you think it is for someone to cope with being overweight? **PROMPT** Do you think there is a pressure for people to lose weight and be thin?

10. Do you think that there can be any psychological problems when someone is overweight? **PROMPT** interested in looking at depression and weight gain - Comfort eating, self esteem.

11. Have you or anyone you know tried to lose weight? **PROMPT** Did they/you manage to lose weight? Have you/they tried lots of times? How did you/they go about losing weight?

12. Do you think going on a diet helps people to lose weight? How about exercise? What do you think the benefits of losing weight are?

13. Do you think that people who are told they are overweight by a doctor should lose weight? Why?

14. Finally, what if anything, do you think that doctors or the government could do to treat weight problems and prevent obesity?

15. Have you got any more comments that you would like to add?

End of Interview

**Appendix H:
Interview Consent Form**



Glasgow Community Health Survey

INTERVIEW CONSENT FORM

Thank you for agreeing to be interviewed.

If you have any questions about the interview, please ask the researcher **BEFORE** you sign this form.

CONSENT

- ♦ I have asked the researcher any questions I have about the study.
- ♦ I understand that I may ask for the interview to be terminated at any point.
- ♦ I understand that my identity will not be revealed and that all interview data will be stored securely and only the researcher (Mary Cawley) and her Supervisor (Dr Rosaline Barbour) will have access to the data.
- ♦ I understand that the information I provide will only be used for research purposes and I agree that the interview can be recorded.
- ♦ I agree that written extracts from the recording can be used in reports relating to the research, providing that my identity is not revealed.

I _____ (Print Name) consent to an interview and I understand that I may withdraw from the interview at any time.

Signed _____

Date _____

Interviewer _____

