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**Bothered enough to change? A qualitative
investigation of recalled adolescent experiences of
obesity**

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Philosophy at the University of Glasgow**

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Abstract

Background: Although research suggests that obese children and adolescents are stigmatised, experience victimisation, have poor body image, body dissatisfaction, depression and low self-esteem, these findings have been inconsistent. There is increasing evidence to suggest that body perception rather than actual body size leads to negative psychosocial outcomes with many obese people mis-rating themselves as being 'normal' weight; body perception is also the strongest predictor of weight change attempts. The majority of studies in this area have been quantitative; the few previous qualitative studies have either not fully utilised qualitative methods or not focused on adolescents. This study uses qualitative methods, and a unique sampling strategy, to improve understanding of obesity related experiences and reasons for weight change behaviours and success in adolescence.

Methods: 35 semi-structured interviews were conducted between November 2007 and April 2008. Young adult (aged approximately 24) males (17) and females (18) were purposively sub-sampled from *The West of Scotland 11 to 16/16+ Study* cohort based on measured adolescent obese status ($SDS > 1.65$ at one or more of the *11 to 16/16+ study* age 11, 13 or 15 measurement points). A picture task was used to stimulate discussion about perceptions of health and weight and the interviews continued with discussion of adolescent experiences, weight related behaviours (diet and exercise) and any weight change attempts. Framework analysis was used to organise data and facilitate analysis

Findings: Initial quantitative secondary analysis of the 11 to 16/16+ data demonstrated that the majority of participants had been worried about both their weight and putting on weight in the future, although this did not translate into slimming behaviour for all.

This study found that body size awareness and related 'botheredness' varied greatly and were inconsistently related to each other or to weight. While none of the most obese were among the least aware, some were among the least bothered and vice versa. Botheredness related to body concerns, comparisons

with others, clothing, romantic relationships, and for approximately half the sample, victimisation.

Although the majority of participants reported using changes in diet or exercise behaviours in order to try to lose weight at some time, botheredness did not always translate into effective weight change attempts. Participants were categorised as effective slimmers (active and successful weight change attempt), failed slimmers (active but unsuccessful weight change attempt), passive slimmers (weight loss without active weight change attempt), and passive maintainers (had made no attempts to change weight and had no weight loss).

As young adults, 14 were non obese, 14 were obese and 5 were morbidly obese. Those who made successful long lasting weight changes described determination, a greater degree of behaviour change and continued behaviour monitoring. There appeared to be no real pattern to when or why effective changes were made. Age related transitions were often described as being tipping points as well as 'just being ready' to change. Those who described sudden unplanned changes were among those who showed the most sustained improvement in weight

Conclusions: Not all those who are obese as adolescents are aware or bothered. Most adolescents are aware of how to lose weight. Being bothered is not enough of a motivator to make long lasting changes - obese individuals need to be 'ready' to change regardless of knowledge of health behaviours. More needs to be done to assist individuals in being ready to change, this might include raising; body awareness through periodic body measurements at transition points. Further study of 'tipping points' in obese adolescents may aid intervention targeting and design.

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Author's Declaration

I declare that, except where acknowledged, all the work has been undertaken by myself.

Emily Rose Elizabeth Smith B.Sc. (Hons) M.Sc.

Chapter One – Introduction

This largely qualitative PhD focuses on the experience of obesity in adolescence. The uniqueness of this study stems from its sampling strategy by which participants were drawn from a longitudinal cohort based on their *known* adolescent weight status, rather than self-reported data, allowing for identification of those who had lost weight during adolescence compared to those who continued to be obese and/or had no measured weight loss.

This introductory chapter will outline the social *meaning* of the term ‘obese’ and how the social context of *being* obese differs by time and culture. There will then be an explanation of how obesity is measured and defined in childhood and adolescence as well as adulthood and how these differ. Because of the differences in measurement between childhood/adolescence and adulthood, an explanation of how obesity was defined in this study will be provided. Finally the ***West of Scotland 11 to 16/16+ study*** cohort was used to conduct secondary analysis as well as being a source for sub-sampling participants for this PhD study. This cohort, its rationale and its suitability as a sampling source will be discussed.

1.1 The historical context of obesity

Many terms have, over the course of history, become synonymous with what is now predominantly referred to as ‘obesity’. These include corpulence (taken from the Latin *corpulentia* meaning magnification of corpus or body); adiposity (from Latin *adip-* meaning fat); polysarchia (Greek for ‘much flesh’); and glutton (meaning to eat or drink excessively). In addition, the term ‘phagos’ was used in biblical times to denote “*man given to eating*” where phago- means ‘to eat’ (Shell, 2003, p. 27). This term appears in the Bible where Jesus was reported to state that:

“unlike John the Baptist, who ate honey and grasshoppers and never drank alcohol, he [Jesus] is sometimes mistaken by crowds as a phagos, or glutton”. (p. 27)

The term 'obese' itself has Latin origins, *obesus*, from 'obedere' meaning 'to eat away' and '-esus' meaning to devour (Shell, 2003).

In some periods of history, being obese would have been desirable and necessary to help individuals cope with harsh living conditions (Beller, 1997). Thus in times when food was scarce, being obese signified wealth and prosperity (Shell, 2003). For example, the earliest piece of known art work is a sculpture of an obese (looking) nude known as the 'Venus of Willendorf' which has been dated as originating between 24,000 and 22,000 BC and is believed to represent fertility (Debeli, 1998).

Conversely, in times when food was plentiful, it was more fashionable to be thinner (Debeli, 1998; Shell, 2003). Those who did not fit into this ideal would be as likely then, as now, to be ostracised for their weight. For example, in Ancient Greece when food was more readily available than in earlier periods of history, there were more opportunities to gain weight, and being overweight was generally not acceptable (Shell, 2003). This unacceptability may have been on medical grounds since even during this time period, Hippocrates (460-377 BC) wrote of medical complications associated with being obese: "*corpulence is not only a disease itself, but the harbinger of others*" (Haslam & James, 2005, p.1197). In other civilisations such as that of the ancient Spartans, the overweight were simply exiled; similarly, the ancient Cretans and the Romans were said to despise the fatter citizens (Shell, 2003). Roman women were known to starve themselves, sometimes to death, to try and please their husbands, while Socrates was said to have danced every morning so as to keep himself of an acceptable size, thus demonstrating an early concern with being overweight (Beller, 1977; Shell, 2003). The play *Plutus*, written by Aristophanes (446-386 BC) also displayed repulsion towards those who were obese, as shown in the following excerpt;

"But what you don't know is this, that men with me are worth more, both in mind and body, than with [wealthy] Plutus. With him they are gouty, big-bellied, heavy of limb and scandalously stout; with me they are thin, wasp-waisted, and terrible to the foe." (Aristophanes cited in Shell, 2003, p.26).

Cultural variations in body size acceptance have also been found. Larger body sizes are generally more accepted in *developing* societies where there are limited food supplies, thus obesity in these societies signifies wealth. For example, it has been reported that in 85% of 58 traditional cultures on which data are held, being 'plump' is a sign of beauty in females, with girls from wealthy families in Nigeria being sent to 'fattening huts' before marriage (Brown & Konner, 1998), a practice that still occurs (BBC News Online, 2007). This may be changing as obesity rates now appear to be increasing among those of low socioeconomic status, as well as those more affluent, in developing countries (James, Leach, Kalamara, & Shayeghi, 2001). Conversely, in *developed* countries where food is plentiful, obesity is viewed negatively and is most often found among those from a low socioeconomic background (O'Dea & Dibley, 2010; Sobal & Stunkard, 1989; Wang, 2001). However, cultural variations also exist in developed countries, with African-American women, in comparison to white women, being reported to have greater acceptance with their body weights, thinner body perception, greater body satisfaction in relation to appearance and body size, and less participation in unhealthy body change methods (Fitzgibbon, Blackman, & Avellone, 2000; Lovejoy, 2001; Wilfley et al., 1996). Similar results have been reported among African-American males, who have been found to have a greater preference for a larger body size as well as a more positive body image than their white counterparts (Ricciardelli, McCabe, Williams, & Thompson, 2007).

Whilst views on obesity have altered over time, Neumark-Sztainer (1999) suggests that there is a spectrum of opinions that can vary by individual as shown in Figure 1. At one end of the spectrum is the perception of obesity as attractive and beneficial, as within certain historical civilisations, traditional societies or cultures. Even in modern day society, obesity is seen as attractive by some, and this perception is supported and encouraged by associations such as the American National Association to Advance Fat Acceptance (NAAFA). This association was set up in 1969 and is:

“... dedicated to improving the quality of life for fat people. NAAFA works to eliminate discrimination based on body size and provide fat people with the tools for self-empowerment through public education, advocacy, and member support” (NAAFA, 2009)

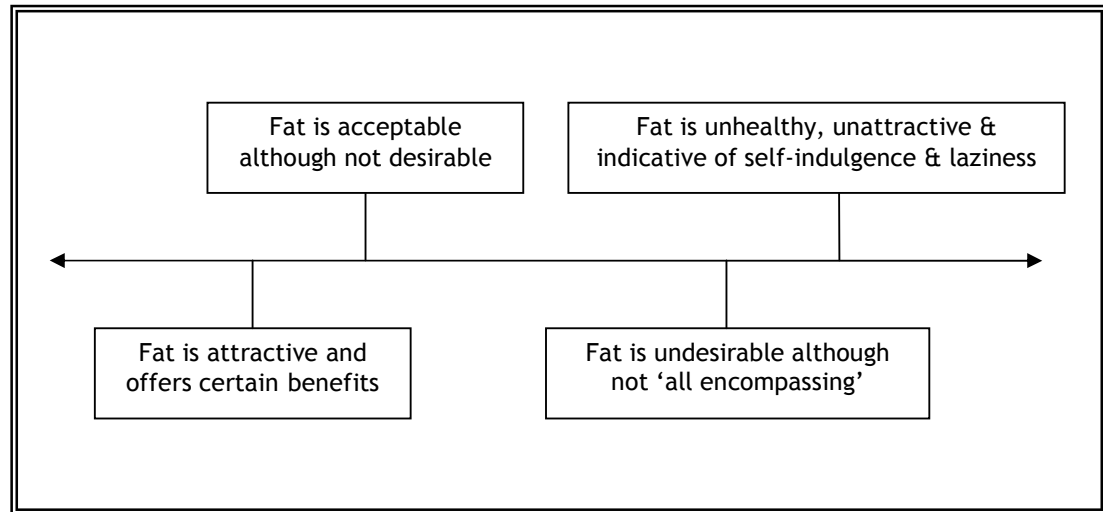
In order to do this they promote the distribution of NAAFA newsletters and publications to professional bodies to be kept in public places such as waiting rooms. They also advocate avoiding healthy diet and exercise practices as well as suggesting elimination of positive comments to those who have lost weight and negative comments to those who have gained.

Amongst other things, this association promotes positive identification among overweight/obese children by identifying good aspects of being a bigger child and highlighting how they are similar to other children, as well as giving tips on how to deal with teasing, and eating/exercising sensibly (Neumark-Sztainer, 1999).

Similar opinions have been suggested by other authors such as those of Wann (2009) who believes that weight is a *“human characteristic”* that naturally varies and is *“influenced largely by inherited predisposition”*. Thus those, such as obesity researchers, who attempt to suggest otherwise are ‘anti-fat’ and fuelling the weight-loss industry. Whilst Wann (2009) does discuss the health implications associated with overweight, a term she and other fat studies scholars suggest is as derogatory as ‘obese’, she is sceptical of evidence associating fat, to use her preferred term, with health problems.

At the opposite end of the spectrum, are negative views of obesity in relation to the medical, psychological and social problems associated with it. In addition there is research evidence to suggest that certain Christian individuals in particular view obesity and poor habits that lead to obesity as being immoral and that *“an overweight or obese person is seen to physically manifest corruption through a lack of personal discipline characterised by the deadly sins of unregulated appetite (gluttony) and laziness (sloth)”* (Hoverd & Sibley, 2007, p. 392).

Figure 1: Spectrum of opinions on obesity. Adapted from Neumark-Sztainer (1999)



Perceptions in the middle of the spectrum suggest that “*obesity is undesirable, but not ‘all encompassing’*”, suggesting the obese might be concerned with their weight, but not affected greatly by it, for example, not to the extent of being depressed (Neumark-Sztainer, 1999, p.534). Furthermore, Neumark-Sztainer (1999) suggests that being obese should be accepted as the norm, particularly among those who may have a genetic tendency to be obese and for whom weight loss and maintenance may be extremely difficult.

Whilst this spectrum of opinions highlights varying standpoints associated with obesity, it misses those obese individuals who do not perceive themselves as such. Research suggests that the increasing prevalence of obesity may lead those who are obese to not perceive themselves as having any problem with their weight (for example, Magnusson, Hulthen, & Kjellgren, 2005).

1.2 Definitions of obesity

While the social meaning of the term ‘obese’ has changed over time, research in this area attempts to apply a more rigid medical definition to the term.

However this is not entirely straightforward in childhood where many different measurements and cut-offs are applied. These will be discussed in this section before discussing how the term will be used throughout the thesis.

The medical term, 'obese' refers to an excess accumulation of body fat (McCarthy, Ellis, & Cole, 2003; Moreno, Fleta, Mur, Sarria, & Bueno, 1998) which has more severe health implications than being 'overweight'. There are different types of measurements used to determine obesity. Body fat can be measured indirectly via skin-fold measurements, bioelectrical impedance, DXA and CT body scanning and even underwater weighing (Ellis, 2001; Pietrobelli, Peroni, & Faith, 2003; Sweeting, 2007). However these measures can be invasive and costly, need specialist equipment or processing and are either not easy to obtain from large groups of the population at one time, or are of dubious accuracy. It is also not possible for these measurements to be self-reported. In contrast the proportion of weight in relation to height can be measured quickly using measurements of both height and body weight to generate a ratio (Body Mass Index). Adolphe Quetelet (1796-1874) first proposed his concept of the 'average man', where he suggested that the weight of a normal adult was proportional to their height (Shell 2003) and this ultimately led to the 'Quetelet Index' (weight divided by height²) now usually known as the Body Mass Index. However, other methods of calculating this proportion have been suggested such as Rohrer's Ponderal Index (weight/height³) (Garrow & James, 2000).

Studies have shown that obese body fat levels, indicative of risk for comorbidities, have been found to correlate with a BMI of 30 and above (Garrow & James, 2000) making this a good proxy for more direct measures of fat.

In adults specific BMI cut-offs for overweight and obesity were agreed by the World Health Organisation in 1993 (see Table 1) and these have been shown to relate to increased risk of comorbidities, such as complications of the airways, cardiovascular and metabolic system and musculoskeletal framework or later mortality (Bellizzi & Dietz, 1999).

The disadvantage of BMI is that it varies among children and adolescents by gender and changes "*in mean value, standard deviation and degree of skewness during childhood and adolescence, and hence there is no simple definition of overweight and obesity prior to adulthood*" (Chinn, 2006, p.1189). This is particularly demonstrated by natural patterns of weight change during early childhood where BMI increases up until age one, decreases to age six and then

increases again throughout childhood and adolescence (Eisenmann, Heelan, & Welk, 2004).

There is also great debate as to the appropriate cut-off for defining child and adolescent obesity (Troiano & Flegal, 1999) since there are insufficient longitudinal data to allow for even a relative absolute cut-off to be calculated for children and adolescents.

Table 1: Degree of overweight & obesity, level of associated risk and corresponding adult BMI

Weight category	Degree of risk of comorbidities	BMI
Overweight (pre-obese)	Increased	25-29.9
Obese class I	Moderate	30-34.9
Obese class II	Severe	35-39.9
Obese class III	Very severe	Over 40

Current working definitions of child and adolescent overweight and obesity, use *relative* cut-offs.

“These involve working out the distribution for a particular population and rather arbitrarily choosing particular values - often the 85th or 95th percentiles, which distinguish those with the highest BMIs from the rest of the population” (Sweeting, 2007, p. 6).

However, the problem with this is that different countries use different population references given that overweight and obesity rates vary from country to country as well as over time. Table two demonstrates not only the main different reference charts, the various population samples they are based on, but also the variation in suggested centile cut-offs and terminology used.

Whereas the CDC 2000 and UK1990 reference charts are based on American and UK population data respectively, the IOTF charts were designed to be representative of a global population as well as to relate to the WHO adult absolute cut-offs. As shown in Table two, data were used from a number of countries resulting in a sample of approximately 190000 subjects providing data from birth to 25 years of age (Cole, Bellizzi, Flegal, & Dietz, 2000). Whereas population generated growth charts such as the CDC 2000 and UK1990 charts

define obesity in terms of centiles, because the IOTF chart was plotted specifically to relate to WHO recommended BMI cut-offs, research using IOTF definitions displays child and adolescent overweight and obesity in relation to absolute BMI values per age. However, one of the main problems with the IOTF charts is that although they are based on data from a large group of subjects, the particular populations selected for inclusion could be considered not to accurately represent the world's population (Chinn, 2006). Certainly, the chart does not take into account ethnic differences in build and fat distribution (Wang, 2004). Whilst it has been suggested that prevalence studies adopt these 'globally representative' charts, many have failed to do so entirely (Chinn, 2006). Nonetheless they are currently the only attempt at a single world wide threshold.

Table 2: The main child and adolescent weight reference curves

Chart name	Country	Population used to construct charts	Overweight defined as:	Obesity defined as:
CDC 2000 Growth Charts*	USA (also often used in Canada and Australia)	National Health Examination Surveys (NHES) II (1963-65) and III (1966-70) - later called the National Health and Nutrition Examination Surveys - NHANES) I (1971-74) II (1976-80) and III (1988-94)	85 th to 94.9 th percentile (sometimes referred to as 'at risk of overweight')	>95 th percentile (sometimes referred to as 'overweight')
UK1990**	UK	12 different UK surveys chosen to be recent, cross-sectional, representative of Britain surveys conducted between 1972-1994	Either 85 th Mainly epidemiological Or 91 st centile Mainly clinical as map onto UK 1990 centile charts	95 th >98 th percentile
International Obesity Task Force (IOTF)***	International	Surveys from Brazil, Great Britain, Hong Kong, the Netherlands, Singapore, and the United States. Referenced charts conducted for each country and then averaged to make one chart. Surveys conducted between 1963-93	Back extrapolation from centile equivalent to BMI=25 at age 18 Close to UK 1990 91 st	Back extrapolation from centile equivalent to BMI=30 at age 18 Between UK 1990 98 th and 99.6 th

Source: * (Kuczmarski et al., 2002); ** (Cole, Freeman, & Preece, 1998); *** (Cole et al., 2000)

As has been demonstrated in this section, defining overweight and obesity in children and adolescents is complicated enough without different countries applying different definitions and cut-offs based on different data.

Throughout this thesis, when referring to published research, the definitions used by such studies have been applied i.e. ‘normal weight’, ‘overweight’, ‘at-risk-of-overweight’ and ‘obese’.

In relation to the discussion of participants sampled into this study, UK90 definitions are applied and Standard Deviation Scores (SDS) reported where relevant with cut-offs for overweight and obesity taken as the 85th and 95th centile respectively. A BMI Standard Deviation Score (SDS) shows how much the BMI of an individual deviates from the reference population mean. The mean of the reference population is taken as zero and all individuals for that age and gender are compared to this. In a normal distribution, approximately two-thirds of the population will fall between 1SD below and 1SD above the mean. In the case of this study, the reference population is that used to derive the UK1990 reference curves (Table 2). In chapters discussing participants adolescent experiences, SDS are used. However, when discussing participants as young adults, their BMIs are reported. It should be acknowledged that this is problematic since adolescent SDS does not directly correspond to a specific adult BMI. Indeed an SDS score that would signify obesity among a 17 year old, would not correspond to a BMI of 30 (obesity threshold) in a 20 year old. In addition, SDS cut-offs differ by gender. This difference becomes apparent in this study when viewing participants’ weight trajectory charts (Appendix Fourteen) where the threshold for adolescent obesity (SDS corresponding to the 95th percentile) is lower than that of adult obesity. This has been accounted for in the reporting of the young adults’ weight (Chapter Eight) by providing their adult BMI alongside the equivalent SDS.

1.3 The West of Scotland 11 to 16/16+ study

One of the greatest strengths of this PhD study is that participants were sampled from a representative cohort who had participated in the longitudinal *West of Scotland 11 to 16 /16+ Study*, hereafter referred to as the *11 to 16/16+*

Study. Briefly, this study, based in and around Glasgow, recruited respondents in their final year of primary schooling (aged 11, in 1994-5). They were re-surveyed after the transition to secondary school (aged 13), during the final year of statutory education (aged 15) and then after leaving school at age 19 with, in addition, a postal survey at age 22 (2006)

The **11 to 16 Study** was established to answer specific research questions relating to several main areas of enquiry. The first of these aimed to examine the associations between social class and adolescent health and to see whether these varied by age. The second question focused on gender differences in health, again addressing whether these varied by age. The third area of enquiry aimed to examine how health-related behaviours differed by age, social background, gender, and perceptions of the future. A final question was whether there were school differences in health and health behaviours in adolescence. (Sweeting & West, 1998).

At ages 11, 13 and 15, data collection took place via school-based surveys, conducted in exam-type conditions. At each stage, participants completed a questionnaire in respect of their health (physical and mental), health behaviours (including diet, exercise, smoking, drinking and illicit drug taking), education, friendships, and future aspirations/predictions. Research staff were on hand to assist if necessary. In addition, a survey nurse collected physical measurements including height and weight (indoor clothes, without shoes) and respiratory function, and conducted a brief interview which included items relating to parental occupation, used to determine social class. At the age 11 survey, parents also completed a questionnaire which included questions about socio economic status, their child's health, personality, the early years including birth size and feeding habits, various aspects of family life, schooling and future aspirations for their child. In addition, at 15, selected modules of a self-administered computerised (Voice) version of the (psychiatric) Diagnostic Interview Schedule for Children (DISC) (Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000) were completed, using laptops.

In addition to the school-based age 11, 13 and 15 surveys, an interview-based study (**16+**) took place between 2003-4 when cohort members were aged approximately 19. The aims, to examine relationships between social class,

gender, health and health behaviours and age, were similar to those at earlier stages. An additional aim was to investigate relationships between post-school labour-market transitions and health, health behaviours and lifestyles. Interviews were conducted at Glasgow University with additional sessions set up at the MRC Social and Public Health Sciences Unit, participants' secondary schools and, in a few cases, their homes. Data for this stage were obtained via a computer-assisted personal interview (CAPI), two brief self-completion questionnaires, the Voice-DISC self-complete psychiatric interview and the taking of physical measures. This stage was possible because 2214 parents provided consent at age 15 for their addresses to be released to the researchers. Difficulties with tracing and arranging interviews with the cohort at this age meant that only 1258 participants were surveyed (Sweeting, Adam, Young, & West, 2005)

Finally, participants were once again followed up at age 22 as part of a postal survey designed to measure body size perception and body change methods as well as standard health-related questions. In addition they were asked about living arrangements, education and work. No data on height or weight were collected at this stage. In comparison to previous stages, the response rate was relatively poor. Whilst questionnaires were only mailed to those 1258 who had participated at age 19, only 604 responses were received (Smith, 2006).

Sampling for the **11 to 16 study** was complex, involving a number of steps to ensure representativeness. Firstly, 43 secondary schools were selected based on geographical location, denomination and deprivation. Primary schools were then selected, based on the secondary school sample given that primary schools in the region generally 'feed' into certain secondary schools. These primary schools were further stratified by the proportion of pupils in receipt of a clothing grant, and taking account of the proportion of pupils transferring both in and out of the selected secondary schools. Finally, within each primary school, classes were randomly selected. Although data were collected from over 3,700 children at age 11, the 11 to 16 sample only included those who transferred to the selected secondary schools. Of a potential 2,793 who transferred, data were collected from 2,586 (93%) at age 11, of whom 95% (2,371) participated at age 13 and 85% (2,196) at 15 (Ecob, Sweeting, West, & Mitchell, 1996; Sweeting, West, & Der, 2001).

The **11 to 16/16+ study** cohort went on to form the basis of a great deal of research, not least analyses which led to the formation of this PhD study. Specifically, these demonstrated that in relation to the psychosocial impact of obesity during adolescence; obese 11 year old males had lower mood than comparable normal weight males (no significant differences for females), while obese males (aged 11) and females (aged 11 and 15) reported slightly, but significantly lower self-esteem. There was also greater reporting of weight-related worries, dieting and appearance concerns among the obese with these being greater, and increasing with age, among females (male weight worries were found to decrease with age). In relation to weight change, although BMI was fairly stable between the ages of 11 and 15, around a third of those initially obese became non-obese, while around 5% of those initially non-obese became obese (Sweeting, Wright, & Minnis, 2005). These obesity rates for each stage of the **11 to 16/16+ study** phases are shown below. As can be seen (Table three) there were between 6% and 10% who were obese at any given stage. Those who were obese at any of the age 11, 13 or 15 surveys were eligible for inclusion in this study.

Table 3: 11 to 16/16+ study obesity rates by age

Obese status	Age 11 (%)	Age 13 (%)	Age 15 (%)	Age 19 (%)
Yes	267 (10.3)	157 (6.1)	236 (9.1)	226 (8.7)
No	2309 (89.3)	1344 (52.0)	1897 (73.4)	1016 (39.3)
Missing	10 (0.4)	1085 (42.0)	453 (17.5)	1344 (52.0)
Total	2586	2586	2586	2586

1.4 Thesis outline

The remainder of this thesis will be formed over an additional seven chapters.

Chapter two will outline the predominantly quantitative literature discussing the psychosocial impact of obesity during adolescence in comparison to those of ‘normal weight’. There will also be discussion of behaviour changes among child and adolescent obese populations and models which have been developed and used in attempts to understand these behaviour change processes. Finally, there

will be discussion of the little qualitative research in this area and what can be learnt from it.

Chapter three discusses the philosophical underpinnings of the qualitative methods adopted in this PhD study and methodological considerations for dealing with a potentially sensitive topic area. Additionally, this chapter will describe methods adopted in this study to refine, collect and analyse data.

Chapter four presents the results of quantitative analyses comparing participants sub-sampled for this PhD study to the remaining **11 to 16/16+ study** cohort, and to all obese participants within this cohort who could have been sampled. It also describes trajectories of adolescent obesity among the participants of this PhD study.

Chapters five, six and seven present the main qualitative findings of this study. The first of these focuses on how being obese during adolescence was experienced. The second examines weight change behaviours adopted by participants, the reason for their adoption and success of attempts in relation to whether they had been bothered by their obesity during adolescence. Finally, findings are presented relating to how becoming a young adult impacted on their weight related experiences and behaviours.

Chapter eight discusses the main findings from this PhD study in relation to other bodies of literature and behaviour change theories. It also provides conclusions and reflects on the data collection process, analyses, and the implications of the findings from this study for future research and obesity policies in an adolescent population.

Chapter Two - Literature review

2.1 Introduction

The aim of this chapter is to review literature related to adolescent experiences of being obese. Given the large amount of literature on obesity across all age groups, only that focusing on the age group being studied, children and adolescents, is included. Exceptions to this were made when literature compared children and adolescents to adults, or the focus was on young adults (early twenties) given that this was the age of participants at the time of data collection for this PhD study. Further, since the focus of this study was on those obese within the general population, studies only reporting on those recruited from a clinical setting were excluded, except again where they compared clinical to non clinical populations.

This chapter begins with an outline of the methods used to gather relevant literature. The rest of the chapter focuses on: the prevalence of obesity; the psychosocial impact of being obese; victimisation; body size perception; and understanding motivations to change weight.

2.2 Methods

Literature for this review was sourced from the databases Web of Science and Medline using the following search terms (and variations i.e. plurals and hyphenated words): child; children; teen; teenager; adolescent; adolescence; children and adolescents; overweight; obese; obesity; corpulence; corpulent; fat; heavy; plump; body image; body perception; body dissatisfaction; shame; disgust; hate; stigma; psychological health; mental health; victimisation; bullying; teasing. Initial literature searches were conducted in the spring of 2007 and expanded and rerun in the spring of 2009.

In those areas where the literature is considerable, particularly that focusing on the psychosocial factors associated with obesity, review articles are drawn upon, together with subsequently published relevant literature.

2.3 Prevalence of obesity

Collective studies of European children and adolescents have reported that around 20% are overweight and one third of these are obese (WHO, 2006). In 1994 when the participants in this PhD study were aged 11, analysis of another Scottish cohort (n=4108) reported that at ages 9-11 20% of girls and 13% of boys were overweight and 2% of all girls and 3% of boys were obese based on UK90 reference curves (obese rates are of all ages, thus 4-11 years, due to low frequencies of obese in the cohort) (Chinn & Rona, 2001). Scottish Health Survey data suggests that among 12-15 year olds, 15.6% of girls and 15.2% of boys were obese in 1998 (based on UK 90 reference curves (Cole, Freeman, & Preece, 1995)), increasing to 20.9% of girls but decreasing to 14.7% of boys by 2003 (Scottish Public Health Observatory, 2007). Comparison of obesity in three west of Scotland samples (all aged 15), found rates of 7% (males) and 5% (females) in 1987, 11 % (males) and 12% (females) in 1999, and 16% (males) and 15% (females) in 2006 (Sweeting, West, & Young, 2008). This represents an overall increase in the prevalence of obesity of around 2.5 times. The 1999 data were obtained from the cohort from which the sample for this PhD study were subsequently drawn.

These prevalence figures show that rates of obesity in children and adolescents have increased dramatically since the sample in this study were adolescents.

2.4 The psychosocial impact of obesity in childhood and adolescence

The majority of the literature on obesity in childhood and adolescence focuses on areas that can be described as psychosocial, that is, relating to both psychological and social aspects. Many of these factors are related; for example, having a negative body image may contribute to having low self-esteem and/or impact on peer relationships.

The aim of this section is to describe the psychosocial factors most widely described in the literature, these being associations between obesity and: stigmatisation and discrimination; victimisation, body image and body dissatisfaction; depression; and self-esteem.

2.4.1 Stigmatisation and discrimination

It has long been suggested that the overweight and obese experience high levels of stigmatisation compared to non obese members of the population (Puhl & Latner, 2007). Over thirty years ago Bruch (1975) stated that:

“there is no doubt that obesity is an undesirable state of existence for a child. It is even more undesirable for an adolescent, for whom even mild degrees of overweight may act as a damaging barrier in a society obsessed with slimness” (Bruch, 1975, p.92)

She further suggested that obese children and adolescents who failed to reduce their weight would “suffer from the stigma of being obese”, even more so than those obese who were “otherwise well adjusted” (Bruch, 1975, p.92).

A number of review papers have been published on stigmatisation and discrimination of obese children and adolescents by the non obese, and it is from these that the findings reported here have been taken.

The first of these reviews suggests that obese individuals of all ages, including children and adolescents, are discriminated against in areas of employment, health care, and education (Puhl & Brownell, 2001). A subsequent review by Puhl and Brownell (2003), suggested that children are as likely as adults to discriminate against the obese. Puhl and Latner (2007) cite research showing that children as young as three years old associate the overweight with being mean, stupid, ugly, unhappy, lazy and having few friends (Brylinsky & Moore, 1994). Another study, conducted around 50 years ago involving 10-11 year olds, reported that when it came to selecting children to be friends with, ‘normal’ weight school children would chose an obese child last over others who were on crutches, in a wheelchair, had an amputated hand or a facial disfigurement (Richardson, Goodman, Hastorf, & Dornbusch, 1961). This study has since been replicated, and given increasing rates of obesity in children and adolescents, the authors hypothesised that stigmatisation may have reduced. However in a sample of American 5th and 6th Grade children studied in 2001, quite the opposite was found - dislike of obese children appeared even stronger (Latner & Stunkard, 2003).

Weight-related stigmatisation has also been found to occur during adolescence. For example, analysis of a large (n=17,557) American sample recruited in 1994 involving 13-18 year olds aimed to examine social networks to assess if obese adolescents were stigmatised more than the non-obese. Using a social networking peer nomination paradigm, the study found that, in general, obese (BMI >95th percentile) adolescents were more isolated, and more likely to be on the periphery of peer groups and less likely to receive a friendship nomination than their non-obese peers (Strauss & Pollack, 2003).

Although it has been suggested that stigmatisation may vary by gender, mixed findings have been reported (Puhl & Latner, 2007). Studies which suggest gender differences include one Australian study which found that boys and girls (n=96, aged 8 - 12), were equally likely to negatively stereotype obese child and adult images and this occurred regardless of their own weight. However of the 87 participants for whom there were height and weight measurements, only 6 were 'at-risk-of-overweight' and 6 were obese (Tiggemann & Anesbury, 2000). In a small study (n=34) rating silhouette pictures, both girls and boys rated obese figures more negatively than non-obese ones. However, in this study, girls also rated *normal* weight figures negatively, only rating the thinnest figures positively (Kraig & Keel, 2001). However other, larger, studies have reported gender variations. For example, in the study of 10-11 year olds described earlier which involved 640 respondents, both boys and girls rated pictures of obese children negatively, but girls' ratings of obese children were more negative than those of boys (Richardson et al., 1961). This gender difference was also found in the later (replication) study (n=458) (Latner & Stunkard, 2003).

In their review, Puhl & Latner (2007) also suggest that there may be a gradient of stigmatisation, with those most obese experiencing greater stigmatisation than those moderately overweight, evidence for this argument being based on the relationship between being obese and being victimised. This is discussed in more detail in section 2.4.1.

Finally, it has been consistently found that overweight or obese children and adolescents are as likely to rate overweight peers negatively as non obese (Puhl & Latner, 2007). Indeed in two studies conducted with American Pre-school children aged 3-5 years, participants with greater weight were likely to rate

overweight figures *more* negatively than did the normal weight participants (Cramer & Steinwert, 1998).

In summary, it appears that obese children and adolescents are currently just as likely to experience stigmatisation by peers as they were some 50 years ago when obesity rates were far lower. Given that obesity rates have increased, it may have been assumed that stigmatisation would decrease as the population became normalised to the number of overweight and obese individuals in today's society (Latner & Stunkard, 2003). However this does not appear to have been the case (Puhl & Latner, 2007). Against this background, the question addressed in subsequent sections is how obese children and adolescents experience their own obesity?

2.4.2 Victimisation

Perhaps one of the greatest assumptions about obese children and adolescents is that at some point, they will endure weight related teasing. Certainly, analysis of members, aged 11, of the ***West of Scotland 11-16/16+ study***, from where participants for the present study were sampled, found that those falling within the top 10% of the cohort with respect to weight and BMI were twice as likely as the remaining 90% of the cohort to be teased/bullied (Sweeting & West, 2001).

Victimisation of obese children and adolescents has been reported to stem from peers, family, teachers and other sources (Griffiths, Wolke, Page, Horwood, & Team, 2006; Hayden-Wade et al., 2005; Wardle & Cooke, 2005). It generally refers to aggressive behaviours which can be overt (e.g. hitting), verbal (e.g. name calling), or relational (e.g. social exclusion) (Griffiths, Wolke, Page, Horwood, & Team, 2006; Strawser, Storch, & Roberti, 2005; Sweeting, Young, West, & Der, 2006). Research suggests that there is a strong relationship between child and adolescent obesity and the experience of victimisation. Increased occurrences among obese, compared to normal weight children and adolescents have been found in population based (Eisenberg, Neumark-Sztainer, & Story, 2003; Griffiths et al., 2006; Janssen, Craig, Boyce, & Pickett, 2004; Neumark-Sztainer et al., 2002; Sweeting et al., 2006) and purposive (Hayden-Wade et al., 2005; Strawser et al., 2005) samples. As with non obese, gender differences in the ways in which victimisation is experienced have been found.

While males are more likely to experience overt bullying (Pearce, Boergers, & Prinstein, 2002; Smith & Ananiadou, 2003), females more frequently experience verbal and relational bullying (Griffiths et al., 2006; Neumark-Sztainer et al., 2002; Pearce et al., 2002; Smith & Ananiadou, 2003).

Again, as with non-obese, the incidence of victimisation in obese children and adolescents has been found, in many studies, to decrease with age. For example, analyses of data from the cohort from which the sample for this PhD study was drawn found that an initial relationship between obesity and victimisation in 11 year olds disappeared by the age of 15 (Sweeting, Wright et al., 2005). Similarly, analyses of an American cohort of 2516 adolescents surveyed in 1999 and 2004, showed that among those who were overweight (BMI > 85th percentile) at age 12, rates of weight-related teasing had significantly decreased by age 17. However, there was no significant change in weight-related teasing in an older cohort between the ages of 15 and 20. This result held for both males and females (Haines, Neumark-Sztainer, Hannan, van den Berg, & Eisenberg, 2008). This same study also compared those overweight in mid adolescence in 1999 and 2004 in order to assess secular changes. It found no significant difference over time in rates of weight-related teasing for females, however among overweight males, there was a significant reduction with 40% experiencing weight related teasing in 1999 compared to 20% in 2004. They suggest that this reduction in weight related teasing may be a result of increased obesity rates among children and adolescence.

In addition to experiencing victimisation, some studies have found increased rates of bullying *by* obese children and adolescents (Griffiths et al., 2006; Janssen et al., 2004) as well as evidence that obese bullies are also likely to report being bullied (Griffiths et al., 2006).

Studies have also reported that experience of victimisation by obese children and adolescents is frequently related to depression, low self esteem and body image concerns (Eisenberg et al., 2003; Jackson, Grilo, & Masheb, 2000; Storch & Ledley, 2005; Storch et al., 2007; Young-Hyman, Schlundt, Herman-Wenderoth, & Bozylinski, 2003; Young-Hyman et al., 2006). For example, analyses, again based on the cohort from which the sample for this PhD study was drawn, found that among 11 year olds (n=2127), not only did being obese

double the odds of being victimised, but that being obese and victimised in early adolescence, partly explained the relationship between obesity and low mood and poor self esteem, although this relationship disappeared by age 15. However, many of the associations between victimisation and poor psychosocial outcomes among children and adolescents exist regardless of weight. For example, an American sample of 4746 adolescents aged 12-18, found that irrespective of own weight, weight-related teasing by peers or family members was related to low body satisfaction, low mood and high depressive symptoms (Eisenberg et al., 2003).

Finally, another recent prospective study attempted to determine whether peer victimisation resulted in increased depressive symptoms and/or BMI in a sample of 1287 adolescents aged 12-13 at baseline (Adams & Bukowski, 2008). It found that being victimised did not result in increased obesity rates among those initially non obese. However those who were already obese and were victimised were more likely to have increases in both depressive symptoms and BMI at follow-up.

2.4.3 Body image and body dissatisfaction

This section draws on studies of body image and body (dis)satisfaction to outline how obese children and adolescents view and feel about their bodies.

‘Body image’ has been described as the “inside view” where “*individuals’ own subjective experiences related to their appearance were often even more psychosocially powerful than the objective or social ‘reality’ of their appearance*” (Cash, 2004, p. 1). Cash continues to describe body image as encompassing “*one’s body-related self-perceptions and self-attitudes, including thoughts, beliefs, feelings, and behaviours*” (Cash, 2004, p. 2). The concept of ‘body image’ has a range of related concepts such as weight satisfaction, body satisfaction, body esteem, body schema, size perception accuracy, to name a few (Pruzinsky & Cash, 2004). For the purpose of this section, the term ‘body (dis)satisfaction’ will be used for all these. Most of the research in this area has been based on the premise that a negative body image in children and adolescents may lead to future body image concerns and eating disturbances (Smolak, 2004).

In relation to body dissatisfaction, one of the most recent review papers reported on 18 studies published between 1994-2004 (Wardle & Cooke, 2005). Of these, one focused on treatment seeking children and adolescents. Of the 17 community based studies, 12 were cross-sectional with the remaining 5 being prospective and the majority (12) focused on female only populations. All of these studies found that those children and adolescents with a greater body weight were more dissatisfied with their weight than those of lesser weight. Of the five community studies that included both males and females, three found gender differences, with females being more dissatisfied with their bodies than males (Wardle & Cooke, 2005).

Since this review was published, further research in the area has reported a lack of gender differences in the relationship between obesity and body dissatisfaction. For example, a recent study conducted cross-sectional analysis involving 9-10 year olds (n=1923) in 2000/2001 and 12-13 year olds (n=3841) in 2003/2004, longitudinal analysis being conducted on the 787 pupils who participated at both dates (Jansen, van de Looij-Jansen, de Wilde, & Brug, 2008). It found only one significant result from the cross-sectional analysis (and none longitudinally) - among 9-10 year olds, obese boys had less social anxiety about their physical appearance than non-overweight boys. Initial analysis also found an association between weight and mental health indicators, although this was later accounted for by body perception; *feeling* overweight had a stronger association with (poor) mental health than actually *being* overweight. Another recent cross-sectional study of 262 (77 overweight, 27 obese) children aged 8 to 13 years, found that levels of body dissatisfaction increased as BMI increased, with no significant differences between males and females (Gibson et al., 2008).

2.4.4 Depression

The review by Wardle and Cooke (2005) also included literature relating to obesity and depression (published 1997-2004) which was either: prospective (three studies), longitudinal (four studies) or cross-sectional (nine studies). Two of these studies compared treatment seeking with non-treatment seeking obese children and adolescents. As may be expected, those who were treatment seeking were more likely to score higher on depression measurement

instruments than non-treatment seeking obese children and adolescents or non obese controls (Britz et al., 2000; Erermis et al., 2004). Within the larger cross-sectional studies reviewed by Wardle and Cooke (2005), generally no clear association was found between obesity and levels of depression. For example, an American study of 7-12 year olds (n=4746) reported that whilst 30% of girls and 25% of boys reported being teased about weight, relating to high depressive symptoms, the relationship still existed regardless of actual body weight (Eisenberg et al., 2003). This suggests that weight related teasing was the key factor in relation to prediction of depressive symptoms, since the non-obese were also found to report weight related teasing and were found to have depressive symptoms as a result. Another study reported that among 3021 German 14-24 year olds, (Lamertz, Jacobi, Yassouridis, Arnold, & Henkel, 2002), no differences were found in rates of reported mental disorders, including depression, between those overweight or obese and those 'normal' weight or underweight. Finally, one large scale study *did* report an association between overweight and depression; this was for girls only and based on non-standardised depression measures which had not been validated (Falkner et al., 2001).

Since the publication of this review, further studies have reported inconsistent findings with regards to the obesity-depression relationship, with two recent large scale studies, published one year apart, reporting conflicting findings. The first of these analysed a sample of 4703 Swedish 15 to 17 year olds (Sjoberg, Nilsson, & Leppert, 2005). Participants' height and weight were self-reported, and depressive symptoms measured using the Depression Self-Rating Scales of the Diagnostic and Statistical Manual of Mental Disorders. Obesity was significantly related to both depression and depressive symptoms in this sample. However, all relationships were explained by factors such as gender, shaming experiences, parental employment, and parental separation. The second article, which reported two large UK studies and had a combined sample size of 6144, aged approximately 11 years (4320) and 14-15 years (1824), concluded that there was only a very small relationship between obesity and depressive symptoms with no differences by gender, ethnicity or socio-economic status (Wardle, Williamson, Johnson, & Edwards, 2006).

One recent study which found a significant linear relationship between BMI and depression, as measured on the Childs Depression Inventory, had a fairly small

sample size (262 participants) of which only 27 were obese (19 treatment seeking) (Gibson et al., 2008). Whilst this study reported that there was a significant interaction between BMI and gender on the depression measure, with obese girls having a greater increase in depression than obese boys, the sample size and the treatment seeking of some participants makes it difficult to compare this to the Sjoberg (2005) and Wardle et al (2006) studies.

The review article and more recent research in the area suggest that although there is a relationship between obesity and depressive symptoms, there are often other contributing factors which may or may not be related to being overweight or obese such as shaming experiences, and weight or shape concerns, all of which could be experienced by non obese and underweight children and adolescents.

2.4.5 Self-esteem

Self-esteem comprises two main dimensions; how individuals perceive themselves as a whole in relation to others (global self-esteem), and how they feel about specific aspects of themselves (such as academic ability or appearance). Research has shown that self-esteem is associated with factors related to weight such as body image, and body dissatisfaction (Ricciardelli & McCabe, 2001) although the relationship between low self-esteem and obesity has been weak (Wardle & Cooke, 2005).

There have been three main reviews in this area in recent years (Cornette, 2008; French, Story, & Perry, 1995; Wardle & Cooke, 2005). All report similar results, namely that although treatment seeking children and adolescents have lower self-esteem than community groups of obese there is little difference between community-based obese and non obese children and adolescents (Cornette, 2008; French et al., 1995; Wardle & Cooke, 2005). As with previous sections, only those studies which compare treatment seeking with non treatment seeking obese children and adolescents will be discussed, those only reporting treatment seeking obese will be excluded. Of the 24 studies reviewed by Wardle & Cooke that met these criteria, and included measures of self-esteem, the majority reported that those of greater body weight had a lower self-esteem than those of a lesser weight although these differences were often small.

Among some of the cross-sectional studies in this area, some find no relationship between weight and low self-esteem (Eisenberg et al., 2003; Pastore, Fisher, & Friedman, 1996; Renman, Engstrom, Silfverdal, & Aman, 1999; Strauss, 2000), in others the relationship was very small (Faith, Manibay, Kravitz, Griffith, & Allison, 1998) or disappeared when factors such as body image were controlled for (Pesa, Syre, & Jones, 2000). In studies comparing obese (clinical and non-clinical) and normal weight groups, mixed findings have been reported. In one study both clinical (n=92) and non-clinical (n=70) obese groups were found to have a lower self-esteem than the non-obese (Braet, Mervielde, & Vandereycken, 1997), whilst another (Erermis et al., 2004) found that only the clinical obese group had lower self-esteem when compared to non obese, although this study had a smaller sample size (n=90) than that reported by Braet et al (1997).

The Cornette (2008) review published subsequent to that of Wardle and Cooke (2005) concluded that psychosocial outcomes related to being obese such as low self-esteem were most predominant among younger children and females. For example in one study, of a sample of 4827 American 12-20 year olds surveyed in 1996, it was found that there was only a significant relationship between BMI and low self-esteem in the youngest age group (aged 12-14), and no relationship for the older groups, even when comparing those above the 97th percentile to the rest of the participants (Swallen, Reither, Haas, & Meier, 2005). This paper aimed to assess only what the authors considered 'quality' studies, including more than 50 participants and with a primary research aim to investigate the psychological effect of obesity in children and adolescents.

Wardle and Cooke's (2005) review also included a number of prospective studies which generally found that a higher BMI at baseline resulted in lower self-esteem at follow up (e.g. Hesketh, Wake, & Waters, 2004). Interestingly, one (French et al., 1995) found the reverse; lower self-esteem at age 11-14 was associated with higher BMI by age 14-17. However this relationship was only found in females.

Given that there appears to be a moderate relationship between high BMI and low self-esteem for some children and adolescents, more recent studies have tried to investigate this further and ascertain how it may affect other areas of their lives. For example, a recent study aimed to investigate if there was a

relationship between obesity, self-esteem and school performance (Wang & Veugelers, 2008). This large Canadian school based study of 4945 students (23.5% overweight; 9.9% obese) aged 10-11 found that as body weight increased, self-esteem decreased significantly. Further analysis of this sample revealed that obese children were 1.44 times more likely than non obese peers to report having low self-esteem. The study also found that an increase in school performance was significantly related to an increase in self-esteem. However, there was no significant relationship between body weight and school performance, although the directions of the findings suggested that increased BMI was related to a decrease in school performance. Another study, conducted on an Irish school population, where 27% were overweight/obese, found that increased BMI was related to lower self perceptions relating to social acceptance and physical appearance (McCullough, Muldoon, & Dempster, 2009).

Finally, a study providing data from three different cohorts of 15 year olds from the same area in Western Scotland sampled in different decades (1987, 1999 - this being the cohort from which the sample for this PhD study were drawn - and 2006), examined the relationship between obesity and self-esteem at each date (Sweeting et al., 2008). The reason for conducting the analysis was a suggestion that increasing prevalence may have increased the tolerance, and reduced recognition of, or concern about obesity. Rates of obesity were found to have increased 2.5 times between 1987 and 2006. However the only significant relationship between obesity and low self esteem found was among girls in 2006. Further analyses found that there was an increase in weight worries over time, in both obese and non obese groups. The authors comment that there was a substantial proportion of obese “*who did not report ‘a lot’ of worry about weight*” which they suggest may have been due to a failure to recognise the extent of their weight problem or an increased acceptance of larger body sizes among UK adolescents.

2.5 Are all obese children and adolescents aware of their body size?

Crucial to its psychosocial impact may be the extent to which obese children and adolescents perceive themselves as being overweight.

In general, studies report that children and adolescents' perception of their body size tends to be inaccurate. For example, one American study of adolescents ($n=2032$) in American school grades 9 to 12 conducted in 2000, found that of those above the 85th percentile ('at risk of overweight') 53.7% perceived themselves to be normal weight (16th to 84th percentile), whilst only 23.6% perceived themselves to be overweight, with the remaining 22.7% actually perceiving themselves to be underweight (Brener, Eaton, Lowry, & McManus, 2004). Similarly, a recent (2002) UK study involving adolescents aged 14-15, among whom 28% of girls and 22% of boys were overweight or obese, reported that of all participants for whom body perception data was held (4035), 26% reported feeling about the right weight or too thin when they were actually overweight or obese (based on IOTF cut-offs) whereas 19% who were 'normal' or underweight, reported themselves as 'feeling too fat' (Standley, Sullivan, & Wardle, 2009). Furthermore, analysis of data on 3665 children and adolescents (aged 9, 13 and 16) who participated in a Canadian survey conducted in 1999 found that 71% of overweight and 59% of obese children and adolescents misperceived their weight status as lower than it actually was on a Figure Rating Scale (Maximova et al., 2008). This was a significantly greater proportion than the non-overweight children and adolescents.

These findings reflect those of many studies in this area (e.g. Brener et al., 2004; Viner et al., 2006) and there is evidence to suggest that, among adults (Johnson, Cooke, Croker, & Wardle, 2008) and children and adolescents (Kaltiala-Heino, Kautiainen, Virtanen, Rimpela, & Rimpela, 2003), fewer perceive themselves as being overweight compared to a decade ago. Given that the prevalence of obesity within western populations has increased, this finding may not be surprising. In addition, there is evidence that as parental and, more importantly, school mates' BMI increase, participants become more likely to underestimate their size (Maximova et al., 2008) this effect being strongest in younger age groups. Similar findings have been found in other studies (eg Emmons, 1994; Strauss, 1999).

Gender and ethnic differences have been demonstrated with regards to body size perception in obese children and adolescents, with a number of studies finding underestimation more likely among boys than girls (e.g. Brener et al., 2004; Gualdi-Russo et al., 2008; Standley et al., 2009; Wardle, Haase, &

Steptoe, 2006). Brener et al (2004) also noted ethnic differences in their sample of American 9-12 graders. Among the overweight, black girls were more likely to perceive themselves to be 'just about the right weight' compared to white girls, while among non obese, they were less likely than white girls to rate themselves as being overweight. Whilst this study compared four racial groups, consistent patterns were only found for females and between white and black students. Similar ethnic differences have been found in a number of other studies as cited by Brener et al (2004).

2.6 Motivated to make a weight change?

As a result of the presumed negative psychosocial outcomes, it is often assumed that all those who are overweight would want to make a change to their weight. However, as described in previous sections, not all those who are obese have negative experiences, while significant proportions of non obese children and adolescents, particularly girls, are as likely to want to be thinner. For example, a large scale Portuguese study found that 15% of overweight and obese adolescents compared to 6% of non-overweight reported dieting (Fonseca & de Matos, 2005) suggesting that those overweight and obese are more likely to diet but dieting behaviour is not limited to those overweight. However it was also reported that 36% who were overweight reported *not* being on a diet because their weight was fine. Other studies have reported similar findings, although with higher rates of dieting among obese adolescents. For example, analyses of the Scottish cohort, from which the sample for this PhD was taken, found that among 11 year old non-obese versus obese adolescents, 4% versus 34% of males, and 8% versus 32% of females reported dieting. In addition, among 15 year old non-obese adolescents compared to obese, 3% versus 20% of males and 23% versus 51% of females dieted (Sweeting, Wright et al., 2005).

Given that it has also been found that not all those who are overweight are aware of their size, this may be one of the first barriers to being motivated to make any change (Brener et al., 2004; Wardle, Haase et al., 2006). Related to this, one study has reported that incidence of dieting in a large scale population study of 12-18 year olds was related to perceptions of overweight rather than actual overweight (Kaltiala-Heino et al., 2003). Similarly, Desmond et al (1986)

found that perceptions of weight were a predictor of exercise uptake in their sample of 194 first year university students.

Other studies have aimed to assess psychosocial and behavioural characteristics related to weight change behaviours in children and adolescents. For example, analysis of the American Project EAT (Eating Among Teens) cohort of 4746 adolescents, reported that among both males and females, dieting behaviour was more likely among those who had low self-esteem, displayed depressive symptoms and body dissatisfaction regardless of body weight (Crow, Eisenberg, Story, & Neumark-Sztainer, 2006). Interestingly, it was found that the non-overweight dieters were significantly more dissatisfied with their bodies than overweight dieters. It should be noted that the aim of this analysis was to investigate the risks of dieting to the psychosocial well-being of children and adolescents since *“dieting behaviour has been shown to co-occur with a variety of negative correlates in adolescents, and might belong to a cluster of risk factors”* (Crow et al., 2006, p. 569) but being cross-sectional analysis, it cannot determine whether dieting behaviour predicts negative psychosocial outcomes or vice versa. However, in relation to dieting behaviour, one study utilising data from over 30 countries reported that overweight adolescents were significantly more likely than non-overweight adolescents to report trying to lose weight at the time of the study or within the 12 months preceding it (Ojala, Vereecken, Valimaa, Currie, Villberg, Tynjala et al., 2007). Overweight and obese females were more likely to report weight loss attempts than males as well as being more likely to report needing to lose weight. Overweight males were more likely to think their weight was fine or report that they wanted to gain weight. In respect of factors found to contribute to weight loss attempts, this study reported that self-perception of overweight was the strongest predictor, followed by actual body weight and age. This finding has also been reported in subsequent research where those overweight and obese who were accurate in their body size perception were more likely both to intend to lose weight and to have made recent weight change attempts (Fagan, Diamond, Myers, & Gill, 2008).

Although there is a vast amount of literature associated with child and adolescent obesity, very little has focused on assessing reasons why individuals in these groups may be motivated to make a change to their weight. It appears

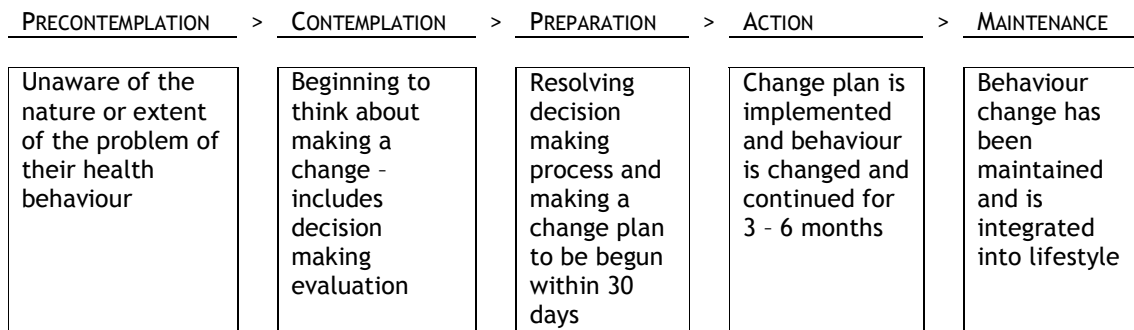
that there is an assumption stemming from the psychosocial literature that because being obese is viewed as being negative, that obese children and adolescent would be motivated to change their behaviours. What literature there is tends to focus on parents' motivations to help their children lose weight (e.g. Gronbaek, 2008). As a result of this, consideration is made of methods and models designed to understand process.

2.6.1 How can change be understood?

Within health psychology, a variety of models have been developed to try and understand mental processing associated with behaviour change. Although not exhaustive, these include the transtheoretical model (Prochaska & Diclemente, 1982), self-determination theory (Deci & Ryan, 1985), the health belief model (Becker, 1974), the theory of reasoned action (Ajzen & Fishbein, 1980) and theory of planned behaviour (Ajzen, 1985). A key word search (web of knowledge) for these models combined with the terms obese or overweight, or diet and exercise, revealed that all have been used extensively in weight change research. The Transtheoretical model is most heavily cited in relation to obese populations, but self-determination theory and theories of planned behaviour/reasoned action are also frequently cited in relation to diet and exercise behaviour research.

The Transtheoretical model consists of three main components, the 'stages of change', the 'processes of change' and 'decisional balance' (Biddle & Mutrie, 2001). These components were determined by "*Prochaska's early work in which he identified common change stages and processes across diverse theoretical systems of psychotherapy*" (Biddle & Mutrie, 2001, p. 136).

Firstly individuals were found to fall into one of five stages of behaviour change which consist of pre-contemplation, contemplation, preparation, action, and maintenance (see Figure two). It is suggested that individuals move through these stages when adopting new health behaviours such as healthy eating or increased exercise. Whilst they are displayed below in a linear fashion, it has been suggested that behaviour change is more cyclical with individuals often moving back stages or 'relapsing' until they adjust to their new behaviour and are able to maintain it (Marcus & Simkin, 1994)

Figure 2: Stages of behaviour change.

Adapted from Diclemente & Prochaska (1998)

Individuals' movement through the stages of change is said to be dependant on specific 'processes of change' derived from various motivation theories, of which there are reported to be ten (Diclemente & Prochaska, 1998): consciousness raising, dramatic relief, self-re-evaluation, social liberation, environmental re-evaluation, helping relationships, counter-conditioning, self-liberation, stimulus control, and reinforcement management (see Table four).

Table 4: Process of change

Process of change	Description
Consciousness raising	Increasing knowledge and/or information about themselves and the behaviour they wish to change
Dramatic relief	Warnings of risk (experienced and felt) associated with not making a behaviour change
Self-re-evaluation	Caring about consequences and assessing own feelings about self and behaviour they wish to change
Social liberation	Increasing health alternatives to the negative behaviour
Environmental re-evaluation	Assessing how behaviour is related to their environment
Helping relationships	Allow others to know about, and help with, behaviour change
Counter-conditioning	Substituting alternatives to poor behaviour with healthier behaviours
Self-liberation	Understanding benefits so as to allow commitment to behaviour change
Stimulus control	Creating active opportunities
Reinforcement management	Rewarding yourself for achievements in behaviour change

Source: Biddle & Mutrie (2001)

At any stage of change, one or more of these processes can be involved in aiding movement between stages.

The final component of the Transtheoretical Model is that of ‘decisional balance’ where individuals evaluate “*the ‘pros’ and ‘cons’ of changing behaviour*” (Biddle & Mutrie, 2001, p. 265). Biddle and Mutrie (2001) further suggest that:

“In the early stages of behaviour change cons outweigh pros, that those in preparation may have more equality around the pros and cons, and that those who are in maintenance will perceive more pros than cons.”

The Transtheoretical model was initially used in addiction research, including studies relating to substance use (Brown, Melchior, Panter, Slaughter, & Huba, 2000) and, perhaps most frequently, to smoking behaviours (Carlson, Taenzer, Koopmans, & Casebeer, 2003; Ham & Lee, 2007; Pallonen, 1998). It has also been used in research on chronic pain sufferers in order to examine stages of change relating to self-management of pain (Habib, Morrissey, & Helmes, 2003; Jensen, Nielson, Romano, Hill, & Turner, 2000; Keefe et al., 2000; Strand et al., 2007).

It has been stated that the ‘pre-contemplation’ stage includes individuals who “*do not recognise that a health problem exists or do not believe that they need to change their health behaviours*” (Mason, Crabtree, Caudill, & Topp, 2008, p. 340). ‘Precontemplation’ would therefore include those who do not perceive themselves to have a weight problem amongst others who are aware but not motivated to make a change. For those who fall into this stage, it has been suggested that cognitive interventions would be most effective, since these approaches include the aims of raising awareness of obesity and the health effects of diet and exercise behaviours (Mason et al., 2008). Mason et al (2008) outline what these consciousness raising cognitive interventions might be in relation to a ‘case management’ approach to dealing with child and adolescent obesity: completing a family tree of obesity and obesity related diseases; watching the documentary ‘Supersize Me’; and understanding the classification of activities into various levels of physical activity. However these authors did not go on to evaluate how effective these might be.

In relation to weight related behaviours, the model has predominantly been used to explain individuals' decision making processes with regards to exercise uptake, with less focus on researching processes associated with diet change. However, it has been applied to research on adolescents' nutritional knowledge beliefs and behaviours, although in a sample which did not differentiate between 'normal' weight and obese adolescents. This Australian study consisted of 480 15-16 year olds who were asked specific questions designed to assess their stage of change (Gracey, Stanley, Burke, Corti, & Beilin, 1996). To assess those who were in action and maintenance phases, participants were asked if they believed their diet to be healthy and for how long they had maintained their current diet. Those who believed their diet was unhealthy were assessed for pre-contemplation and contemplation phases by being asked if they planned on changing their diet, and if so, when. Within this sample, significantly more females and respondents from higher socio-economic backgrounds reported having a healthy diet. Among those who reported their diet as being unhealthy, 63% stated they had no intention to make a change (pre-contemplation), while 37% stated they planned to make a change within the next 30 days (contemplation). More recently, the Transtheoretical model has been used to design interventions related to increasing a low-fat diet in adolescents (Frenn, Malin, & Bansal, 2003).

Whilst this model has been extensively used in behaviour change research and intervention design, it has received a fair amount of criticism. This has predominantly been directed at the 'stage of change' component, with the definition of a 'stage' being the main sticking point. It is argued that the stages are determined by arbitrary cut-off points and so rates of individuals reported to be in such stages cannot be interpreted as being entirely accurate, no matter how large a sample size is used to determine such rates (West, 2005). For example, drug addiction research defines pre-contemplation as those individuals who have used drugs in the past 30 days but do not intend to quit in the next six months, whereas contemplation is those who have taken drugs in the previous 30 days but report planning to quit within the next six months (e.g. Belding, Iguchi, & Lamb, 1997). It has been suggested that rather than categorising individuals by stages, a more linear approach to behavioural intention should be taken

based on findings that behavioural intention correlates with stages of change (Armitage & Arden, 2008).

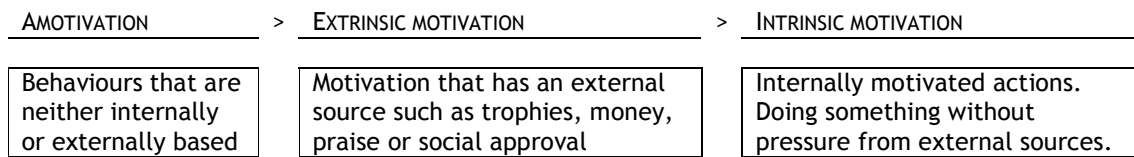
The model also assumes that behaviour change is conscious and is thought through before being embarked upon. However, people do not necessarily “*think about things in the terms set by the response options*” in a questionnaire (West, 2005, p. 1037). That is, they do not often determine when they are going to change their behaviour in terms of days and weeks as the stage of change theory suggests. In fact, some individuals make no conscious plans to change their behaviours, they simply decide one day to change them (Larabie, 2005).

Other criticisms summarised by West (2005) include the model involving measurements of very different constructs (time, change attempts, and intention to change) making it difficult to determine what the model *does* actually assess. Finally, the stages of change do not account for processes of motivation associated with learning behaviour, namely rewards and punishments.

Regardless of these issues, the model continues to be adopted for assessment of individuals’ motivation to make behaviour changes, as well as being utilised to aid intervention design with respect of tailoring interventions to specific stages of change. West (2005) suggests that a new model of behaviour change is needed to account for discrepancies between people’s desired behaviour (i.e. to smoke) and the behaviour they know they ought to follow (i.e. not to smoke) that occur “*under specific circumstances*” (p. 1038). Therefore “*a new model of change needs to describe what these circumstances are and how an individual’s desires and values are shaped and changed*” (West, 2005, p. 1038).

Another model of behaviour change which has been frequently used to assess either weight change attempts or changes in weight related behaviours (diet and exercise) has applied theories such as Self-Determination Theory (SDT) (Deci & Ryan, 1985) which suggests that motivation to change behaviour runs along a continuum from amotivation to intrinsic motivation as shown in Figure 2 below.

Figure 3: Model of Self Determination Theory. Adapted from Deci & Ryan (1985)



This model proposes that stronger self-determined motivation leads to more positive psychosocial and behavioural outcomes. Based on this model, Gillison et al (2006) suggested that while exercising in order to improve health, fitness and social relationships and provide enjoyment is *internally* motivated, exercising to improve physical appearances and lose weight is *externally* motivated. The authors further suggest that externally motivated exercise (e.g. when pressured by others) is more likely to be perceived negatively by the individual, so making it more likely for them to resent the fact they need to exercise. This in turn is thought to draw their attention to their physical self, thus resulting in ‘Social Physique Anxiety’ (SPA), particularly among a youth population where increasing importance is put on physical appearance (Gillison et al., 2006). This hypothesis was supported among a sample of 580 British school children; those who perceived there to be an external pressure to lose weight, such as from peers or parents, were more likely to experience Social Physique Anxiety. This model has also been applied to assess children and adolescents’ attitudes to physical activity in an American ‘at risk of overweight’ minority sample. This study found that participants who perceived themselves to have *support* rather than *pressure* from teachers and parents in their exercise bid experienced greater autonomy, competence, and relatedness: which in turn led to greater satisfaction of their psychological needs in relation to exercise enjoyment (Vierling, Standage, & Treasure, 2007), an important finding in relation to child and adolescent exercise interventions. These findings suggest that being pressured into exercise (extrinsically motivated) results in more negative psychosocial outcomes, while those being supported in physical activities experience greater enjoyment and more positive psychosocial outcomes.

2.7 Qualitative studies of obesity in childhood and adolescence

The findings discussed so far in this chapter have all derived from quantitative studies and, as has been shown, suggest no strong support for hypotheses relating obesity to negative psychosocial outcomes in children and adolescents. Qualitative methodology is often used to gain further understanding of subject areas that are not fully explained by quantitative methodology (See chapter 3).

The literature search revealed a small number of articles which adopted, or described, a qualitative methodology. However, the extent to which they contribute to knowledge on the experiences of obese children and adolescents varies for a number of reasons. This section will outline these studies, in terms of methodology and quality, whilst discussing their contribution to the topics previously discussed.

The studies cover a number of areas. Several focus on parents' perspectives relating to concerns about their children's obesity and its impact on their lives (Edmunds, 2008; Jackson, Wilkes, & McDonald, 2007; Styles, Meier, Sutherland, & Campbell, 2007; Zehle, Wen, Orr, & Rissel, 2007), or their perceptions of an obesity intervention (Stewart, Chapple, Hughes, Poustie, & Reilly, 2008). While the information that these studies gathered is undoubtedly important, given the influence that parents can have on child and adolescent health behaviours, they do not provide accounts of how children and adolescents actually experience their size. Rather they focus on the parents of obese children and adolescents, based on the premise that understanding their perspectives and experiences will help both parents and clinicians, as well as improve weight change interventions with this population. For example, a UK based study of 58 parents aimed to investigate the social impact that having an overweight or obese child has on the family (Edmunds, 2008). Thirty-eight interviews were conducted with individual parents, and 10 with both parents present, on topics such as: their child's weight history from pregnancy to interview date; family weight histories, self-help strategies, and societal interactions. Further, participants were asked to expand discussion to include: how they felt about their child's overweight; whether they were aware of their children being bothered by their weight and whether anyone such as friends, teachers, or clinicians, had commented on their

child's overweight amongst other areas. This study reported that the reactions of others towards both the parents and their overweight children, were a major area of concern for the majority of the parents interviewed. The ability to buy clothes that fitted and 'looked nice' (Edmunds, 2008, p. 196) was also reported to be challenging.

Other studies have focused on children's and adolescents' perceptions of their own and others' overweight (Dixey, 1998; Hoerr, Kallen, & Kwantes, 1995; McCabe, Ricciardelli, & Ridge, 2006; Mooney, Farley, & Strugnell, 2009; Wills, Backett-Milburn, Gregory, & Lawton, 2006). However participants in three of these five studies were of mixed weights so not just obese, and only one of these studies reported the average BMI of participants (McCabe et al., 2006) and these participants were not obese. One interview based study did specify that some of the 13-14 year old participants were overweight or obese and compared them with non obese participants (Wills et al., 2006). This study aimed to identify what the adolescents believed were the main causes of overweight and body size, the consequences of being overweight, their experiences of trying to lose weight and how being overweight or dieting impacted on their social interactions with others. It found that the experiences of participants were complicated and not always related to weight status. For example, some of the normal weight girls were as concerned about their bodies, and attempting weight loss, methods similar to a few participants who were significantly obese. This is consistent with the quantitative research that has reported that being aware and concerned by body size is a stronger predictor of negative psychosocial outcomes than actual body size (e.g. Pesa et al., 2000). The Wills et al (2006) study also reported that a number of overweight and obese participants appeared to have accepted the body size they were, even though some of these participants had made weight loss attempts.

Qualitative methodology has also been used to investigate the experiences and perceptions of children and adolescents in relation to weight loss behaviours such as diet and exercise (Bauer, Yang, & Austin, 2004; Daley, Copeland, Wright, & Wales, 2008; Gosling, Stanistreet, & Swami, 2008; Snethen & Broome, 2007; Thomas, Hyde, Karunaratne, Kausman, & Komesaroff, 2008; Thompson et al., 2003; van Exel, de Graaf, & Brouwer, 2006). Of these seven articles, five provided little or no information about the weight status of the participants,

making it impossible to discern if the experiences and perceptions reported were those of obese or ‘normal’ weight children and adolescents. Only one article alluded to some participants being obese, three having been recruited from a summer camp for obese children and adolescents (van Exel et al., 2006); the other 110 participants were recruited from secondary schools within the research area in Holland and no mention was made of their weight status. Two articles reported findings related to obesity, although one study included participants aged 16 to 72 years old (mean age 47 years) (Thomas, Hyde, Karunaratne, Herbert, & Komesaroff, 2008). In the case of this study, it is not possible to determine the experiences of the adolescents in the sample as there was no differentiation made between them and adults in relation to their experiences of weight change behaviours. Only one article in this group sampled an obese population of American children and adolescents (aged 8-12 years) for a qualitative study using semi-structured interviews (Snethen & Broome, 2007). The aim of the study was to identify the children’s perspectives of their weight, exercise and health status. Four main themes were identified: ‘intellectual disconnect’ (the children were able to identify healthy eating and exercise practices, yet their actual diet behaviours particularly, were far less healthy), ‘body image incongruence’, ‘social importance’, and ‘exercise comprehension’. The first two of these themes particularly reflect the literature discussed earlier. Many participants were unaware of their body size, with a third of the obese sample reported as perceiving themselves as ‘normal’ weight. The authors note a particular participant who typified this disconnect:

“wearing a t-shirt stretched tight over a protruding abdomen, regarding his weight: ‘I like my weight, because I am the normal weight of a junior high school kid, which I am and I feel really good about that’” (Snethen & Broome, 2007, p.144).

Qualitative methods have also been used to evaluate participants’ experiences of weight loss interventions (Alm et al., 2008; Holt, Bewick, & Gately, 2004; Robertson et al., 2008). Although one of the studies (Alm et al., 2008) did report obese adolescents’ perceptions of barriers and facilitators to weight loss attempts, the fact that the sample was not recruited from the general population, means their experiences may be different from those in the general population who either did not have access to similar support, or were not effected enough by their body size to seek treatment. Regardless of this, among

the 18 adolescents who participated in the telephone interviews for this study, females were generally motivated to make weight change attempts to improve their physical appearance and social acceptance whilst males wanted to develop a more muscular physique and improve agility for sports. Although physical activity was discussed, females associated more restrictions with being active such as safety concerns and embarrassment associated with wearing work out clothes such as shorts and t-shirts - males did not feel restricted by these. Successful behaviour change for both males and females was associated with social support from family, friends and coaches and the setting of concrete goals that were broken down into small, manageable components. In contrast, those who reported being unsuccessful in changing their behaviours were more likely to describe vague or 'all or nothing' goals such as stating they would never eat a certain food again (Alm et al., 2008).

One further study was sourced which described itself as being qualitative, although on closer examination findings were based on 'qualitative analysis' of children's narratives to four written questions (Polce-Lynch, Myers, Kilmartin, Forssmann-Falck, & Kliwer, 1998). This study did not detail the weight status of the adolescent participants. Its focus was on how able they felt to express their feelings to others, and how their body image impacted self-perceptions and how this subsequently impacted on their self-esteem. Specifically, the study found that female adolescents' feelings about themselves were more often affected by their changing feelings towards their bodies, i.e. if they were having a 'good day' or a 'bad day' (Polce-Lynch et al., 1998). The data collection methods used in this study, whilst allowing for participants to air their own views on aspects relating to their obesity, may have restricted the potential richness of data that could have been gathered via more in-depth interviews or focus groups.

Finally, a small number of studies have attempted to assess the lived experiences of obese children and adolescents in relation to their weight (Smith & Perkins, 2008) and weight loss (Lieberman, Robbins, & Terras, 2009). However, the first of these reported a pilot study, only involving three participants aged 16-18, all of whom had been part of an intervention (although the aim of this intervention was not described except to say it involved nutrition and exercise programmes). This study used a method whereby participants were asked to tell their story from *"a time when they first experienced themselves as*

overweight and then describe the unfolding events” (Smith & Perkins, 2008, p. 391). It reported that these participants were aware of their size from an early age although even among these three participants, the extent to which they were aware, appeared to vary, with one stating that *“it hit me, I was so much bigger than others”*, whilst another described noticing *“I had a bigger belly”* than others (Smith & Perkins, 2008, p. 391). This study also reported participants’ struggle to stick to weight loss methods, their experiences of being teased by others, as well as a desire to have a relationship with the opposite sex (although two of the participants were reported as having had a recent relationship that had ended). However, this paper only captures a few who were aware of and concerned about their size, and does not consider those unaware, or unconcerned.

Of great interest to this study is the final qualitative paper sourced. This was an American study which aimed to compare the experiences of adolescents who had maintained a weight loss over at least two years, with those who had continued to gain weight over the same time period (Lieberman et al., 2009). However, this study again used a sample recruited from an adolescent health centre rather than a general population sample, although there was no information provided as to why participants were attending this health centre. It was reported that a systematic, randomised method was used to examine adolescents’ case notes and select those who met the weight criteria of the sampling - that there was *“a record of at least 2 years of BMI measurements since the age of 12”*. Data were collected using both focus groups and individual interviews, with the focus groups used to develop initial themes before more in-depth exploration via individual or, on occasion, paired interviews. This study reported that of the 22 African-American adolescents included in the final analysis, little difference was found between the weight losers and weight gainers in relation to their behaviour, attitude and knowledge of healthy diet and exercise behaviours. However, the groups differed in relation to experiences, with six of the 10 weight losers reporting a *“transformative experience”* (Lieberman et al., 2009, p. 443) such as joining a sports team, having a medical conversation with doctors, or realising a desire to run around like peers playing basketball. However, two weight gainers also reported *“transformative experiences”*. For one, this was becoming religious and subsequently accepting the size he was; for

the other, it was becoming insulin resistant which led to a diet change, but not an increase in exercise and so her weight continued to increase. The main difference between the two groups was physical activity levels, with the weight losers doing more than the weight gainers. However the families also appeared to be influential, with weight losers reporting greater familial support for weight loss activities whereas the families of weight gainers were described as being supportive of their adolescents' overweight.

Interestingly, as can be seen, the majority of these studies were conducted post 2000, demonstrating the recent increase in adopting qualitative methodology in an attempt to further understand child and adolescent obesity related life factors. Whilst a few attempt to describe these factors, they either have very few participants, or only capture those from a clinical or treatment seeking population. More research is needed on the experiences of those who are obese within the general population.

2.8 Conclusions

The aim of this chapter was to identify and review literature relating to the experiences of obese children and adolescents within the general population (non treatment seeking). This literature is extensive, thus particular focus was paid to reviews of research associated with the most frequently reported psychosocial and behavioural correlates of child and adolescent obesity. Specifically these related to stigmatisation, discrimination and victimisation, body image and body dissatisfaction, depression and self-esteem. In addition, attention was drawn to the variation in body size awareness among obese children and adolescents before consideration of motivating factors and processes associated with weight change behaviours.

Whilst the literature suggests that obese children and adolescents are as likely now as they were 50 years ago to be stigmatised by others, there has been no consistency in findings relating to the psychosocial impact of being obese. There is an indication that body dissatisfaction increases with BMI, but that this does not necessarily translate into low self-esteem or depression in the general population. However body dissatisfaction is also often reported by normal weight adolescents suggesting that body dissatisfaction is not entirely due to actual

body weight. No clear relationship has been found between obesity and depression, with those obese who experience depression, likely to be affected by other life events such as shaming experiences and weight and shape concerns, which also occur in non obese populations. Similar inconsistencies have been reported in relation to self-esteem, where treatment seeking obese have been found to have low self-esteem whereas obese children and adolescents in the general population have comparable levels of self-esteem to non obese children and adolescents.

In relation to behavioural experiences such as victimisation, many obese have been found to describe such experiences. However, non obese adolescents have also reported experiencing weight related teasing, and whilst being victimised has been related to poor psychosocial outcomes, being obese is not the only risk factor for being victimised.

One reason why obese children and adolescents do not all have poor psychosocial outcomes may relate to how aware of their size they are, with studies reporting that overweight and obese children and adolescents frequently miss-rate themselves as normal weight or underweight.

Research has suggested that weight change behaviours are adopted as a result of low self-esteem, depressive symptoms and body dissatisfaction. However, as demonstrated, these factors are experienced by non obese as often as obese individuals. In many studies, the strongest predictors of weight change attempts were perceptions of overweight followed by actual body weight.

Perhaps in response to these inconsistent findings, there has been an increase in qualitative studies investigating factors associated with obesity in children and adolescence. However as yet, these studies have either been small in nature, have not adopted full qualitative methodologies, have been focused on parents rather than children and adolescents, or have not attempted to answer those questions that still remain after quantitative analysis. The remainder of this thesis will discuss the adoption of qualitative methodology to investigate experiences associated with being obese during adolescence and to identify any differences in the weight-related behaviours of weight losers, maintainers and regainers in adolescence and young adulthood.

Chapter Three - Methodology

3.1 Introduction

This chapter begins with a consideration of methodologies which could have been adopted to meet the aims of this study. This is followed by descriptions of how the chosen methods were applied and how the data were collected and dealt with.

3.2 Study aims and research questions

3.2.1 Aims

The aims of this qualitative interview-based study of young adults were to achieve a greater understanding of adolescent obesity and of factors that may have led to a significant weight loss during or since adolescence.

3.2.2 Research questions

1: How did young adult males and females who had been obese in adolescence recall their adolescent experiences?

The main aim here was to investigate what it was like to have been obese as an adolescent and more specifically whether, and if so how, obesity affected a broad range of aspects of adolescent life including well-being, friendships and opportunities. An additional question was whether experiences were gendered.

2: What differences in weight-related behaviour in adolescence were there between those who became non-obese (or managed to lose substantial amounts of weight), and those who maintained or increased weight during adolescence?

The main aim here was to compare those young adults who became non-obese or decreased their obesity during adolescence with those whose obesity was maintained or increased, in order to enhance understanding of motivations and methods leading to substantial weight loss.

3: What differences were there between those who maintained their weight loss into adulthood, those who regained weight as adults and those who lost weight post adolescence?

3.3 Methodological considerations

This section will discuss reasons for using qualitative methods versus more quantitative techniques, before going into greater detail about the use of interviews as a research tool. Reasons for using retrospective accounts are also discussed, and the potential sensitivity of research within the area of personal experiences of obesity is acknowledged.

3.3.1 Why use qualitative research methods?

Epistemology refers to “*the nature of knowledge and how it can be acquired*” (Snape and Spencer 2003, p. 23). Within social research, there are two main, but not exclusive epistemological positions from which research methods stem. These positions, Positivism and Interpretivism, strongly guide the selection of research methods used.

Within Positivism, only those occurrences that can be physically observed through the senses, what Sarantakos (1998) refers to as ‘Reality’, can be accepted as knowledge. Reality, from a positivist perspective, is said to be independent of human consciousness, objective and measurable, and fixed by laws that are natural and unchangeable. Therefore, if a phenomenon is not directly apparent through experience or observation, or indirectly obvious through the use of instruments, it is not real or empirical in a scientific sense (Bryman, 1992; Snape & Spencer, 2003). Positivism is therefore based on the belief that methods and procedures typically employed to investigate the natural sciences, such as quantifiable laboratory experiments, are also appropriate when researching the social sciences (Bryman 1992). Through such methods, knowledge is gathered “*inductively through the accumulation of verified facts*” with hypotheses “*derived deductively from scientific theories to be tested empirically*” (Snape & Spencer, 2003, p6). This means that constructs

such as 'feelings' or 'subjective experiences' are not classified as knowledge unless they can be quantifiably observed (Bryman, 1992).

In contrast, Interpretivism, linked to early writings of Immanuel Kant (1724-1804), is grounded in the belief that knowledge of the world can be gained through other means than direct observation (Snape & Spencer, 2003). Kant suggested that this was through people's interpretations of what their senses tell them and that *"knowledge of the world is based on 'understanding' which arises from thinking about what happens to us, not just simply from having had particular experiences"* (Snape & Spencer, 2003, p.6). The social world is therefore understood, or interpreted, through the eyes of the people in it, and therefore Interpretivists disagree that methods used to study the natural sciences are appropriate as social research methods. Generally, it is with these beliefs that qualitative research methods are associated, emphasis and value usually being put on the individuals' interpretations of their world, as well as the researcher's own interpretations and understandings of those being observed (Snape & Spencer, 2003). Qualitative research is often termed 'naturalistic', thus it embraces the environment in which the research is conducted, rather than trying to impose an unnatural environment on an individual. For example, conducting a qualitative interview face-to-face in a persons' home or chosen environment rather than requiring them to participate in a computer based experiment in a lab situation.

The middle ground may be found in a concept put forward by Max Weber (1864-1920), who, after being influenced by Wilhelm Dilthey's concept of 'Understanding' (or Verstehen), tried to find a way in which both Positivist and Interpretivist positions could work together (Snape & Spence 2003). He believed that whilst the positivist approach to gaining knowledge was important, it did not allow for a full understanding of people's lives. One epistemological position that embraces both quantitative and qualitative research methods is that of Pragmatism, which suggests that knowledge should be gained by using the research methods most able to answer the research questions. Thus either qualitative or quantitative methods may be chosen depending on the type of knowledge that is sought (Snape & Spencer, 2003).

As has been shown in the literature review, there is still much to be known about adolescents' experiences of being obese. Research in this area is predominantly quantitative and often fails to provide the full picture of what such adolescents experience. Since qualitative methods are most frequently used to interpret and understand people's actions (Sarantakos, 1998), they may provide further insight into adolescents' experiences than can quantitative methods.

Rather than investigating a specific hypothesis as in quantitative research, qualitative methods generally ask broad questions (Fossey, Harvey, McDermott, & Davidson, 2002). They may be used as a preliminary investigative tool to gain insight into a topic where little or no data exists, in order to formulate more quantitative methods of investigation with larger samples. The ability of qualitative methodology to tap into previously unexplored areas has consistently been argued to be one of its main strengths (Britten, Jones, & Stacy, 1995). Qualitative methods can also be used to follow up on a quantitative investigation, in order to unpick and further understand findings.

As qualitative methodology provides scope for the generation of contextual ("*describing the form and nature of what exists*") and explanatory ("*examining the reasons for or associations between what exists*") (Ritchie, 2003, p.27) data, it lent itself to the aims of this study which were to investigate further what adolescents' experiences of obesity were.

3.3.2 Qualitative research methods

There are a number of different qualitative research methods. Generally these methods have two main functions; to gather naturally occurring data and generated data. Naturally occurring data "*is an 'enactment' of social behaviour in its own social setting*" (Ritchie 2003, p. 34) and contrasts with generated data, which is a recounting of social behaviour for the purposes of a research study.

Methods used to collect naturally occurring data include observation and participant observation, documentary analysis and discourse analysis. Briefly, participant observation is where the researcher attempts to become part of that

which they wish to observe, such as becoming emerged in a different culture or civilisation. This allows the researcher to observe and participate in events as they happen, which may lead to greater understanding of the event (Ritchie 2003). Observation is less involved than participant observation, and involves the researcher being on the outside, looking in at an event or experience. This method is beneficial when the event being studied involves more than one person and there may be a wish to observe non-verbal interactions.

Documentary and discourse analysis involve analysing text, although in different ways. Documentary analysis involves examining existing documents both public (e.g. government papers and media reports) and private (e.g. diaries and letters), so as to gain further meaning in their content based on their “style and coverage” (Ritchie, 2003, p. 35). Alternatively, discourse analysis looks at the ways in which people communicate through looking at text and written talk (transcripts) without focusing on the actions of the individual (Mason, 2002).

In relation to this study, whilst gathering naturally occurring data on some aspects relating to adolescents’ experiences of being obese may have been possible, it would not have provided the kind of data required to would answer the research questions of this study. For example, it may have been possible to conduct observations of obese adolescents within school or social situations, although not as a participant observer. However, it would not have been possible to gain information about how they felt in relation to their experiences without directly asking them. Thus such observational methodology may have provided clarification that they experienced weight related teasing, but not how they felt about it. Further, it may have been possible to gather and analyse diary data about their experiences and conduct discourse analysis, but this would not have allowed for probing of their written recordings without organising further data collection. Whilst discourse analysis could have been used to analyse the interview transcripts, as this form of analysis focuses on “*what the content and structure of the discourse conveys*” (Ritchie, 2003, p. 35) its ability to fully answer the research questions would be limited since the focus is not behavioural.

In contrast to methods used to gather naturally occurring data, are those employed to collect generated data. These methods include: biographical

methods, individual interviews and focus groups. Biographical methods are considered the most ‘natural’ of the generated data methods as they involve listening to participants’ *“life stories, narratives and recounted biographies”* (Ritchie, 2003, p. 36) and are especially used to understand life experiences. Individual interviews are perhaps the most widely used method in qualitative research, and were selected for use in this study because of their ability to gather detailed data relating to individuals’ personal experiences and perspectives (see section 3.3.3 for further discussion and application in this study). Finally, focus groups involve groups of individuals, usually between four and 10, to collectively discuss their perceptions and experiences of a given topic. They are useful in assessing how groups of people talk about certain topics and have been used substantially in market research (Ritchie, 2003). Although it may appear that they are an opportunity to gather data more quickly than individual interviews, they are perhaps not suitable for research on more sensitive topics where participants may feel uncomfortable divulging experiences of a sensitive nature. As this research study had the potential to evoke negative experiences, it was felt that this method would not be appropriate. Also, as there was the possibility that participants may have been unaware of their body size, but that this would not be known until meeting them, planning to interview these ‘unaware’ participants together would have been difficult.

3.3.3 The use of interviews as a research tool

For the purpose of this study, semi-structured interviews were deemed the best data gathering method. Interviews can be categorised as a ‘generated data’ method which particularly allow insight into people’s perspectives and beliefs associated with their own experiences (Ritchie, 2003). They have been referred to as a type of ‘guided conversation’ where the researcher listens *“so as to hear the meaning”* of what the participants say (Rubin & Rubin, 1995, p. 7). It has been suggested that interviews are the best method to employ when in-depth, personal perspectives on a given issue are desired (Lewis, 2003), capitalising on the richness of people’s responses while allowing for as complete and detailed an understanding as possible of the topic being investigated (Britten, 1995; Inglis, Ball, & Crawford, 2005). Interviews may also be the best method when

the aim of the research is to conduct a detailed exploration of complex and delicate issues, or where it is important to relate various issues to the interviewee's personal circumstances. Further, they benefit topics where the issues elicited are to be set within a personal history or experience (Lewis, 2003).

There are three main types of interview which differ by the level of structure, these being: 'structured', 'semi-structured', and 'in-depth'. 'Structured' interviews are the least commonly used in qualitative research, being more commonly found in quantitative based studies. Semi-structured interviews are where the interviewer has a list of questions, or interview guide, to follow. The questions do not need to be asked in the same order and there is scope to probe further and question the interviewee about something which arises of interest but not previously included in the interview guide. However, all questions in the guide are generally asked, and in a similar format in all previous interviews (Bryman, 2004). An in-depth, or unstructured, interview is where the interviewer generally starts by asking one main question such as 'tell me about a time when...' or 'tell me about your experience of...' they then may have a brief set of points to probe with, but the interviewee is able to respond freely, much like a conversation (Bryman, 2004).

In both semi-structured and in-depth interviews, the interview questions take three forms: *"main questions that begin and guide the conversation, probes to clarify answers or request further examples, and follow-up questions that pursue the implications of answers to main questions"* (Rubin & Rubin, 1995, p. 145-146). It is just the level of guidance by the interviewer which differentiates between the two types of qualitative interview.

For the purpose of this study, semi-structured interviews were chosen given that the study was described to participants as being about adolescent life and health although the research focus was more specific thus requiring a degree of structure so as to collect sufficient relevant data in the time provided by participants.

3.3.4 Retrospective accounts

Although it may have been possible to sample currently obese adolescents, it was decided that gaining retrospective accounts from young adults who, on the basis of survey measurements, were known to have been obese as adolescents would be a valid data collection method. This was for both methodological and practical reasons.

The gathering of retrospective accounts is a long-standing qualitative practice, most frequently used in studies following an oral history, life story, narrative or similar methodology. It allows for interviewees to recount and reflect on past experiences without the burden or confusion of events going on around them at the time their experiences were occurring, thus allowing for a clearer understanding of those experiences (Atkinson, 2002). There is debate as to how accurate such retrospective accounts might be, however studies which have compared recalled information with official records have found reasonable validity (Blane, 1996). For example, one study looked to assess the reproducibility of dietary reports over time using the Food Frequency Questionnaire (FFQ). Participants (aged 18-75) completed the FFQ at time one recalling their diet history for the previous one to five years, and again at time two, approximately one year later, recalling the same time period as they had done at time one (Hansson, Galanti, & Berstrom, 2000). This study reported a satisfactory reproducibility of diet histories over time. Although this study was 'recollections of a recollection', so to speak, and not over a long time period, other studies of retrospective accounts over time have also found good accuracy. For example, research assessing the accuracy of individuals' recollections of past occupation information compared to official records, found participants to have an approximately 80% agreement (Blane, 1996). Specifically, one of these studies investigated the reliability of work histories provided by 279 interview candidates compared to a government-run pension databank. Within the 13-year work histories, at least 12 years of agreement were provided by 64% of the sample and at least six years by 88% (Baumgarten, Siemiatycki, & Gibbs, 1983).

Whilst these studies show that in general, recall of retrospective data is good, some research has suggested that accuracy is better for less emotive data, facts

or events such as routine tasks, compared to emotional events such as experience of trauma (Blane, 1996). A number of issues have been highlighted when considering the accuracy of retrospective accounts. For example, accuracy of recollections may depend on what has happened subsequent to the event recalled, recall may be more in line with expert recommendations than actual events, people are more likely to recall accurately *if* an event happened compared to *when* it occurred, and finally, the emotional state of the individual at the time of recall may influence what is recalled (Hardt & Rutter, 2004).

Whilst it is acknowledged that a similar study could have been conducted with currently obese adolescents rather than using this retrospective design, the opportunity to sample on the basis of known, rather than self reported, obesity was felt to outweigh the potential drawbacks relating to retrospective data. Also, it was felt that conducting retrospective interviews would allow for participants to have distance from their potentially negative adolescent experiences as well as enabling them to recount experiences of change during and since their adolescent years. Furthermore, quantitative data from early stages of the ***West of Scotland 11 to 16/16+ study*** provided the opportunity for comparison with the recalled data generated via the qualitative interviews, so allowing for validation. These two aspects were felt to outweigh the possible difficulties of dealing with retrospective data.

As this PhD study involved an interview schedule which began the main discussion by asking participants to describe their typical school day routine, it was hoped that this would aid memory for related events such as diet and exercise behaviours.

3.3.5 Researching sensitive topics

It has been suggested that any research topic is potentially sensitive, depending on what meaning and emotions individuals associate with an event (Lee & Renzetti, 1993). Individual differences may lead some participants to find particular interview topics innocuous whilst others may find them sensitive or difficult to deal with (Lee & Renzetti, 1993) with it being hypothesised that the attributed meaning of a research topic may differ between different social groups (Goyder, 1987). Since the literature suggested that participants may have

had negative experiences related to their adolescent obesity, care was taken to prepare for such eventualities sensitively and effectively during the interview process, without detriment to the relationship with the participant and/or the data collection as a whole.

The potential sensitivity of the study topics was considered in all areas of the research process from the framing of the research topic to participants at the recruitment stage, to the analysis and subsequent reporting of findings in this thesis.

3.3.6 The impact of the interviewer on the research process

One aspect that needed to be considered during the research process in this study was reflexivity, or the impact that the researcher could have on the data collected (Ali, Campbell, Branley, & James, 2004). When utilising qualitative methodologies, it is generally the aim of the researcher to remain as neutral as possible and to have minimum influence over the data collected so as to be sure to obtain the truth as far as possible (Snape & Spencer, 2003).

There are many aspects to be considered with regards to reflexivity. For example, in some research topics, it might be important to have like interview like, such as women interviewing women on topics of domestic violence so as to ensure participants feel secure and un-judged when being interviewed, both for their own comfort but also so that their disclosure is not impacted on by who is interviewing them (Byrne, 2004). With regards to the present study, it might have been beneficial to have an interviewer who was of a similar body size to the participants to avoid their feeling they were being judged by someone who was of a normal weight. As this was not possible, given that there was only one researcher involved in data collection, who was of normal weight, it is something that must be considered when interpreting the data.

There is also the possibility of power imbalance, given that participants came from a wide range of social and academic backgrounds. They may not have wished to have appeared inferior to the interviewer thus restricting how much they may have disclosed about their lives and their behaviours. However, as participants were sampled from a longitudinal study and were familiar with

dealing with researchers on a number of previous occasions it was felt that this impact would be limited.

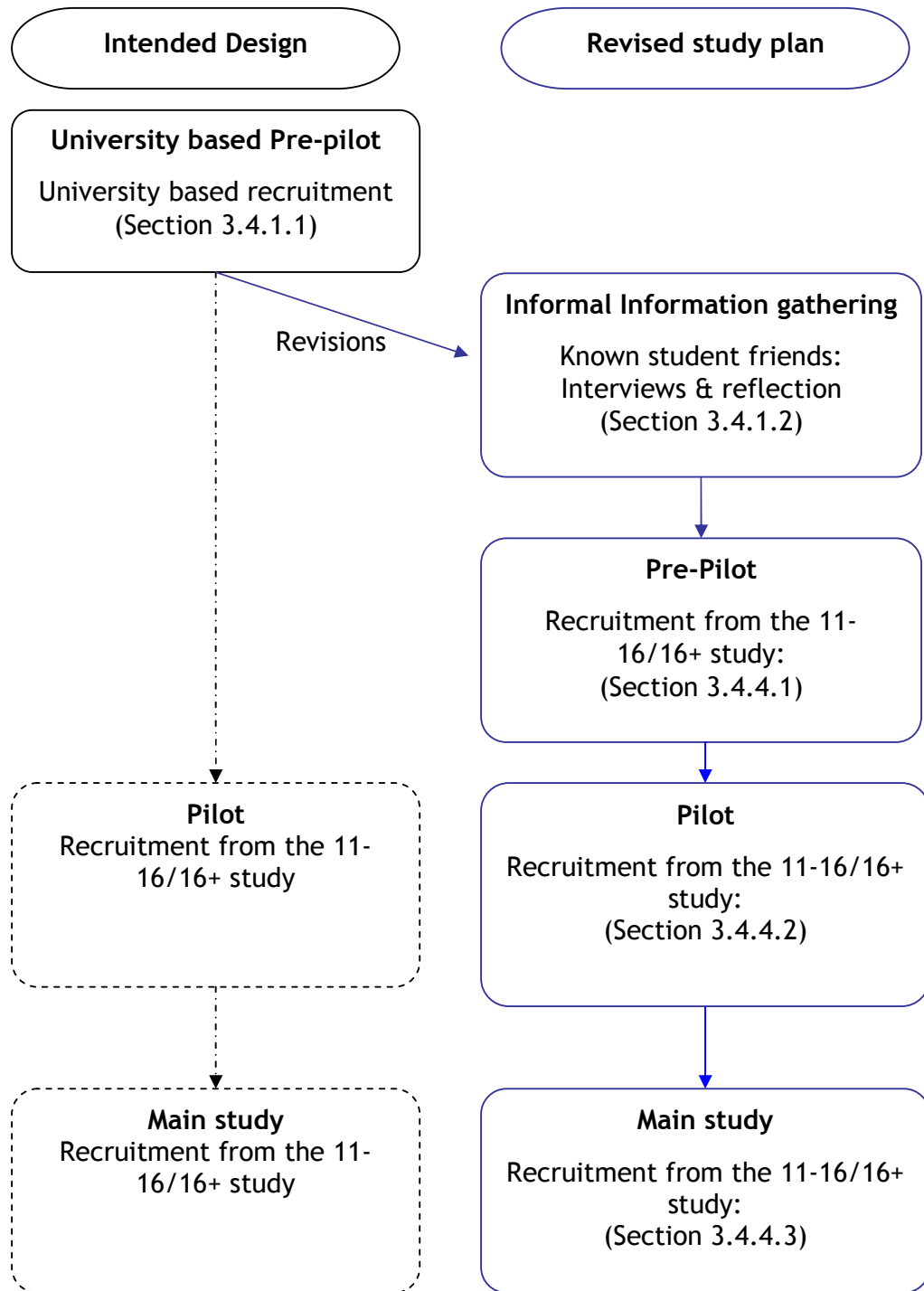
3.4 Research methods

This section will outline the methods used to conduct this study, including discussion of the key research phases, sampling, and topic guide development and implementation.

3.4.1 Research phases

Three phases of data collection were initially planned; a pre pilot study which would recruit participants from University students, a pilot study and the main study, the last two of which would recruit participants from an existing longitudinal study, the ***West of Scotland 11 to 16/16+ Study (11 to 16/16+)*** (see section 3.4.3). Briefly, this cohort had been surveyed on four occasions between the ages of 11 (1984/5) and 19 in person and, in addition, at age 23-4 (2006) by postal survey. Each survey included questions on health, body, life and lifestyle factors, and at each of the four occasions they were surveyed in person, height and weight data were collected. This allowed for sampling for the current study based on past obesity status.

However, after problems recruiting participants from a university population for the pre-pilot phase, modifications were made and participants for all three phases were recruited from the ***11 to 16/16+ study***. These recruitment processes and related problems will be discussed in the following sub sections. To demonstrate the research timeline and process, a flow chart is displayed below (Figure 3) with indication as to where information on each stage can be found.

**Figure 4: Research timeline & process**

3.4.1.1 Planned university based Pre-pilot Study

The main aim of the pre-pilot study was to develop ways in which to conduct individual interviews related to overweight concerns in advance of the main study. As well as aiding development of practical interview skills and techniques, this pre-pilot aimed to develop a weight related language for the subsequent interviews, thus a particular focus was the terms and phrases participants used to describe their own and others' weight and bodies. It was initially planned that this pre-pilot would be conducted with a small sample of approximately six university students who self-reported having had 'overweight concerns as a teenager'. This was because numbers within the **11 to 16/16+** sample who met the criteria for the main study were limited.

Participants were initially sought from Glasgow Caledonian University (GCU) Psychology Department since good relations existed with staff there. Ethical approval was granted from both the Law Business and Social Sciences faculty at The University of Glasgow (GU) (February 2007) and the GCU ethics committee (March 2007) (see Appendix One).

Participants would have been asked about: adolescent overweight related concerns, including how being overweight might have affected areas of their adolescent lives such as well-being, friends or opportunities; whether other people in their lives had an effect on their weight concerns either positively or negatively; and whether they had made any attempt to change their weight to reduce their weight concerns.

To recruit participants, four large first year lectures (two at GCU and, later, two at GU) were attended where the study was presented to students and information sheets (approximately 400) (see Appendix Two) were handed out. These sheets contained information about the study and relevant contact details. Posters were also displayed around both campuses and notifications of the study were posted on the GU Psychology Department Intranet site. Restrictions on emails sent to student groups via academic departments meant that more targeted personalised recruitment could not be used.

Although a large number of university students were contacted, no volunteers came forward to participate in this phase. Three reasons were posited for this failure: the interview topic; the target (student) population, particularly as no reward for participation was offered; and the proximity to the end of the academic year when course work commitments are greater than at other times.

The topic, as described in the information material, may have been the most important reason for failure to recruit at this stage. The recruitment information sheet stated that “we would like to find out what it was like to be a teenager with weight concerns” and that participating would provide them with an “opportunity to discuss your unique knowledge, beliefs, feelings and experiences associated with your weight concerns”. This may have been off-putting to potential participants. Because of this, it was decided that the angle and context for both the interviews and the recruitment should be changed. Where the context for the university based pilot was being obese as adolescents, it was decided that this should be altered to a discussion about the experience of adolescence among those who happened to have been obese (see section 3.4.2 for discussion on context of the study). The unique sampling strategy available to this study (see section 3.4.3) allowed for this.

3.4.1.2 Informal information gathering

After the failure to recruit participants to the university based pre-pilot, informal conversations with five postgraduate students (three males, two females), known through friends, were organised to discuss what they remembered about their adolescent health and health behaviours. These people were approached since their age was similar to those who would be sampled in the main study. As these discussions were informal, there was no set interview guide, however they were asked in similar ways to recount what they remembered about their health as an adolescent, especially their diet and exercise practices. As these participants were known to me, I did not specifically ask about their body size or build, however the majority of them knew roughly what the further study would be about and so discussed this area without prompting.

These conversations suggested that participants in their early twenties were able to discuss adolescent health issues, suggesting that those within the main study would also be likely to recollect such areas of their lives. This meant that an interview schedule similar to that used in the informal information gathering, and related to the study aims, could confidently be constructed.

3.4.2 Setting the pre-pilot, pilot and main study context

After failing to recruit participants to the university based pre-pilot, and conducting the informal information gathering phase, revisions were made to the study focus and the way it was presented. These revisions meant the recruitment and interviews would no longer directly focus on overweight and related weight concerns, as the university based pre-pilot study had. Rather it was designed to focus on the lives, experiences and lifestyles of young adults who happened to have been obese at some point during their adolescence. One reason for this was that some potential **11 to 16/16+** participants had been obese as adolescents but made significant weight losses such that a number were within the normal BMI range by age 19. This meant it was likely that not all potential participants would be obese individuals at the time of the interview. Further, as highlighted in the literature review, research has shown that even among individuals who are obese, not all perceive themselves as such (Brenner et al., 2004; Smith, 2006; Standley et al., 2009). It was possible that potential participants who were either currently not obese, or else did not perceive themselves as such, might regard a study focusing on obesity as not relevant to them. Finally, being obese as an adolescent may not have had a direct affect on the lives of potential participants and so they may not have perceived their experiences to be related to their weight. Based on these factors, the previous failure to recruit participants to the university based pre-pilot, and the informal information gathering conversations, it was decided that since one of the main areas of interest was adolescent weight-related experiences, that this should form the study context.

After ethical approval (see Appendix Three for application) had been sought (30/05/07), and granted (31/7/07) by the University of Glasgow Law, Business, and Social Science Faculty Ethics Committee, participants were contacted to

take part in a study looking at *“Teenage Lifestyles and Adult Life”*. The invitation letter stated that the *“interview will ask about health and things that matter for health, such as diet, exercise, weight, smoking and drinking”*. Potential participants were also informed through the letter that there was a particular interest in contacting those who had an *“above average build at some point in their lives”*. Using this phrase in the letters outlined that the interest was in body size without using potentially negative and off-putting terms such as ‘overweight’ and ‘obese’.

3.4.3 Sampling and recruitment

One of the great strengths of this study was the sampling strategy used, with participants for the pre-pilot, pilot and main study being purposively sampled from the ***West of Scotland 11 to 16/16+ study*** cohort based on their adolescent BMIs, calculated from height and weight measurements collected by nurses. As one of the main areas of interest of this study was on the experiences and behaviours of those who had lost weight in comparison to those who had continued to increase in size, the ability to sample based on known weight status was invaluable.

This cohort was originally surveyed in 1994 as part of the ***West of Scotland 11 to 16 study: Teenage Health***, a longitudinal, school-based study of health and health behaviours in a cohort of children living in the predominantly urban areas in and around Glasgow City. Cohort participants were initially surveyed in (Scottish) Primary 7 (aged 11, n=2586) and followed up in Secondary 2 (aged 13, n=2371) and Secondary 4 (aged 15, n=2196) using self-complete questionnaires. These surveys collected data relevant to the investigation of the social patterning of physical and mental health, the contexts through which teenage lifestyles develop (such as smoking, drug use, or diet) and between-school variations in health and/or health behaviours. An extension known as the ***16+ Study*** followed up the cohort after leaving school via interviews conducted in 2002-4 at age 19 (n=1258). At each stage of the original study and the ***16+*** follow-up, height and weight were measured, so allowing for the calculation of body mass index and overweight/obesity status. Cohort members were also contacted in April of 2006 when aged 22-3 to participate in a postal survey

focusing on body image, body satisfaction and body change strategies such as dieting, as well as basic information on health, health related behaviours and social circumstances (Smith, 2006).

Participants for this PhD study were initially sampled from those 596 participants who returned the 2006 postal. Table 5 shows the number of potential participants among this sub sample of the cohort according to adolescent obesity status (level and duration of overweight/obesity), gender, and social class (non-manual or manual parents at age 11). Obesity status was determined by taking the difference in standard deviation (SD) (how much an individual's BMI deviates from the UK 1990 reference population mean, signified by zero) between their highest and lowest BMI z-score between the ages of 11 and 19. Big weight losers were defined as those with a greater than 1SD loss from the highest BMI Z-score by or before age 19, moderate weight losers as those with a loss of 0.5-1SD, and small weight losers as those with a loss of 0-0.5 SD.

For the pre-pilot, only those participants who had been constantly overweight (i.e. with a BMI z-score between 1.04 and 1.65) between ages 11 and 15, but not at age 19 (three being within normal range and eight being obese), were contacted due to the limited number who had been obese in the cohort. The pilot study recruited from cohort members who had been constantly obese (obese at ages 11, 13, 15 and 19) throughout the longitudinal study period. Finally, the main study primarily sampled respondents who had returned the 2006 survey and who were obese at least once between the ages of 11 and 15. However sufficient participant numbers were not reached sampling from postal survey respondents so a further 10 cohort members, who had been obese during adolescence but who had not returned the postal survey, were contacted from a possible 23 participants who met the weight criteria. The ten were specifically selected to increase numbers of big weight losers and constantly obese since adequate numbers of moderate and small weight losers had already been interviewed. In addition, they were members for whom up to date contact details were held. All 10 were mailed invitation letters but not all ten were contacted by phone. Contact attempts ceased once adequate numbers had been recruited. The final three participants were contacted and recruited in this way.

Table 5: Potential study participants who completed postal survey

Study stage participated in	Weight status	Categorisation criteria	Social Class					Interviewed
			Sex	Non-Manual	Manual	Missing	Total eligible	
Main study	Obese as adolescents but big weight losers	Greater than -1SD loss from max previous BMI z-score	M	7	1	1	9	6
			F	3	1	0	4	2
	Obese as adolescents but moderate weight losers	Loss of -0.5 to -1 from max previous BMI z-score	M	5	2	0	7	2
			F	5	1	1	7	5
	Obese as adolescents but small weight losers	Loss of 0 to -0.5 from max previous BMI z-score	M	3	2	0	5	5
			F	0	8	1	9	6
Pilot & main study	Constantly obese during adolescence	Obese at 11, 13, 15, & 19	M	1	5	1	7	4
			F	8	2	0	10	6
Pre-pilot study	Constantly overweight during adolescence	Overweight at 11, 13, 15 & 19	M	1	0	0	1	1
			F	2	0	0	2	0
	Overweight during adolescence	Overweight at 11, 13 & 15 but not 19. 8 of 12 became obese, 1 remained overweight, and 3 fell to within normal BMI range	M	5	1	0	6	1
			F	4	2	0	6	3
	TOTALS			44	25	4	73	73

Participants for the pre-pilot, pilot and main study were all contacted via an invitation letter informing them of the study about *“health and things that matter for health”* among those with *“an above average build at some point in their lives”*. It stated that they were being given the chance to describe in greater detail aspects of their teenage life that previous survey phases *“had not given people a chance to really talk about”* (Appendix Four). They were also given an information sheet (Appendix Five) stating that *“although we have collected lots of information since you were a teenager, we are seeking more in-depth information now you are grown up.”* This provided information as to what the study involved (that it would be conducted in a place of their choice and should last approximately one hour). The letter informed potential participants that they would be contacted within a few days to ask them to participate, with a minimum of four days between mailing of the invite letters to the first attempt to contact the potential participants by telephone.

Table 6: Pre-pilot, pilot & main study contact statistics

			Pre pilot	Pilot	Main study
Mailed			13	5	65
Reached by phone initially	Refusal	Interviewed	4	4	24
		Too busy	1		5
		Out of country	1		4
	Reached relative but participants unattainable for study	Moved long distance away			1
		Out of touch with family			1
		Deceased			1
Wrong/out of date number - mailed request to contact letter	Participant made contact	Interviewed			3
	No contact		5	1	17
Traced through relatives/other contacts	Participant made contact	Interviewed	1		5
		Refusal			1
	No contact		1		3
Total interviewed			5	4	32

Table 6 shows numbers of letters mailed and the outcome of that mailing for each study stage. The main problem encountered with recruitment was the difficulty reaching potential participants by telephone. This was mostly due to out of date contact details because they had changed address or telephone

numbers (mobile phone numbers particularly being out of date) since last being surveyed aged 19 in 2002-4 (approximately five years earlier). Although remaining members of the cohort were mailed each year at Christmas time with calendars and change of address cards, maintenance of up to date contact details relied on the cohort members. If it was found that contact details were wrong, attempts were made to get in touch via a range of other persons whose details had been previously provided by the cohort members. If this was not possible, further letters (Appendix Seven) were mailed to existing addresses notifying participants that attempts to contact them had been made but due to details being out of date, this had not been possible. They were then requested to either telephone directly or to return a change of details card.

3.4.4 *The interview schedule and interview tasks*

The interview schedule was designed to elicit information on various topics, drawn from the literature, in relation to adolescent life and weight related experiences. As the participants were contacted to take part in a study called “*teenage lifestyles and adult life*”, questions were generally associated with this. It therefore included questions on friends and family, hobbies and interests, concerns as a teenager, and teenage health. Further probes were used where relevant to gain more data on how weight or size related to these adolescent experiences.

In addition to these questions, participants were also provided with a picture task at the beginning of the interview, in order to generate data relating to their perceptions of bodies and health, since this might increase understanding of their weight related experiences. Projective tasks such as this are more often used in focus groups to aid group discussion when there may be members less willing to contribute (Arthur & Nazroo, 2003). However, they are believed to be good ice-breakers, particularly in younger age groups, and are a good first step to stimulating discussion (Arthur & Nazroo, 2003). The picture task was also a method to reinforce the interview context of weight- and body-related health without having to verbalise this to the participants.

Other options for this initial task such as the use of newspaper headlines as discussion tools were considered but rejected on the basis that a visual image

would be more powerful. Internet searches were conducted for suitable photographic representations of males and females of different body sizes, both overweight and normal weight, doing various health related activities. Images were finally selected from a body of pictures frequently utilised by the media (www.gettyimages.com). The images were selected to be as natural in pose as possible with only one person in the frame. The initial set of 13 images represented individuals eating healthily and unhealthily, doing exercise, and smoking (Appendix Eight). After the pre-pilot phase, two further photographs depicting normal build individuals (one male, one female) shopping (a non health related activity assumed to be salient to participants) were also included so that there was a representation of a neutral activity (Appendix Nine). Although an equal representation of males and females was sought, it was not possible to find a picture of an overweight male eating healthily which was not posed, unnatural or cartoon-like within the database being used and so it was omitted altogether.

As both the interview schedule and picture task altered slightly over the three phases of the study, each phase will be taken in turn and discussed in relation to these aspects and the changes made.

3.4.4.1 Pre-pilot study

This phase of the study was conducted between September and November 2007 with five participants (two males, three females) who had been overweight as adolescents (11, 13 & 15). After failure to recruit for the university based pre-pilot study, there was reassuringly little problem gaining agreement from cohort members to participate in the pre-pilot study, with their continued involvement in the longitudinal study appearing to be a motivating factor.

Pre-pilot participants were interviewed using an interview schedule which began with a more narrative approach (Appendix Ten) where they were given the option to retell the story of their teenage life before being asked questions related to the study title of *“Teenage lifestyles and adult health”*. This began with a picture task in which they were asked to *“describe how healthy or unhealthy the people in the pictures are”*, which was followed by asking them to *“tell me what you remember from being a teenager”*. The reason for this was

that it would allow for participants to provide an account of what was most significant to them as a teenager which could then be followed up via additional questions in the interview schedule focused around aspects relating to: areas of teenage life such as activities and hobbies, significant people in their lives (positive and negative), concerns they may have had (school, social or health and body related), and changes since adolescence in areas previously discussed. Participants were also asked to comment on whether the gender of those in the pictures made a difference to their perceptions of the person's health.

The use of the photo task worked well as an icebreaker and at gaining an understanding of participants' health and body perceptions. It allowed participants to become settled into talking to a stranger as well as beginning discussion on the topic of health and weight without focusing on their own health and weight status - initially at least. However, it was felt that the task could be used more effectively to examine perceptions in greater depth, especially since participants talked about certain pictures in contradicting ways. For example, one card (overweight female eating fruit) was described by a female interviewee as looking *"kind of healthy, although the fruit she's eating, she still looks fine for her build"*. She continued to state that *"although someone might be of a bigger size, I don't always put it down to being unhealthy... I think she looks healthy and she looks happy"*. Similarly a male pre-pilot participant referred to the female in this picture as *"pretty healthy, big smile"*. Whilst the task in this case generated a great deal of discussion, some of the pre-pilot participants went into less detail when discussing the pictures, using short responses such as *"A bit overweight maybe. A love of chips"* or *"she looks depressed and she's smoking"* and so it was difficult to gauge their perceptions of the pictures. It was therefore decided that it may be better to force participants to make a judgement on the pictures and then discuss their reasons. On this basis, it was decided to request that the pictures be sorted into categories. Taking the terminology used by participants in the pre-pilot, the categories of 'healthy' and 'unhealthy', and 'happy' and 'unhappy' were decided upon. In discussion of this task with supervisors on the completion of the pre-pilot interviews, other categories were also suggested such as 'like you' and 'not like you' but were not used so as to keep the interview to an acceptable length of time. However, as pre-pilot participants

were also found to discuss the pictures by giving examples relating to them or others they knew, it was decided that the picture task could be used to gain further understanding of their own teenage health, health behaviours and body perception by asking them to select ones that represented themselves as a teenager and discussing their reasons for selection.

3.4.4.2 Pilot study

On completion of the pre-pilot, it was found that the narrative styles in respect of both the photo task and the main interview, were too open and often much of what participants recounted was not relevant to the study. Where a more experienced qualitative researcher may have been able to steer even a narrative based interview towards the areas of greatest interest, this was not possible at this stage of the PhD and as numbers of potential participants were limited it was decided to take a slightly more structured approach. This is reflected in the adjusted interview schedule (Appendix Eleven), which involved participants being told that the interview would follow three main parts, a picture task and discussion of health perceptions, a general discussion of their teenage life and lifestyles and finally discussions of how they had changed since their teenage years. As discussed in section 3.4.4.1, participants were first asked to sort the picture cards into categories 'healthy' and 'unhealthy' followed by 'happy' and 'unhappy', before being asked to select any pictures that represented themselves as a teenager. Participants were asked to give reasons for their categorisations of the pictures and the selections they made to represent themselves as adolescents. This led to the participants being asked to discuss what their health was like as a teenager, before moving into the second part which began with participants being asked to discuss, in as much detail as possible, a typical day whilst at school and at the weekend. This allowed for basic information about their everyday life which was developed by using the same interview topics as the pre-pilot. Finally, participants were asked to discuss how their lives had changed since being a teenager, using similar prompts to the second section.

The pilot study took place between November and December 2007 and involved two males and two females who had been obese at all four measurement times during the *11 to 16/16+ Study*.

These pilot interviews elicited a number of interesting and relevant areas of discussion, and because the interview schedule appeared to work well it was unchanged, apart from the addition of more specific prompts relating to the topics raised. Most notably, areas raised in response to questioning included: changing education or employment circumstances; having greater areas of worry in their lives than their weight; weight-related words being a term of endearment rather than unkindness; and weight as a familial trait.

3.4.4.3 Main study

For the main study phase, invitation letters were sent out in batches of between six and ten a week with 32 (15 males, 17 females) interviews being conducted between January and April 2008.

Since the pilot interview schedule and picture task had proved more effective than the pre-pilot method, and were eliciting sufficient detail, they were unchanged within the main study. The only alteration to the interview format was that up-to-date weight data on participants was collected via Tanita scales so their obesity status could be re-categorised, since it may have changed since last measured approximately five years previously. This was important, since the basis for recruitment was previous overweight/obesity status categories; those who were recruited based on weight loss may have regained weight since last measured and vice versa. As participants had not been notified that this would be involved in the interview process, they were given the option to refuse or to be weighed without being informed of the results if they were more comfortable with this. Only one female participant refused to be weighed even when given the option of not being informed of the results. Participants were also asked if they had grown since being an adolescent, and then asked to self report their height. This was validated against the previous height measurement taken when aged approximately 19 years (little growth would be expected after this age).

In general, this final phase worked well, participants were very forthcoming about their experiences, even when negative. They also appeared able to recount events from their adolescence in considerable detail. If participants were asked about certain aspects such as ‘concerns as adolescents’ and they struggled to recall any such events, it was assumed that they had either had no

concern or it was not salient enough to be recalled by the time they were young adults.

3.4.4.4 Final amendments

As few changes had been made between the pilot study and the main study, it was decided to try and collect weight data on the pilot participants so that their interview data could also be included in the analysis. These participants were contacted by telephone and asked if they would agree to being visited to have their heights and weights measured as had been done in previous study stages. Out of the four pilot participants, three were traced and agreed to measurements being taken. One participant had moved and could not be contacted.

3.4.5 Data analysis

This section will describe the processes used for data analysis of the gathered data: specifically transcription and the background and use of Framework analysis.

3.4.5.1 Transcription

All interviews for this study were recorded using a digital recorder with the exception of one where the recorder was at fault and notes were taken instead. Interview data were removed from the recorder at the earliest convenience and saved to a secure computer file. Recordings were checked for quality and sent using a secure file share website to an independent transcription company to be transcribed verbatim. Once transcripts were returned by this company, they were checked, along with the audio recordings, for accuracy and necessary changes made. The data were anonymised at this stage and pseudonyms given to all participants and any other potentially identifying person or place names.

3.4.5.2 Framework analysis and applying it to the data

Framework analysis is a “*matrix based method for ordering and synthesising data*”. The main stages of this process are shown in Figure 4 and consist of:

familiarisation, identifying recurring and important themes, indexing, charting, and investigation and interpretation (Ritchie, Spencer, & O'Connor, 2003).

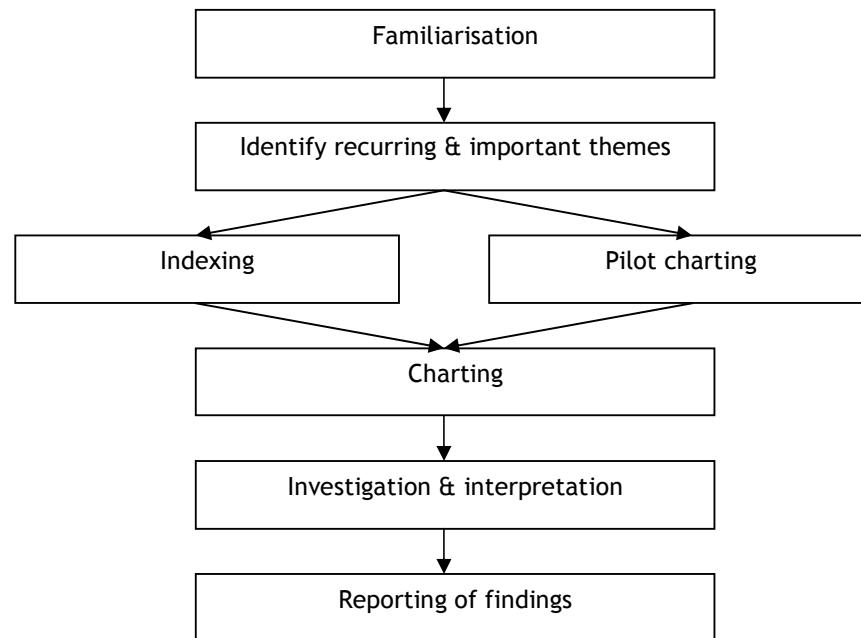


Figure 5: Stages of Framework analysis process

Although a degree of familiarization with the data was gained through conducting the interviews, this was further enhanced by listening to the audio recordings and reading through the transcripts. After transcripts were checked and anonymised they were taken in turn and summarised, picking out key concepts and phrases. This further aided familiarisation with the data, but also meant recurring and important themes were identified. Indexing was performed in two stages: firstly, paper copies of the transcripts were reread and all text relating to themes was identified and manually colour coded; secondly, the transcripts were imported into the Computer Assisted Qualitative Data Analysis Software (CAQDAS), NVivo version 7. Briefly, themes included: weight, body and shape related feelings; victimisation; effectors to body change; diet behaviour; and exercise behaviour. Using the software, the same theme related text was coded as 'nodes', allowing for all data relating to each theme to be grouped together. After the first four transcripts had been coded, the data for each theme was divided into a pilot chart. Here data were further summarised so that

the key points of each theme, for each individual, were listed within a chart (see Appendix Twelve for example). After piloting and reviewing this initial chart with supervisors, the charting process was completed for remaining themes.

Having completed the charting process, the data were far more manageable and the final steps of analysis were possible. These initially involved sorting the data so that all similar content was together and descriptive accounts were produced for each relevant theme in such a way as to help make sense of the research questions. For example, all data relating to experiences of victimisation were grouped together and described. Once descriptive accounts had been produced, explanatory accounts were made by looking for connections between themes and participant groups. For example, gender differences were looked for in relation to experiences of victimisation, and differences in health behaviours such as diet and exercise were examined in relation to weight losers and weight maintainers within the sample.

3.5 Quantitative analysis

Statistical analyses were conducted using SPSS Version 15 and involved crosstabulations to determine how representative those who participated in the present qualitative study were in relation to the original age 11 *West of Scotland 11 to 16/16+ study* cohort (n=2586), and to respondents of the age 22 postal survey. In addition, crosstabulations analyses were conducted to determine adolescent weight worries and related factors, and if earlier weight worries were related to weight status at age 19.

Variables were selected to represent participants' gender, parental social class, obese status at age 11, 13, 15 and 19, their own age 22 economic (working, further education, unemployed/sick/disabled, or travelling) and residential (with family, own home, rented home, halls of residence, barracks, or elsewhere) status. Other variables included in the quantitative analyses represented feelings/worries about health, weight and looks, worries about putting on weight in future, dieting behaviour, experiences of victimisation (teasing and bullying) at ages 11, 13, 15 and 19.

Where analyses compared weight worries to weight change, weight losers were those with an SDS reduction of 0.3 or more which signifies a reduction of half a centile space. Whilst this differs to recruitment sampling, where small weight losers were recruited as those who had lost 0-0.5 of an SD, it was felt that for the purpose of analysis meaningful weight loss was best represented by 0.3 SDS. Weight maintainers were therefore those whose SDS had decreased no more than by 0.29 SDS and those whose SDS had continued to increase during adolescence.

In addition to providing descriptive analyses, chapter four also provides diagrammatic evidence of the weight status of each participant throughout the *11 to 16/16+ study*.

3.6 Individual participant summaries

Appendix Fourteen displays individual participant summaries which include a brief vignette of each participants' family, employment, education, residential, and romantic relationship status as collected during the main *11 to 16/16+ study*, complemented with notes taken during each interview. In addition, individual variables as listed above in section 3.5 are displayed longitudinally, as well as an individual chart of the participants' adolescent and interview weight status.

These charts were constructed using adolescent standard deviation scores which represented the 95th centile on the UK90 growth charts at ages 11, 13 and 15, with the obesity threshold being the 95th centile (1.65 SDS). At age 19 and the time of interview, adult overweight (BMI >25) and obesity (BMI>30) thresholds are used. When shown as SD scores these differ by gender with overweight and obesity among males being represented by 0.6 and 1.9 respectively and among females as 0.8 and 2.0. The gender differences in SD scores is due to gender differences in the mean BMI and population distribution.

3.7 Presentation of results

The following four chapters will set out findings from the present study in order to answer the research questions. Chapter four will discuss quantitative

descriptive results determining how representative the sample interviewed were in comparison to the rest of the **11 to 16/16+** cohort and of obese cohort members who were not interviewed. It also shows examples of the main obesity trajectories among study participants and, via a flow diagram, how participants moved in and out of obesity between the ages of 11 and 19. Chapter five addresses the first research question by describing how aware participants were of their body size during adolescence and subsequently how much being obese during this period led to them being bothered or not by their body size. Chapter six describes findings in relation to the second research question by examining adolescents' weight change behaviours in relation to whether they were successful or failed slimmers. Furthermore the relationship between weight loss behaviours and weight related botheredness is discussed. Finally, chapter seven discusses the transition from adolescence to adulthood and outlines whether their body perceptions and weight related behaviour changed over this period.

Chapter Four – Participant characteristics

4.1 Introduction

The first section of this chapter introduces some basic demographic data on the participants sampled for this study in relation to the *West of Scotland 11 to 16/16+ cohort*. This is followed by analyses including only those cohort members who participated in this study. The first of these is a descriptive analysis of adolescent weight worries and related factors, the second examines whether self-reported worries about weight in early-mid adolescence (ages 11, 13 and 15) were associated with weight status at age 19 (categorised as weight maintainer or loser), finally, there is an analysis of how participants moved in and out of obesity during adolescence.

4.2 Participant characteristics in relation to 11 to 16 cohort

Since the participants in this study were sampled from the longitudinal *11 to 16/16+* cohort (see in Chapter Three), this section describes their characteristics in relation to the baseline (age 11) sample of 2586 participants. As shown in Table 7, the participants interviewed in this study were representative of the age 11 sample in respect of gender. Similarly, there was no significant difference between the participants and the rest of the original sample in relation to social class as measured at age 11. However, there was a trend towards over-representation of those from non-manual backgrounds among the participants.

Table 7 also compares participants with the rest of the cohort in respect of obesity rates at each age. Reflecting the sampling design, with its interests in (a) adolescent obesity and (b) those who became non-obese, the interview sample was much more likely than the rest of the cohort to have been obese at ages 11, 13 and 15, but this was less evident at age 19.

Table 7: Gender, social class and adolescent obesity rates of participants compared to age 11 sample

	Age 11 sample (2586)		(Sig. of Chi Sq)
	Participant N (%)	Non participant N (%)	
Gender			
Male	17 (48.6)	1318 (51.7)	(0.72)
Female	18 (51.4)	1233 (48.3)	
Parental Social class			
Non-manual	19 (59.4)	1009 (43.0)	(0.06)
Manual/semi skilled/unskilled	13 (40.6)	1335 (57.0)	
Obese age 11			
No	8 (22.9)	2301 (90.6)	(0.00)
Yes	27 (77.1)	240 (9.4)	
Obese age 13			
No	7 (20.0)	2092 (89.9)	(0.00)
Yes	28 (80.0)	236 (10.1)	
Obese age 15			
No	6 (17.1)	1891 (90.1)	(0.00)
Yes	29 (82.9)	207 (9.9)	
Obese age 19			
No	16 (45.7)	1000 (82.9)	(0.00)
Yes	19 (54.3)	207 (17.1)	

Tables 8 and 9 compare participants from this study, at ages 11 and 15 respectively, to all those from the **11 to 16/16+ study** who did not participate in respect of weight related variables such as feelings/ worries about health, weight, looks, worries about putting on weight in the future, diet restrictions, and experiences of teasing and bullying. As can be seen, those who participated in this study were more likely to be unhappy with their health, weight and looks, be more worried they would put on weight, were more likely to avoid food to slim down, and were more likely to be teased or bullied. However, what is interesting to note is that for both participants and non participants, these worries, behaviours, and experiences increased between ages 11 and 15.

Table 8: Weight and appearance related feelings, behaviours and experiences of participants compared to age 11 sample

	Age 11 sample (2586)		
	Participant N (%)	Non participant N (%)	(Sig. of Chi Sq)
Age 11			
Unhappy with health	12 (34.3)	395 (15.5)	(0.02)
Unhappy with weight	29 (82.9)	846 (33.2)	(0.00)
Unhappy with looks	25 (71.4)	984 (38.6)	(0.00)
Worry will put on weight	26 (74.3)	927 (36.3)*	(0.00)
Avoid food to slim	9 (25.7)	227 (8.9)**	(0.03)
Ever teased	20 (57.1)	1115 (43.7)	(0.12)
Ever bullied	9 (25.7)	416 (16.4)	(0.14)

*2 missing: ** 6 missing

Table 9: Weight and appearance related feelings, behaviours and experiences of participants compared to age 15 sample

	Age 11 sample (2586)		(Sig. of Chi Sq)
	Participant N (%)	Non participant N (%)	
Age 15			
Unhappy with health	29 (85.3)	1604 (75.0)	(0.17)
Unhappy with weight	32 (94.1)	1482 (69.4)	(0.02)
Unhappy with looks	29 (85.3)	1499 (70.2)	(0.06)
Worry will put on weight	27 (77.1)	981 (45.8)	(0.00)
Avoid food to slim	16 (47.1)	316 (14.8)	(0.00)
Ever teased	25 (71.4)	895 (41.8)	(0.00)
Ever bullied	10 (28.6)	295 (13.8)	(0.01)

4.3 Participant characteristics in relation to postal survey respondents

Where possible, participants for this study were sampled from those young adults who had been obese during adolescence and had returned the postal survey at age 22. In total, 33 participants were recruited from postal survey respondents, with a further three (male) participants recruited from those who had last participated in the **11 to 16/16+** study at wave four when aged 19.

As shown in Table 10, the participants were representative of postal survey respondents in respect of gender and social class. Table 10 also shows that, despite a trend towards over-representation of those who had been in work and correspondingly fewer in education, the participants did not differ significantly from the rest of the postal survey sample in respect of economic status or living arrangements at age 22.

Table 10: Gender, social class, age 22 economic status & age 22 living arrangements of participants compared to postal survey respondents

	Postal sample (596)		
	Participant N (%)	Non participant N (%)	(Sig. of Chi Sq)
Gender			
Male	17 (48.6)	224 (42.8)	(0.51)
Female	18 (51.4)	299 (57.2)	
Parental Social Class			
Non-manual	19 (59.4)	310 (60.7)	(0.89)
Manual/semi skilled/unskilled	13 (40.6)	201 (39.3)	
Economic status age 22			
Working & training	24 (75.0)	322 (61.6)	(0.17)
Higher & further education	4 (12.5)	148 (28.3)	
Unemployed, sick & disabled	2 (6.3)	39 (7.5)	
Travelling	2 (6.3)	14 (2.7)	
Where live at age 22			
With family	19 (59.4)	345 (66.1)	(0.62)
Buy own home	5 (15.6)	66 (12.6)	
Rent own home/halls/barracks	7 (21.9)	106 (20.3)	
Somewhere else	1 (3.1)	5 (1.0)	

4.4 Participant characteristics at time of interview

At the time of interview, 15 participants were living in the family home, eight in their own bought home and 10 in rented accommodation while two no longer lived at home but did not state if they had bought a home or rented. Of those living in their own bought or rented home, seven were cohabiting with a partner, two lived alone and one leased a room to a friend. A further participant reported cohabiting with their partner in the parental home. The majority of participants (25) were in full time employment, with two being in full time

education (although both working part time in addition), one working part time, two unemployed or unable to work due to being incapacitated and the final four not describing their employment status.

4.5 Participant weight related responses from 11 to 16/16+ study

During the *11 to 16/16+ study*, participants were asked questions relating to their feelings (at ages 11 and 13) and worries (at ages 15 and 19) associated with their health, weight and looks (see Appendix Thirteen for copies of questions asked during survey). They were also asked if they had dieted to lose weight, were worried they would put on weight, or believed themselves to be too thin. In addition to this, they were asked if they had been bullied or teased in the year prior to being surveyed. The following tables show the frequencies of responses by participants, differentiated by gender.

4.5.1 Age 11 responses

As shown in Table 11 at age 11, only a third of participants reported being unhappy about their health compared to the vast majority who were unhappy about their weight. Just over half the males were unhappy with their looks compared with over three-quarters of the females.

Table 11: Participant responses to 11 to 16/16+ survey weight, health, appearance and victimisation-related items at age 11 – males and females

	Males N	Females N	Total N
Unhappy about health	6	6	12
Unhappy about weight	14	15	29
Unhappy about looks	10	15	25
Worry will put on weight	12	14	26
On a slimming diet	3	6	9
Teased	10	10	20
Bullied	6	3	9
Total N	17	18	

Approximately three-quarters were worried at age 11 that they would put on weight and approximately a quarter reported being on a diet to lose weight. Over twice as many participants reported being teased as being bullied at age 11, with a trend towards greater experience of bullying among males.

4.5.2 Age 13 responses

Table 12 shows that by age 13, the proportion of female participants who had been unhappy with their health was greater than at age 11, while the proportion of males remained stable. Almost all participants now reported being unhappy with their weight, while slightly fewer females than at age 11 felt unhappy with their looks. At this age they were also asked if they were worried they were too thin. Only one female reported this compared to the majority of participants who reported being worried they would put on weight. Approximately one third reported avoiding food to slim down. Again at age 13 more participants reported being teased than bullied, although by this age, males and females were as likely to report such experiences.

Table 12: Participant responses to 11 to 16/16+ survey weight, health, appearance and victimisation-related items at age 13 – males and females

	Males N	Females N	Total N
Unhappy about health	6	10	16
Unhappy about weight	16	15	31
Unhappy about looks	9	12	21
Worry will put on weight	13	18	31
Worry too thin	0	1	1
On a slimming diet	5	7	12
Teased	13	13	26
Bullied	8	7	15
Total N	17	18	

4.5.3 Age 15 responses

At age 15 (Table 13) a high proportion of participants reported being worried about their health, their weight and their looks. Over two thirds of all participants reported being worried they would put on weight compared to very small proportions who were worried they were too thin. Among females, rates of

dieting at 15 were higher than at younger ages, and significantly more females than males described being on a diet to lose weight. As in early adolescence, more participants reported being teased than bullied, with males significantly more likely to be teased than females.

Table 13: Participant responses to 11 to 16/16+ survey weight, health, appearance and victimisation-related items at age 15 – males and females

	Males N	Females N	Total N
Worried about health	14	15	29
Worried about weight	15	17	32
Worried about looks	14	15	29
Worry will put on weight	12	15	27
Worry too thin	2	1	3
On a slimming diet	4	12	16
Teased	15	10	25
Bullied	4	6	10
Total N	17	18	

4.5.4 Age 19 responses

In late adolescence, worries about health and weight had decreased slightly from earlier years, as had worries about putting on weight. For all three measures, rates were higher among females, the difference in respect of worry about weight reaching statistical significance. A greater proportion of the males reported they were on a diet than at earlier ages.

Table 14: Participant responses to 11 to 16/16+ survey weight, health, appearance and victimisation-related items at age 19 – males and females

	Males N	Females N	Total N
Worried about health	11	14	26
Worried about weight	12	18	30
Worry will put on weight	8	14	22
Worry too thin	1	0	1
On a slimming diet	11	15	26
Ever teased	3	1	4
Ever bullied	0	0	0
Total N	17	18	

By age 19, experiences of teasing and bullying had reduced dramatically, indeed no participants reported having been bullied. Only one male was worried he was too thin at age 19.

4.6 The impact of past perceptions on current body weight

This section will examine whether past worries about weight and putting on weight were related to participants' weight at age 19. For the purpose of this analysis, participants were categorised as weight losers and weight maintainers. Weight losers were those whose BMI standard deviation score (SDS) had decreased by at least 0.3 at some point during adolescence whilst maintainers were those who had no such measured weight loss during the **11 to 16/16+ study**.

It was hypothesised that early weight worries and dieting behaviour would result in weight loss by age 19. However, as shown in Tables 15 and 16, there were no significant differences between those who were weight maintainers at age 19 and those who were weight losers. Table 15 shows that most participants felt unhappy about their weight at ages 11 and 13 and worried about their weight at age 15, but this did not relate to weight loss by 19.

(It should be noted that the questions upon which analysis of weight worries was different at age 15 compared to 11 and 13 see Appendix Thirteen.)

Table 15: Participant responses to 11 to 16/16+ survey weight-evaluation items at ages 11, 13 and 15 according to age 19 weight status

	Weight maintainer N	Weight loser N	Total N
Unhappy about weight - age 11	9	20	29
Unhappy about weight - age 13	9	22	31
Worried about weight - age 15	9	23	32
Total N	10	24*	

*One participant missing

In relation to being worried about putting on weight (Table 16), weight losing participants were actually found to report slightly fewer worries at all ages (11, 13 & 15). Similarly although again not significant, weight losers at all ages were more likely to report *not* dieting (Table 16).

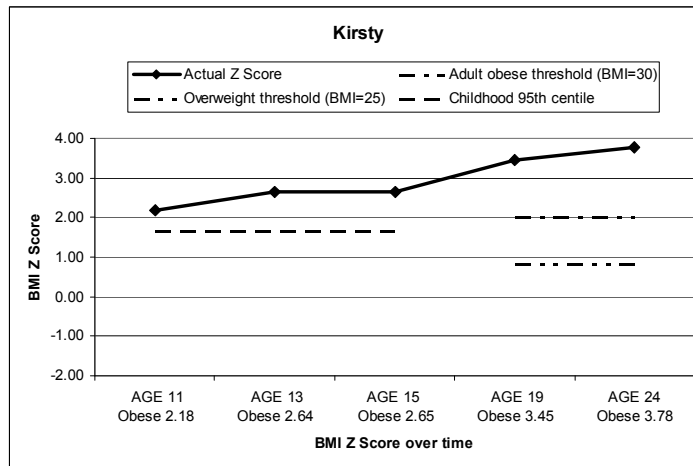
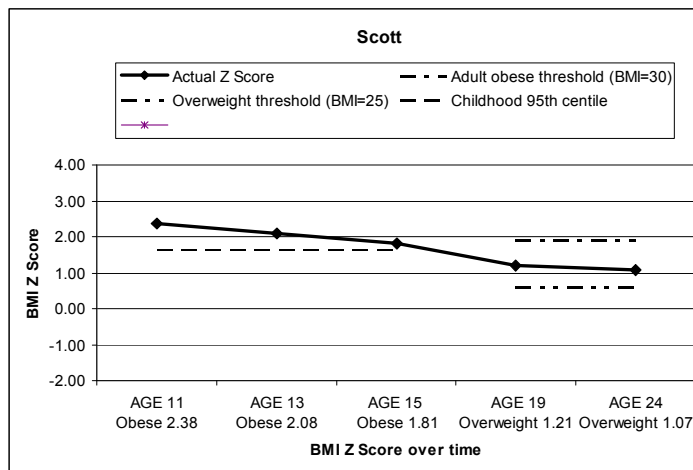
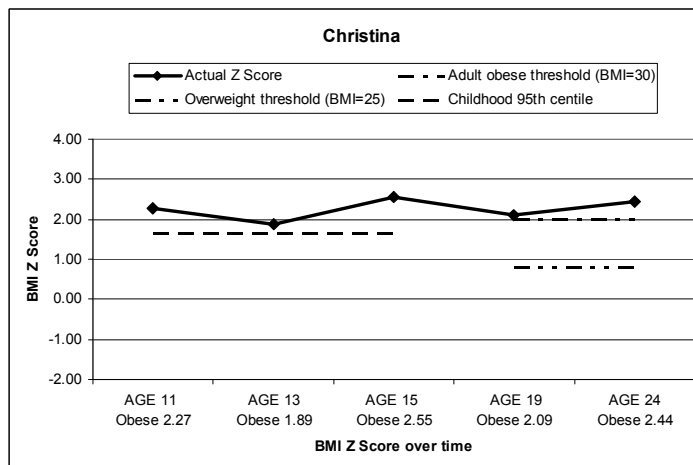
Table 16: Participant responses to 11 to 16/16+ survey weight-worry and dieting items at ages 11, 13 and 15 according to age 19 weight status

	Weight maintainer N	Weight loser N	Total N
Worried about putting on weight			
Age 11	9	17	26
Age 13	10	21	31
Age 15	10	21	31
Slimming diet			
Age 11	4	5	9
Age 13	4	8	12
Age 15	7	9	16
Total N	10	25	

4.6.1 Adolescent obesity trajectories

Among those participants sampled for the present study, there were three main adolescent obesity trajectories - those whose obesity increased steadily throughout adolescence, those who were obese but whose weight steadily decreased, and those whose weight fluctuated throughout adolescence. Each participant's weight trajectory is displayed in Appendix Fourteen alongside their descriptive individual vignettes, and weight related data from the **11 to 16/16+ study**. An example of each type of weight trajectory is shown in Figures 6 to 8.

As is shown in Figure 9, obesity in adolescence was fluid among the participants. For example, five did not become obese until they were aged 15 whilst others' weight fluctuated throughout adolescence. This means that can be difficult to assess from quantitative analyses if feelings and worries about weight had any real impact on efforts to change their weight, making qualitative investigative methods necessary.

Figure 6: Example of continuous weight increase**Figure 7: Example of continuous weight decrease****Figure 8: Example of obesity fluctuation**

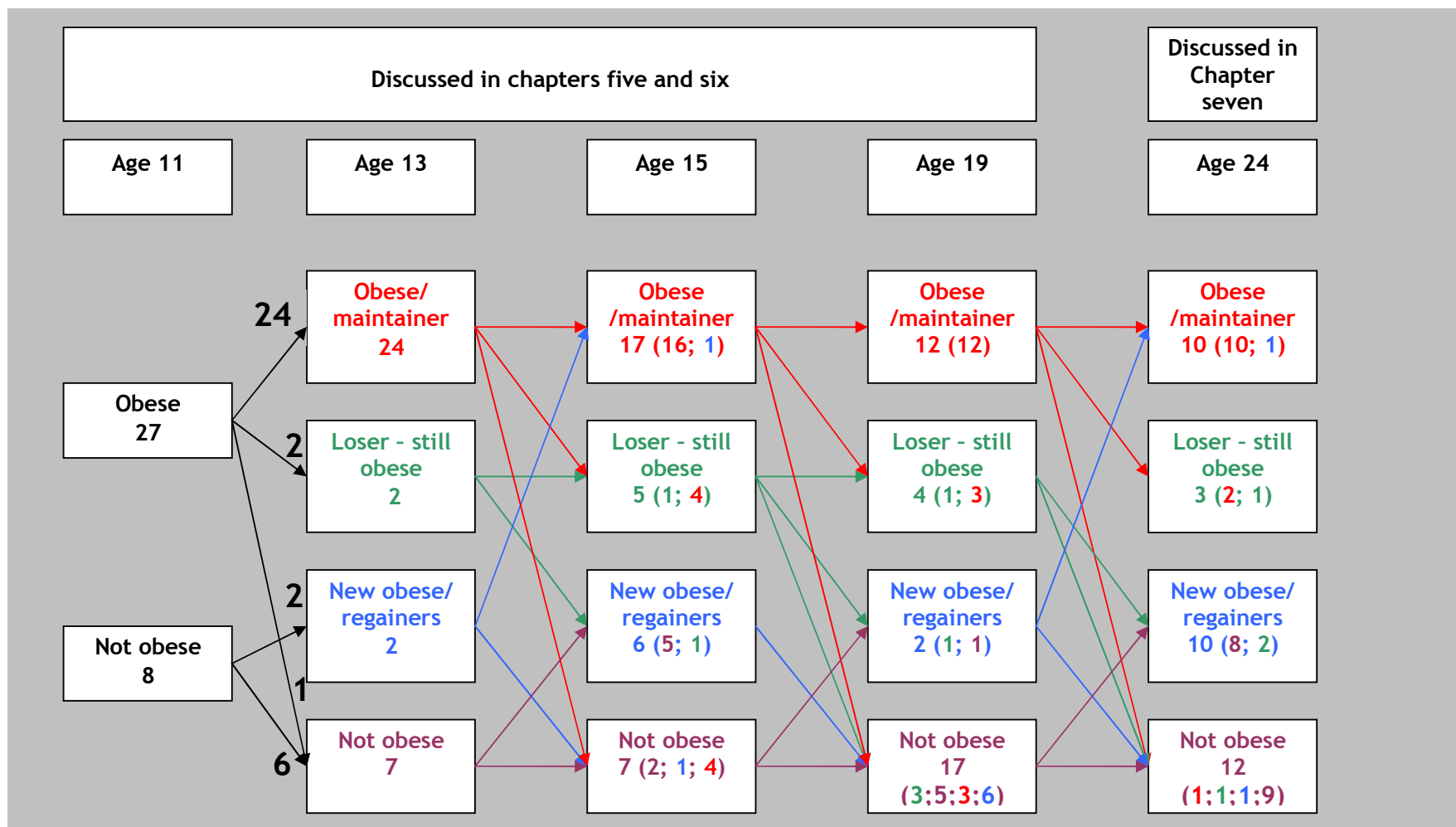


Figure 9: Obese patterning of participants

4.7 Summary

These basic analyses suggest that the majority of participants were worried about their weight and about putting on weight in the future even during early adolescence. However this did not translate into slimming behaviour with most participants reporting *not* being on a diet to slim down until mid or late adolescence.

Reflecting the sampling strategy, participants' weight status followed three main trajectories: continuous weight increase; continuous weight decrease; and fluctuation in and out of obesity.

Chapter Five – Impact of being obese as an adolescent

5.1 Chapter aims

The findings reported in this, and the two subsequent findings chapters, have been drawn from the 35 qualitative interviews conducted as part of the pilot and main study fieldwork periods.

The chapter will begin by describing the participants' body perceptions in relation to their awareness of, and botheredness about, their obesity and related factors. As both botheredness and awareness were found to vary along a continuum, they were grouped into three categories for each (most bothered, bothered and least bothered, and most aware, aware and least aware), for ease of discussion. These groups were determined by relating participants to each other in relation to descriptions that implied botheredness and awareness, as well as taking into account the weight related actions they described such as whether they reported trying to make a change to their body size. In addition, personal impressions that were formed during the interviews have also been used to inform the categorisations and interpretations of the data collected.

The chapter will then continue to explore the factors most frequently discussed by participants as related to their obesity. These comprise: victimisation, low self-esteem, clothing woes, romantic relationships, fear of judgement, self harm behaviours, medical attributions and changes throughout adolescence.

5.2 Participants' weight characteristics

Information relating to each participants' maximum adolescent weight is provided in the form of their maximum standard deviation score (max SDS). Their severity of overweight/obesity has been categorised as shown in Table 17 below.

Table 17: Overweight categorisations by Standard Deviation Score (SDS)

Weight categorisation	Standard Deviation Scores /ranges
Overweight	1.04 to 1.65
Obese	1.65 to 2.00
Very obese	2.00 to 3.00
Morbidly obese	3.00+

Source: Garrow and James (2000)

To contextualise this, as shown in Table 18, two participants, one male and one female had a maximum SDS of 1.66, so were only just obese. Both were at their biggest at age 15 with the male being 1.76m (5' 9") tall and weighing 76kg (11 stone 14lb), whereas the female was 1.54m (5' 1") tall and weighed 61kg (9 stone 9lb). In contrast, there were a number of participants whose maximum SDS was greater than three and who had thus been extremely obese. For example, one of the males with an SDS of 3.14 was 1.62m (5' 4") tall and weighed 86.6kg (13 stone 9lb) with one of the females (SDS 3.08) being 1.54m (5' 1") tall and weighing 78.2kg (12 stone 4lb). Both were aged 13 at their maximum weight.

5.3 Body perception

This section will begin by demonstrating how both participants' awareness of their obesity and their botheredness associated with being obese varied, before discussing the relationship between these two concepts. Further, it will discuss factors relating to how they judged their body size such as physical measurements and comparing themselves to others.

5.3.1 Body size awareness

The language participants used to describe their bodies demonstrated that most were aware of their overweight but also that some were more aware than others. None of the participants referred to themselves as having been obese as an adolescent; instead, they used terms such as, 'overweight', 'fat', or 'big'. This section will give examples of how participants described their body size, differentiating between males and females, with both discussions beginning with those who appeared most aware. As their severity of obesity also varied greatly this will also be considered.

Table 18: Participants' body size awareness by gender

Awareness	Gender	Participants (max SDS)
Most aware	Male	Michael (3.14), Charlie (2.90), Colin (2.68), Neil (2.22),
	Female	Elizabeth (3.73), Anne (3.73), Eilidh (3.08), Sarah (2.86), Patricia (2.82), Catherine (2.37), Emma (2.35), Janine (2.25), Nina (1.82),
Aware	Male	Richard (3.38), Geoff (3.14), Jamie (2.57), Noel (2.46), Scott (2.38), Mark (2.18), Pete (2.17), Matthew (1.91), Chris (1.90), Philip (1.88),
	Female	Lisa (3.79), Kirsty (3.45), Donna (3.24), Jenny (3.24), Christina (2.55), Natasha (2.21), Rachel (1.71), Laura (1.66)
Least aware	Male	Alan (2.06), Malcolm (2.02), Patrick (1.66),
	Female	Clare (1.92)

Table 18 groups participants into three levels of awareness; those who appeared 'most aware', 'aware' and 'least aware' (although there is variation within these three categories), and this is further divided by gender. The discussion of participants in this section will provide examples from each level to demonstrate the variation in body awareness.

Firstly, Table 18 shows that there was no clear relationship between the maximum standard deviations scores (SDS) and those 'most aware' and 'aware'. Nevertheless, it should be noted that none of those 'least aware' had an SDS greater than 2.06 and were thus comparatively small in size compared to some other more aware participants.

Among the males, Colin (max SDS: 2.68) appeared to be one of the most aware describing himself as having *"ballooned out to quite a heavy state"* where he was *"touching 18 stone"* at his *"heaviest"*, and was *"disgusted by myself"*. Similarly, Neil (max SDS: 2.22) reported that he had *"always struggled with my weight"* so he was *"always big [from going to the gym], but overweight as well"*, so appearing to have been very aware of his size. He also used the terms *"chubbiest"* and *"gentle giant"* to describe himself as an adolescent. Although he did use the term obese, it was not to describe himself, but rather that it was a possible weight outcome for people in general, stating *"I think the difference is outside school, whether or not you become overly obese or no"*.

Charlie (max SDS: 2.90) was also very aware of his size, reporting that *"as I got older I got bigger [...] got to about 17, 17 ½ stone"* although he stated that he

had *“always been heavy”* and described himself as being *“ov- massively overw- I was quite a bit overweight”*. Similarly Michael (max SDS: 3.14) recalled *“I wasnae a kick in the arse aff that size, wance”* in reference to one of the overweight examples in the interview picture task (see Appendix Eight). He also related his weight to that of his friends reporting that he was *“always the heaviest and that in the group”* with his weight continuing to increase until he left school.

Appearing slightly less aware than the previous four males, Jamie (max SDS: 2.57) recalled that he had *“pretty much been overweight to some varying extent all my adult life. Basically even from the start of high school”* and was *“always aware of being heavy”*. He recalled that his nickname at school was *“chubby”*, reflecting *“I was a chubby kid, it was, it was a bit of a Ronseal nickname it did just exactly what it said on the tin”*. Richard (max SDS: 3.38) also demonstrated his awareness, reporting that he was *“a big boy”* when at school and over adolescence gained *“more and more weight”*. He reflected that he *“probably coulda done wae losing maybe a stone, a stone and a half - that was aboot it”* suggesting he was aware he was overweight although he also felt that he was big built, stating *“I’ve got broad shoulders and all that - I was a big, I was a big guy”*.

Other males demonstrated awareness of their body size, although to a lesser extent. Their maximum SD scores were, in general, much less extreme than those of the males described above. For example, Matthew (max SDS: 1.91) reported that he *“always carried a bit of weight, [...] always had a bit of a belly”* when he was younger, stating *“obviously I knew I was slightly bigger than my friends”* and that he was *“aware of kinda how I was”*. However, he may not have been fully aware of the extent of his size as he said that *“I was a bit heavier but more muscular”* than his friends. Likewise, Philip (max SDS: 1.88) reported that he had *“times when I was quite fat, in my opinion”*. Also, Chris (max SDS: 1.90) initially stated that he did not have *“a weight problem as such”* although he contradicted this later stating that he *“always felt I was a bit kinda overweight”*.

Another participant, Scott (max SDS: 2.38) described himself as *“never that overweight”* but *“really, really big as a kid”*, even though he frequently referred

to himself as *“bigger than everyone else”* and his maximum SD score suggested he was very obese at his biggest. He also described how he saw this as being *“weight and muscle”* as well as height. Similarly, Pete (max SDS: 2.17) demonstrated he was somewhat aware, by reflecting that he was *“a bit, you know, more overweight than I am now anyway”* and that he recalled that he *“felt I think I was overweight as a teenager”*, however he did not think he was *“incredibly overweight though, you know just a, a little bit”*.

Along with Neil and Jamie, a number of participants used the term ‘chubby’ when describing themselves as adolescents. Noel (max SDS: 2.46) stated that *“even as a, a wee boy at primary school you know, I was quite a chubby, even up to I left school I think I was about 15, 14 and a half stone, so I was quite heavy”* and he reflected that he *“was a wee fatty and that was it”*. Geof (max SDS: 3.14) recalled that he had *“always been big even as a child”* and that he was *“quite chubby”* as a wee boy. He reflected on always being *“a bit heavy”* and when referring to himself in relation to his friends, he stated, *“there’s a few o’ them are quite big and like myself”*. Mark (max SDS: 2.18), referred to himself and a couple of friends as *“wee chubbers”* although also referring to himself as being *“probably about average, a wee bit taller than average and a wee bit bigger and heavier and fatter than average”*. In relation to their maximum weight, these recollections suggest that these males were only marginally aware of their body size.

Finally, Malcolm and Patrick demonstrated very little awareness of body size. Malcolm (max SDS: 2.02) appeared to believe that he had *“a high metabolism so anything I ate I burnt off quicker, so it just get stuck in ma head, I can just eat anything and won’t put on any weight”*. Patrick whose maximum SDS (1.66) only just fell into the obese category suffered from ulcerative colitis and felt the steroid medication he took for the condition impacted on his weight. This awareness was related to not being able to *“fit into as many clothes as I used tae and my mum used to say it was quite noticeable in my face, my face was kinda rounder”* and as a result of this felt he could have *“shed a few pounds”*.

Among the females, Catherine (max SDS: 2.37) appeared to have been one of the most aware of her size, reporting that she could *“gradually feel myself getting bigger at school”*. She reported that she had not always been big, stating:

“I was always quite slim, until I hit high school, and I know they call it puppy fat, but I wish they wouldnae dae that - it’s no puppy fat, it’s fat”.

In contrast Anne (max SDS: 3.73) although morbidly obese, reported that she had *“always been overweight from a child since I was em a toddler”* and that she had *“always been bigger”* and *“never been classed as normal weight”*. However she continued to state that she was initially *“not, hugely bigger, but as I got older it started to get worse”*. She was another of the few who used the term obese, yet again it was to describe someone else, not herself, stating that:

“there was like one girl the year below me was em really obese, was a lot bigger than I ever was when I was at school and I used to think, used to kinda think ‘am I that big, or is she bigger than me?’”

Lisa (max SDS: 3.79) was another who appeared less aware of her size although morbidly obese;

“there was nothing wrong with me for my height and whatever it was all just fine it just- the height just emphasised everything” and reflected that she was “taller then everybody else and, I was heavier.”

Similarly, Donna (max SDS: 3.24) stated *“I’ve always been large, overweight”* however she felt she had an *“active style life as well. I wasn’t all fat as they say”* and she had *“always been, felt kinda fit for it, so it’s not been a life threatening issue”*.

Similarly Kirsty (max SDS: 3.45) recalled that *“when I was a teenager, obviously I was still overweight”* and that among her friends, *“there was two or three aw us that were quite big”*. However during the interview, she reflected that she did not *“think I really had any concept of being big”* which she attributed to never being *“picked on for being big or, no I was never bullied for being ... My friends never used to mention it, and you know, I just don’t think it, it really registered”*. Elizabeth (max SDS: 3.73) similarly reported that she was *“overweight”*.

Emma (max SDS: 2.35) recalled that she was *“bigger than what I am now”* and that she had been *“overweight, and I know that I was overweight”*. She also stated that she and a friend *“were bigger, em, we were the biggest in our*

year”, thus demonstrating her size awareness. Patricia (max SDS: 2.82), also recalled that she had “*at one point [been] a size 20, I was quite big*” and on another occasion referred to herself as having been “*kinda big*”, suggesting that she was unaware of how big a size 20 was, or that she did not want to present herself during the interview as having been that big. She also reflected that “*as a teenager, even though I was heavy, I wasn’t unwell*”. However, she did on one occasion refer to herself as having been “*really big*”. Janine (max SDS: 2.25) felt that she was “*bigger than I should have been*”, but described this as just carrying “*a bit extra, kinda, puppy-fat*”.

Nina (max SDS: 1.82) implied she was aware that she was “*quite overweight*” and “*sort of overweight*”. She felt that she was “*put into the bracket of being overweight and I kinda knew it myself so I was quite paranoid about it*”, suggesting that she was by no means oblivious to her size, although only just in the obese category.

Four other participants showed limited or no awareness of their body size, of whom two were only just obese and none were morbidly so. Laura (max SDS: 1.66), referred to certain body parts as being her main area of concern rather than her total body size. She stated that “*she had always been sorta big chested*” and “*had this wee tubby belly*” and felt that “*the breasts didn’t help, [...] it just sorta emphasised, I think, the belly thing*”. Rachel (max SDS: 1.71) was aware that she was bigger than some people, stating she had “*friends who are lighter than me and friends who are heavier*” and that she “*had a lot of friends who were quite a bit thinner than me, but just a totally different shape*”. However she continued to state it was “*not like that I was fat or anything, it was just ... we were just built differently*”. This contradicted an earlier recollection that “*I thought that I was quite fat*”. Similarly, Clare (max SDS: 1.92) made no mention at all of being overweight, only once referring to noticing that her jeans began to not fit and that she would “*maybe need to lose a few pounds*” demonstrating her lack of awareness. Finally, Natasha (max SDS: 2.21) demonstrated very little awareness of body size simply recalling that “*in 5th and 6th year, like weight went and got an issue for me, you know, like I wanted to lose weight [...] but there was nothing major*”.

5.3.2 *Bothered by body size*

As with body size awareness, participants varied in how bothered they had been by their adolescent body size. This section will demonstrate this botheredness, or lack of, by again providing male and female examples separately, beginning with those who appeared to have been most bothered. As with body size awareness, participants were classified into three main categories for ease of discussion: ‘most bothered’, ‘bothered’ and ‘least bothered’ (Table 19).

Table 19: Participants’ degree of botheredness about their body size and gender

Botheredness	Gender	Participants
Most bothered	Male	Charlie (2.90), Colin (2.68), Neil (2.22), Matthew (1.91), Philip (1.88)
	Female	Elizabeth (3.73), Eilidh (3.08), Sarah (2.86), Patricia (2.82), Catherine (2.37), Emma (2.35), Janine (2.25), Nina (1.82),
Bothered	Male	Richard (3.38), Jamie (2.57), Scott (2.38), Michael (3.14), Mark (2.18), Pete (2.17), Malcolm (2.02), Chris (1.90),
	Female	Lisa (3.79), Anne (3.73), Donna (3.24), Christina (2.55), Rachel (1.71), Laura (1.66),
Least bothered	Male	Geof (3.14), Noel (2.46), Alan (2.06), Patrick (1.66),
	Female	Kirsty (3.45), Jenny (3.24), Natasha (2.21), Clare (1.92),

Although participants have been listed under these three main categories there was, as with body size awareness, variation in the degree of botheredness expressed by participants within each category. Also, and even more so than with awareness, no clear relationship was found between SDS and degree of botheredness with some of those least bothered being extremely obese (SDS > 3) whilst some of the marginally obese (SDS <2) were among the most bothered.

The classification of botheredness was determined by taking three factors into account. Evidence for this classification is provided in Table 20 below. Verbal accounts participants made during the interviews were examined in relation to how they felt about their bodies, how their weight might have restricted their adolescent lives, and how any adolescent experiences, might have related to their bodies (Table 20, ‘verbal evidence’ column). Because there were occasional contradictions between these accounts it was necessary to also

examine descriptions of weight-related behaviours; some accounts may have suggested they were not as bothered as others by their obesity, but descriptions of efforts made to change their weight occasionally suggested otherwise. Accounts of weight-related behaviours are shown in Table 20 ('change evidence' column). Occasional references are made to individual participant's personality or demeanour (Table 20, 'interview attributes' column). This is done more so in subsequent chapters when attempting to understand why some participants put more or less effort into weight change attempts, and why some were more successful than others in described attempts. It is provided here for completeness but is also displayed in the individual participant summaries in Appendix Fourteen.

The final column of Table 20 describes responses participants made when *adolescents* and completing the various stages of the **11 to 16/16+ study** surveys. The variables upon which these descriptions are based can be viewed in Appendix Thirteen, with a fully explanation for each participant displayed in the participants summaries in Appendix Fourteen.

Whilst this data *was not* used to determine participants botheredness for analysis of data in this study, it should be considered in relation to the accuracy of retrospective accounts, particularly among those who indicated they were not bothered during adolescence. For example Kirsty, who is described as being among the least bothered, provided verbal accounts during the interview suggesting she had not cared about her size yet her adolescent responses suggest otherwise. Specifically, during the interview she verbally stated "*when I was younger, it didnae bother me*" and "*I wasnae interested [in exercising] at all: it was just too much like hard work*", which compared to her adolescent responses that she had been 'a bit sad' about weight at 13, 'a bit worried' about weight at 15, and 'very worried' about weight at age 19. Discrepancies between young adult and adolescent responses could be for a number of reasons; they may have wanted to present themselves more favourably during the interview, or be related to how they felt about themselves on the day of interview or survey. These factors will be discussed more fully in Chapter Eight but briefly, all participants had at least reported feeling 'a bit' sad or being 'a bit' worried about their weight at some point during adolescence. This needs to be taken into account when interpreting the following data.

Table 20: Categorisation of botheredness by qualitative accounts and interview attributions in relation to 11 to 16/16+ study quantitative data

Name: bothered?	Verbal evidence	Change evidence	Interview attributions	11 to 16/16+ study data
Colin: most bothered male	<ul style="list-style-type: none"> • “I totally got to the stage where I was disgusted with myself [...] I just hated my appearance. I hated the way I looked, I hated the size I was” 	<ul style="list-style-type: none"> • “I kinda went on a fitness freak stage, and I just constantly, I wasn’t running about and stuff - my exercise would consist of me being in my room, watching my music on really loud and just dancing about [...] if I ate something overly, too fatty then I would, like dance for three hours in my room, non-stop” • “I just tried everything in my power. Even, at one point, I did make myself sick, [...] I would disappear down to the toilet after my dinner, about twenty minutes after eating my dinner” 	Friendly and forthcoming in interview. Animated and appeared confident. Disclosed a lot of information about adolescent bulimia and weight related feelings. Described being particularly determined to lose weight	He felt ‘smiley’ about his health at ages 11 and 13 but worried ‘a bit’ at ages 15 and 19. He felt ‘a bit sad’ about his weight at 11, ‘indifferent’ at 13, and then worried ‘a bit’ at ages 15 and 19. He worried about putting on weight throughout adolescence, but did not avoid food to slim until 19 when watched what ate rather than followed a strict diet.
Neil: most bothered male	<ul style="list-style-type: none"> • “I’ve always struggled with my weight. I was especially worse during school, though. Em, psychologically, anyway [...] ate a lot just to make myself feel better” 	<ul style="list-style-type: none"> • “I didn’t try to lose weight, initially, at all - it didn’t enter my mind. [...] I think I just thought ‘I’ve gotta build up’, em, but because I was labouring, very, eh, intense workout, basically every day” • “I joined the gym at sixteen and kept going, but I’ve always been a big eater. I love my grub. Eh, it’s just the way I am” 	He appeared comfortable being interviewed with a fairly laid back, but friendly personality.	Worries about health varied: he felt ‘a bit smiley’ at 11, ‘indifferent’ at 13, worried ‘a lot’ at 15, but worried ‘a bit’ at 19. Worries about weight increased with age from ‘a bit sad’ at 11 and 13, to ‘worried a lot’ at 15 and 19. He was always worried he would put on weight but only avoided food at age 15.
Charlie: most bothered male	<ul style="list-style-type: none"> • “It [weight] used to really bother me” “I dunno what I was lacking why I could- why I couldn’t do anything about it or why let the problem get that bad or anything like that” • “[I] wasn’t majorly unhappy w/ being overweight [...] I wasn’t depressed - didn’t get me down, didn’t depress me” 	<ul style="list-style-type: none"> • “I started going to University, was it four years ago now and eh, started going to the gym. Then that’s the reason- well that’s the only reason why I’ve lost- lost- I lost like four stone. Just going to the gym” • “When I was- when I was dieting I could lose weight quite fast. But it wouldn’t have lasted too long, a couple of weeks, three weeks” 	He had an extremely laid back personality but seemed quite an energetic and motivated person.	He felt ‘indifferent’ about health at age 11, ‘a bit smiley’ at 13, worried ‘a lot’ at 15, and ‘a bit’ at 19. Worries about weight increased from feeling ‘a bit sad’, to ‘very sad’ to worried ‘a lot’ at ages 15 and 19. He avoided food to slim from age 13, following a ‘moderately strict diet’ at 19 and was worried about putting on weight from age 13 onwards.
Matthew: most bothered male	<ul style="list-style-type: none"> • “I was concerned about my weight when I was younger. Or my size, I put- I’ll categorise them together because, can’t really split them up or it’s- it didn’t- when I was younger it didn’t make any kind of difference no matter either way- em you know- you could lose weight and still look the same size it wouldn’t- it didn’t matter to me I wanted to lose size you know so. [...] weight and size was something that- that played on my mind a lot” • “I was very comfortable with it [size] and confident and socialised a lot in- in social 	<ul style="list-style-type: none"> • “I mean I did, kind of try to, make some changes [...] snacking less and doing more exercise.” • “I hated running, I absolutely hated it cos it was so boring. [...] One day it just clicked to me and I thought- that’s it I’m gonna make it you know- I’m just gonna do this, get up tomorrow morning [and go running] And I’d do that you know maybe two or three times a week. But I did it all myself and I say for a while I didn’t tell anybody. Didn’t tell any of my friends because I was quite embarrassed about it. [...] I wanted to make a change. I didn’t want anyone else to know I was 	Very easy to interview. He seemed to be an up-beat and cheerful character.	He felt ‘a bit smiley’ about health at ages 11 and 13, but worried ‘a bit’ at ages 15 and 19. Worries about weight fluctuated from ‘very sad’, to ‘a bit smiley’, to worried ‘a bit’ (ages 15 and 19). He did not avoid food to slim at all during adolescence but was worried about putting on weight at ages 11 and 15.

Name: bothered?	Verbal evidence	Change evidence	Interview attributions	11 to 16/16+ study data
	groups, it was never a problem”	wanting to make a change.”		
Philip: most bothered male	<ul style="list-style-type: none"> • “As with anyone else as a teenager you worry about your weight and your appearance all the time” • “Thinking about yer appearance or how other people perceive you and things like that. Yeah so at the time yeah, probably-probably was amongst the main things that I worried about.” 	<ul style="list-style-type: none"> • “Not deliberate changes but I suppose em... for example the- the summer in between em... in between sixth year and going to University I was working full-time. And, so I didn’t have- I wasn’t able to go to like Gregg’s twice a day and stuff like that. [...] So I suppose it was just simply I was- I was eating less and I lost quite a considerable amount of weight and got quite thin.” 	He was fairly quietly spoken and was ponderous in speech and in demeanour. He needed additional probing to expand on answers.	He felt ‘a bit smiley’ about his health at ages 11 and 13, but ‘worried a bit’ at ages 15 and 19. He felt ‘indifferent’ about his weight at ages 11 and 13, but worried ‘a bit’ at ages 15 and 19. He did not avoid food to slim at all during adolescence, but was worried about putting on weight at ages 13 to 19, when he ‘worried a bit’.
Elizabeth: most bothered female	<ul style="list-style-type: none"> • “When I was a teenager I always thought that, I was overweight. And I always felt that, looking, everybody else thought I was as well. I wasn’t but, I felt like everybody else thought I was” • “I felt like, it was all - ‘oh look at her, she’s overweight’ and - ‘look at her she’s sitting doon there and she’s eating a bar o’ chocolate’. And maybe shouldn’t be eating that bar o’ chocolate.” 	<ul style="list-style-type: none"> • “I remember starting to eat, a bit healthier and when, like we were putting plates of food out I always say, “oh I don’t want a lot and- I just want a smaller plate [...] On the big plate it looks quite empty an’- so I’d just transfer it onto a smaller plate” • “It did a wee bit because I started to find that when I was walking more and, the more I walked and the more I went swimming, and the more I kinda watched what I was putting on my plate I was starting to find that my clothes were getting too big [...] And that, I had managed to, kinda watch what I was doing, and lose my weight slowly” 	She was a quiet person and was described in field notes at the time of interview as being ‘quite a soul’ - she had quite a sad demeanour.	She felt ‘a bit smiley’ about her health at age 11 and 13, but ‘worried a bit’ at ages 15 and 19. She felt ‘indifferent’ about her weight at 11, ‘a bit smiley’ at 13, and worried ‘a bit’ at ages 15 and 19. She avoided food to slim at ages 11 and 15 and was ‘not really dieting but watching what eat’ at age 19. She was only worried she would put on weight in the future at age 13.
Eilidh: most bothered female	<ul style="list-style-type: none"> • “Cos I was so big, I think I was always very aware of that. Because I think by the time I was, by the time was 16 I think I was a size 24. So I was pretty big so that kinda always was in my head” • “I never really used to look in mirrors [...] once I was really big I think. Aye I think it, it got to the stage where I was like that ‘oh god, do you know I can’t even fit into a size 22 that’s ridiculous’, do you know that I realised that I was huge.” 	<ul style="list-style-type: none"> • “When I was probably when I was about 17½ I decided just to start healthy eating, cos I, as I said I’d try to go onto like step classes and stuff and it never really worked for me so I just started really healthy eating and really watching what I was doing. And getting like salads every day and fruit and I lost the weight pretty quickly” 	In the interview she was plainly spoken and seemed quite comfortable with the interview process. She described herself as being fairly out going as an adolescent, particularly in relation to her friends.	She felt ‘a bit smiley’ about her health at age 11, ‘indifferent’ at 13, worried ‘a bit’ at 15, but ‘not at all worried at 19. She felt ‘very sad’ about her weight at age 11, ‘indifferent’ at 13, and worried ‘a lot’ at ages 15 and 19. She reported at ages 11 to 15 being worried she would put on weight, and was still ‘a bit worried’ at 19. She did not avoid food to slim until 15, but by 19 described ‘not really dieting but watching what ate’.
Sarah: most bothered female	<ul style="list-style-type: none"> • “I didn’t really like my body image as such as a teenager. I think there were I think from when I was like 16 to, up until a couple of years ago I wasn’t happy with the way I looked and I kind of never have been happy with the way I looked” • “I did get picked on quite a lot and I think that’s just cos I was a wee bit different and I was overweight, so they used to take a piss, 	<ul style="list-style-type: none"> • “I was overweight as a child and I kind of always was and I used to just, if I was upset or, I just used to eat. I think I tried to be bulimic once and that didn’t go down too well so just I ate and ate and ate and I didn’t really exercise and if anyone told me about my size or like, ‘Sarah aye you should lose weight’, it, I never listened. ‘I was like no, no I’m fine I’m fine’ and I just went sort of into my wee shell so. I quite, I ate quite a lot when I was younger” 	She was easy to interview being chatty and relaxed to talk to. She seemed to be a fairly energetic person.	She felt ‘a bit smiley’ about her health at age 11, ‘indifferent’ at age 13, and was worried ‘a bit’ at ages 15 and 19. She also felt ‘indifferent about her weight at age 11, ‘very sad’ at 13 and was worried ‘a lot’ at ages 15 and 19. She avoided food to slim at ages 13 and 15 but was ‘not really dieting, but watching what eat’ at age 19. She was always worried about putting on weight, and ‘worried a great deal’ at age

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	the piss quite a lot. Which did bother me, but then it got to the point where I was like 'do I actually care what you think?' No."			19.
Patricia: most bothered female	<ul style="list-style-type: none"> • "When I was big because I used to eat an awful lot and didn't really care and it... I mean, I was maybe even unhappy about it... still, ate things I knew I shouldn't because I knew they were unhealthy" • "When I was, you know, I was a size twenty, I was doing weight-training at the gym several times a week so I never bothered about weighing myself at that point. I just weighed... it was clothing sizes that mattered more to me if you know what I mean so I have no idea of what weight I was when I was doing weight training" 	<ul style="list-style-type: none"> • "When I was fourteen, my mum would put me on diets and I just never lost weight and I was doing PE at school and I was doing two exercise classes a week with my mum and still lost no weight" • "I was in my very late teens, like seventeen, eighteen, I lost a drastic amount of weight and I got to like a size eight to a ten, and I was exercising an awful lot" 	She was extremely talkative during the interview, and came across as having a very happy and bubbly personality.	She felt 'indifferent' about her health at age 11, 'a bit sad' at 13, 'not at all worried' at 15, and worried 'a bit' at 19. She felt 'a bit sad' about her weight at age 11, 'very sad' at 13, and worried 'a bit' at 15 and 19. She started to avoid food to slim at age 15 and was on a 'very strict diet' at 19. She was worried about putting on weight throughout adolescence, being 'worried a great deal' at age 19.
Catherine: most bothered female	<ul style="list-style-type: none"> • "I think, at one point, I was hitting a size sixteen and that, to me, was actually quite traumatic, when I'd, I went to go and buy a new pair of trousers, and that's when I'd realised that a fourteen didn't fit me, and it shocked me, the fact that I was going upwards instead of downwards, and knowing the history of my family, because they are all big, it scared me in a way, and I was like that 'No, I need to stop this'" • "I can't get to that big, knowing what the rest of my family was like." I was like that I don't want to be like that. I don't want to be as big as that. I want to be able to be, not skinny, but slim enough to do things that I want to do" 	<ul style="list-style-type: none"> • "I was always eating sweeties and fizzy juice, constantly, and then having big meals and then going out and having another munchy, and that's when I started to reduce it aw down" 	She appeared a very strong and determined character, evident when talking about her feelings towards her weight change efforts compared to her family's lack of attempts.	She went from feeling 'very smiley' about her health at 11, to 'a bit smiley' at 13 but worried 'a lot' at ages 15 and 19. She felt 'a bit smiley' at ages 11 and 13 about her weight, but worried 'a lot' at ages 15 and 19. She was worried she would put on weight at ages 11 to 13 but not at 19. However she did not report dieting at any age.
Emma: most bothered female	<ul style="list-style-type: none"> • "I did overeat. I ate too much, em, and it didn't balance out, and I put on weight, obviously [...] but I wouldn't say I was unhappy, d'you know what I mean? I just kind of, that was who I was - that was who I was, I didn't really know any different, and I just got on with it" 	<ul style="list-style-type: none"> • "I had, like, restricted my diet. I was like on Weight Watcher's meals and things like that" • "I was active - it just wasn't enough to kind of balance out wae the amount that I was eating" 	She frequently contradicted herself during the interview and her demeanour suggested that her weight had had a big impact on her.	She felt 'a bit smiley' about her health at age 11, 'indifferent' at 13, and 'not at all worried' at 15 and 19. She reported feeling 'indifferent' about her weight at 11 and 13, but worried 'a bit' at ages 15 and 19. She was only worried about putting on weight at ages 11 and 13, but only dieted to slim at ages 15, although reported 'not really dieting but watching what eat' at 19.
	<ul style="list-style-type: none"> • "I got bother, probably in first, first year, like, guys in my class that were calling me fat" 	<ul style="list-style-type: none"> • "One summer, I just ate, like, I skipped a meal and I would have lunch and dinner and skip" 	She appeared very reserved during the interview. She	She felt 'very sad' about her health at age 11, 'a bit smiley' at 13, and worried 'a lot'

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Janine: most bothered female	and all that rubbish” <ul style="list-style-type: none"> “I wanted to be a dancer, and I didn’t have the physique to be a dancer, so weight was a big problem for me during high school - so that obviously got me very upset, eh, but then I used to go home and eat more about it, coz I was like a comfort eater, so I used to eat more and then get more upset and, so that was definitely a big problem in high school for me.” 	breakfast and I seemed to lose half a stone, and I felt good that people were, eh, commenting on that, so since then, I always kinda watched what I was eating”	did however describe her vigilance to monitor her weight and balance out eating and exercise behaviours, suggesting a controlled, determined personality.	at ages 15 and 19. She felt ‘very sad’ about her weight at ages 11 and 13, and worried ‘a lot’ at ages 15 and 19. She was always worried about putting on weight although only ‘a bit’ at age 19. She described being on a diet all throughout adolescence with it being a ‘moderately strict’ diet at age 19.
Nina: most bothered female	<ul style="list-style-type: none"> “When I was a teenager I was quite overweight at the time and I was trying to begin exercising but it was something I, like something that brought me down I would say, made me unhappy” 	<ul style="list-style-type: none"> “So around 13/14 I stopped eating dramatically. I wouldn’t say I was anorexic or anything extreme but I did, I didn’t eat enough for someone my age and I did lose it very quickly and lost a lot of weight” “I think PE at school was the only really time I exercised and I hated it. I hated exercising alongside other children because it was hard at school with other children especially if you’re maybe singled out a wee bit it’s hard to exercise in the same big room as people” 	She was fairly quietly spoken, but easy to interview. She spoke of her sudden diet change with conviction, suggesting determination.	She felt ‘indifferent’ about her health at 11 and 13, worried ‘a bit’ at 15, and ‘a lot’ at 19. She felt ‘a bit sad’ about her weight at 11, ‘very sad’ at 13, and worried ‘a lot’ at ages 15 and 19. She was always worried she would put on weight, being ‘worried a great deal’ at age 19, however she only avoided food to slim at ages 11 and 13.
Richard: bothered male	<ul style="list-style-type: none"> “I wasnae that bothered about my weight when I was there. It did get worse as I got older, then by the time I got to about fourteen, fifteen, that’s when, obviously, you start looking at yourself a wee bit more. [...] my weight and my teeth bothered me when I was younger, still do a wee bit actually, [...] I think when you are in high school, I think your looks are your major concern” “I could probably do with losing a bit of weight, when I was in high school, but that’s about it. I was able to play football every day and go to the gym and all that kinda stuff and it never bothered me” “In high school, but I was getting bigger - you’ve got a wee flabby belly and that, and you’re like, “I don’t really wanna go swimming noo.” So I used to avoid swimming” 	<ul style="list-style-type: none"> “I just played football every day and went to the gym for four months, stopped eventually, after I was back at college, coz I could go to the gym there, and just started healthy eating - eating a lot more fresh, particularly fresh chicken, grilled, just one bit, pasta” “My cousin dragged me to Weight Watchers [...] It’s actually alright. I liked it. I went for about four months, but we went during the summer, so, by the time I went back to college I’d lost two and half stone.” 	He was quiet softly spoken when interviewed but would speak fluently, even about sensitive topics. He appeared a fairly laid back and relaxed character.	He felt ‘a bit smiley’ about his health at age 11, ‘very sad’ at 13, worried ‘a lot’ at 15 and ‘a bit’ at 19. He felt ‘a bit sad’ about his weight at age 11, ‘very sad’ at 13, and worried ‘a lot’ at ages 15 and 19. He avoided food to slim at ages 11 and 19, following a moderately strict diet and was always worried he would put on weight.
Jamie: bothered male	<ul style="list-style-type: none"> “I’ve always been a bit over, I am overweight right now. I’ve pretty much been overweight to some varying extent all my adult life. Basically even from the start of high school to be honest, but on the whole 	<ul style="list-style-type: none"> “At the end of second year [of university] I was oh really big and then I actually went on a really big sort of summer dieting phase at that point. And I dropped a lot of weight that summer. In between the sort of May and October you could 	He was pleasant and happy during interview and appeared quite laid back. He appeared to have a very level headed personality.	He reported feeling ‘very sad’ about his health at ages 11 and 13, but ‘not at all worried’ at age 15, and only worried ‘a bit’ at age 19. He felt ‘very sad’ about his weight at ages 11 and 13, was ‘not at all

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	<p>with that, I'm always quite happy"</p> <ul style="list-style-type: none"> • "I was concerned about my weight but it was never a massive concern" • "I always felt kinda I looked too young, I looked too heavy so that was always gonna be difficult with getting girls" 	<p>say of that point in second year, I started to exercise, I started lifting weights. And went on a sort of you would say diet and I lost nearly two stone, maybe a bit even more."</p>		<p>worried' at 15, but then worried 'a lot' at 19. He avoided food to slim at ages 13 and 15, and was 'not really dieting but watching what eat' at age 19. He was always worried he would put on weight, being 'worried a great deal' at age 19.</p>
Scott: bothered male	<ul style="list-style-type: none"> • "I'd say sort of more early teens being worried about my weight than towards the end of my teens" • "I always will be conscious about my weight because I was massive as a kid. But it wasn't anything that ever really got me down or that I worried excessively about" 	<ul style="list-style-type: none"> • "I think I turned 12 and I got a bike for my birthday. And I was just constantly on my bike and the weight actually falls off you when you're doing that, when you go from very little activity to it's all you do" 	<p>He seemed a very determined and energetic person. He appeared comfortable discussing adolescent issues.</p>	<p>He felt 'very smiley' about health at ages 11 and 13, and was 'not at all worried' at ages 15 and 19. He felt 'a bit smiley' about his weight at 11, a 'bit sad' at 13, and worried 'a bit' at ages 15 and 19. He was only worried about putting on weight at age 13, but did not avoid food at all during adolescence.</p>
Michael: bothered male	<ul style="list-style-type: none"> • "What do you put your lack of confidence, as a teen, down to, then? Probably the weight. I was, the weight, and I don't know" "Even abroad, I would never take a t-shirt off. I would always go in the pool wae a t-shirt, or even when I was sweating buckets, I'd still wear a t-shirt." 	<ul style="list-style-type: none"> • "It's only been over the past year or two [since adolescence] that I've knuckled doon and starting to get it off." • "In college, it was the doctor told me that my blood pressure was abnormal and my heart rate wasnae right - she says if I keep cerry on the way I was, I was gonna have a heart attack by the time I was thirty-five, and that put the shitters right up me. So I started walking to college, walking back, eating a good breakfast, just having a decent lunch in college, and then just having toast or something at night, and I did notice a big difference - starting to see it coming off and stuck to that, and aye, still sticking tae it." 	<p>He needed to be prompted to go into greater detail on some answers and had a fairly laid back demeanour. However when talking about change, he appeared to have become determined.</p>	<p>He felt 'a bit smiley' about health at ages 11 and 13, worried 'a bit' at age 15, but 'not at all worried' at 19. He felt 'a bit sad' about his weight at age 11, 'indifferent' at age 13, and worried 'a bit' at 15 and 19. He was worried he would put on weight at ages 11 to 15, and dieted to slim at ages 11 and 13.</p>
Mark: bothered male	<ul style="list-style-type: none"> • "I would compare myself with sort of everybody who was around me and if there were guys that sort of were looking slimmer or more toned or whatever than me, then I probably didn't like it all that much but I certainly didn't do anything about it, at the time" • "Perhaps my perception of, of my appearance will always be slightly worse than it actually is, I don't know, but it was... I mean, it was never, it was never such a concern that it caused me to change my behaviour." 	<ul style="list-style-type: none"> • "It was probably not until I was in sort of fifth or sixth year that I started to think, think in terms of a healthy lifestyle and try and deliberately add exercise to my sort of weekly programme and watch what I eat or whatever, not that I do that particularly well now but that was... certainly, I wasn't aware of it at the time, it was only until I was in my late teens that I started to think, or I started to be aware of this concept of healthy living, yeah it wasn't something that ever kinda touched me as a, as a fifteen year old boy" 	<p>He was very easy to interview providing extensive answers. He appeared to be a motivated individual.</p>	<p>He felt 'a bit smiley' about his health at ages 11 and 13, but worried 'a lot' at age 15, but 'a bit' at age 19. He felt 'a bit smiley' at age 11, 'a bit sad' at 13, worried 'a lot' at 15, but only 'a bit' at age 19. He was worried he would put on weight from age 11 to 15, but not at all worried at age 19. He did not avoid food to slim at all during adolescence.</p>
	<ul style="list-style-type: none"> • "I think I felt I think I was overweight as a teenager and I did feel like it did impact on my life a little bit. [...] Just I think that in 	<ul style="list-style-type: none"> • "Just to try and control portions and try to, to count, you know not count calories but be mindful of what the intake was and perhaps to, to 	<p>He appeared relaxed during the interview and answered questions fluently. He</p>	<p>He felt 'a bit sad' about his health at 11, 'a bit smiley' at 13, and worried 'a bit' at ages 15 and 19. He felt 'very sad' about his</p>

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Pete: bothered male	terms of social confidence I think. It didn't affect my health particularly badly but I think I was a wee bit more insecure than I would have been, you know and sort of psychologically so I think just from that point of view really so."	exercise regularly you know with, either with friends or you know try and get support you know. So that did help a lot. That did help."	appeared content in himself, but had a more driven personality than some of the other participants.	weight at 11, 'indifferent' at 13, but worried 'a lot' at ages 15 and 19. He was always worried about putting on weight and avoided food to slim throughout adolescence.
Malcolm: bothered male	<ul style="list-style-type: none"> • "I always got told, I had a high metabolism so anything I- I ate I burnt off quicker, so it just get it stuck in ma head, I can just eat anything and won't put on any weight" • "I started noticing things were different. You were getting a bigger belly, you were getting this and you were like, "oh wait a minute, need to stop doing this because it's- gonna end up really huge". That's what you always thought, "I'm gonny be huge" 	<ul style="list-style-type: none"> • "Cos I broke up wi' the first girlfriend. So it wis just that heartache of- you didn't want to eat, you didn't want to leave so you just- sat there and you just became... nothing really. • "There's not been any exercise really, not much. Apart from like always did kickboxing things like that. But mainly it's just all food. [I] didn't care." 	He appeared to be very laid back which also made it difficult to get a lot of detail in some areas of discussion. This was particularly evident when discussing adolescent concerns, although this appeared to be because he had few concerns.	Worries about health fluctuated: he felt 'indifferent' at 11, 'a bit smiley' at 13, worried 'a bit' at 15, and 'not at all worried' at 19. Worries about weight varied: he felt 'a bit smiley' at 11, 'indifferent' at 13, worried 'a bit' at 15, and 'not at all worried'. He was only worried he would put on weight at age 11 and only avoided food to slim at age 13.
Chris: bothered male	<ul style="list-style-type: none"> • "I know I was quite concerned as well with myself about, about my weight. [...] I kind of always looked at it and I thought, well, I... you know, I'm playing football and playing rugby and eating the same as my friends, so why am I not... they're all like skinny guys, so why is this but I don't know, that used to kind of... I used to get a bit kind of upset and thought that any girls who'd ever liked me and all this stupid stuff that I guess most teenage guys probably worry about" 	<ul style="list-style-type: none"> • "When I was at Uni and I joined the gym and pretty much spent all the money I had on cigarettes and alcohol and didn't eat as much as probably I should have, but not in a you, know, not in a deliberate way, just like I used to never have any money for food and so I lost quite a lot of weight then" 	He seemed happy and comfortable to be interviewed and a fairly energetic person. He described himself as being quite moody as an adolescent but more mellow as a young adult.	He felt 'very smiley' about his health at age 11, 'a bit smiley' at age 13, but worried 'a lot' at ages 15 and 19. He felt 'a bit sad' about his weight at ages 11 and 13, and worried 'a lot' at ages 15 and 19. He did not avoid food to slim during adolescence, but was 'not really dieting but watching what eat' at 19. He was worried during adolescence that he would put on weight, being 'a bit worried' at 19.
Lisa: bothered female	<ul style="list-style-type: none"> • "I had a very strange body image. I thought I was a lot heavier than what I was and, my perception of me was very low. Particularly in my early teen years I was quite, unhappy to be me and very low in confidence" • "I just didn't think much of myself. I know that's the case for a lot of teenagers. But I kind of a stood out like a sore thumb because I was, taller than everybody else and, I was heavier" • "There was nothing wrong with me for my height and whatever it was all fine it just- the height just emphasised everything" 	<ul style="list-style-type: none"> • "I was between sort of fifteen and, nineteen I would say, I was on quite a- not a strict diet but a very healthy diet. And I had- was losing weight, and was quite hap- happy, healthy and active." • "I would skip breakfast and it was be the idea that I would lose weight because I'm missing out on this meal an, end up eating junk" • "I went to Weightwatchers classes and lost a good bit of weight. I think when I co- I had actually got down to a really nice size but I really thought I was still huge, showing to me now that I had such an awful body image." 	She seemed at ease with the interview process and would provide full answers. However, her manner was quite ponderous and she was not as animated or energetic appearing as some others interviewed.	She felt 'a bit smiley' about her health at age 11, 'indifferent' at 13, and worried 'a bit' at ages 15 and 19. In relation to her weight, she felt 'indifferent' at 11, 'very sad' at 13, but only worried 'a bit' at 15 and 19. She was worried she would put on weight from ages 11 to 15, but never dieted to slim, reporting being 'not concerned about what ate' at 19.
	<ul style="list-style-type: none"> • "Always seemed to be a lot bigger than like the other kids as well, not, hugely bigger, but as I got older it started to get worse I 	<ul style="list-style-type: none"> • "I've been on a diet most of my life. All my life actually. So that is probably a health issue for me because I've always been bigger I've never been 	She was fairly quietly spoken and it took her a while to get into the	She felt 'indifferent' about her health at 11 and 13, worried 'a lot' at 15, but only 'a bit' at 19. She felt 'a bit sad' about her

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Anne: bothered female	<p>think as well”</p> <ul style="list-style-type: none"> • “I did kinda used to wonder why am I bigger than them when I was younger, but as I got older I just kinda accepted it” • “I used to kinda compare thinkin’ is that how big I look kinda thing, like weight-wise” • “I didn’t compare myself against my friends, I wasn’t ever jealous in that respect I just knew it was something wrong with me, I couldn’t really change it” 	<p>what’s classed as a normal weight so, but when you’re younger you think, I don’t care, and you get kinda bolder and all your friends get to do what they want and eat whatever they want, but you have to stick to a certain thing, so when you are younger it’s kinda like rebellious that you want to eat what you want to kinda things, I’d say. But as I lear... as I got older I realised that I had to do something, I had to stick to what I was told otherwise it was just gonna get out of control kinda thing so. As I got older I kinda like joined slimming clubs and stuff like that.”</p>	<p>interview. She appeared slightly defeatist towards her own adolescent weight, believing she could not do anything about it.</p>	<p>weight at ages 11 and 13, and worried ‘a lot’ about it at ages 15 and 19. She was worried throughout adolescence that she would put on weight, but only dieted at ages 11 and 15 with her ‘not really dieting but watching what eat’ at 19.</p>
Donna: bothered female	<ul style="list-style-type: none"> • “Well I know I’ve never really been, I’ve always been large, overweight. But I’ve also always felt that I was fit” • “[the bullying] made me put on weight, and then that kinda got worse with the bullying, and then I eventually stand up to the bullies and they stopped, but at that point, the damage was done, you know it’s hard to kinda fight off the weight.” • “I’ve always been tall, I think folk called me big, which is a word I never, I tall girl never likes to hear, regardless of size” 	<ul style="list-style-type: none"> • “It got better towards the end because the Duke of Edinburgh, I took that up fourth year onwards. So because of that I definitely benefited cos you have to do things like the expeditions and badminton was used for that. And service when we were kipping out at old folk’s homes and stuff so it gets you more active. I definitely benefited from that.” 	<p>She was fairly soft spoken during the interview and often spoke very quickly, possibly due to being uncomfortable discussing some issues.</p>	<p>She felt ‘indifferent’ about health at 11 and 13, but worried ‘a lot’ at 15 and then worried ‘a bit’ at 19. She felt ‘very sad’ about her weight at ages 11 and 13 and worried ‘a lot’ about it at ages 15 and 19. She worried throughout adolescence about putting on weight and also dieted to slim throughout, following a moderately strict diet at age 19.</p>
Christina: bothered female	<ul style="list-style-type: none"> • “I was big but I was... I did, see cos I was o’ boobs, do you know what I mean and a bit aw a belly so I don’t, I never looked that big, even though I was” • “when I was younger, it was mair so that I wanted wee-er boobs so that I could fit intae wee-er things. Because o’ the teenage stuff didny go up tae my size, do you know what I mean? I could get trousers tae fit nae problem, do you know what I mean? But I’d, I’d put on a top and it would fit me like roon the waist, but it would just it was dead, do you know what I mean? You’d be really tight. Em it was mair so, so I could get intae clothes.” 	<ul style="list-style-type: none"> • “I’ve tried lots and lots aw things. Like you stop, you stop, you only eat certain things. I’ve tried liquid diets, but I only had tried that for like a week and a hauf and couldny cope wi’ that. What else? Drinkin’ vinegar and stuff like that, I was a teenager. You’d see somethin’ on the telly and you’d be like right, I’m gien that a go. What else? You canny eat certain colours, so if it was a certain colour you couldny have it. No dairy, but wi’ ma skin I tried a lot aw different diets just tae help my skin. So I tried the non-wheat, non-gluten, low carb, no sugar, I’ve tried aw that and that was just tae help my skin as me tryin’ tae lose weight.” 	<p>She was a very animated individual during the interview and did not appear to lack any confidence.</p>	<p>She ‘felt very smiley’ about her health at ages 11 and 15, but ‘worried a bit’ at ages 15 and 19. Her weight worries fluctuated: she felt ‘a bit smiley’ at 11, ‘very sad’ at 13, and worried ‘a bit’ at 15 and 19. She avoided food to slim at ages 13 and 15, and reported ‘not really dieting but watching what eat’ at age 19. She was worried about putting on weight at 13 and 15 and ‘worried a bit’ at age 19.</p>
Rachel: bothered female	<ul style="list-style-type: none"> • “I’ve always had a thing about weight and stuff, just... most girls have really, but it was always... I was never like seriously overweight or anything, but it was always kinda on your mind from when you’re quite young as a 	<ul style="list-style-type: none"> • “When I was at school, probably from about fourth year, I was a size eight. I’m a size ten now, so that’s not really changed that much but for a while when I left school, I was between a twelve and a fourteen, and then I dieted and just 	<p>She was very quiet and prone to one word answers. Although describing herself as shy compared to others, she appeared far less</p>	<p>She felt ‘very smiley’ about her health at age 11, ‘a bit smiley’ at 13, worried ‘a lot’ at 15, but was ‘not at all worried’ at 19. She felt ‘indifferent’ about her weight at age 11, ‘very sad’ at 13, and worried ‘a</p>

Name: bothered?	Verbal evidence	Change evidence	Interview attributions	11 to 16/16+ study data
	<p>teenager probably”</p> <ul style="list-style-type: none"> • “You always kind of think about, are your friends prettier than you or like, they’ve got better clothes than you and things like that. I think that was probably a bit of an issue but not a major issue.” 	<p>started... not so much dieted, it just changed the way I ate, rather than actually following Weight-Watchers or anything like that, and exercise, because I wasn’t getting any exercise from really from when I stopped doing PE at school”</p>	<p>enthusiastic than others interviewed who were also quiet.</p>	<p>lot’ at ages 15 and 19. She was always worried about putting on weight, and did so ‘a great deal’ at 19. She also avoided food to slim at ages 11, 15 and 19 when she ‘followed a moderately strict diet’</p>
Laura: bothered female	<ul style="list-style-type: none"> • “I always felt that I had this wee tubby belly” • “[I was] happy with everything else, but I always just hated my belly. Hated it. I was fine wae everything else, but this belly just seemed to just bother me, em and it wasnae until I maybe got, til about, maybe first year, that I actually started to feel quite, you know, hated it. But as much as I hated it, I also sorta thought, well you know, I can’t do any more.” 	<ul style="list-style-type: none"> • “Tried to sort of keep a balance, but when we hit high school and we used to go to the chip shop for lunch - chips and gravy, rolls and chips and stuff like that, I think that’s the sliding point, when you’re sorta let off the leash, [...] I always had a problem with eating in the morning. I think that was always sorta, so when it came to lunchtime, I would eat more than I probably should do.” • “I’ve always been sorta (laughs) big chested, if you know what I mean, but I’ve loved sports since I was a wee girl, and I think it was sorta when I grew these two that I sorta shied away from it a wee bit.” 	<p>She was extremely happy and bubbly and seemed happy to talk extensively about her life. She seemed a fairly determined person.</p>	<p>She felt ‘a bit smiley’ about her health at ages 11 and 13, worried ‘a lot’ at age 15 but only ‘a bit’ at age 19. She felt ‘indifferent’ about her weight at ages 11 and 13, then worried ‘a lot’ at 15, but only ‘a bit’ at 19. She was worried about putting on weight at ages 11, 13 and 19, but did not avoid food to slim. She reported ‘not really dieting but watching what eat’ at 19.</p>
Geof: least bothered male	<ul style="list-style-type: none"> • “I’ve always been a bit heavy and I always tried to dae something about it but I did I played football when I left school I played football for nearly every day for years and I lost aw the weight but then we aw stopped playing football” • “I wouldny say I wis unhappy in ma size or anything but I’m no ower the moon about it obviously but it doesny get me doon or anything. This is whit I’m are, this is who am are.” 	<ul style="list-style-type: none"> • “I’ve always been a bit heavy and I always tried to dae something about it but I did I played fitba when I left school I played football for nearly every day for years and I lost aw the weight but then we aw stopped playing fitba” • “Aye well I still eating a lot o’ rubbish but I wis a lot mare active. I wis I say I wis playing aw the sports. So if I could eat that but I, I wisny putting on any weight cos I wis going to the gym, playing fitba and that” 	<p>He appeared quite defensive during the interviews and was prone to providing relatively short responses to questions. He appeared to have a ‘I could not care less’ manner.</p>	<p>He felt ‘a bit smiley’ about his health at age 11, ‘indifferent’ at age 13, worried ‘a bit’ at 15 and was ‘not at all worried’ at 19. He reported feeling ‘a bit sad’ about his weight at age 11, ‘indifferent’ at 13, worried ‘a bit’ at 15, and was ‘not at all worried’ at age 19. He did not avoid food to slim, although at 19 was ‘not really dieting but watching what eat’. He was only worried at 11 and 13 that he would put on weight.</p>
Noel: least bothered male	<ul style="list-style-type: none"> • “My mum always blamed it on inhalers they gave me when I was younger, she says they had steroids in them or something, I just always says I was a wee fatty and that was it you know” • “It never bothered me at aw. I’m glad that I did lose my weight because it actually has helped me cos I’ve got a job I probably wouldny have got, if I was still heavier. But I didn really, I didn know that at the time, that was a long time ago” 	<ul style="list-style-type: none"> • “I was aw right up until know how about 17 and I took a post viral disease or so they telt me in hospital, that’s what I got telt it was, but I could, everything I was eating I was being sick. Just couldn’t haud anythin’ doon. And I lost hunners of weight but just dead, dead quick, you know scarily quick. I lost aw ma weight in about a month.” 	<p>He was fairly laid back and needed a bit more probing for more detail in responses than some others. Appeared to be because he had a habit of only saying what was necessary. He seemed a determined individual based on descriptions of trying to put on weight.</p>	<p>He felt ‘indifferent’ about his health at ages 11 and 13, was ‘not at all worried’ at 15, but worried ‘a bit’ at age 19. He felt ‘indifferent’ about his weight at ages 11 and 13, but ‘not at all worried’ at ages 15 and 19. He was not worried about putting on weight and did not avoid food to slim.</p>
	<ul style="list-style-type: none"> • “As long as fit and healthy, what’s the 	<p>He enjoyed being active as a teenager. Needed to improve fitness for admission to the RAF so began</p>	<p>He appeared relaxed and calm during the interview</p>	<p>He felt ‘indifferent’ about his health at ages 11 and 13, but worried ‘a lot’ at 15</p>

Name: bothered?	Verbal evidence	Change evidence	Interview attributions	11 to 16/16+ study data
Alan: least bothered male	<p>matter”</p> <ul style="list-style-type: none"> • “I’m me, sorry” (from written notes - audio recorder failed) 	<p>running and cycling. Didn’t lose weight but changed muscle mass, (increased muscle mass and lost fat mass) (from written notes - audio recorder failed)</p>	<p>but described himself as having been boisterous and outgoing as an adolescent.</p>	<p>and ‘a bit’ at 19. He felt ‘a bit sad’ about his weight at ages 11 and 13, worried ‘a lot’ at 15, but was ‘not at all worried’ at 19. He was worried about putting on weight only at ages 13 and 15, but never avoided food to slim down.</p>
Patrick: least bothered male	<ul style="list-style-type: none"> • “I wanted to be better physically. Shed a few pounds obviously. That’s I think there’s nothing wrong with the attitude it was just physically I was not cut out to be it so that’s what I wanted to change I suppose” • “I was quite, I was quite conscious about, I suppose everybody is about their appearance and their, their fitness and that so” 	<ul style="list-style-type: none"> • “I was quite into running and doing half marathons and that later on, probably about 17, 16/17 maybe. So I done a few of them and I thought that was the start of me being kinda a new me, a good fit kinda outgoing me” • “After I left school I was quite into swimming. I worked at the sport centre as a lifeguard so I was really into swimming at that time and a bit of running as well. Like I said earlier, so that was more later on though that was probably 17/18/19. But earlier on it was aw football” 	<p>He was fairly quiet during the interview and needed more encouragement than others to expand on his answers. He appeared to be very laid back with a placid personality.</p>	<p>He felt ‘a bit smiley’ about his health at 11 and 13, but worried ‘a great deal’ at age 15, but ‘not at all worried’ at 19. He felt ‘indifferent’ about his weight at ages 11 and 13, but worried ‘a lot’ about it at 15, but was ‘not at all worried’ at 19. He was worried about putting on weight at ages 11 and 15, but never avoided food to slim until the age of 19 when he was ‘watching what he ate’</p>
Kirsty: least bothered female	<ul style="list-style-type: none"> • “When I was a teenager, obviously I was still overweight, but as a teenager, I wasnae bothered about it” • “when I was younger, it didnae bother me, I don’t think I really had any concept of being big you know” • “I was never picked on for being big or, no I was never bullied for being... My friends never used to mention it, and you know, I just don’t think it, it really registered” 	<ul style="list-style-type: none"> • “I would never had thought about healthy food at school, em, it was always you know rubbish, chips at lunch time, and crisps and chocolate from the vendy machines during the day or, would never have thought about eating healthy, or ‘oh chips are bad for ye’, or you know drinking diet juice or anything, it just never had occurred.” • “I wasnae interested [in exercising] at all. It was just, was too much like hard work” 	<p>She appeared comfortable and at ease during the interview.</p>	<p>She felt ‘a bit smiley’ about her health at ages 11 and 13, but worried ‘a bit’ at ages 15 and 19. She felt ‘very smiley’ about her weight at age 11, ‘a bit sad’ at 13, worried ‘a bit’ at 15, and ‘a lot’ at 19. She was always worried she would put on weight, being ‘worried a great deal’ at age 19. However, she only avoided food to slim at age 15, being ‘not concerned’ about what she ate at 19.</p>
Jenny: least bothered female	<ul style="list-style-type: none"> • “My weight’s always been a problem but that’s been it.” • “My height was always, it never really bothered me that much but some people would say things” • “I’d never been skinny but I was never like overweight when I was younger. Up until I like hit puberty and I put on loads of weight” • “But I’ve got polycystic ovaries so that’s a factor in my weight and how I find it very difficult to lose weight” 	<ul style="list-style-type: none"> • “A couple of my friends were like super skinny and just ate crap constantly. So you’d eat a bit and then you’d realise no, I need to stop. But you’d, yeah it was always pretty unhealthy.” • “I wasn’t interested in anything, like at school I used to play basketball, so that was like a couple of hours a week we’d do that, but that was pretty much it. And well I did, through my early teens I went horse riding every week but other than that it was pretty much all the exercise I got.” 	<p>She appeared very indifferent during the interview so it was difficult to get an idea of her personality and how motivated she may have been to make changes to her weight.</p>	<p>She felt ‘a bit smiley’ about health at ages 11 and 13, and was worried ‘a bit’ at age 15, although ‘not worried at all’ at age 19. She felt ‘a bit sad’ about weight at ages 11 and 13, worried ‘a lot’ at age 15 and ‘a bit’ at age 19. She worried about putting on weight from age 13 onwards and was ‘worried a great deal’ at age 19. She avoided food to slim at ages 13 and 15, and was ‘not really dieting but watching what eat’ at age 19.</p>
Natasha: least bothered female	<ul style="list-style-type: none"> • “I was as happy as any, like, you know, than before, really, you know. [...] It wasn’t as if I was sad and depressed or anything. It didn’t ever stop me from doing anything, so.” • “I think, like, in fifth and sixth year, like 	<ul style="list-style-type: none"> • “I would never not eat anything thinking, oh I’m too fat, I can’t have this bar of chocolate, you know? Maybe just more aware of what I was eating, kinda thing” • “Oh, just cutting right back and, I think, as 	<p>She appeared happy and relaxed during the interview. She gave no indication that she was concerned by the topics</p>	<p>She felt ‘indifferent’ about her health and weight at ages 11 and 13. Became ‘a bit’ worried about health and weight at 15 but was ‘not worried at all’ about health at 19 although remained ‘worried a bit’ about</p>

Name: bothered?	Verbal evidence	Change evidence	Interview attributions	11 to 16/16+ study data
	weight went and got an issue for me, you know, like I wanted to lose weight and, eh, but I was never, I mean, I think you get the odd kinda comment that, but no, there was nothing, nothing major”	well, kind of changing as well, it was kind of growing up. I think, just kind of being more active, as well, I think I was then, I was dancing a lot more - ‘cause that point we were in, like, kind of doing a lot more dancing.”	discussed, or unwilling to contribute to the discussion.	her weight at age 19. She reported at all ages being worried she would put on weight and dieted from age 13 to 19, following a moderately strict diet at age 19.
Clare: least bothered female	<ul style="list-style-type: none"> • “Don’t quite fit into these jeans and things like that, I maybe need to lose a few pounds or, things like that” 	<ul style="list-style-type: none"> • “I obviously didn’t exercise as much so, I wasn’t like concerned in that thought but obviously once I’d got through my fifth and sixth year and then got my place at University and things like that, think oh dear I’m a bit unhealthy you know. Don’t quite fit into these jeans and things like that, I maybe need to lose a few pounds or, things like that. And then I kinda got back into the exercise” 	She was fairly quiet to interview and did not appear to understand why she was being asked to discuss certain topics. It was hard to tell what her personality was like from this relatively short interview.	She felt ‘a bit smiley’ about her health at age 11, ‘indifferent’ at 13 and worried ‘a bit’ at ages 15 and 19. She felt ‘indifferent’ about her weight at 11, ‘a bit smiley’ at 13, and worried ‘a bit’ at 15 and 19. She was worried about putting on weight at ages 13 and 15, but did not diet to slim, although she did ‘watch what she ate’ at age 19.

The following results extend those excerpts provided in the above Table (20), discussing them further in relation to what they meant to the individual and how they related to others in the study in addition to providing their maximum adolescent SDS.

Among the males, the most bothered participant appeared to be Colin (max SDS: 2.68) who reported having had very negative feelings towards himself:

“I would say about 16, 17, is when I totally got to the stage where I disgusted myself’ [...]. I just hated my appearance. I hated the way I looked, I hated the size I was”

Neil (max SDS: 2.22) also described his weight in a negative way, recalling that it affected him *“psychologically”* which he related to eating *“a lot just to make myself feel better”* and this led to him *“feeling sorry for myself and eating more, getting heavier, which means you then feel, feel worse”*. Even so, *“I knew that I ate too much, but it was more that, the effect of that, being overweight that you worried about all the time.”*

Similarly, Michael (max SDS: 3.14) reported that he *“never had the confidence with girls or anything like that, as well. With the weight, and that hanging over my head was a big blow”*. Philip also reported being concerned by what others thought of his weight:

“thinking about yer appearance or how other people perceive you and things like that. Yeah so at the time yeah, probably - probably was amongst the main things that I worried about”.

Charlie (max SDS: 2.90) was less bothered; although he reported remembering that his weight *“used to really bother me”* he described feeling that he *“wasn’t majorly unhappy wi being overweight [...] I wasn’t depre- didn’t get me down, didn’t depress me”*. So in his case, he appeared to resent that although he perhaps ate the same as his friends and brother, his weight continued to increase.

Chris (max SDS: 1.90) although much less obese also recalled that he was *“quite concerned as well with myself about, about my weight”* which he recounted to being due to the fact that he was:

“playing football and playing rugby and eating the same as my friends, so why am I not ... they’re all skinny guys, so why is this but I don’t know, that used to kind of ... I used to get a bit kind of upset”

Similarly, Matthew (max SDS: 1.91) stated that he was “*concerned about my weight when I was younger*” and that “*weight and size was - was something that - that played on my mind a lot*” although he contradicted himself by stating he was “*very comfortable with it [size] and confident and socialised a lot in - in social groups, it was never a problem*”. So it appeared that he felt his weight did not impact on his ability to have friends, but impacted on other areas of his life leading him to be bothered. These areas will be discussed in subsequent sections.

The remaining male participants were found to far less bothered by their size. For example, Scott (max SDS: 2.38) reported that he was “*worried about my weight*” but “*it wasn’t anything that ever really got me down or that I worried excessively about*”. Pete (max SDS: 2.17) also stated that he “*did feel like it did impact on my life a little I think*” and that it affected him in “*terms of social confidence I think. It didn’t affect my health particularly badly but I think I was a wee bit more insecure than I would have been, you know sort of psychologically*” although he continued to report that he was “*very happy as a person that I was*”. Richard (max SDS: 3.38) who was actually morbidly obese described himself as being “*as fit as anything*” and that he “*wasn’t that bothered about my weight*” being more bothered by his “*two big front teeth*” and his skin. However he stated that when it came to things like swimming and “*you’ve got a wee flabby belly and all that [...] so I used to avoid swimming*”. Jamie (max SDS: 2.57) described that he was “*concerned about my weight but it was never a massive concern*”. Mark (max SDS: 2.18) simply described that his “*perception of, of my appearance will be always be slightly worse than it actually is*” but “*it was never such a concern that it caused me to change my behaviour*”.

Patrick (max SDS: 1.66) who only just met the obese criterion was “*not really bothered at school and that eh, I was no I wasn’t too self-conscious*”, although he did report being “*quite conscious*” about his appearance and his fitness as an adolescent.

Finally, Malcolm, Geof and Noel (max SDS: 2.46) did not appear to be bothered by their size. For example, Malcolm (max SDS: 2.02) reported that he *“didn’t really care about it to be honest”* and that he *“didn’t really care about, my health and how I looked and things like that”*. Similarly Geof (max SDS: 3.14) recalled that *“I wouldn’t say I was unhappy in my size or anything [...] this is who I’m, are, this is who I am. [...] but I wouldn’t be overly concerned about it”*.

Of the females, Catherine (max SDS: 2.37) appeared to be most bothered by her size, reporting that *“hitting a size 16 and that, to me, was actually quite traumatic [...] when I realised that a 14 didn’t fit me”* and she described that this *“shocked”* her because she *“was going upwards instead of downwards, and knowing the history of my family, because they are all big, it scared me in a way”*.

Elizabeth (max SDS: 3.73) reported negative feelings as an adolescent, and would think *“my gosh look at me. How can I, live like this?”* Janine (max SDS: 2.25) was bothered by how her size restricted her desire to be a dancer as it meant she *“didn’t have the physique”* for it. As a result, this got her:

“very upset, eh, but then I used to go home and eat more about it, coz I was a comfort eater, so I used to eat more then get more upset”

Donna (max SDS: 3.24) reported that she felt that she was bullied, initially because she was tall, but eventually it became *“because of my weight [...] I think it was because I was tall and big”*.

Some participants appeared to contradict themselves with regards to how they felt about their weight. For example, Eilidh (max SDS: 3.08) stated that her size *“never really bothered me too much”*, however her recollections suggest that this was not entirely true, since she:

“never really used to look in mirrors or do you know, it was once I was, once I was really big I think. Aye I think it, it got to the stage where I was like that ‘oh god, do you know I can’t even fit into a size 22 that’s ridiculous.”

Similarly, Sarah (max SDS: 2.80) initially stated that she:

“didn’t really like my body image as such as a teenager [...] I wasn’t happy with the way I looked and I kind of never have been happy with the way I looked” .

However she also reported that she was:

“too lazy or couldn’t be bothered or I had my friends and it didn’t really matter, if people didn’t like me for who I was then why should, you know I be bothered about it”

Furthermore, Patricia (max SDS: 2.82) stated that *“it was clothing sizes that mattered more [...] when I was big, it was awkward because I hated not having things in my size, I really did”*. When asked if she had any concerns as an adolescent, she continued to report that *“I don’t remember sitting there and being really, really concerned about anything”* and did not report her weight as a concern.

Lisa (max SDS: 3.79) although morbidly obese was less bothered, stating that she had a *“very strange body image. I thought I was heavier than what I was and, my perception of me was very low”*. Anne (max SDS: 3.73) reported she would *“think everybody would be laughing at how, if I was bigger or not...I’d probably just all in my head, they probably weren’t, just self conscious because I was bigger”*. Kirsty (max SDS: 3.45) also stated that when she was *“younger, it didnae bother me, I don’t think I really had any concept of being big”*. Equally, Jenny (max SDS: 3.24) made no reference to being bothered by her weight, only once suggesting that she was more aware of being taller than others, and stating that this *“never really bothered”* her. Natasha (max SDS: 2.21) stated that *“it wasn’t as if I was sad and depressed or anything. It didn’t ever stop me from doing anything”*.

Two of the least obese females, were nonetheless bothered by their weight. Nina (max SDS: 1.82) felt that as adolescent her weight was *“something that brought me down I would say, made me unhappy”*, reducing her confidence levels, particularly when it came to exercising in front of other teenagers. Laura (max SDS: 1.66) described being happy with everything else such as the shape of her legs, but she *“just hated my belly”* which, as was described earlier, was emphasised by the size of her chest leading her to feeling negatively about both areas of her body. However, two others with only moderate obesity were

relatively unbothered. Rachel (max SDS: 1.71) suggested that what affected her as an adolescent was the “*whole appearance in general, like kind of a... always, are you thin enough, are you pretty enough, were you wearing the right kind of clothes? Just everything really*”, thus not particularly focusing on her size. Clare (max SDS: 1.92) recalled that as an adolescent she “*wouldn’t say through that period I was like, unhappy with the way I looked or things like that. I just- it was like not in my mind at all*”.

For a number of participants, both males and females, it was not necessarily how they felt about their own weight that led them to being bothered, but how they perceived it impacted on other areas of their lives. For example, Emma (max SDS: 2.35) reported that “*I wouldn’t say I was unhappy [...]. I just kind of, that was who I was - that was who I was, I didn’t really know any different and I just got on with it*”, however she did report being victimised and being worried about being judged by others. These factors will be discussed in later sections.

5.3.3 The relationship between body size, awareness and botheredness

Table 21 shows the participants’ degree of body size awareness in relation to how bothered they reported having been by their body size. Thus the top left cells represent those males (above) and females (below) who were categorised as most aware *and* most bothered and the bottom right cells those least aware and least bothered. For example, among the males, Charlie, Colin and Neil appeared to have been the most aware *and* most bothered by their size, while Michael who also appeared to have been among the most aware males had been less bothered by this size.

Table 21 demonstrates that there tended to be a level of agreement between awareness and botheredness categorisations. For example, those categorised as *most aware* tended to also be categorised as *most bothered* by their obesity. However, two of those who were among the *most aware* appeared *less bothered* than might be expected given their degree of awareness and body size. They were Michael and Anne who were among those most obese (SDS >3). Similarly, among those categorised as ‘aware’, there was a range of botheredness, with

two (less obese) males categorised as ‘most bothered’, while two males and three females, all significantly obese, were categorised as ‘least bothered’. This group of five appeared either to not have had the same negative experiences as others more bothered, or seemed to have been able to shrug off such experiences.

Table 21: Participants’ body size awareness and botheredness

		Most bothered	Bothered	Least bothered
Most aware	Male	Charlie (2.90), Colin (2.68), Neil (2.22)	Michael (3.14)	
	Female	Elizabeth (3.73), Eilidh (3.08), Sarah (2.86), Patricia (2.82), Catherine (2.37), Emma (2.35), Nina (1.82), Janine (2.25)	Anne (3.73)	
Aware	Male	Matthew (1.91), Philip (1.88)	Jamie (2.57), Richard (3.38), Chris (1.90), Scott (2.38), Pete (2.17), Mark (2.18)	Noel (2.46), Geoff (3.14)
	Female		Christina (2.55), Lisa (3.79), Donna (3.24), Rachel (1.71), Laura (1.66)	Kirsty (3.45), Natasha (2.21), Jenny (3.24)
Least aware	Male			Alan (2.06), Patrick (1.66), Malcolm (2.02)
	Female			Clare (1.92)

It was clear that some were aware that they were not normal weight, yet medically, there is a significant difference between being normal weight or overweight and obese. Since the term obesity is predominantly used within medical and academic professions, this could contribute to the discrepancy in language use. These factors will be discussed in future chapters (discussion chapter eight) but for the remaining findings chapters, should be considered when interpreting the results. When reporting participants’ recollections, the language they used to describe their size and weight has been adopted. However, when globally referring to the factors that arose in relation to weight, the term obese or obesity has been used since in medical terms, all had been obese and were sampled into the study specifically for this reason whether they were aware of their size or not.

What is demonstrated here is that awareness and botheredness are related, but actual BMI related only weakly to either. However these participants may not have known their BMI or understood it. So how did they judge their level of overweight and what aspects of it bothered them? The subsequent sections of this chapter will attempt to outline factors which may have contributed to their awareness and concern.

5.3.4 Weight and shape related yardsticks

Participants recalled a number of weight and shape related yardsticks, including: physical measurements such as body weight or clothing size; dislike of certain physical attributes; and comparing themselves to others.

5.3.4.1 Physical measurements

One way in which participants demonstrated body size awareness and botheredness was to provide terms of reference such as dress size or body weight. Of those who did this, females tended to describe their dress size whereas males predominantly reported their actual body weight. For example, Eilidh (max SDS: 3.08) stated:

“I was so big, I think I was always very aware of that. Because by the time I was [...] 16 I think I was a size 24. So I was pretty big so that kinda was always in my head”

Similarly Catherine (max SDS: 2.37) reported being “*shocked*” when she realised that size 14 trousers would not fit her.

An exception to this was Patricia (max SDS 2.82) who was the only female to refer to her actual body weight, although she did this alongside describing her adolescent clothes size:

“I was fourteen stone, I know that so that’s a lot to me but after being about fourteen, I know when I was like fifteen, sixteen, I was a size twenty.”

These females contrast with males such as Noel (max SDS: 2.46) who referred to body weight rather than clothing sizes:

“even as a wee boy at primary you know, I was quite chubby, even up to I left school I think I was about fifteen, fourteen and a half stone, so I was quite heavy”

Likewise Jamie (max SDS: 2.57) displayed how aware he was of body size, relating it to his actual weight rather than citing a clothing size:

“it wasn’t like you could just say I was a little, I was fat at school and I really, really got huge I mean I probably, I think I was at seventeen and a half stone at my heaviest. I, I was that, I was that big”

The one male that did make reference to a clothing size, was Scott (max SDS: 2.38) who reported “*I was about a 32-inch waist when I was 9 years old. Massive*” although he described himself as being “*never that overweight but I was really, really big as a kid*”.

5.3.4.2 Specific body parts

Several participants reported that they had disliked some aspect of their body as an adolescent, most often their ‘tummy’, or breast size, but sometimes another aspect of significance to them. As previously discussed, these included Laura (max SDS: 1.66) who frequently mentioned her “*wee tubby belly*” and how much she disliked it and the size of her chest:

“I think if nobody sorta taunted me about the boobs and stuff like that, then I wouldnae have bothered. It wouldn’t have been, but I think they just emphasised the belly, and the belly annoyed me originally”.

The ‘belly’ also appeared to be the yardstick for some males. For example, Richard (max SDS: 3.38) recalled that:

“when you’re in high school and that, you start daen things like swimming and everything - and you hang about wae guys and, like, I remember a guy called Jim had a six pack and aw that, and you’re sitting there and I wasnae that big in high school, but I was getting bigger - you’ve got a wee flabby belly and that, and you’re like, ‘I don’t really wanna go swimming noo’.”

Similarly Malcolm (max SDS: 2.02) recalled he:

“started noticing things were different. You were getting a bigger belly, you were getting this and you were like, ‘oh wait a minute, need to stop doing this because it’s- gonna end up really huge’. That’s what you always thought, ‘I’m gonny be huge’”.

Either alongside or independently of weight, other areas of appearance were occasionally the focus of physical dislike. For example, Scott (max SDS: 2.38) reported being “*very conscious of how I actually looked and how my appearance was in general*”. For Richard (max SDS: 3.38), in addition to his weight, this appearance worry related to his teeth, for which he had to wear corrective braces, and bad acne for which he received medication:

“my weight and my teeth bothered me when I was younger, still do a wee bit actually,[...] I mean, I think when you are in high school, I think your looks are your major concern. I don’t think health is what you actually think about, I think it’s just the way you look.”

It was assumed by a few participants that all teenagers worried about their appearance as demonstrated by Philip (max SDS: 1.88) who suggested that “*as with anyone else as a teenager you worry about your weight and your appearance all the time*”. This was also reflected on by Rachel (max SDS: 1.71) who stated:

“I’ve always had a thing about weight and stuff, just... most girls have really, but it was always... I was never like seriously overweight or anything, but it was always kinda on your mind from when you’re quite young as a teenager probably.”

Finally, Colin (max SDS: 2.68) felt extreme dislike towards his body as a whole, stating that he got to a stage where he was “*disgusted*” with his size as previously described. His perceptions were extremely negative, but this level of self disgust was not the norm among the sample. There did not appear to be any great reason for this since, as will be discussed in subsequent sections, he was not victimised nor had any other major concerns. He had adolescent aspirations to be a dancer, but so too did other less concerned participants. The only possible difference was that he appeared to feel that things were stacked up against him because of his appearance and sexuality:

“being gay’s all fine and well - being overweight and being gay is not even gonna happen, but the other thing is, I’ve got red hair - and being red headed and being gay is sometimes a no-no, coz there’s so

many, it's so, so stereotypical that it's a horrible thing to be is be, have red hair and be gay at the same time."

Colin was an extreme case; participants who did appear to have a dislike for their physical appearance were generally less emphatic about it. This could suggest that it was not a major cause of distress to them, or that they did not want to appear as distressed about it during the interview as they perhaps might have been. The participants described in this section represented both extremes of obesity within the sample and there did not appear to be any difference in terms of physical dislike between the most and least obese.

5.3.4.3 Comparison to others

A further demonstration of how participants felt about their body size was when they compared themselves to others. During the interview, participants were asked if they resembled their friends and family. Some responded by providing examples of where they fitted physically in relation to their friends and family, whilst others raised the issue themselves during the interview. This section will focus on any negative feelings that comparing themselves to others generated, again differentiating between males and females.

Colin (max SDS: 2.68) who appeared to be one of the most bothered participants recalled how his friend was: *"always what you could class as being the pure stunning looking, slim and dead athletic looking person - and then there's this wee fat, frumpy person beside him"*. When describing how this made him feel, he stated that it *"used tae pure, it really, really annoyed me"* and certainly the way he described this during the interview did suggest that this was an aspect that had frustrated him. Charlie (max SDS: 2.90) also displayed this frustration describing how he *"always ate the exact same as ma brother and he was skinny and I was big"*, and that this bothered him because he *"couldn't understand it"*. Similarly, Matthew (max SDS: 1.91) knew that he was *"slightly bigger than my friends and I didn't want to seem, to have- to be at a disadvantage from- from anyone else"*. He continued to state that it *"always played on me, you know how- how I look physically compared to other people and what they're- what they might think of me"*. Whilst Neil's (max SDS: 2.22) recollections suggested that he compared himself to others, it was in a

manner that suggested he felt segregated from others at school as a result of his weight: *“the popular ones, they were slimmer, always going out and doing stuff after school”*.

As noted earlier, Richard (max SDS: 3.38) compared himself physically to other boys at school and felt different to them, resulting in him avoiding situations such as swimming where he would be viewed next to them. Similarly, Mark (max SDS: 2.18) stated that he would:

“compare myself with sort of everybody who was around me and if there were guys that sort of were looking slimmer or more toned or whatever than me, then I probably didn’t like it all that much.”

Of the females, Catherine (max SDS: 2.37) was particularly explicit about her size in relation to her family. She was adamant that she was not *“gonna end up the same size as them”* since *“knowing the history of my family, because they are all big, it scared me in a way”* and *“I can’t get to that big, knowing what the rest of the family was like. I was like that ‘I don’t want to be like that. I don’t want to be as big as that’”*. Although she did not like being so big, her comparisons appeared to motivate rather than restrict her. These motivations will be discussed further in subsequent chapters.

Elizabeth’s (max SDS: 3.73) accounts also suggested that comparing herself to others resulted in negative feelings since *“I think it was just, me looking at other people as well an’, seeing them and going - ‘oh my gosh, I remember being like that when I was at primary school. What happened? And how I ended up like this’”*

Similarly, Nina (max SDS: 1.82) reported feeling *“jealous”* of her sister who *“never had a weight problem, she’s always been size ten and still is eight to ten. So she’s the lucky one”*. Although she stated that she could understand that they were *“built differently”*, as a teenager she wanted to *“be as skinny as everyone else”*. She also reported that a friend who had been the same size and shape as her when they were growing up *“suddenly shot up, became really tall, really skinny, big boobs”* and she felt that she *“stayed as I was so I kinda felt like I was maybe being a bit left behind at school”*. Emma (max SDS: 2.35), reported similar feelings in relation to a friend, stating that she felt *“frustrated*.

Kind of jealous, really, jealous” but she *“knew it was just the way it was, that it was”* but this did not prevent her from wanting to be *“skinny. I want to be the way she is”*.

Related to this, Anne (max SDS: 3.73) *“used to wonder ‘why am I bigger than them?’”* and remembered thinking *“oh she’s dead skinny”* in relation to one girl. However she stated that she did not compare herself *“against my friends, I wasn’t ever jealous in that respect I just knew it was something wrong with me, I couldn’t really change it”*.

Lisa (max SDS: 3.79) also recalled comparing herself to a friend from high school stating:

“I’ve always- we’ve always been closest em, build wise. I was always slightly heavier than her and I always thought that’s- I would like to be- now I definitely think I’d like to be there ideally. She’s, quite tall like me, quite shapely, slightly heavier but, not so much so that it’s bad for you”

However she continued to state that she tried not to *“compare cos I think that’ll get me more down than I need to be”*. In addition, Natasha (max SDS: 2.21) described how her *“friends were smaller”* than her and when shopping, *“they were buying smaller sizes”*, but that was the *“the only things”* that bothered her.

In contrast to these accounts, Patricia (max SDS: 2.82) appeared comforted by the fact that she was similar to her friends stating:

“it didn’t really matter to me. I knew a lot of people who were quite big so it was kinda more, more than just one of me and I didn’t really notice it.”

While Patricia was not the only participant who recalled having friends of a similar size, she was the only one who reported this as being a positive factor. That is not to say that others with overweight friends recalled this as negative, simply that they made no indication of such feelings.

5.4 The impact of being obese as an adolescent

The previous section has demonstrated participants' levels of awareness and botheredness, as well as providing examples of these constructs by means of weight and shape related yardsticks. This section will discuss the impact of adolescent obesity on other aspects of their lives. These included: problems with clothing; perceptions of problems with romantic relationships; victimisation; impact on self-confidence and fears of being judged for their size; and, on a few occasions, self harm and medical attributions.

These experiences were not reported by all participants and were not always viewed negatively.

5.4.1 *Clothing woes*

On occasion during the interviews the topic of clothing arose, particularly in relation to the ability to be able to buy suitable, age appropriate, clothing. This was predominantly a female concern, where clothes and clothes shopping were viewed negatively, as explained by Eilidh (max SDS: 3.08):

“When I was trying to find clothes and things when I was that size as well, I didn't like that, cos I always had to shop in like the big shops and it was always just a fight anytime I had to go out and get clothes with my mum I was like that ‘I don't want to go’. It was always like ‘Evans’ or ‘New Look’ kind plus sizes or ‘Roger & Roger’ and all these big shops that I had to go to as well.”

She recalled the experience of having to wear something ordered in from a special catalogue for one of her high school dances:

“I was just wearing this black smock thing. It was like a dress with this big over shirt on it and it was a size 24 and I was like, I'm 17 do you know I shouldn't be wearing stuff like that.”

This was also highlighted by Christina (max SDS: 2.55) who reported being frustrated because of the inability to buy tops that fitted her, having been a size 16 with a C cup chest from first year in high school. She stated

“I wanted wee-er boobs so that I could fit intae wee-er things. Because o’ the teenage stuff didny go up tae my size.”

Two other female participants discussed this issue in relation to buying fashionable clothes, or clothes in similar sizes to friends. For example, Anne (max SDS: 3.73) stated:

“As I hit kinda my teens, cause you know like fashionable clothes [...] not that I ever bothered about [brand] names and things but like if there was like a certain trend coming out and if they didn’t do it in my size and things, I’d be a bit peeved.”

Finally, Natasha’s (max SDS: 2.21) account suggested that she was bothered by the fact that her friends could fit into smaller sizes than her (see section 6.2.3.2), although she reported that this was also due to them being shorter than her and *“so even for leg length, like, they could get into a smaller length”*.

Whilst predominantly a female concern, one male also discussed clothing. Neil (max SDS: 2.22), reported that one of the reasons he stopped attending the RAF cadets as an adolescent was:

“dressing up in the uniform and all that kinda stuff I couldn’t face it there, so facing that every night. It was skin tight, and all, it was just horrible. Em, so I left that.”

5.4.2 Romantic relationships

On occasion, there were references as to how body size impacted on participants’ chances of romantic relationships as an adolescent. This was not an area that was directly brought up during the interview, and so only a small proportion of participants discussed this factor. Interestingly, it was predominantly males who made references to having the right sort of appearance to attract females. All those who referred to it felt that their appearance, whether related to weight or not, restricted them in this area. For example, Jamie felt that as an adolescent, he *“looked too heavy so that was always gonna be difficult with getting girls”*. However, he stipulated that this *“concerned”* him but did not *“distress”* him. Matthew reported that he would *“think that because of my size that, girls would find me unattractive, it would make me nervous when trying to cha- talk to someone, chat someone up”*.

Similarly Richard stated that “*when you get to that age, obviously lassies and everything start paying [attention], ‘they’re no gonna be interested if there’s a belly on me and that’*”. Michael also stated that he “*never had the confidence in the girls*”.

Such perceptions were reported less often by females. Among those who did, Rachel described feeling conscious of her weight:

“especially when you’re at school and it gets to the stage where boys are involved and you always think ‘oh he’s going out with her because she’s thinner than me”

However, she understood that all of her friends, not just her, were conscious of their appearance and that as a group “*there was a lot of emphasis on the way you looked*” and this occurred “*from quite an early age*”.

Among the girls, there were a couple who reported having had boyfriends while at school. Eilidh in particular felt “*It [weight] didn’t really affect, like I still met boys and went out with guys and stuff so it never really bothered me too much*”. However Patricia reflected that perhaps she went out with her first boyfriend because he was big also:

“My first proper boyfriend, like my first proper boyfriend who I went out with for like months and months, he was quite big too. And sometimes I do think, I wonder if you know when he asked me out if I just said yes because he was like me, [...] I know it sounds quite silly but it probably was because you’re like me”.

5.4.3 Experiences of victimisation

One of the strongest themes within the interviews was that of victimisation, with one-third of participants reporting *having* been victimised, with an additional six participants specifically stipulating why they were *not* victimised as adolescents. These participants are shown in Table 22. During the interviews, all participants were asked if they had had any concerns as adolescents with health, school, or other people, thus providing them with an opportunity to discuss problems which would be categorised as victimisation.

Table 22: Descriptions of victimisation by botheredness

	Most bothered	Bothered	Least bothered
Victimised	8	5	2
Not stated	5	5	6
Not victimised	0	3	1

The majority of those who recalled being victimised reported a direct relationship between this and their weight. Generally, victimisation tended to manifest itself in verbal attacks either directly related to weight or attributed by participants to their weight, even though the descriptions of their experiences suggested some were victimised for reasons other than their weight. Only one participant, a female, made reference to experiencing physical aggression.

Males were less likely to report being victimised than females and their attributions and experiences varied. Two described attributing the victimisation they experienced to their weight. Thus, Pete (max SDS: 2.17) reported that people were “*putting me down a wee bit*”, which he felt was “*a wee bit about you know, weight issues and things and I must have just taken it to heart*”. Neil (max SDS: 2.22), although describing “*getting a hard time off the boys at school*”, stated that the aggressors told him it was “*to do with a lassie, so they’ve said I was tryin’ to score wae this lassie*”. However, he felt that this was not the real reason, and that it was in fact because of his weight. He was one of the most bothered males and was partly categorised as such because of his descriptions of these victimisation experiences and his descriptions of subsequent comfort eating behaviours “*because I was getting a hard time off the boys in school*”. The experiences described by Scott were slightly different. Whereas Pete and Neil attributed their victimisation to their weight, Scott (max SDS: 2.38) felt that the “*bit of hassle*” he experienced towards the end of high school from “*guys that were idiots*” was because he had “*ginger hair*” but “*a lot of it was jealousy*”. Even though he did not attribute this to his weight, he did feel that it got him “*down a bit and it did more than a bit*”. In addition Jamie (max SDS: 2.57), who as well as describing being called names during adolescence, recalled being “*involved in actual sort of bullying*”.

The females were far more likely to attribute the victimisation they experienced to their weight. For example, Catherine (max SDS: 2.37) reported that a *“guy that was in my class, he was, he was always picking on me for my weight, and then you would get all the ones that would join him, you know that, ‘oh I’m not talking to her, man, she’s fat’”*. Similarly, Sarah reported that she *“did get picked on quite a lot and I think that’s just cos I was a wee bit different and I was overweight, so they used to take the piss [...] quite a lot”*. Nina also felt that she was singled out because she had *“one wee difference”* in that she was overweight. She recalled that she would have *“the odd sort of joke”* pointed at her or *“stupid comments about everything, anything I did or anything but it did come back to my weight a lot as well”*. Elizabeth (max SDS: 3.73) also reported that there was one boy who would *“pick on her because she’s a dead easy target”* because of her weight, and at times, felt *“like I was ready to have a good bubble and, you’d jus- I was that mad and that sad and that angry”*. To a far lesser extent than Elizabeth, Natasha (max SDS: 2.21), also stated that she would *“get the odd kinda comment”* relating to her weight although she reported not feeling *“it was bullying as such, but if you were having an argument with someone, someone might [say] ‘oh you’re’ like ‘you’re fat’”*.

As with some of the males, Eilidh, Emma and Jenny all mentioned being victimised although none specifically related this to their weight, with Eilidh (max SDS: 3.08) recounting that there were *“a couple of people bullying me”* and that they *“just seemed to take a dislike to me and just used to have a go for anything”*. Similarly, Emma (max SDS: 2.35) reported feeling that *“when you get picked on, that’s kinda hard”*, and that *“it did affect you, but you’ve just gotta get on with it”*. Likewise, Jenny (max SDS: 3.24) attributed her experiences to her height rather than her weight recalling that *“there was one boy in particular right through primary school and then into secondary school and I just got bullied off him”* and that this took the form of *“just sort of name calling and just being rude and pushing you about and things”*. She particularly mentioned that *“everybody would go on about you being a giant”* and felt that the victimisation was related to her being tall rather than overweight. Donna (max SDS: 3.24) also felt that the victimisation she experienced was initially related to her height, reporting she had *“always been tall, I think folk called me big, which is a word I never, a tall girl never likes to hear, regardless of size”*.

However, she reported that this height related victimisation led to her over-eating and so it *“certainly became because of my weight”* and then it *“just kinda became that I was tall and big, it was as if, own prophecy”*.

It appeared from the participants' accounts, that some felt they dealt with the victimisation better than others. For example, Sarah (max SDS: 2.86) reported getting to the stage where she did not care what others thought, recalling that she *“started to take the piss back out of them and it wasn't too bad”*. Elizabeth (max SDS: 3.73) also felt that she did *“just get used to it”* and Emma (max SDS: 2.35) described feeling that she had *“the kinda personality”* that helped her deal with it. Donna (max SDS: 3.24) also reported that she did not *“really let much faze me like being bullied and stuff like that, it's just like well just deal with it”* stating that she did *“eventually stand up to the bullies and they stopped”*. Finally, Lisa (max SDS 3.79), who did not specifically report experiencing victimisation herself, suggested that *“it's par for the course with children that somebody gets teased at some point”*.

There were six, predominantly male participants, who specifically reported not being victimised as adolescents. For example, Richard (max SDS: 3.38) felt this was because he was *“a big guy, so nobody really bothered wae me”*, and Michael (max SDS: 3.14) stated that he *“never got any of that treatment at aw. Too many big cousins for that”*.

In relation to how being victimised led to some being more aware or bothered by their obesity than others, Patricia (max SDS: 2.82) stated that it was not until *“high school, when they start kinda picking on you”* that she became aware of her size, reflecting that it *“didn't seem to bother you in primary, coz you don't realise things like that”*. Similarly, Kirsty (max SDS: 3.45) stated that she was *“never bullied for being big”* and because of this did not think her size *“really registered”* with her. This relationship between being victimised and being aware and bothered by their size is a factor that will be discussed further in relation to weight change attempts in the following chapter, and in relation to other findings and previous literature in the discussion chapter (Chapter Eight).

5.4.4 Impact on self confidence

Whilst it could be assumed from other weight related aspects discussed in this chapter, that there would have been an impact on participants' self-confidence, only a small proportion directly stated that this was the case. For example, Michael (max SDS: 3.14) reported that when on holiday:

“I would never take a t-shirt off. I would always go in the pool wae a t-shirt, or even when I was sweating buckets, I'd still wear a t-shirt.”

He also mentioned that he *“never had the confidence in the girls or anything like that, as well. With the weight and that hanging over my heed was a big blow”*. As well as this, he reported being the quiet one in his group of friends and being shy with family members, demonstrating his lack of confidence. Similarly, Pete (max SDS: 2.17) suggested that being overweight as an adolescent *“did impact on my life a little [...] in terms of social confidence”*, and because he felt that his (thinner) brother was more successful in sports, this also had *“a little bit of an effect on my, my sort of self confidence at the time”*. Mark also felt that comparing himself to others around him *“probably contributed to my sort of yeah, my self-confidence”*.

Those females who felt their weight impacted on their self confidence had similar recollections. For example Nina felt that *“it's a vicious circle when you're a teenager if you're overweight, you don't have confidence in yourself and it's hard to exercise”*. Elizabeth insinuated that her weight affected her confidence when she recalled she would *“wish I could, not be like her but, be kinda slimmer and have more, confidence in myself, more kinda self esteem kinda idea in me”*. Finally, Lisa (max SDS: 3.79) also felt that *“particularly in my early teen years I was quite, unhappy to be me and very low in confidence”* although this was not necessarily related to her feelings of being overweight since she appeared to be unaware of the full extent of her size as an adolescent (see section 6.2.1). She was particularly hard to categorise in relation to some of the others in this study since on one hand she would state that her weight was fine for her height, but on the other would suggest that she had been unhappy with her body as an adolescent. She may have been unaware of the full extent of her size, and appeared to believe her body concerns were normal for any

adolescent whereas weight concerns were not. These aspects will be discussed in greater detail in the discussion chapter (Chapter Eight).

Related to aspects of self-confidence were perceptions of being judged by others. Two female participants spontaneously reported fears they were judged by others for their eating behaviour because of their size. Elizabeth (max SDS: 3.73) stated:

“I felt it was all ‘oh look at her, she’s overweight’ and ‘look at her she’s sitting doon there and she’s eating a bar o’ chocolate’. And maybe shouldn’t be eating that bar of chocolate”.

Likewise, Emma (max SDS: 2.35) reported that she:

“wouldn’t eat sweets in front of other people, because when you’re big, you kind of think people are gonna look at you and go ‘she shouldnae be eating that. That’s just gonna make matters worse’. So you kinda tend to do it in the privacy of your own home”.

5.4.5 Self harm

Two participants reported self harming behaviours. However these did not appear to be directly related to their weight but rather to other things that were going on in their lives. Sarah (max SDS: 2.86) for example reported:

“I had a couple of home issues, home problems, my mum drank quite a lot which was very not talked about and very quiet which upset me quite a lot and due to that, I ended up self harming for a while, not just due to that, but just due to the whole self esteem and stuff like that.”

Chris recalled that as an adolescent he had been politically motivated, angry and frustrated, and had relieved this by taking the frustration out on himself recalling:

“I used to cut my arms and stuff, not to any sort of bad extent, but just used to do it because it used to help”

(interviewer) What do you mean it used to help?

[...] I got to a stage where I used to get angry and like, I would get angry at, at people but I didn’t ... never wanted to ... I wanted to like

hurt people but I didn't want to hurt people if you know what I mean, like I was ... so I just do it to myself instead because that seemed to help and do stuff like punching walls and things."

However, when his experiences with weight were discussed, he talked about being frustrated that he ate the same things and did the same exercise as his friends, yet he was bigger than them. When asked if this frustration was the same as that that caused him to self harm, he replied *"that's what I mean, yeah, that's the same sort of thing because like I said, I used to kind of take it out on myself as opposed to taking it out on other people"*. This suggests that his weight related frustration exacerbated an already existing adolescent frustration, resulting in self-harm behaviours.

5.4.6 Medical attributions

Some participants in the sample either experienced medical problems or believed that medical problems had contributed towards their size as adolescents. This appeared to have led to their being less bothered about their resulting size.

Anne (max SDS: 3.73) reported that as an adolescent *"I just knew it was something wrong with me, I couldn't really change it [size]"*. She described being first referred to a dietician when she was approximately three years old because of her weight, and so felt she had been on a diet all her life *"I've never been classed as a normal weight so, but when you're younger you think, I don't care"*. She continued that the doctors:

"still cant figure out what it was, or what it is, that makes me put weight on easy, but I seem to store fat a lot easier than...even though I was a very active child"

Two females, Lisa and Jenny reported having had polycystic ovaries as adolescents, and both attributed their obesity to this even though neither gained a firm medical diagnosis until they were in their twenties. Of these two, Lisa (max SDS: 3.79) appeared to have been bothered by her obesity as an adolescent whereas Jenny (max SDS: 3.24) had not.

Finally, Patrick (max SDS: 1.66) reported having had ulcerative colitis, a chronic condition which causes inflammation to the colon and is generally treated by taking of steroids, to which he attributed his weight *“Cos they give you a bigger appetite and then you put on a bit of weight”*. For Patrick, his ulcerative colitis was his main concern, not because of the weight gain from the steroids, but rather because of not knowing how to deal with aspects of the condition such as the often bad *“urge for the toilet [...] an’ the embarrassment an’ aw that”*.

5.4.7 Stressful life events

On occasion, participants in this study would describe life events, not initially weight related, that may have caused them to be less bothered about their weight during adolescence because these events were more emotionally salient to them. Specifically, ten participants, all but two of whom were among the most bothered or bothered participants, were found to either describe negative life events, or were recorded during the **11 to 16/16+ study** as having experienced such events. During childhood and adolescence these included parental death or separation, alcoholic parents, and being in foster care/homeless shelters. Two further life events, described as occurring in late adolescence or early adulthood, were being treated for cancer and witnessing an armed robbery (see Chapter Seven). These events, where described by participants during the interviews, are highlighted throughout the following sections and chapters.

However they were on occasion discussed in relation to emotional eating behaviours which were likely to have impacted on their adolescent weight. Thus stressful life events were either a barrier to fully experiencing negative weight related aspects, or a contributor to weight gain. For example, Richard (max SDS: 3.38) described emotional eating behaviours as a result of his parents dying and subsequently feeling like he was being treated differently by those around him such as friends treating him differently and getting *“special treatment”* at school. As a result he restricted how much he would go out and socialise, instead staying at home eating *“sweets and aw that”* to make himself feel better although this got better as he got older. Similarly, Emma (max SDS: 2.35)

described eating a lot of chocolate and crisps as a teenager to help her deal with stress which remained into adulthood:

“I turn to my food. It’s, it’s always been there. It is a comforter, em, which is probably a really terrible view to have on food, but, and I’m aware of it, but I just can’t get out of that cycle”

5.4.8 Change over time

Given that participants were interviewed around the age of 24 and asked to recall their adolescent life and experiences, there was a degree of reflection of how things had changed over time, even without them being prompted to discuss this. For many, this related to how their weight had changed (discussed further in subsequent chapters) but for some, it was how their weight related perceptions had changed over time.

Eilidh (max SDS: 3.08) was someone who, although she had been aware of her size and had struggled to find clothes as an adolescent, felt that because she had participated in activities with friends and met boys, her obesity “*never really bothered me too much*”. However she reported that towards the end of high school her feelings towards her size changed:

“I think when I started coming to the end of high school and realised that I was going to Uni, I didn’t want to be big, it was like a new kinda fresh start”.

This particularly linked to the time around her school prom when deciding what to wear became a factor:

“I remember being in fifth year and going to school prom and trying to get a dress was just a nightmare, I just could not get one anywhere and it ended up my mum had like one of these kinda mail order catalogue things [...] I think that was kind of a changing factor as well cos in my sixth year prom I got a really nice dress and, fair enough it was a 16, but do you know that was great for me”

Jamie reported that although he was concerned with his weight “*it was never a massive concern*”. However, he got to a stage in university where felt that he had “*ballooned. And I really went from being an overweight teenager*” and this prompted a stage of weight change (see Chapter Six).

Kirsty repeatedly stated that although she was overweight as a teenager, it did not bother her. However this appeared to have changed:

“it’s just noo that maybe I’m that wee bit aulder an’, I don’t know, something in me is just ready and thinks, naw it’s time you know to lose weight. But when I was a teenager it just never occurred to me whatsoever”.

Similarly, Malcolm frequently reported that as an adolescent he had not cared about being overweight, believing that he had a high metabolism so there was no reason to care. It was not until he reached a stage where he became aware of his increasing weight after leaving school, that it started to mildly bother him:

“I still left school thinking, ‘nah I don’t care about dieting’, again ‘if I eat I’m just gonna burn it off, quicker than anyone else’ and then that kinda stopped and I was like that ‘oh wait a minute, need to try and do something’”.

Natasha reported never having felt sad or depressed about her weight as an adolescent and mused that *“I don’t think you actually realise the size you are until, like, you’re either bigger or smaller”*. However she recalled that it did become an issue for her. The change appeared to relate to an increased level of bullying directed at her. In addition, as the amount of time she spent shopping with her friends increased, so too did her frustration as she found that they were able to buy smaller clothing sizes than her.

5.5 Summary

This chapter has demonstrated that there was a high degree of variation in recalled body size awareness among the participants in this study. Equally, the degree to which they reported being bothered by their body size as adolescents also varied. There appeared to be a moderate relationship between body awareness and body size with none of the biggest participants among the least aware. However, there was no clear relationship between degree of actual adolescent obesity and botheredness, with some of those with the highest SDS describing being among the least bothered. Similarly, there were no gender differences in botheredness with males as likely to describe negative experiences and perceptions as the females.

There were, however, gender differences in the types of experiences and perceptions described. For example, when referring to body size, males were more likely to describe this in terms of actual weight whereas females were more likely to recall their adolescent clothing size. There also appeared to be slight gender differences in the types of physical concern held, but not all of these related to body weight. Females predominantly described being concerned by their breast size which on occasion was felt to draw attention to other aspects of their overweight. Both males and females would cite concerns with their 'tummy' but for males this was also related to comparing themselves to other males with more toned stomachs. What was interesting was that whilst some males displayed awareness and concern for certain aspects relating to their weight, such as their 'tummy', greater concern was often shown for their general appearance, particularly in relation to their skin and teeth. This may also be why only males described concerns relating to establishing romantic relationships - they felt their appearance rather than their weight was a hindrance.

Participants were asked to compare themselves to others during the interview in order to gauge how overweight they perceived themselves to have been in relation to their family and friends. What also came out of this area of questioning was how frustrated some were because although they viewed their behaviours to be similar to those around them, they were often far bigger than their friends and, on occasion, their siblings.

Just under half the participants described being victimised as adolescents, with these being predominantly females. However, not all of those who described such experiences felt their weight was the cause, often citing other physical aspects such as height, or social aspects such as jealousy or romantic relationships. Whilst some males also experienced victimisation, other males were as likely to describe their weight as having been a protective factor, with one describing having been involved in victimising another boy.

Areas where no gender differences were found related to self-confidence and self harming behaviours. Both males and females described how their lack of self-confidence restricted their adolescent lives. Equally, one male and one

female described self-harming behaviours although these appeared to relate to other aspects of their adolescent lives rather than their obesity.

There were also descriptions of feeling judged by others, particularly in relation to eating behaviours although this was primarily a female concern.

In relation to attributions of weight, four participants attributed their adolescent body weight to a medical condition. One of this group had a medical condition as an adolescent that definitely affected his weight, but three further participants did not receive a medical diagnosis (that may or may not have explained their overweight) until they were young adults and were thus reflecting back on their adolescence with this knowledge.

Finally, given that participants were asked to reflect back over a period of approximately 13 years, there were a number of descriptions of how their weight and perceptions had changed over time with some feeling they had had periods where they had not been bothered by their body size but had later become concerned when they realised it would impact on their lives.

Chapter Six - Adolescent weight change behaviours

6.1 Introduction

There are two main aims of this chapter. Firstly it will briefly outline and discuss participants' accounts of any weight change behaviours adopted during adolescence. These methods can broadly be categorised as dieting, exercise and, for a very few participants, extreme behaviours such as bulimia. Secondly, the chapter will discuss whether there was a relationship between degree of botheredness about obesity and whether participants had made any weight change attempts, successful or otherwise. In addition, there will also be discussion of those who described making no weight loss attempts, and the reasons behind this.

6.2 Diet related behaviours

In general, when discussing alterations to their diet to lose weight, participants reported that as adolescents, they had either changed the *amount* or the *type* of food consumed. The majority who reported dieting were female, with only five males stating they had altered their diet in any way. Of those participants who reported dieting, most recalled changes in amount (restricting their diet) rather than in type (altering what they ate). However the extent to which they made such changes varied, with some taking more extreme action than others.

Changing or restricting the *amount* of food consumed was predominantly described by female participants. For example, Catherine described that she started to “*reduce it [food] aw down*” through cutting out snacks such as sweets and fizzy juice as well as reducing her portion sizes. Similarly, Janine also reported fairly strict restriction of her diet, although in her case she would skip meals rather than reduce portion sizes:

“One summer, I just ate, like, I skipped a meal and I would have lunch and dinner and skip breakfast and I seemed to lose half a stone”.

By comparison, Natasha also described watching what she ate, although in an apparently far less restrictive way:

“I would never not eat anything thinking, ‘oh I’m too fat, I can’t have this bar of chocolate’ you know? Maybe just more aware of what I was eating, kinda thing”.

The minority of those who described dieting behaviours, made direct reference to changing the *types* of food they ate. For example, Nina described that in addition to restricting what she ate, she would also eat more healthy lunches such as soup and sandwiches rather than chocolate and crisps.

Three males changed the *amount* (see subsequent sections), and two *what* they ate, although their descriptions of diet-related behaviours were less extensive than those provided by females. For example, Mark reported that he would “*watch what I ate*” whilst Richard reported being “*dragged*” to Weight Watchers by a female cousin. It did not appear that this was because they believed their diets to be healthy since both described having poor eating habits either through snacking a lot, eating take-away meals, or comfort eating in Richards’s case. What is interesting is that Mark, who described actively changing his diet of his own accord, was found to have lost weight, whilst Richard who appeared to have been forced into going to Weight Watchers had not.

6.3 Exercise related behaviours

Participants also frequently reported changing exercise levels in adolescence in an attempt to reduce their weight. Generally these changes involved increasing either structured exercise, such as joining a sports team or club or attending a gym, or unstructured exercise such as going out running independently of others or working out in their own homes. In contrast to dieting, males were far more likely to describe changing their exercise habits to lose weight than females.

Participants, both male and female, predominantly reported more structured forms of exercise. For the males, this mostly involved going to a gym even though the majority of the male participants in this study, regardless of whether they described making a weight loss attempt, reported being involved in exercise through their schools or playing sports such as football out of school.

For example, Charlie felt the school based sport and exercise did not aid his weight loss and so he reported increasing his exercise levels further by attending the gym, reflecting that:

“it wasn’t even difficult for me. And just- just one day I just- do every- I started going to the gym go- and I wasn’t struggling, doing it I was- just total change in lifestyle”.

Similarly, Geof reported increasing his exercise levels in addition to playing football, by taking up boxing while still at school (discussed further in subsequent sections).

A small number of females also reported being involved in sports clubs, although this appeared to have been on a rather less serious basis. For example, Clare reported playing badminton regularly as a hobby, whilst Christina described participating in swimming and badminton clubs.

Among those who described increasing unstructured forms of exercise was Matthew. He reported doing more exercise around the age of 15-16 when he would “*get up, go for a run before work, [...] before school*” even though he reported “*hating running*”. Although he reported that previously he would go for evening runs with a group of friends, this was only “*every so often*”, so when it came to wanting to increase his exercise to reduce his weight, he began to run on his own:

“But in the morning, I don’t know why, and it was during winter I decided to do it as well. Don’t know why it was- it was just one- one day it just clicked to me and I thought- that’s it I’m gonna make it you know- I’m just gonna do this, get up tomorrow morning [...]. And I’d do that you know maybe two or three times a week and, I kept doing it for a while and- actually really enjoyed it when I started doing it for being awake, not for the running I hated the running.”

Patrick also reported running towards the end of his adolescence, but in contrast to Matthew “*was quite into running and doing half marathons and that later on, probably about 16-17 maybe. So I done a few of them*”.

Only one female reported more unstructured methods of exercise. Catherine recalled that because she hated PE at school, she would get “*sick notes*” from

her mother whenever she could. However she described getting support from a teacher in this area:

“My teacher used to say ‘jump up and down on the trampoline’. She goes ‘you’ll burn more calories that way’ and I’m like ‘aye I’ll come back doon at lunchtime,’ after PE had finished. Then I’d go down and do it, knowing that there’d be no-one there to watch me”.

Those who participated in more unstructured exercise might have done so because they were more bothered by their obesity and therefore wanted to exercise in private where they could not be viewed by others. However some of the most and least bothered participated in unstructured exercise.

Furthermore, among those who participated in unstructured exercise, there did not appear to be a difference between those most bothered and least bothered in terms of their feelings towards the exercise they were involved in. For example, Mark and Colin were among those most bothered who described unstructured exercise yet Mark described hating running, although he appeared to enjoy other forms of exercise and did come to enjoy other aspects associated with running, whilst Colin passionately described dancing in his room (his form of unstructured exercise) in an attempt to lose weight. So exercise was adopted by some of those most bothered, regardless of enjoyment. Finally, whilst Matthew and Catherine both specifically stated that they purposely exercised in private, Matthew’s reasons were more about image preservation, in that he did not want his friends to know he wanted to change, compared to Catherine simply did not want to be watched, demonstrating discrete but complex differences in perceptions and experiences of participants in this study.

6.4 Extreme behaviours

There were two participants, who reported using, or attempting to use bulimic behaviours. Colin recalled trying to do everything in his power to change his weight having become so disgusted with his size and appearance that he did “*at one point make myself sick*”. He reported that he stopped after two and a half years once his mother noticed:

“my mum was under the impression that I done it every single time I ate something, but that wasn’t true - it was only after I ate my dinner at night, and anything else I ate, after that, I would make myself sick, but I would have my breakfast and I would have my lunch. So my body was still getting the nutrients and stuff, because I was having, like, Special K or something for my breakfast, and toast and banana for lunch. So my body was still getting food, but my body was burning off a lot more than I was producing, than I was feeding it, so it was quite horrible”.

Whilst he recounted in the interview that a doctor had subsequently said he could have done long term damage to his stomach, Colin reflected that *“Granted, I took the wimp’s way out, but again, I cannae criticise it coz it worked”*. However, he did stop this behaviour as he recalls here:

“I had to kinda wean mysel’ off it, because it got to the stage where, sometimes, I was doing it, I was, there was, I wasn’t worth a button. I was totally weak and stuff, and it kinda defeated the purpose of doing it, because when I used to make myself sick, I used to eat more, because I was eating whatever I was eating, and then I was bringing it back up, so I was feeling totally hungry again, so I would go through and make something else to eat”.

As is shown in Appendix Fourteen this period of weight loss occurred between the ages of 15 and 19 after which he regained a proportion of the weight lost (discussed further in Chapter Seven).

Although Sarah also mentioned this extreme method in the interview, she reflected *“I think I tried to be bulimic once and that didn’t go down too well so just I ate and ate and ate”*.

6.5 The impact of weight change behaviours on adolescent weight

Participants were not all specifically asked if they had made attempts to change their weight, but rather, to go into more detail if they raised the topic themselves in relation to questions about adolescent concerns or in response to the picture task. Not all reported making deliberate weight loss attempts, and those who described such attempts were not always successful and are therefore described here as ‘failed slimmers’. Those who were successful (lost more than 0.3 SDS between **11 to 16/16+ study** measurement points) are described as

‘effective slimmers’. There were also some participants who did not report deliberate attempts to change. Some of these had lost weight regardless (‘passive slimmers’). Finally, there were participants who did not report deliberate weight loss attempts and who had not lost weight (‘passive maintainers’). Table 23 displays who fell into which category as well as their adolescent weight status. For weight losers this is their maximum and minimum SDS (as measured and calculated during the *11 to 16/16+ study*) whilst for weight maintainers, only their maximum adolescent SDS is shown.

Table 23: Study participants arranged according to sampling weight status, descriptions of weight loss, weight change outcome, and adolescent minimum and maximum SDS

Deliberate weight loss behaviours				
Described		Not described		
Effective slimmers (max SDS; Min SDS)		Passive slimmers (max SDS; Min SDS)		
Male	Female	Male	Female	
Sampled as weight loser	Charlie (2.90; 2.24)	Nina (1.82; 0.18)	Noel (2.46; -1.04)	Patricia (2.82; 1.04)
	Colin (2.68; 1.58)	Emma (2.35; 1.70)	Scott (2.38; 1.21)	Donna (3.24; 2.40)
	Malcolm (2.02; 0.72)	Eilidh (3.08; 2.31)	Philip (1.88; 0.69)	
	Alan (2.06; 1.20)	Laura (1.66; 0.89)		
	Geof (3.14; 2.05)	Janine (2.25; 1.50)		
	Chris (1.90; 1.01)	Christina (2.55; 2.09)		
	Patrick (1.66; 0.82)			
	Pete (2.17; 1.36)			
	Mark (2.18; 1.41)			
	Matthew (1.91; 1.56)			
Failed slimmers (max SDS)		Passive maintainers (max SDS)		
Male	Female	Male	Female	
Sampled as weight maintainer	Richard (3.38)	Lisa (3.79)	Michael (3.14)	Anne (3.73)
	Neil (2.22)	Elizabeth (3.73)	Jamie (2.57)	Kirsty (3.45)
		Jenny (3.24)		Sarah (2.86)
		Catherine (2.37)		
		Natasha (2.21)		
		Clare (1.94)		
		Rachel (1.71)		

As Table 23 shows, around two-thirds described deliberate weight loss behaviours, this being equally split between males and females. However,

among this group, the majority of effective slimmers were male, and the majority of failed slimmers female.

The rest of this chapter will look at these four groups of participants with two main questions in mind. Firstly, among those who described deliberate behaviours, why did some lose weight whilst others did not (effective versus failed slimmers)? Secondly, among those who did not describe deliberate behaviour changes, why did some lose weight (passive slimmers versus passive maintainers)? So that these groups can be easily identified throughout the remainder of this chapter, participants names will be followed by associated abbreviations (effective slimmers = ES; failed slimmers= FS; passive slimmers= PS; passive maintainers = PM).

6.5.1 Deliberate weight loss attempts described

The majority of those interviewed for this study reported adopting behaviours such as those described previously (diet, exercise and extreme) in a bid to lose weight. However of the 25 who reported actively trying to change their weight, nine were unsuccessful in achieving any lasting weight loss. This section will compare the behaviours of these failed slimmers with the effective slimmers to determine if there were any differences in the *type* of behaviours adopted the *extent* to which behaviours were adopted and the *effort* participants put into their weight change attempts.

6.5.1.1 Variation in type of behaviour adopted

There were clear gender differences in the types of behaviour adopted by participants with males tending to exercise whilst females described altering their diets. There were also more male effective slimmers than females suggesting that exercising was a more effective method of weight loss. However both effective and failed slimmers were as likely to describe exercising as changing their diet. On occasion, participants reported adopting more than one weight change method; slightly more effective than failed slimmers reported doing this, and these were predominantly male. Thus it appeared that it was not just the type of behaviour that was adopted, but also the effort participants put into their weight change attempts that determined successful weight loss.

6.5.1.2 Variation in degree of behaviour adopted

One possible reason for the differences between the effective and failed slimmers could be the degree to which they made changes to their weight related behaviours.

As noted earlier, in relation to diet behaviours, two main changes were described; restriction of eating and changes to diet. Variations in the degree of engagement for both types of change were found in this sample.

Of those who restricted their eating, the descriptions given by effective weight losers included Nina (ES), who reported that she “*stopped eating dramatically*” as a result of noticing her weight increasing around the age of 13 and 14:

“I wouldn’t say I was anorexic or anything extreme but I didn’t eat enough for someone my age and I did lose it very quickly and lost a lot of weight”.

She described cutting out all the junk food she would previously have eaten, not eating such large meals at lunch times and avoiding any snacks her grandmother would try to give her. In addition to not eating breakfast, which had always been her habit, she would eat only small amounts for lunch with no additional snacks until she had her evening meal which was predominantly vegetarian in nature since she did not like meat.

In contrast to this, failed slimmers were more likely to report that changes to their diet involved “*starting to eat a bit healthier*” as was the case with Elizabeth (FS). She described this in terms of reducing her portion sizes:

“we were putting plates of food out, I always say ‘oh I don’t want a lot and- I just want a smaller p- I don’t want that plate, gonny just give me that plate’ [...]. On the big plate it looks quite empty an’- so I’d just transfer it onto a smaller plate and it would look more because it wasn’t on this big huge massive plate.”

The differences in degree of change between these and other participants may be explained by the type of person they were. In Nina and Elizabeth’s cases, both appeared equally bothered, but the difference in demeanour and appearance between these two individuals during the interview was vast. Nina

seemed like a very confident, determined energetic character who was smartly dressed, apparently taking pride in her appearance; in contrast, Elizabeth appeared to be a less lively person, dressed in a dressing gown and slippers over a work polo shirt and jeans. Such individual differences could go some way to explaining variations in the degree of behaviour change for some participants. However, it was not a consistent pattern, with some failed slimmers whose descriptions suggested dieting to a lesser degree than others demonstrating a more upbeat demeanour and vice versa.

Just as there was a gender difference in the types of behaviours predominantly reported, this also appeared to be the case *within* behaviour types. Specifically female effective slimmers who reported dieting, described far greater diet restriction than effective slimming males. So in contrast to Nina's (ES) high degree of restriction were Pete (ES) and Matthew (ES) who would "*just try and control portions and [...] not count calories but be mindful of what the intake was*" and try "*snacking less*" respectively. These males were effective slimmers, so the differences in degree of dieting described may have reflected the greater effort put into changing their exercise behaviours or simply an unwillingness to admit to 'dieting'.

Since these males were effective slimmers, and appeared during the interview to have an upbeat and determined demeanour, it could be assumed that these gender differences in degree of dieting were to do with gender preferences for weight change behaviours rather than individual differences in the degree of behaviour adopted since these, and other, males were found to put greater effort into changing their exercise behaviours (as will be demonstrated in the following section).

The degree to which changes of dieting type (rather than amount) appeared to be made also varied between effective and failed slimmers. Eilidh (ES) especially reported changing her diet:

"I just started healthy eating and really watching what I was doing. And getting like salads every day and fruit and I lost the weight pretty quickly".

In contrast, Catherine (FS) reported her dieting change in terms of being more careful to remove fats from the foods she was eating, stating *“I’d lost a stone, and that was just through taking all the grease out”* by changing the way she cooked her food, although this weight loss was not recorded during the **11 to 16/16+ study**. Similarly Rachel and Lisa also recalled changing their diet habits, Rachel (FS) *“not so much dieted, I just changed the way I ate, rather than actually following weight-watchers or anything like that”*. In Lisa’s (FS) case she reported that between the ages of 15 and 19 she *“was on [...] a very healthy diet”*.

Female failed slimmers may just have been less descriptive or able to recall their adolescent behaviours than some of the other participants, but this was not the case with these particular participants who fluently and vividly described other aspects of their adolescent life. It is also possible that because they failed to lose weight through these methods, they did not want to admit to having adopted these behaviours to a strong degree since they had failed.

Only one male reported making dietary changes and again, although he was an effective slimmer, Mark (ES) only described that he would *“watch what I ate”*, thus demonstrating the gender differences in the degree of dietary changes made or the degree to which they were described.

Males were more likely to report changing exercise behaviours in order to lose weight, and again, the degree to which they did this appeared to vary between effective and failed slimmers. For example, Geof (ES) recalled that he began boxing which involved:

“going long runs and obviously sparring. It was like circuit training it wis like aw different weights and that. That’s aw I done [...] I never saw maself competing or anything like that. I just wanted to dae the training. And get fit at the time.”

Similarly, Colin (ES), who reported less formal exercise behaviours, recalled that he:

“kinda went on a fitness freak stage, and I just constantly, I wasn’t running about and stuff - my exercise would consist wae me being in my room, wae my music on really loud and just dancing about [...] if I

ate something overly, too fatty then I would, like dance for three hours in my room, non-stop”.

Although male failed slimmers often described frequently taking part in exercise, they seemed to have done this more out of personal enjoyment and habit than as a weight change method and so perhaps did not adopt these behaviours to the same degree as others. This was the case with Jamie (FS) who reported that he was never “*sporty in a formal way*” but enjoyed sport, particularly playing football during school although he acknowledged that it was not enough to “*help shift- keep the weight off*”. He felt that he would have needed to do further exercise above playing football to have counteracted what he was eating in order to lose weight, yet his descriptions of his adolescence suggested that he had never taken steps to do this. There did not appear to be any particular reason for this in terms of adolescent experiences, it simply appeared that although bothered by his weight, his laid back nature prevented him from taking extra steps to change the degree to which he exercised.

Among female effective slimmers, although there were some occasional descriptions of exercising, it was to a far lesser degree than that of males and usually described as being a hobby rather than a weight change attempt. This was demonstrated by Janine (ES) who appeared to exercise a great deal as an adolescent, reporting being involved in tap, ballet and jazz dancing. To a lesser degree, Christina (ES) and Clare (ES) both reported exercising via swimming and badminton clubs. Only one female who could be described as a failed slimmer, suggested she exercised as a result of her weight, however Elizabeth (FS) described this as “*going swimming some weeks*” preferring to be active in the water:

“I like things that are in the water like I like aqua aerobics and things like that I like things that involve water because, I don’t know I just think that when I first started I thought it hid me, more than anything else, know that way ‘cos you’re dead self conscious and you think, if I go in the water I’m just gonna hide in the water so, that was it I just hid in the water and I swam back and forth and- kept myself happy”.

Although a number of females, described in this study as effective slimmers, reported exercising and enjoying it, they were more likely to state that this

exercise was not a contributor to their weight change, rather they attributed such changes to alterations to their diet behaviours.

6.5.1.3 Description of effort given to weight change attempt

The final possible reason for differences between effective and failed slimmers, could be the amount of effort that they put into their weight change attempts. Some participants described making great efforts in the one method they chose to help alter their weight, whilst others reported multiple methods. This section will identify if these differing levels of effort contributed to participants being either effective or failed slimmers.

One indicator as to the amount of effort participants put into weight change attempts might be the number of methods they tried in their weight loss attempts; so using both diet *and* exercise versus diet *or* exercise. Out of the 25 participants who reported making deliberate weight loss attempts, around half (11) reported altering or adopting more than one weight change method. However, half the failed slimmers also reported more than one method although it should be considered that this may have been as a result of trying one method and moving to another when they were unsuccessful with the first. However there was no indication in the interviews that this was the case. Therefore the reporting of multiple methods did not necessarily determine weight loss success.

Of the males who adopted using multiple methods, Colin (ES) was the most emphatic about losing weight and actually reported engaging in bulimic type behaviours after eating an evening meal, the largest of the day, in addition to exercising in his home. Similarly, Matthew (ES) provided very detailed descriptions of the measures he had taken, which involved secret morning runs since he was embarrassed that his friends would discover that he wanted to make a change to his weight. This can be perceived as being high in effort, especially as he described that he "*hated running, I absolutely hated it cos it was so boring*". In addition to this, he also described "*snacking less*". However, some male effective slimmers were less descriptive, perhaps suggesting less effort was made. For example, Pete (ES) simply described counting calories and exercising regularly. However it should be considered that the less descriptive accounts provided by Pete in particular could relate to the fact that he did not

make any real weight change attempts until he left school, so perhaps because the duration of his attempts were shorter than others he had less to say on this than others. It could be argued that he did put a lot of effort into exercise behaviours particularly since he described being particularly uncomfortable exercising at school and feeling “*pressured*” to exercise when:

“I didn’t really enjoy it because of my appearance at the time so I didn’t want to do it as frequent, frequently as I probably should have. But I think once I left school I gained more confidence, so by that stage I would be more willing to do exercise but at school for example, like in PE classes and stuff I was a wee bit, you know shy because of my issues with weight and stuff.”

Pete was the only individual in the study who described actively going to his GP as an adolescent to get advice about losing weight - something which was likely to have taken considerable effort given how affected he appeared to be by his weight.

This variation in descriptive detail was also found among the females. For example, Christina (ES) provided great detail and a long explanation of the many “*fad diets*” that she had tried as an adolescent in a bid to change her weight, as well as increasing her exercise by attending swimming and badminton clubs. Janine (ES) also described putting a lot of effort into her weight change attempts, reporting a fairly strict dietary restriction followed by constant monitoring of her diet once her weight began to change. Eilidh (ES) talked about the effort involved in her weight change attempt, adopting a change in diet behaviours when her described normal exercise patterns did not result in her from losing weight. Through changing her diet to eat healthier items such as salad and fruits, she felt she had lost the weight relatively quickly. In contrast, Natasha (FS) reported that she did “*a wee bit of both*” in that she “*kinda watched what I had to eat and things [and] put the exercise in*”.

Although many failed slimmers also described having put great effort into their weight change attempts, these appeared to have been transitory, with both males and females describing such patterns. For example, Richard (FS), although discussing his frequent football playing, also recalled that he would use the college gym as well as eating more healthily and attending Weight Watchers meetings with his cousin. Similarly, Neil (FS) reported that he would make great

efforts to change his weight through exercise. The main difference between Richard and Neil and the effective slimmers appeared to be in the duration of the weight change attempt. Richard stated in the interview that he “*went to the gym for four months*” and stopped going to Weight Watchers when his cousin stopped, having reached her target weight, whilst Neil’s fluctuations related to relationships with girls where he would make efforts to lose weight when he was single, but once he was in a relationship, he would become less motivated. Similarly, among the female failed slimmers, Jenny (FS) reported that her exercise change was predominantly due to being more active but only during the summer months, and so her weight loss method was transitory rather than monitored in the same way that Janine (ES) had.

These examples suggest that effective slimming may have been related to the effort put in by participants to adopt, maintain and monitor their weight related behaviours.

6.5.2 Deliberate weight loss attempts not described

Ten participants in this study did not report having made any deliberate attempts to alter their weight. Of these, five were recorded during the ***11 to 16/16+ study*** as being weight losers, and since they reported making no deliberate attempt to change their weight, they are described as passive slimmers. This section will contrast this group with the five participants who also reported no deliberate weight change attempts and who had not lost weight (‘passive maintainers’). It should be acknowledged that there is the possibility that recollections provided in the interviews may have been inaccurate or incomplete. For example, someone who recalled making no attempt to change their weight as an adolescent may in fact have done so but chose, or for other reasons, did not describe such events.

6.5.2.1 Passive slimmers

In relation to diet behaviours, some passive slimmers recalled that they often had little time to eat due to various life events, so resulting in weight loss. This was predominantly described by Philip and Patricia. In Philip’s (PS) case, his diet changes were a result of working:

“the summer in between sixth year and going to university I was working full-time. And, so I didn’t have- I wasn’t able to go to like Greggs twice a day and stuff like that”.

This work induced restriction was in contrast to previous multiple daily visits to bakeries and fast food establishments. He reflected on the circumstances surrounding his weight loss, stating that he felt he *“probably wasn’t eating as well as I should, or as much as I should”*, recalling that he was getting two meals a day instead of three. Although he reported losing weight fast, he felt it was not in a *“sustainable way because once I did start eating properly and regularly again, it kinda went up and then levelled off”*. From his accounts, it appeared that this ‘eating properly’, although more than he had been eating when losing weight, was still less than the amount he had previously eaten. Similarly, Patricia (PS) attributed her weight change, in part, to her life becoming so busy that she had less time to eat than she had done when in school. She reported:

“when I was seventeen and I went to uni, I was getting up at half six in the morning and I was having to skip breakfast, going to uni, being in lectures all day, having to go to the library where you’re not allowed to eat or drink, and type up essays and things, and I did lose like I say, I drastically halved my body weight, [...] I got to like an [size] 8 or 10”.

Patricia’s lack of deliberate weight change attempts was further confirmed by her statement that when she was younger and *“like I say I was fourteen stone at 14, but there were times when I would slim, slim down a bit and it wasn’t consciously, it wasn’t doing it on purpose or anything”*.

Two passive slimmers described scenarios which had led to incidental changes to exercise behaviours. Scott (PS) attributed his weight loss to three changed life circumstances: getting a more involving PE teacher, resulting in playing youth basketball; reaching an age where he was allowed to play on the local football pitches (where previously gang related troubles had restricted this); and most notably, receiving a bicycle as a birthday present in early adolescence. He particularly recalled:

“I was just constantly on my bike and the weight actually falls off you when you’re doing that, when you go from very little activity to it’s all you do”.

Secondly, Donna (PS) reported taking part in the Duke of Edinburgh awards whilst at school, which led to increased exercise levels as a result of expeditions and specifically taking up badminton to gain the award.

Finally, two of the passive weight losers felt this was a result of medical problems rather than active weight change attempts. Firstly, Noel (PS) stated that his weight loss resulted from becoming ill, and not to any change in diet or exercise levels:

“I was aw right up until know how aboot seventeen and I took a post viral disease or so they telt me in hospital, that’s what I got telt it was, but I could, everything I was eating I was being sick. Just couldn’t hold anything doon and I lost hunners of weight but just dead, dead quick, you know scarily quick. I lost aw ma weight in about a month”.

Patricia (PS) also reported that she felt her weight change was due to a medical condition and not her reported attempts to diet and exercise as an adolescent. She described how her weight had dropped dramatically at one point and although she attributed this at the time to her lack of time to eat, she had since been diagnosed with a thyroid disorder:

“what the doctor has since said is that obviously now I’m hypothyroid and what she’s saying is that it could well be that that was actually that I went the other way that I had an over active thyroid, cos now I’m under active and sometimes you can get two sides of the same coin, so it could be that even though I mean cos I dieted for years and went to exercise classes and never lost weight, just never seemed to, I never lost drastic amounts”.

6.5.2.2 Passive maintainers

In contrast to these passive weight losers, were passive weight maintainers; two males and three females who did not report deliberate weight change attempts and whose weight was maintained during adolescence. Although two of this group reported they had exercised as adolescents, they both stated that this was part of their normal adolescent life, rather than an attempt to change their weight. For example, Jamie (PM) reported playing football whilst Anne (PM) described being an active child, always out playing with friends, and that she liked PE at school. She reported a number of activities such as netball and

majorette dancing, yet she described giving these up predominantly because the friends she went with also stopped.

The remainder of this group reported making no attempts to change their weight either because they did not like exercise, or because they avoided the fact that they should be making weight change attempts. These descriptions were entirely related to exercising (seven participants); no participants described that they avoided changing their diet. However some did report overeating or ‘comfort eating’ either in response to their weight or other stressors.

In all but one case, it was females who described avoiding exercising and generally this was because they disliked it, particularly in relation to school PE. A good example of this is Lisa who stated she would not have minded exercising if it was on her “*own terms*” and only if it was things she liked to do such as “*having a go at football or basketball*”. However when it came to activities like gymnastics, she was less inclined to participate saying that she had had a fall when younger and had hurt her head:

“I couldn’t deal with it because there was too much this hanging from bars and all that nonsense that I thought, ‘I’m gonny fall here’. Or having to go upside down. That and kind of anything to do with running. Just running for running’s sake I just don’t understand”

Other females described getting ‘sick notes’ from parents or, as Kirsty described, “*just [not] bothering*” with exercise because they “*wasnae interested at all. It was just, was too much like hard work*”. Similarly Michael (PM) reported that exercise was “*a no go. That was definite - buses everywhere*” and the only sport he did was to play football “*but stayed in goals so I didnae have to run about*”. Finally, Sarah (PM), recalled;

“I didn’t really exercise and if anyone told me about my size or like ‘Sarah aye you should lose weight’ it, I never listened. I was like ‘no, no, I’m fine, I’m fine’ and I just went sort of into my shell”.

6.6 Bothered enough to change?

Given negative aspects associated with being obese as an adolescent outlined in the literature review, one would assume that individuals would be motivated to

change their weight so as to reduce these negative experiences. However, what has also been shown in the literature, as well as Chapter Six, is that not all obese adolescents are negatively affected. Therefore the aim of the remainder of this chapter is to answer two questions: is there a relationship between the impact of being obese and (a) making a weight change attempt, and (b) being successful in such attempts?

Table 24: Distribution of participants according to slimming behaviour, success and level of botheredness

		Deliberate weight loss behaviours			
		Described		Not described	
		Effective slimmers	Failed slimmers	Passive slimmers	Passive maintainers
Most bothered	M	Charlie Colin Matthew	Neil	Philip	
	F	Emma Nina Janine	Catherine Elizabeth	Patricia	Sarah
Bothered	M	Pete Malcolm Mark Chris	Richard	Scott	Michael Jamie
	F	Eilidh Laura Christina	Lisa Rachel	Donna	
Least bothered	M	Patrick Geof Alan		Noel	
	F		Natasha Jenny Clare		Anne Kirsty

Table 24 examines the relationship between botheredness and whether weight change was a result of a conscious decision or not. It could be hypothesised that those who were most bothered would be most likely to have described deliberate weight loss attempts and to have persisted with these; thus resulting in weight loss. This would result in a difference in the distribution of participants in Table 24 with those most bothered more likely to be found in the 'effective slimmer' cells and those least bothered in the 'passive slimmer' or 'passive maintainer' cells. As can be seen, the distribution of participants did

not fully support this hypothesis with a number of discrepant cases where some of those *most* bothered described failed weight change attempts, being passive slimmers or having made no attempts to change, whilst some of the *least* bothered would describe active weight change attempts.

However, most bothered effective slimmers were more likely than the failed slimmers to report making extensive and persistent changes to their weight related behaviours, changing their diet or exercise behaviours or a combination of both. These included Matthew who would go running in secret or Nina who dramatically restricted what she was eating.

In contrast, failed slimmers' weight change attempts were often more transient. For example, both Neil and Catherine's description of adolescent weight change attempts suggested that the degree of effort put into attempts fluctuated. Neil stated these variations were related to whether or not he had a girlfriend, whilst Catherine described various phases through her adolescence where she believed she would lose weight and others where she felt she had regained it. Specifically, she reported losing weight in the summer between leaving school and going to college because she was no longer eating "*the crap they feed you [at school]*" and had purposely stopped eating greasy food. However, she felt she put this weight back on again whilst at college:

"I was going to college in the morning, I was going to work after that, and then I was going out after that. I mean, it's the same, like, if you eat after a certain time, your metabolism stops, it's the same with alcohol - it's full of calories, and I was putting all the weight back on again because I was drinking."

So whilst both appeared very bothered by their obesity as adolescents, it seemed that other life events interrupted their attempts enough for them to fail overall.

In addition, effective slimmers appeared to be more energetic and determined people than those who were failed slimmers. Specifically, Colin, Charlie and Matthew were quite animated during the interview whilst Janine, Emma and Nina appeared more quietly determined. In comparison, most of the bothered failed slimmers appeared to be less vivacious characters, one of whom was recorded in the fieldwork notes at the time of interview as appearing to be

“quite a soul”. Whilst some of the effective slimmers may also have had obstacles to overcome during transitions in their lives, it appeared that they were able to adapt to these better than those failed slimmers and were less likely to be deterred in their efforts to change their weight. As stated, Catherine was slightly different to the other failed slimmers, as she also appeared to be very determined but had in fact gone on to lose a great deal of weight in adulthood, as will be discussed in the following chapter.

Among those most bothered, two were categorised as passive slimmers (lost weight without conscious effort) and one as a passive weight maintainer.

A dislike of exercise was cited by the most bothered male in this category (although this was also described as a barrier by many others in the study, particularly females). Thus Philip specifically stated during the interview that although he did not mind playing badminton, he felt that exercising through running or going to a gym was repetitive and boring and avoided such behaviours. This is interesting in that it contrasts directly with Matthew, a ‘most bothered’ effective slimmer, who had similar feelings towards certain exercise behaviours but went out of his way to exercise regardless.

Patricia was different to Philip in that she had described exercising as a young adolescent because of her weight. However she did not attribute her weight loss to this, feeling that the exercise had no impact on her weight, rather she perceived an unrelated medical condition to be the reason for her weight loss. She too appeared to be a happy and outgoing person, much like the effective slimmers. So these passive most bothered slimmers differ from those effective slimmers and indeed the failed slimmers, in that they either would not adopt behaviours they did not enjoy in order to lose weight, or felt that these behaviours had no impact on their weight.

Sarah was the only ‘most bothered’ participant to specifically describe avoiding making any attempt to change her weight; she also did not lose weight passively as Patricia and Philip had. Although Sarah was clearly bothered by her size, rather than make an attempt to reduce it she described comfort eating to deal with the negative aspects of her life, tending to avoid acknowledging the need for weight loss. Whilst some of these included issues of self esteem relating to

her weight, she described other negative aspects such as the alcoholism of her mother and their strained relationship.

In addition to comparing those most bothered in relation to their weight change attempts, or lack of, it is interesting to note that some participants categorised as 'least bothered' described making weight change attempts. Their reasons were predominantly to change their appearance and only make small changes to their weight. For example, Patrick wanted to be "*better physically*" and "*shed a few pounds*", whilst Clare (max SDS 1.94) wanted to be able to "*fit into these jeans*"; whilst Patrick's slimming attempts were effective, Clare's failed.. However, there was also one participant, Alan, another effective slimmer, who reported being motivated to adopt weight change behaviours, specifically exercise, for no reason other than to meet the fitness requirements for entrance to the armed forces.

Three of these least bothered effective slimmers were among the least obese in the sample, explaining why they were least bothered and why also two of them appeared to not understand some of the questions they were being asked with regards to weight concerns. Geof was among the most obese (max SDS: 3.14) but also apparently least bothered. During the interview his attitude was that that was just the way he was and because he had always been obese it did not get him down. However he did describe always trying to do something about his weight, and was an effective slimmer, suggesting that his weight may have bothered him more than he verbally stated or wished to present during the interview.

One further interesting comparison to be made between participants, this time relating to weight rather than botheredness, is that there were two female participants who had the same (very high) maximum adolescent SDS (3.73) (see Table 24). One, Elizabeth, appeared to have been very aware of her size and would compare herself to others, was among the most bothered. The other, Anne, also compared herself to others, but predominantly to other, "*obese*" girls wondering "*am I that big or is she bigger than me?*", was among the least. Elizabeth was categorised as a failed slimmer. Her demeanour and way she presented herself during the interview suggested that she was less motivated and more defeatist than others in this study. However, perhaps as a result of her

botheredness, she had attempted weight loss behaviours as an adolescent, although these were not to the same extent as effective slimmers. Anne was a passive maintainer. She attributed her adolescent weight to a medical problem which she could do nothing about, and made no effort to change either her diet or exercise behaviours. During the interview, she appeared almost defeatist when discussing her weight history and failure of the prescribed diet. This may, in part, have been due to her attitude towards it, since she described herself as being rebellious and eating what she wanted, generally the same things as her friends, perhaps to fit in with them.

6.7 Summary

The two weight change behaviours, diet and exercise, were described by most participants, and although there were no differences in terms of methods adopted between effective and failed slimmers, there were clear gender differences. Males were more likely to describe exercising whilst females tended to favour changing their diet. Whilst females were often explicit in their reasons for not adopting exercise behaviours, males simply did not describe diet changes.

Effective and failed slimmers varied in the degree to which changes were made, and the effort put into weight change attempts. Effective slimmer females described greater dietary changes than males or failed slimmer females. Among those males who reported exercising, effective slimmers were more likely to describe specifically adding exercise to their routine whilst failed slimmers discussed these behaviours more in terms of hobbies and enjoyment. The effective slimmer females would describe exercise in a similar way to the male failed slimmers, in that they participated in exercise out of enjoyment, with the female failed slimmers also describing joining sports clubs but to a lesser degree. Females were more likely to describe exercise if they enjoyed it and were less likely to attribute weight change to these behaviours.

Effective slimmers were generally more determined to lose weight, in that they tended to try harder to make their effort succeed and would monitor their behaviours once weight loss was achieved. Descriptions provided by failed

slimmers suggested that although they may have felt they were putting in a great deal of effort, this appeared less than that of the effective slimmers, and was also more likely to be transient with less subsequent monitoring.

Among those participants who described making no attempts to change their weight, there were some who lost weight incidentally. This was predominantly due to changing life circumstances such as being too busy to eat as much as they had previously, or due to medical conditions and illness. In contrast, passive maintainers either reported not caring enough about their weight to make a change, or avoiding any suggestion that they needed to lose weight.

The most bothered effective slimmers were found to describe more extensive weight change attempts, with the most bothered failed slimmers more likely to report fluctuating weight change attempts often disrupted by other life events. Other most bothered participants described passive weight loss in that they had not consciously adopted weight change behaviours, and one female reporting adopting comfort eating to alleviate stresses related to her weight rather than attempt to lose weight.

A minority of participants, although being among the least bothered, also described changing their weight related behaviours. Their reasons for this related to wanting to be physically fitter or to improve their appearance although to a far lesser extent than those most bothered.

Chapter Seven - Transition from adolescence to adulthood: what happened next?

7.1 Introduction and chapter aims

The previous chapters have described participants' *adolescent* (age 11-19) experiences of their obesity. However, BMI calculated from measurements taken during the interviews for this study suggested that weight patterns and related behaviours had altered for many since age 19, with some adolescent weight maintainers becoming weight losers whilst a number of weight losers had regained some or all of the weight lost during adolescence. Therefore the aim of this chapter is to describe these further changes and explore the reasons for them.

As in previous chapters, discussion of participants will be followed by an indication of their weight, but in this chapter, this will be in the form of their *age 24* standard deviation score (SDS). In addition, since BMI is the usual measurement of obesity in adulthood, this will also be displayed. However, it should be noted that cut-offs defining overweight and obesity in childhood and adolescence differ from those in adulthood, and by gender as shown in Table 25 below.

Table 25: Age 24 and adolescent overweight and obese SDS categorisation by gender

	Adult male	Adult female	Adolescent
Overweight (BMI 25-29.9)	SDS 0.6 - 1.9	SDS 0.8 - 2.0	SDS 1.04 - 1.65
Obese (BMI 30 or more)	SDS > 1.9	SDS > 2.0	SDS > 1.66

Table 26 displays participants' *adult* slimming status in columns (effective, failed, passive slimmer, passive maintainer) along with how bothered they were as *adolescents*. Alongside each of their names is their adolescent slimming behaviour shown in brackets (ES=effective slimmer; FS = failed slimmer; PS = passive slimmer; PM = passive maintainer). To be classified as an *adult* effective slimmer, participants' adult SDS had to remain lower than their previous maximum adolescent SDS *and* they had to have described making active efforts

to maintain weight loss or lose further weight. Adult failed slimmers were those who described active weight change methods as young adults but had failed to lose weight. There were also those whose adolescent weight change efforts had not continued as young adults. This resulted in them either having a greater maximum SDS than they had as an adolescent, or (underlined) regaining part of their adolescent weight loss, although their SDS was still lower than their previous adolescent maximum SDS. In total, nine participants were found to have regained a partial amount of the weight they had lost as adolescents and are underlined in Table 26. Specifically they had lost weight during adolescence but had not fully maintained this loss into adulthood, regaining some of the weight loss although still weighing less than their previous adolescent maximum.

Table 26: Distribution of participants according to slimming behaviour, success in young adulthood and botherdness in adolescence – names, age 24 BMI (and adolescent slimming)

	Effective slimmers	Failed slimmers	Passive slimmers	Passive maintainers
Most bothered as adolescents	M Charlie BMI 28.7 (ES) <u>Colin BMI 30.2 (ES)</u>	Neil BMI 34.9 (FS)		Matthew BMI 32.9 (ES) Philip BMI 30.4 (PS)
	F <u>Emma BMI 28.4 (ES)</u> Nina BMI 23.8 (ES) Janine BMI 25.4 (ES) Catherine BMI 24.0 (FS) Elizabeth BMI 41.2 (FS) <u>Patricia BMI 33.1 (PS)</u> Sarah BMI 32.7 (PM)			
Bothered as adolescents	M <u>Pete BMI 28.0 (ES)</u> <u>Mark BMI 29.52 (ES)</u> <u>Chris BMI 29.6 (ES)</u> Scott BMI 26.5 (PS) Michael BMI 31.9 (PM)	Richard BMI 42.6 (FS) Jamie [OBESE] (PM)		Malcolm BMI 30.8 (ES)
	F Eilidh BMI 29.3 (ES) Rachel BMI 26.1 (FS) <u>Donna BMI 37.8 (PS)</u>	Lisa [OBESE] (FS) Laura BMI 30.2 (ES)		<u>Christina BMI 32.4 (ES)</u>
Least bothered as adolescents	M <u>Alan BMI 27.4 (ES)</u>	Geof BMI 44.3 (ES)		Patrick BMI 30.5 (ES) Noel BMI 20.7 (PS)
	F Clare BMI 27.1 (FS)	Natasha BMI 32.0 (FS) Jenny BMI 38.27 (FS) Anne BMI 43.1 (PM) Kirsty BMI 43.5 (PM)		

underlined = partial adolescent weight loss regained as young adult; [OBESE] = age 24 BMI not available, assessed on basis of appearance and age 19 BMI.

There are a number of interesting observations to be made. During adolescence only three of the seven most bothered females were effective slimmers, whereas as young adults, all the most bothered females had become effective slimmers, making active and successful weight change attempts, or maintaining weight lost during adolescence. As adolescents, all the least bothered females who described making weight change attempts failed, with a further two least bothered females being found to have made no attempts to slim. As young adults, all least bothered females had made attempts to change although only one of these was successful. No participants reported passive weight loss as young adults, and all who had described making no attempts as adolescents to lose weight had subsequently reported making weight change attempts. Those found as young adults not to have made further attempts to lose weight were mostly males.

It should be noted that throughout the reporting of the findings in this chapter, participants are grouped by their *shared experiences* rather than their *actual body weight*. This means that on occasion there is discussion of individuals being effective slimmers who remain obese alongside effective slimmers who have made substantial weight changes to now be normal weight. This is also evident within Table 26, where, for example, the young adult effective slimmers include Nina (age 24: SDS 0.49; BMI 23.81) and Elizabeth (age 24: SDS 3.56; BMI 41.2). However, this table also shows that, as might be expected, almost all participants who were not obese at age 24 had been effective slimmers in young adulthood.

7.2 Why did some participants continue to lose weight post adolescence?

Within the sample, six participants who were sampled as adolescent weight losers had continued to lose weight. Those whose weight continued to decrease post adolescence had a total weight loss (from their adolescent maximum SDS to their young adult SDS) ranging from 1.2 to 3.5 SDS. The main methods they had used were, once more, maintaining exercise levels, continuing to eat a healthy or restricted diet, or a combination of both.

Three of this group reported monitoring both their exercise and diet levels. For example, Charlie (age 24: SDS 1.64; BMI 28.7) described how he began going to the gym when he started university. Having previously been “*massively overweight*”, it was a “*total change in lifestyle*”. He reported that he had maintained his exercise levels since, stating:

“keeping fit [is] something I’ve all- I do. I mean it’s one o’ those things I’m not one of the people that go to the gym all the time, I go maybe once or twice a week and do a bit o’ running outside.”

He was “*thankful that I just kept going [to the gym] cos I mean again it woulda been easy to go once and just not go again*”. Charlie also felt that along with his increased exercise, he was “*eating better anyway, eating better food and stuff like that*”. Similarly Scott (age 24: SDS 1.07; BMI 26.5), although losing his weight in his early teens, reported that he was still “*very aware of my weight and it’s something that I try to look after*”, although he felt it had stabilised, the older he had got. He particularly felt that because he was “*massive as a kid*” he would “*always be conscious of it*” to the extent that he monitored his eating and exercise behaviours to prevent regaining weight. Finally, Janine (age 24: SDS 0.95; BMI 25.4), in addition to continuing her adolescent monitoring of what she ate, also continued to exercise. However she described adapting her exercise behaviours since her method of exercise had changed “*because I gave up my dancing five times a week*”, to performing in “*shows*”. Because these “*weren’t as strenuous as the dance classes*” she had also supplemented them with going to the gym.

There was also only one participant, Eilidh (age 24: SDS 1.88; BMI 29.3) who reported solely relying on diet changes to maintain her weight loss as exercise classes “*never really worked for me*”. Although she felt that she had “*stayed the same since, I’ve not really lost any more, but I’ve not gained any either,*” her weight measurements showed that she had continued to lose weight. Whilst she had recalled getting “*lazy*” about trying to lose weight once she could fit into clothes in high street stores, she had described enjoying a healthier diet:

“I enjoy eating nice food, do you know I enjoy eating fruit and vegetables and, and I, actually really into cooking now. And I really enjoy putting food together.”

Nina (age 24: SDS 0.49; BMI 23.8) failed to provide any reason as to why she had continued to lose weight. It may be that this is because her weight loss occurred at an early age, with her only being obese at one measurement point (age 13). She had been one of the most bothered by her adolescent weight recalling that she *“didn’t realise I was ok, I still was concerned about my weight even once I’d got it down”*. However, she also felt that although she had consciously *“stopped eating dramatically”* her weight loss may have been related to *“my body changing at the same time as me deciding to eat healthy”*. In addition to this, she, like the others who had continued to lose weight, reported being vigilant about her size, although she also felt that:

“it’s not the most important thing if you know what I mean, I’ve got my priorities a bit better [...] It’s not to the certain extent I’ll, I’ll eat and enjoy myself now. But I do notice if my weight goes up or down like just now it’s going up quite a lot again and it is something that I’m aware of and get frustrated about as well.”

Although she mentioned this frustration with her weight changing, she did not specifically state any method she used to prevent this although she did imply that as in adolescence, she monitored her food intake. However there appeared to be a circular association with the cause of her frustration and her route to happiness - she had a boyfriend who she was happy with, however he was a chef and frequently prepared her rich foods which resulted in her weight fluctuations. However she did appear to be more contented as a young adult than she had described herself being as an adolescent.

Finally, in contrast to the other participants, Noel (age 24: SDS -1.04; BMI 20.7) who lost weight as an adolescent through illness, described trying to regain some of the weight:

“I’ve no been able to put a pound on, I’ve tried to put weight on [...] cos I was looking to maybe, I reckon I weigh aboot nine stone, and I was looking to put a stone on. But I just, it disnae matter what I dae, I just canny put weight on.”

Unlike some of the other participants, his estimation of his current weight was just about accurate being found to weigh 9 Stone 4 pounds (59.2kg). This may be due to the fact that he was actively trying to gain weight compared to some of the others who were doing all they could to lose weight. So although he still felt

slightly negative about his weight, it was not to the extent where he did not want to know what it as was.

All of these participants came across during the interviews as being determined, which perhaps contributed to their vigilance. Those who had been among the most bothered and bothered as adolescents were far less bothered as young adults. Nina was perhaps the most bothered of this group, although as with the others, far less so than she had been as an adolescent. The final participant, Noel had been among the least bothered as an adolescent which may have been due to the fact that he lost a significant amount of weight through illness. However he was still a determined character except in his case, he was determined to put on weight.

7.3 Why did some weight maintainers become weight losers since age 19?

Six participants sampled with no weight loss as adolescents (four failed slimmers and two passive maintainers) had lost varying degrees of weight by the time of interview. Of these, Rachel and Clare were overweight and Catherine was normal weight at the time of interview, but Michael, Sarah and Elizabeth were still obese. This section will outline the described and non described possible reasons for this weight loss and the methods the participants used.

Five of this group reported specific motivations to change their weight related behaviours. Two had made no attempts to change their weight as adolescents (passive maintainers), but as young adults, appeared to have reached a point where they were finally motivated to do something about their weight. Michael's (age 24: SDS 2.31; BMI 31.9) motivation came as a result of a non weight related visit to the college doctor:

“it was the doctor told me that my blood pressure was abnormal and my heart rate wasnae right - she says if I keep carry on the way I was, I was gonna have a heart attack by the time I was 35, and that put the shitters right up me.”

Michael as an adolescent had been one of the most aware and bothered, yet he had “*never tried to do anything about it*”. Being faced with health

consequences as a young adult appeared to be the tipping point to being motivated. It also appeared that Sarah (age 24: SDS 2.49; BMI 32.7) needed to reach a tipping point to motivate her to do something about her weight even though, like Michael, she was one of the most aware and most bothered participants. In her case this occurred around the age of 21 when she “*completely ballooned*” as a result of comfort eating after being witness to an armed robbery. As a result, she got “*quite big and I just thought that’s absolutely disgusting and so I felt like I should probably do something about it*”. This contrasts with her adolescence where, although not happy with the way she looked, it had not mattered enough to do anything about it; as a young adult, she was “*finally trying to do something about it cos it bothers me*”.

A further three who had been failed adolescent, but effective adult, slimmers described similar motivators to those which others had talked about as being adolescent motivators to change. For example, Clare’s (age 24: SDS 1.39; BMI 27.1) tipping point related to the adolescent issue of clothing size. Having been one of the least bothered as an adolescent, she reflected that once she got her place at university, she had gained weight, becoming “*a bit unhealthy*”, and reached a stage where certain clothes no longer fitted, resulting in her being motivated “*to lose a few pounds*”. Just as Clare’s tipping point coincided with a transition from school to further education, so too did those of Catherine (age 24: SDS 0.55; BMI 24.0) and Rachel (age 24: SDS 1.14; BMI 26.1). Specifically, Catherine felt that she would not have been able to go to college had she not lost weight, whilst Rachel described a similar tipping point to Sarah where she reached a size she that was unhappy with and then made efforts to change. However, her weight increase appeared to be comparatively small having only been marginally obese once at age 15 compared to Sarah who had always been obese. Interestingly, as adolescents, Rachel had been the one to make weight change efforts whereas Sarah had not, yet as young adults, Sarah was the one out of the two who appeared to be most bothered with Rachel stating that her weight no longer bothered her as much as it had as an adolescent. However, Rachel’s lower SDS could be a reason for this difference in young adult botheredness.

Elizabeth (age 24: SDS 3.56; BMI 41.2), who remained morbidly obese as a young adult, was the only participant who did not provide weight-related reasons for

her reported changed behaviours. She reflected that losing weight resulted in a change of dress size going from a size 18 to a 16, and so she *“could see that, I was losing weight because I’d be walking along the road and maybe I’d feel, my skirt start to slide”* which made her *“feel a bit better”*. From the way she described feeling about the outcome of her weight loss, it is reasonable to assume that, as with other females, clothing was perhaps her motivator to change. The weight related feelings and motivators she described as an adolescent may also have been similar to those she felt as a young adult, but because of the retrospective nature of the study these were not as distinct to her and so she was unable to differentiate and hence appeared unable to provide reasons for her behaviour changes.

In relation to Elizabeth, it can clearly be seen that although categorised as a slimmer due to a weight loss of at least 0.3 of an SDS, she is still morbidly obese and still as a young adult remains unaware of the extent of her size. In addition, her descriptions of her size 16 dress size is highly likely to be inaccurate given that she has a BMI of 41.2 and perhaps she was attempting to describe herself in a more favourable manner during the interview.

With regards to methods used by these participants to lose weight, the majority reported making deliberate changes to their behaviours. The males reported adopting a combination of both diet and exercise behaviours. For example Michael (age 24: SDS 2.31; BMI 31.9) described how he started walking to college and back whereas as an adolescent, he would have taken the bus everywhere. He also stated that he started to use the gym around the age of 18/19 and subsequently *“got my ain stuff [gym equipment], stopped going to the gym and just done it fae my room.”* As for his diet, he reported:

“eating a good breakfast of cereal or a bit of toast. Just having a decent lunch in college, and then just having toast or something at night”.

As a result of this, he reported that he noticed a *“big difference - starting to see it coming off and stuck to that, and aye, still sticking tae it.”* It appeared that his determination not to exercise as an adolescent, avoiding all exercise related behaviours, switched to becoming determined to do all that he could to change his weight. Had he not been told about the health implications by a

doctor at a time he was receptive to this information, he might never have made the change. Certainly, as has been described earlier, many participants described not being concerned by their health as adolescents, it was only as young adults that they were starting to consider the health related implications of being overweight.

In contrast to the males, the females solely reported dietary changes. Catherine (age 24: SDS 0.55; BMI 24.0), was a very good example of this and was interesting because although she described weight change attempts as an adolescent, this is not evident in the physical measurements taken during the 11 to 16/16+ study. However at the time of interview she was normal weight which she described as being as a result of cutting her eating “*all down and just stopping doing half the things completely*” referring to alcohol and the calories it contains. She also stated that this vigilance had continued; at the time of the interview she was only eating small meals and restricting the amount of unhealthy foods. It should be noted that to go from an adolescent SDS of 2.37 to a young adult SDS of 0.55 would have taken a great deal of vigilance and determination and this was reflected in her personality during the interview. As all of her family were big, it may have been easier to follow their poor diet and exercise habits rather than attempt weight loss as an adolescent.

Sarah (age 24: SDS 2.49; BMI 32.7) had been one of the most bothered as an adolescent although not losing weight at this time. Although still very obese she reported weight loss as a result of attending Weight Watchers meetings, although this only began a few months prior to the interview. This contrasted with Rachel (age 24: SDS 1.14; BMI 26.1) who, now only slightly overweight, who described that she:

“not so much dieted, it just changed the way I ate, rather than actually following Weight-Watchers or anything like that, and exercise, because I wasn’t getting any exercise really from when I stopped doing PE at school”.

Finally Elizabeth (age 24: SDS 3.56; BMI 41.2), another of those most bothered weight maintainers, when asked how much she had changed since being a teenager, stated:

“I have changed since I’ve been a, teenager because I watch what I’m eating and, I only have a bit of chocolate maybe once a week and, I don’t go out and just pure indulge because I want to”.

7.4 Why did some participants regain all or some of weight lost during adolescence?

Six participants who lost weight in adolescence, had, at the time of interview, regained all the weight previously lost and were bigger than they had been as adolescents. A further nine participants had regained a partial amount of their previously lost weight, of whom three were now back in the obese category. Of those who had regained all previously lost weight, this increase ranged from 0.93 SDS to 1.82 SDS. Partial weight regain ranged from 0.11 SDS to 1.51 SDS.

Five of the six who had regained all previously lost weight were male. For some, their reasons for the weight increase were tied to having not maintained their exercise levels. For example, Matthew (age 24: SDS 2.49; BMI 32.9) felt he had *“changed a lot since later teenage years, for the worse”* and that he had *“put on a lot of weight”*:

“I don’t play football at all any more, or I don’t run, go to the gym- I don’t do- it’s rare you’ll see me going doing something now.”

However, although aware that his weight had increased and stating that he would like to lose some again, he did not appear to be as bothered by his weight as he had been as an adolescent. This might have been because he was settled and living with his girlfriend since he had described having been particularly bothered that his weight as an adolescent would impact on him socially, particularly with regards to getting a girlfriend.

Similarly, Geof (age 24: SDS 3.87; BMI 44.3), now exceptionally obese, had reported becoming very active after leaving school, felt that his work hours impacted on his desire and ability to exercise as a young adult:

“I stopped it because it wis getting up at six in the morning sometimes half five and aw the way through to Edinburgh then coming aw the way back and going straight there. It wis, I never had a life outside like sport if you know what I mean, that way, so I geed up the boxing just to play fitba basically.”

However, his football playing also stopped, so although he would *“like to play fitba again but as I say, some o’ ma pals work different shifts an’ or whatever they get their own life as you get older”*. Geof too did not appear to be particularly bothered with this weight regain, but it was difficult to gauge from him why this might have been, since he was particularly difficult to interview, appearing very disinterested in the whole process and issues he was being asked to discuss.

However, some males related their weight increases to diet. They included Philip (age 24: SDS 2.01; BMI 30.4) who felt that his weight regain was related to the initial way in which he lost weight. He had reported that his adolescent weight loss was due to not having time to eat as much as previously due to working full time between high school and university which, although helping him lose weight fast, was *“not in a sustainable kinda way because, em, once I did start eating properly and regularly again, it kinda went up and then it kind of levelled off”*. Malcolm (age 24: SDS 2.09; BMI 30.8) believed that increases in the amount of food he consumed as a young adult were related to giving up smoking, thus eating when previously he would *“light up a cigarette”* if he was hungry. Neither of these individuals appeared concerned that they had regained weight and were certainly no more bothered by their adult size than they had been by their adolescent size. So one of the possible reasons for some of the participants’ weight increase, may have been that they either remained, or had become, unconcerned by their weight thus making little or no efforts to lose weight, or maintain a previously lower weight.

The exception to this was Patrick (age 24: SDS 2.04; BMI 30.5) who was one of those least bothered by his size as an adolescent but who reported that as a young adult, he was *“more self-conscious about his image”*. He provided no explanation as to why his weight had increased as a young adult although this may have simply been because he had not been particularly aware of his adolescent body size and, infact, had been one of the least obese males in the study.

The only female weight regainer was Laura (age 24: SDS 2.06; BMI 30.2) and she, along with Matthew and Geof, appeared to attribute this to her working life, reporting that it was:

“harder to maintain it [exercise], I think, in a working life. Em, you’re out working all day, the last thing you want to do is hit the gym, really, some days - you just want to go home, chill out, lie on the sofa and watch Eastenders”.

As with the males in this group, she did not seem to be particularly bothered that she had regained weight. This may have something to do with the fact that she was in remission from cancer and so it is likely to have been lower down her list of priorities. She was certainly animated and excited when discussing how her health was improving. Indeed, it did not appear that she was that aware that her weight had increased again, being more distracted by the fact that her hair, which was “*her thing*”, was starting to grow back.

The reasons given by those who had regained a partial amount of weight were generally similar to those above, except they also described being vigilant in order to not regain all of the weight.

Colin (age 24: SDS 1.98; BMI 30.2), one of those who had been most bothered by his obesity and had used extreme methods to lose weight was one of this group. He felt that since the initial weight loss, his weight had “*been up and down - it fluctuates quite a lot, it doesn’t stay the same weight*”. He too attributed this increase to “*working aw the time, and I’m eating in my work and then I’m coming home and having my dinner*”. However, he stated that he had never again thought about making himself sick to lose weight because he was worried about the damage this had done to his body as an adolescent and so to prevent regaining all the weight, he was more vigilant of his eating habits than he had been as an adolescent:

“I pay more attention to myself now, as in, like, I will try and eat something a bit more healthier than, em, even though I’m going to work now, and I cannae be annoyed going to the gym, or cannae be annoyed doing any exercise”.

Although he was more bothered with this regain than those who had regained all of the weight lost, it appeared that he too had taken on board doctors’ advice, although in his case, about the long term damage he could have done to his body through his prolonged bulimia, and as a result of this and being less motivated to go to exercise because of his work hours, he had regained some weight.

Pete (age 24: SDS 1.47; BMI 28.0) who had initially sought advice from his GP towards the end of his adolescence as to how to lose weight, reported that he became “*mindful again of not falling into the trap with food [...] I would remember what it was like the time before*” when he was overweight. As a result, he felt he had “*managed to sort of control my eating habits and not drink so much alcohol*”. However, he reported regaining some weight when moving into his own flat. This was predominantly during the “*first month or so I was in here, in the flat my diet was terrible. I think I probably put on about half a stone in a month*” before he corrected this by following Weight Watchers for a few weeks and losing some of the additional weight he had put on, thus also demonstrating a degree of vigilance, correcting bad weight related habits before he had the chance to regain all the weight lost. Perhaps as a result of this awareness of weight increase and subsequent habit correction, he did not appear to be particularly bothered by the regain and certainly seemed a happy and contented person when interviewed.

Chris (age 24: SDS 1.84; BMI 29.6) reported that his diet and exercise levels initially changed passively as a result of going to university. His diet changed for financial reasons and so not intentionally:

“[I] pretty much spent all the money I had on cigarettes and alcohol and didn’t eat as much as I probably should have, but not in a, you know, deliberate way, just like I used to never have any money for food so I lost quite a lot of weight then”.

This was in contrast to living at home where he “*always used to eat healthily*”. In addition to this, he reported that he joined the gym in his second year of university, although he put more emphasis on his change of eating behaviour as a reason for weight loss, since his gym membership had lapsed during this period. However, because he described attempting to lose weight as a young adult, he was not categorised as a passive slimmer. As with Pete, he did not appear concerned with the regain and was similar in demeanour to Pete. Another similarity between the two was that they were both living with partners in their own homes when interviewed and perhaps this stability and reassurance that they were able to maintain a romantic relationship contributed to this, particularly since they both described lacking social confidence as adolescents,

with Chris specifically stating he was concerned his weight would impact on the way girls perceived him.

Included in these partial regainers, were two adolescent passive slimmers who attributed their weight regain to quite different factors. The first, Donna (age 24: SDS 3.20; BMI 37.8) attributed her adolescent weight loss to becoming more active as a result of participating in the Duke of Edinburgh awards. She reported feeling that she had regained weight after leaving home as a result of her diet becoming worse. Whilst Donna did not report actively attempting to lose weight as an adolescent, during university she became *“fed up with it. It reached a point where I’m like I don’t want it any more so I’ve just kinda got rid of it”*. She reported that subsequent weight loss was a *“gradual process”* for her and that *“it is all about having a healthy kinda attitude towards it [weight loss] and doing it slowly”*, and that this was what she had been doing since adolescence, stating that *“it’s been working, it’s been staying off”*. So although having lost weight as an adolescent, albeit passively, she too appeared to have reached a tipping point during her young adulthood which resulted in actively doing something about her weight and being vigilant to try and keep it off. It should be noted that she remained morbidly obese as an adult and so the extent to which she *“got rid of”* her weight through this gradual process, has to be questioned.

Different to Donna was Patricia (age 24: SDS 2.55; BMI 33.1), who believed her adolescent weight loss was predominantly as a result of an overactive thyroid. She felt her weight regain was related to this, describing being told by doctors that she now had an under-active thyroid. However, Patricia was again trying to lose weight and had been *“referred to the Council’s weight-management service by my doctor, and I went and never lost any weight there”*. As with some of the other regainers, she focused on monitoring her diet as a young adult, which contrasted to her adolescence when she *“ate things I knew I shouldn’t because I knew they were unhealthy”*. She felt she had *“become more responsible and conscious. I’ve been trying to lose weight and have been trying to be as healthy as I can”*. So again although having lost weight passively, the weight regain had resulted in her tipping towards a more active and healthy lifestyle in order to attempt to lose the weight gained.

One of the most interesting partial regainers was Emma (age 24: SDS 1.68; BMI 28.4). She was very different to the other participants in this study since she described consciously allowing her weight to increase. This was because she felt that her adolescent dieting was:

“the most miserable time of my life. It was just, it was mundane. It was just, I don’t know. It’s, I just wasn’t happy because you cannae go out.”

She was “*bloody miserable, was because I, I couldnae enjoy myself*”. Emma had put herself through this “*miserable*” period in order to meet fitness and health requirements for joining the police force. Contrary to what might be expected, she also reported that the weight loss affected her confidence because she had “*always been big, I didn’t know how to be - that sounds ridiculous, how to be skinny, but I didn’t*”. So her choice was between:

“being skinny, or do I go with, em, kind of having a wee bit of weight on me and being happy? And I went with being happy”.

However she clearly remained mindful of her weight describing:

“I go to the gym, but I don’t worry about, I’m not saying I don’t worry about what I’m eating, that’s, that’s no right, because I do eat healthy. I do, like, kind of eat my vegetables and, and kind of, like pastas, like good, fresh pastas, and things like that. [...] I’m aware of, of what I can eat and what I can’t eat and, like, kind of what’s good and what’s bad. I don’t over indulge, but I do eat the things I enjoy.”

Certainly this continued worry about her eating habits was reflected during the interview, with her appearing to be attempting to restrain herself from weeping when describing these behaviours and her adolescent weight related experiences.

Finally, the remaining three partial weight regainers appeared unaware that their weight had increased. Alan, (age 24: SDS 1.33; BMI 27.4) had been equally unaware of his weight as an adolescent but had originally increased his exercise levels in a bid to get into the armed forces. Upon leaving school and going to university, he continued to stay at his parental home and so his diet changed little. By the time of the interview he had left home to join the armed forces, and he reported that he was still physically active and did not appear aware that

his weight had increased (from his lowest SDS of 0.86 to an SDS of 1.33). In contrast, Christina's (age 24: SDS 2.44; BMI 32.4) descriptions of earlier weight loss suggested it was passive, reporting that she did not "*think I went oot my way tae lose any weight [...] it just kind of happened for me*", and that she "*probably just lost it by accident*" since the weight loss came post adolescence and not as a result of described crash diets which she felt had never worked.

However, she reported that her weight was being monitored by a doctor to determine if it was related to stomach problems she was experiencing which also appeared to incorporate a diet change where she had to "*watch what I'm eating*", although again she did not appear to have worked too hard at this or related it to weight change. So from these accounts it appeared that, although a very determined individual, her weight related behaviours were passive or certainly she did not consider them to have been successful. In effect, it was not until she stopped trying to change her weight that she appeared to lose it. It may be for these reasons that she had regained a partial amount of the weight she had lost as an adolescent and certainly she described feeling that her diet behaviours had got worse when she moved out of a homeless shelter into her rented accommodation. Regardless of all this, she did not appear to be aware that her weight had increased since adolescence, feeling that she had actually lost weight. However the recorded measurements held for her showed that her SDS had increased from 2.09 to 2.44 from the age of 19 to the time of interview.

7.5 What were the reasons for weight gain to continue post adolescence?

Eight participants continued to increase in size throughout adolescence and into adulthood with a variation in the extent of SDS increase.

Firstly, two participants are represented as having had the same SDS at age 19 (see Appendix Fourteen Participant summaries). Lisa is represented as having had the same SDS at age 19 because she refused to be weighed at the time of interview and since she clearly appeared to still be obese, her age 19 weight was carried forward. In addition, Jamie was among four interviewed during the pilot phase before it was decided that height and weight data should be collected

during the interview. Whilst the other three pilot study participants were retraced and revisited to be measured, Jamie had moved and contact was not possible. Since he too appeared obese during interview, his age 19 weight status was carried forward to represent his adult weight. Among the others for whom measured weight and thus SDS were held, their weight either remained stable (no increase in SDS) or increased by up to 0.5 SDS. Their young adult SDS, not including Lisa and Jamie (recorded as having an age 19 SDS of 3.79 and 2.57 respectively), ranged from 2.37 to 3.78.

Although the males related their young adult weight to diet or exercise behaviours, they did so in different ways. For example, Neil (age 24: SDS 2.75; BMI 34.9) reported that he had “*always struggled*” with his weight although he had unintentionally lost weight when he had started an apprenticeship upon leaving school. However, although not totally happy with his weight at the time of interview (“*I know for a fact that I’d be a lot happier if I was slimmer*”), he felt that it was not as important to him as it had once been because he had other things in his life of more value such as work and relationships. He suggested that being in a relationship was one factor that led to his overweight status stating:

“whenever I meet a lassie, I’ll be in tip-top condition, and then, within a year, I’ve put on like a stone and a half and two, and then the second, if I split up with a girl I’ll lose all the weight again, I’ll make the effort and I’ll lose weight, then I’ll meet somebody and then, aye, just sit and watch telly.”

Whilst Neil related his weight changes to being settled, or unsettled in relationships, Jamie (age 19: SDS 2.57; BMI 31.6) attributed his weight as a young adult to alcohol, recalling that in:

“first and second year at uni when I just, you know I discovered, you know, booze. And then that really was us off to the races in terms of overweight.”

Although also describing periods of weight loss, he knew his weight had increased again and stated that he had “*begun to get a hold*” on it around the time of the interview. However, he did not appear to be particularly concerned about this increase which was perhaps reflected in his lack of description as to how he was ‘getting a hold’ of his weight.

Richard (age 24: SDS 3.71; BMI 42.6) reported having lost weight as an adolescent during a college sports coaching course (although this was not captured by any of the 11 to 16/16+ measurements). Once he completed college, he was unable to get a job in coaching because of his inability to drive; *“you couldn’t really jump on buses with forty footballs in your eh bag”* as well as *“nine times out of ten, it was only thirteen hours involved per week, so you wouldn’t be able to do it full time.”* Because of this, he had gone back to working shifts in a kitchen factory, and although he did not specifically attribute his weight regain to this, he did reflect that the shifts impacted on potential exercise time stating:

“I’m into things like martial arts and all that noo, but I cannae really dae it noo wi the work, coz I work night shift obviously, and a lot of the classes are at night.”

However, Richard demonstrated that he was fully aware of his current size, stating that the family doctor was *“always geeing me an earful”* about his weight and that *“every time I go up that’s the first thing she does. If I go up for a sore throat she weighs me, so she’s always on my back to get me to lose weight”*. However rather than make changes, he reported he had avoiding going to the doctors *“for aboot eight month noo, coz I’m terrified of going up again in case she shouts at me again”*. This avoidance behaviour, perhaps draws parallels with his described adolescent habit of being a recluse, avoiding spending time in social situations, preferring to spend time at home comfort eating. In both his adolescent and young adult habits, he appeared to be avoiding situations where he would be reminded of negative aspects of his life such as being treated differently by others because of his parents dying, or being overweight.

The females also reported a range of reasons as to why healthy diet and exercise behaviours were compromised. For example, Anne (age 24: SDS 3.74; BMI 43.1), who was morbidly obese when interviewed, described periods of significant weight loss, stating that she lost five stones after joining a slimming club at the age of 19. However, she had also previously cited medical reasons for being overweight having *“never been classed as normal weight”* and being first referred to a dietician at the age of three. During the interview she felt that she was *“more health conscious than what I was as a teenager, I think probably most people do when they grow up. Not that you can tell, I’m still big”*. She felt

that losing the weight led to her developing stomach problems and she started *“to get really bad the acid that is, as I lost weight the muscles in my stomach loosened, [...] due to that the weight started to creep up again”* because she had to:

“eat things to suit my stomach, rather than suit my diet, it was the way it started to slowly go back on, and it was a bit soul destroying [...] I’ve just went back to, kinda slipping back into a routine that I probably eat more calories than I needed to, and I started putting weight back on again.”

Lisa who also appeared significantly obese (age 19: SDS 3.79; 43.3) also attributed her weight to a medical problem, reporting that she had been diagnosed with polycystic ovaries in her early twenties although she acknowledged that her weight could not entirely be attributed to by this stating:

“it has its own vicious cycle if you don’t watch what you’re eating like a hawk and- and how your lifestyle is [...] it’s just a big cycle, the polycystic ovaries. You put on weight it makes you put on some more”

However, she also stated, as some of the others had, that her work affected her health behaviours, having started a job where she sat down and *“prior to that I was in a shop for three years. Putting on weight but I was still quite, fit. And it’s just because I wasn’t, watching so well what I was eating”*.

Finally, Natasha (age 24: SDS 2.37; BMI 32.0), did not provide any particular reason as to why she had remained overweight but stated that she was *“happy, I just, I would like to be thinner again”* referring to a period of reported weight loss after 5th year of high school. She did not appear to be particularly bothered by her size and unlike Kirsty did not appear to have reached her tipping point.

None of the participants described thus far in this section appeared to be particularly bothered by the fact that their weight was steadily increasing. Related to this, these participants also appeared to be more laid back than some of the others, and perhaps exhibited less ‘get-up-and-go’, reflected in their almost flippant descriptions of weight regain.

However, among this group of continued weight gainers Kirsty (age 24: SDS 3.78; BMI 43.5), who attributed her continued weight gain to the fact she had not

been bothered by her weight as an adolescent, although at the time of interview she had recently started *“Slimming World and started going to the gym”*. She reported this change in behaviour to be due to being *“ready to take that step to lose weight, but when I was younger, it didnae bother me, I don’t think I really had any concept of being big you know”*.

7.6 Summary

This chapter has demonstrated that the transition from adolescence to adulthood resulted in further changes in weight patterns and that these patterns were complex and differed among the sample.

As young adults, three were normal weight, eleven overweight, fourteen obese, and five were morbidly obese (BMI >40), and two others had no adult weight measurements but appeared significantly obese at the time of interview. Importantly, almost all participants who were not obese at age 24 had been effective slimmers in young adulthood.

During adolescence around half the most bothered females had been effective slimmers, but as young adults, all were. Further, as young adults, all least bothered females had made attempts to change, although only one was successful. No participants report passive weight loss as young adults, and all who had described making no adolescent weight loss attempts reported making some sort of attempt in young adulthood. Only males were found as young adults not to have made further attempts to lose weight.

Around one fifth of participants who had previously failed to lose weight or had made no weight change attempt as adolescents, were found to have lost weight, some substantially. Whilst not all described reasons for this weight change, those who did, reflected that they had been motivated as a result of health advice from doctors, because they had reached a stage of being disgusted with themselves, or because they wanted to improve their appearance.

Six participants (five males) had regained all the weight they had lost as adolescents whilst a further nine had regained a partial amount. Males were found to have regained weight either as a result of decreased exercise levels or

increased food consumption as a result of working patterns. The one female among these regainers also described working life as a barrier to weight loss maintenance. Those who had partially regained weight had varied explanations. Some had been passive slimmers as adolescents, and although they had regained some weight were making active weight changes as adults having become fed up with their size. One of these partial regainers described actively attempting to regain weight having been unhappy being thinner.

Many of those whose weight had continued to increase into young adulthood, described feeling they had had periods of weight loss. However, as adults, they were aware that they had put on weight, citing reasons including increases in alcohol consumption, being settled in relationships and medical complications of weight loss or resulting in weight gain.

Five of the six participants who had maintained their adolescent weight loss described increasing their weight change behaviours or being vigilant not to slip into old habits. In contrast one, who had lost weight as a result of a virus during adolescence, was attempting to regain weight.

Chapter Eight – Discussion

8.1 Introduction

This thesis represents a body of work undertaken to unpick often conflicting findings associated with the impact of obesity on the lives of children and adolescents within the general population (non-clinical) and the behaviours they might adopt to alter their weight. The aims of this qualitative study were to gain a greater understanding of adolescent obesity and of factors that may have led to significant weight loss during or since adolescence. In order to meet these aims, the following research questions were addressed:

- 1) *How did young adult males and females who had been obese in adolescence recall their adolescent experiences?* The main aim here was to investigate what it was like to have been obese as an adolescent, and more specifically whether, and if so how, obesity affected a broad range of factors associated with adolescent life including well-being, friendships, relationships and opportunities.
- 2) *What differences in weight-related behaviour in adolescence were there between those who became non-obese (or managed to lose substantial amounts of weight), and those who maintained or increased weight during adolescence?* The main aim here was to compare those young adults who became non-obese or decreased their obesity during adolescence with those whose obesity was maintained or increased, in order to enhance understanding of motivations and methods leading to substantial weight loss.
- 3) *What differences were there between those who maintained their weight loss into adulthood, those who regained weight as adults and those who lost weight post adolescence?* The main aim here was to consider how those maintained or achieved weight loss as adults, differed from those with persistent or relapsing obesity

This chapter will begin with a discussion of the strengths and weakness of the study, including a brief section on how the findings of this study relate to previous analysis of the **11 to 16/16+ study** cohort from which participants were sampled. This is followed by discussion as to how the findings of this study relate to other areas of research associated with body weight and weight related concerns and experiences, and theories of weight change behaviours and motivations. Finally main conclusions and recommendations for future research will be presented.

8.2 Strengths and weaknesses

The main strength of this study was its sampling strategy; that participants were sampled from an existing longitudinal cohort based on known BMI calculated from nurse measured height and weight. This meant that participants could be sampled by adolescent obese status but in such a way that obesity did not appear to be the main focus of the study. Whilst this could have had ethical implications, the ethics committee at Glasgow University were satisfied with the rationale that informing potential participants that recruitment was of those who had been 'of above average build' at some point during adolescence would allow for inclusion of those obese who were perhaps unaware of their body size.

The fact that participants were recruited in such a general way did mean that the interview schedule was less focused on weight and more on adolescent life. Whilst this was of interest, given that one of the objectives of this study was to investigate how obese adolescents experienced their lives, it meant that some of the questioning was not as focused on weight as it might have been and perhaps greater detail of motivators to weight change could have been gathered with a more focused interview schedule. However, the data collected was rich and plentiful covering a broad range of topics. To have employed more direct sampling, informing participants they were being contacted because of their adolescent obesity could have limited response in general as well as from those who were less aware of their adolescent body weight.

Another strength to this study is its comparability to previous analysis with the cohort from which participants were sampled (**11 to 16/16+ study**).

Specifically, the majority of participants in this study were found to recall feelings and experiences which would suggest they had, weight-related worries, and dieting and appearance concerns. In addition, their recollection of weight change patterns often reflected the transitions in and out of obesity during adolescence as recorded during the **11 to 16/16+ study** phases. However, there were times when participants described weight change that were not accounted for by data collected for the **11 to 16/16+ study** - it could be that weight change had been short lived between measurement points, or it could be that they described weight loss in order to make themselves appear more motivated than they actually were. Regardless of this, the similarities between the findings of previous quantitative analysis and the qualitative findings reported in this PhD thesis demonstrate the strengths of the data collection methods.

Another possible weakness is that those who participated in the study might have been those who were less bothered by their weight and thus happier to participate in a face-to-face study. However, the response rate to the recruitment phase was high, and almost all of those who were contacted, participated. Indeed out of the 83 people mailed only seven who were contactable declined, due to being too busy. The main reason for the difference in numbers between those mailed and those who participated in either pre-pilot, pilot or main study, was that their contact details were out of date, or they had moved distances too far to be reached for interview thus demonstrating as representative a sampling response, in terms of botheredness, as possible.

The retrospective nature of this study may also have impacted on data collected, given that participants were being asked to recall a period of 13 years. Although participants very rarely stated during the interview that they had difficulty remembering this period, they may have presented false memories or filled in memory blanks with recollections that depicted themselves and their experiences in a more favourable manner. Certainly, when comparing participants' interview accounts to data collected during their adolescence as part of the **11 to 16/16+ study** some discrepancies were apparent: all participants had reported during adolescence being at least 'a bit worried' about their weight, yet some verbal accounts during the interviews suggested otherwise. However, there has been suggestion that retrospective data collection in qualitative research may be beneficial as it allows the individual to

have a considered clearer understanding of their past experiences (Atkinson, 2002). In relation to this, it should be considered that the responses participants provided as adolescents may only have reflected how they felt on the particular day they were surveyed; those who happened to have been teased about their weight that day may have provided a negative response to a weight related question compared to someone who was having a particularly positive day.

Although participants very rarely stated during the interview that they had difficulty remembering this period, as discussed in Chapter Three, memories of more emotive aspects deteriorate over time whereas more routine memories such as a work routine are more likely to remain intact. This could explain the discrepancies and should be considered when interpreting the findings of this study.

Another point to consider is the potential impact of the researcher and the research process on the data collected and presented (Ali et al, 2004). This impact can be seen as taking three main forms. First, is the way the researcher may be viewed by participants, second is the way the participants wish themselves to be viewed, and third are the values and opinions the researcher may impose on the data during analysis.

As a female, with a BMI of approximately 22.5 at the time the interviews were conducted, who represented the Medical Research Council, I had to consider that these factors could impact on what participants disclosed to me during the interviews. This could have especially been the case with those who were still overweight or obese and could have impacted on what they disclosed to me during the interview. Particularly this may have impacted on the way they discussed being bothered by their obesity or the effort they put into weight change attempts. For example, they may have wanted to appear to have been unconcerned by their weight, particularly those who were still overweight or obese, thus justifying why they had not made successful weight change attempts. It has been suggested that in qualitative research, 'like should interview like'. This suggestion is particularly evident in feminist methodology whereby women are favoured to conduct research with women so that their disclosure is not impacted on by those interviewing them (Byrne, 2004). Perhaps if I had had a higher BMI when conducting the interviews and had a body size

which was closer to their adolescent weight, those who appeared guarded and unsure during the interviews may have responded better.

It also has to be taken into account that participants might have learned to say things that made them appear more favourable given that they were often aware that in order to lose weight they needed to follow a healthy diet and be more active. For example, Elizabeth described being a size 16 since adolescence, but had a BMI greater than 40. She also described her eating behaviours as being relatively healthy only allowing herself a treat every now and then. However, many participants *did* describe themselves and their behaviours in a fairly negative manner during the interview suggesting that the descriptions provided were, on the whole, accurate and honest.

In relation to the impact I may have had on the data analysis, it should be noted that I am vigilant of my own health behaviours and have my own opinions about weight control behaviours and so may have subconsciously imposed some of these judgements on the data when conducting the analysis. Whilst I made every effort to remain impartial and had many discussions with colleagues regarding the categorisation and descriptions of participants, it is a potential factor that needs to be acknowledged with all qualitative research.

8.3 Obesity and adolescence

Over the course of analysis and as reported in the previous three qualitative chapters a number of key themes arose these being; body perception, clothing and romantic relationship issues, experiences of victimisation and impact on self-confidence. In relation to experiences associated with being obese during adolescence, the majority of these key themes related either to body awareness, or botheredness. The relationships between these factors were complicated - not all participants were aware of their body size, and not all who were aware of their body size were bothered about being obese. In this study, categorisation of body size awareness was determined by multiple factors such as the language participants used to describe their bodies and whether they attributed negative adolescent experiences to their weight. Participants who did not relate negative adolescent experiences, such as victimisation, to their

weight (for example, attributing it to other factors such as personal relationships) were categorised as less aware and less bothered. In addition, consideration of descriptions of weight change behaviours were taken into account *if* described by participants as being a result of feeling negatively about their weight. As was shown in the findings chapters, the relationships between these factors were not always linear.

Discussion of the experiences and weight related behaviours of participants in this study in relation to other literature will begin by considering factors associated with body awareness and botheredness and, where relevant, how these facilitated or restricted weight change attempts. Interwoven with this discussion will be psychosocial factors including victimisation, frustration, body (dis)satisfaction and other factors associated with adolescent lives such as fashion and romantic relationships since these were often found to relate to body size awareness and botheredness. The second half of the discussion will turn to adoption of weight change behaviours and reasons why some participants made weight change attempts whilst others did not, and why some who made attempts were successful whilst others were not. Given that there did not appear to be a linear pattern in respect of contemplation and adoption of weight change behaviours, a recent theory of behaviour change, where behaviour change is viewed as a *“quantum event that can be understood through the lens of Chaos theory”* (Resnicow & Vaughan, 2006, p. 1), will be discussed in relation to how it may increase understanding of weight change behaviours.

8.4 Body size awareness

An important theme to arise from the data was the apparent variation, during adolescence, in body size awareness. Although the majority of participants in this study had been significantly obese, with 77% having an SDS greater than two at some stage during their adolescence, signifying clinical obesity, many appeared to have been unaware of the extent of their body size.

It should be acknowledged that some participants in this study were only marginally obese, and on occasion this was only picked up at one **11 to 16/16+ study** measurement point. The marginal, transient weight status of these

participants is likely to have reduced awareness of obesity. However, this did not always follow, with some of the more transient, least obese, participants appearing to be more aware of their body size than some of those who were more obese for longer periods of time.

Generally, those who appeared more aware than others described themselves as overweight or fat. Those less aware would use terms such as chubby or ‘a bit overweight’, or would refrain from using any weight-related term that would indicate they felt they were above normal weight. Participants very rarely used the term obese and certainly did not use it to describe themselves as adolescents. Rather, it was a term that was used in respect of *other* individuals who were likely to have been described as being bigger than they were. This has been noted in other studies of adolescents, for example obese Scottish 13 to 14 year olds predominantly used terms such as chubby, heavy, podgy and fat to describe themselves (Wills et al., 2006).

There could be a variety of reasons for their lack of adoption of this term. Firstly, and perhaps most crucially, the term ‘obese’ is most frequently used by medical professionals to denote a level of ‘height for weight’ at which individuals are more at risk of developing certain health conditions such as cardiac and musculoskeletal problems. Thus it is not a term an individual would generally use to describe themselves unless they had perhaps received a clinical diagnosis of obesity from a health professional (Johnson et al., 2008). Secondly, there is a great deal of stigma associated with the term obese, with a large number of research studies demonstrating that obese individuals are often perceived negatively (e.g. Brylinsky & Moore, 1994; Latner & Stunkard, 2003; Richardson et al., 1961). Thirdly, the term ‘obese’ is frequently used by the media to represent those who are ‘super obese’. As a result, those who are less obese may not perceive themselves as such.

8.4.1 Normalisation of obesity

A growing body of literature has suggested that the increased prevalence of obesity has led to it becoming normalised. It is argued that those overweight or obese are less likely now, than in the past, to perceive themselves as having a weight problem when others around them are equally, or more, obese

(Maximova et al., 2008; Saxton, Hill, Chadwick, & Wardle, 2009; Sweeting et al., 2008; Wardle, Haase et al., 2006). These findings could account for the general reduced awareness among participants in the present study.

Recent research has investigated this aspect further among children and adolescents in an attempt to understand whether those with greater contact with overweight family and peers, would be more likely to misperceive their weight than others with less exposure to such groups (Maximova et al., 2008). In this large scale (n=3665) cross sectional (ages 11, 13 and 16) survey conducted in 1999, children from 178 Canadian schools were asked to select which figure best represented their body size on a figure rating scale. Their accuracy was assessed by subtracting their nurse measured BMI SDS from the BMI SDS assigned to the figure they selected. As with other studies, participants of all ages were found to misperceive their weight with those overweight or obese more likely to underestimate their weight. Those who had overweight or obese parents and school friends displayed greater degrees of misperception (underestimation of size). Schoolmates' BMIs had a greater impact than those of parents on the degree of misperception, demonstrating the impact of overweight peers on body perception. The majority of participants in the present study had at least one parent or sibling who was overweight, and were also likely to describe having had at least one friend of a similar or greater size than themselves.

It might also be assumed that if obese adolescents felt that their body size was no different to other individuals in their lives, they would make no active attempts to reduce their weight. However this has been found not to be the case, with many adolescents, even those apparently unaware of their body, including those in the present study, adopting weight change behaviours. Indeed it appeared in the present study that adopting such behaviours had also been normalised and that this was perceived to be a part of everyday adolescent life. The frequency and adoption of such behaviours will be discussed in subsequent sections.

8.4.2 Impact of the media

The media may have a strong impact on body size awareness and the use of the term obese since it is often used negatively in the media. Particularly, there are

frequent reports of how obese individuals are a financial ‘burden’ to the UK National Health Service (Anon, 2000). For example, a recent viewpoint published online by the BBC reported that as the number of obese UK citizens eligible for weight reduction surgery increases, the costs could escalate to 9.1 billion pounds (Leeds, 2010). This is coupled with other headlines such as “*obesity time-bomb ‘to cost £3 billion a year’*” (Collins, 2010) and “*obesity crisis draining NHS*” (Herbert, 2010). In addition, Television programmes tend to feature the ‘super obese’. It is easy to see how individuals who are morbidly obese with a BMI of 40 (equivalent to an adult of 170cm (5 ft 7”) and 115.5kg (18st 14lbs) may normalise their weight when faced with television programmes featuring individuals often at least twice this size, such as those included in the Channel 4 series ‘Body Shock’ programmes (Anon, 2008a, 2008b, 2009a, 2009b). Images of obese individuals are not limited to these extreme but unique cases. Other programmes, such as ‘Supersize versus Super Skinny’ regularly feature obese individuals often weighing over 20 stone (127 kg). This would represent a BMI of 48 in an adult of average female height (5’4”) in the UK.

Figure 10: Depiction of 'obese' on search engine 'Google Images'



Search of Google images conducted on 24th March 2010

The media has been implicated in (particularly female) negative body esteem (Brown & Witherspoon, 2002; Monro & Huon, 2005; Utter, Neumark-Sztainer, Wall, & Story, 2003), although this research has generally focused on skinny representations of models and actresses and the impact of these images on desires to be thin. However, media images of the ‘super obese’ may also be contributing to a decrease in body awareness among those at risk from weight related health problems. Certainly, using the search term ‘obese’ in an internet search engine such as ‘Google Images’ results in images such as those shown in Figure 10 above.

Figure 11: Selection of images depicting BMI 29 - 30

5'6", 180lbs, BMI 29



5'6", 202lbs, BMI 32.6



6'0", 215lbs, BMI 29.2

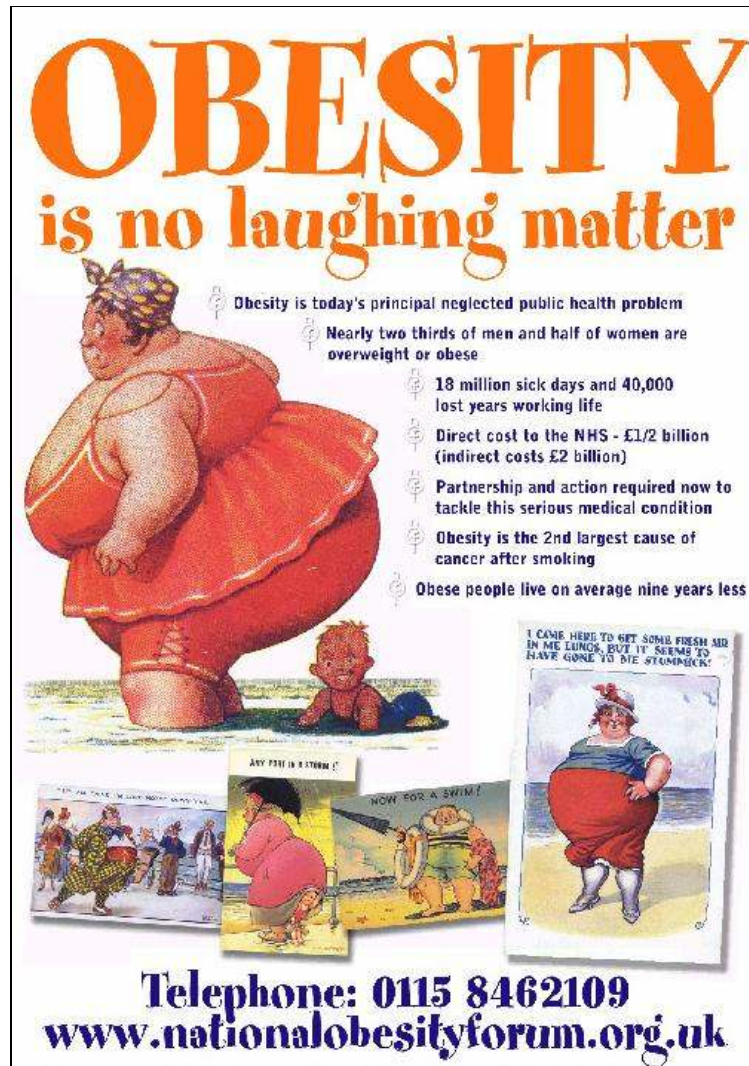


6'0", 216 lbs, BMI 29.3

Extraction of images from www.flickr.com 24th March 2010

If these are the images of obesity that are presented to the general population, it is understandable why those who are marginally obese (BMI = 30) who will be a size similar to those displayed in Figure 11 above, do not perceive themselves as being obese.

Images representing the size of those displayed in Figure 9 have also been used to promote the National Obesity Forum (Figure 12). The cartoon images aim to highlight that obesity is a serious health issue and not something to be laughed about. However, the depiction of these massively obese cartoon characters could have a similar impact to viewing the super obese on television programmes and in the media.

Figure 12: National Obesity Forum poster

8.4.3 Weight related feedback – comments and victimisation.

Another factor which might contribute to body size awareness is the frequency and accuracy of any received weight related feedback. Approximately one third of participants in the present study described receiving such feedback in the form of weight related teasing.

Weight related feedback can be received through positive and negative comments, as well as through victimisation, which can also involve weight-related teasing. Needham (2005) states that “*we form opinions of ourselves based on the reactions we elicit from those around us*” and so such experiences

can be viewed as crucial to developing body awareness as well as contributing to weight related concerns when perceived negatively.

Inaccurate weight comments from family, peers and health professionals have been linked to body size misperceptions, and thus body awareness. As an example, one large scale Chinese study (n=22612) aimed to investigate the impact receiving weight-related comments such as 'too fat' or 'too thin' had on adolescent body size perception accuracy (Lo, Ho, Mak, Lai, & Lam, 2009). In this study adolescents were asked to describe themselves as 'very thin', 'thin', 'just right', 'fat' or 'very fat'. In addition they were asked if they had had any experiences of being called 'too fat' or 'too thin' in the previous 30 days, and if so, who had made the comments: family members; peers; professionals; or others (Lo et al., 2009). It was found that mothers followed by siblings and classmates were more likely to make comments about both males and females being 'too fat', although mothers would also most frequently say they were 'too thin'. Comments about being too thin were most frequently made by grandparents, teachers, social workers and health professionals. Fewer than one-fifth of the weight comments participants received were accurate. This is worrying, since inaccurate weight comments were associated with inaccurate body size perception. Whilst this study did not differentiate between well intentioned weight related comments (most likely from family members) and those that could be viewed as weight related teasing, the authors did suggest that any such comments made, including negative, if accurate, "*may help adolescents develop an appropriate weight perception*" (Lo et al., 2009, p.271) thus leading to weight control attempts among those overweight or obese.

Experiences of victimisation, since they often involve weight-related teasing may contribute to both awareness of, as well as botheredness about, obesity. Approximately one-third of participants in the present study described being victimised, and although their experiences of victimisation varied, in all but one case, where a female described overt victimisation, victimisation was described as relational (i.e. teasing). Previously published research of victimisation in general suggests males tend to experience overt victimisation whereas females encounter relational victimisation (Griffiths et al., 2006; Pearce et al., 2002; Smith & Ananiadou, 2003). However, the overt victimisation experienced was not described as being weight related, rather it was to do with a potential

boyfriend, and involved no more than having bits of paper thrown at her during class to which she described throwing books back at them.

It appeared that experiences of weight-related teasing or name calling led to participants in the present study being more aware of their body size, since none of the least aware described being victimised while eight of the most aware participants described victimisation, even though not all who described being victimised related it to their weight. Thus, some felt they were victimised for reasons such as being taller than their peers or that their peers were jealous of them, an occurrence that has been noted by other researchers. For example, Adams and Bukowski (2008) propose that *“even if their victimisation is not due to being obese, it is likely that obese adolescents would perceive their obesity as the cause of their victimisation”* (p. 859). These authors suggest that experiences of victimisation reinforce any existing negative self-concepts and that this would be more pronounced among the obese and related to increases in depression and BMI. Their study was conducted using an existing longitudinal data set (three time points) and so self-concept for physical appearance was based on responses to one item - ‘I like the way I look’. Regardless of this, the analysis, which followed 1287 Canadian adolescents from age 12 to 17 demonstrated that among both obese and non-obese males and females, victimisation was related to self-concept for physical appearance. In addition, high levels of victimisation at age 12 predicted increases in depression by age 17.

Although the present study found a link between adolescent victimisation and obesity awareness, the degree to which participants appeared bothered by their victimisation and their size varied. It has been suggested that the degree to which obese individuals blame themselves for, and feel they can control, their weight, impacts on how negatively they perceive themselves (Graham & Juvonen, 1998). It has been suggested that if an individual perceives their victimisation to be the result of something that they cannot control such as their height, they will experience more maladaptive responses such as social anxiety. However, if they perceive the cause of their victimisation to be controllable such as the amount they eat, they will experience fewer maladaptive responses as they perceive themselves as having the power to alter their behaviour if they wish to (Graham & Juvonen, 1998).

8.5 Adolescent life

Participants in the present study appeared to have been more concerned with how their weight or appearance impacted on their adolescent life than of any health implications. Many appeared to believe that weight and body concerns were just another part of being a teenager and that they were experienced by all adolescents regardless of actual appearance. For many, weight was only perceived to be an issue when it restricted them from participating in normal adolescent activities such as going shopping, having romantic relationships or, particularly for the males, being able to join in with their friends in sporting activities. However, some did experience negative psychosocial outcomes, particularly those who made more social comparisons.

This section will outline these themes relating to adolescent life in relation to previous literature and discuss whether these factors bothered participants enough to motivate attempts to lose weight.

8.5.1 Weight related frustration and social comparisons

Chapter two outlined literature suggesting the predominant psychosocial factors associated with obesity as being a poor body image, depression and low-self esteem. However not all participants in the present study appeared to experience low self-esteem or poor body image as an adolescent and none described experiencing depression as a result of their weight. One aspect that did emerge was the frustration that the most bothered participants felt in relation to their weight and the restrictions it imposed on their adolescent lives.

It appeared that, where self-esteem refers to a person's general sense of worth and acceptance (Polce-Lynch et al., 1998, p. 2026), those in the present study did not feel any less worthy than the others they contrasted themselves with. Rather they appeared to have felt frustration during adolescence since they could not understand why, when they perceived themselves as having the same health behaviours as others, particularly friends, that they were more overweight. This frustration was reported by both males and females, contrasting with suggestions that males would not wish to disclose negative

feelings so as to present themselves in a more socially desirable manner (Polce-Lynch et al., 1998). This finding can be linked to research associating social-comparisons, or “*cognitive judgements that people make about their own attributes compared to others*” (Jones, 2001, p. 646) , to body image and self-esteem.

Social Comparison Theory (Festinger, 1954) suggests that “*individuals process social information by comparing themselves to establish similarities and differences*” (Kraye, Ingledew, & Iphofen, 2008, p. 892). Social comparisons are regarded as one of the main contributors to body image (Jones, 2001), and although discussed previously in relation to the normalisation of obesity, have also been found to relate to a negative body dissatisfaction (in all age groups) although the effect is stronger for women and younger populations (Myers & Crowther, 2009).

The finding that social comparisons in the present study were often made against peers and in a way which appeared detrimental to self-esteem and self-confidence is also consistent with previous research. For example, an American study asked 415 adolescents aged 12 to 15 years to rate how frequently they compared themselves to either fashion models or peers on measures of physical (height, weight, shape/build, facial features) and personal/social attributes (personality, intelligence, style, popularity), to complete the Body Dissatisfaction Scale from the Eating Disorder Inventory and self-reported height and weight (Jones, 2001). The findings of this study suggested adolescents’ social comparisons were made most frequently against peers, and in respect of height, weight, personality, intelligence and popularity. There were no differences in comparisons between peers and models for style, shape/build, and face. Those who compared themselves most to peers, or equally to peers and models, displayed the most body dissatisfaction.

These findings demonstrate the potential negative outcomes of making social comparisons, particularly with regards to weight and subsequent body dissatisfaction. Certainly those who recalled making such comparisons against siblings as well as peers, were among the most bothered in the present study. However, such comparisons were rarely reported as being a motivator to adopt weight change behaviours. This may again relate to attribution theory, given

that most of those who made such comparisons tended to describe not being able to understand, as adolescents, why they were different to those with whom they compared themselves, thus attributing their overweight to uncontrollable factors.

8.5.2 *Body (dis)satisfaction*

Body (dis)satisfaction is defined as perceptions individuals hold about their bodies and is a construct that has many names including body image and body-esteem. This aspect of adolescent life was one of the most predominant to emerge from the present study. As described in chapter five, there was great variation in the degree of body dissatisfaction described by participants. While some described hating their bodies, others described being happy with some aspects such as the appearance of their legs, but dissatisfied with others such as the size of their breasts or stomach, and a few did not appear to be concerned with any aspect. As discussed in the literature review, many studies have been conducted on body dissatisfaction and body image, with the vast majority finding a relationship between obesity and body dissatisfaction. For example, recent research conducted with 1490 American adolescents (school grades 7-12) from a general population school sample found that those who were above the 95th percentile (IOTF cut-offs) had higher body dissatisfaction than overweight (85th-94th percentile) and normal weight adolescents respectively (Goldfield et al., 2010).

However, body dissatisfaction is not limited to those who are obese, with equally large volumes of literature reporting a relationship between body image and body dissatisfaction regardless of body size (Brenner et al., 2004; Gillison et al., 2006; Kostanski & Gullone, 1998; Raudenbush & Zellner, 1997; Sweeting & West, 2002). This is particularly evident among literature focused on adolescents experiencing eating disorders, their body size misperceptions and subsequent body dissatisfaction (Boschi et al., 2003; Probst, Vandereycken, Vanderlinden, & Van Coppenolle, 1998). Thus body perception determines body dissatisfaction.

A particular focus has been on the relationship between body dissatisfaction and psychosocial functioning with evidence to suggest that low self-esteem can lead

to weight preoccupation, again regardless of actual body weight (Abell & Richards, 1996; Lowery et al., 2005; Pritchard, 2010; Shea & Pritchard, 2007).

Therefore it appears that it is body perception rather than actual body weight that is important for psychological outcomes. This has been supported by a large (n=5746) study of Dutch adolescents (ages 9 to 13) in which weight perception rather than actual body weight was related to mental health outcomes. The exception to this was among the younger (aged 9 to 10) males, where obese boys displayed less social physique anxiety than non-obese boys (Jansen et al., 2008). This is likely to relate to evidence suggesting young adolescent boys' desires to be physically bigger (McCabe & Ricciardelli, 2004; McCreary & Sasse, 2000).

8.5.3 Clothing

Clothing and fashion was an aspect of adolescent life that was discussed by approximately one-sixth of participants. These were predominantly, but not exclusively, females. This aspect of life as an obese adolescent appeared to be a cause of distress for some, particularly in relation to not being able to purchase age appropriate fashionable clothes from high street stores as their friends did. Rather, they were often forced to buy clothes from specialist 'plus size' clothes stores or specialist catalogues. This theme is one that has arisen in a small number of other studies as well as in occasional print media articles reporting on factors associated with the availability of clothes to all shapes and sizes in 'normal' high street stores.

The findings of the present study can be particularly related to two other qualitative studies focusing on adolescence. The first of these compared the experiences of African-American and Caucasian girls (aged 14 to 20) with respect to how being overweight (above the 85th percentile), but not necessarily obese, impacted on how they viewed themselves and their social context (Neumark-Sztainer, Story, Faibisch, Ohlson, & Adamiak, 1999). Similar to the present study, Neumark-Sztainer found that the girls displayed "*frustration at not being able to wear clothes like their peers*". This study reported this as being a greater concern among the African-American girls, although no discussion was provided as to why this might be the case. Given that Caucasian celebrities tend to receive the greatest amount of fashion related press, are most often

represented in clothes catalogues, and are more likely to feature in advertising campaigns than Black or mixed race individuals, it is reasonable to assume that this might have lead to a reverse finding.

The second related study focused on a more comparable population to that reported here, including Scottish adolescents aged 13 to 14 who were either 'normal' weight, overweight or obese (Wills et al., 2006). Just as with the present study and Neumark-Sztainer's (1999) findings, Wills et al (2006) found the non 'normal' weight adolescents felt restricted in the clothes they could wear, particularly on their likelihood of wearing similar clothes to slimmer peers, as well as feeling restricted in the social behaviour of going shopping with friends. Unlike Neumark-Sztainer's (1999) study, Wills et al (2006) also included males, and as with the present study, this degree of restriction was primarily described by females.

Although this factor only appeared to be a minor theme in both the present study and the two described above, the impact of clothing on aspects of adolescent life and psychosocial health has been frequently discussed in other research, although the majority of this has not specifically focused on those who were overweight or obese. Adolescence has been described as a "*period when much personal growth takes place; and it is this growth - physical, psychological, and social - that gives the period its special place*" (Hopkins, 1983, p.2). Daters (1990) suggests that this relates to the development of self-identity and that clothing choice is an extension of this development, and so to feel restricted in this aspect could subsequently impact on self-identity. Adolescent self-identity is most frequently measured through assessing self-esteem (Daters, 1990), with a high self-esteem suggesting successful development of self-identity. In relation to clothing, as well as being an expression of identity, it can be viewed as a contributor or barrier to social acceptance (Daters, 1990).

Table 27: Range of clothing sizes for men and women stocked at high street stores

Store	Female size range	Male size range	Specialist size ranges
H & M	UK dress Size 6 - 32 Waist 60 - 124 cm	Waist 76 - 104 cm	Maternity
Top Shop	UK dress size 6 - 16 Waist 62.4 - 82.2 cm	Waist 65 - 90 cm (26-36 inches)	Petite, Tall, Maternity
Miss Selfridges	UK dress size 6 - 16 Waist 61.5 - 84 cm	NA	Petite
River Island	UK dress size 6 - 18 Waist 60 - 89 cm	Waist 71 - 97 cm (28 - 38 inches)	none
Republic	UK dress size 6 - 16 No info on waist size	Waist 65 - 97 cm (26 -38 inches)	none
Jane Norman	UK dress size 6 - 16 Waist 64 -84 cm	NA	none
Next	UK dress size 6 - 28 Waist 62.5 - 123 cm	Waist 68.5 - 112 cm (27 - 44 inches)	Petite, Tall, plus certain men's tops available up to chest size 150cm or 5XL
Quiz	UK dress size 6 - 16 No info on waist size	NA	
Mango	UK Dress size 6 - 18 No info on waist size	Waist 65 - 97 cm (26 - 38 inches)	
Dorothy Perkins / Burtons	UK dress size 6 - 22 Waist 61 - 107.5 cm	Waist 71 - 126 cm (28 - 50 inches)	Maternity, tall, petite
Primark	UK dress size 8 - 20 No info on waist size	Waist 70 - 100 cm (28 - 40 inches)	
Matalan	UK dress size 8 - 30 waist 65 - 133 cm	Waist 76 - 112 cm (30 - 44 inches)	Plus size - Rogers & Rogers (size 18 - 30)
New Look	UK dress size *** - 26 Waist		Maternity, Inspire - plus size clothing (up to size 26)
Evans	UK dress size 14 - 32 Waist size 80 - 129 cm	NA	Dedicated plus size store

NB: Online search last updated 15th March 2010

It appears from the Wills et al (2006) study that this continues to be an issue for some contemporary adolescents. It could be assumed that high street clothing stores would have capitalised on the increase in obesity rates and begun stocking greater dress sizes. However an internet search of websites of some of the main UK high street stores revealed that generally clothes are only stocked up to dress size 16/18 for women or waist size 90-104 centimetres for men (see Table 27). Stores stocking larger sizes included H & M, Next, Dorothy Perkins and Burtons as well as budget stores Primark and Matalan. Whilst H & M has a dedicated plus

size range in the UK, although not listed on their website, it appears that they dropped this range (BiB) in America in 2005. One online blogger of the 'Big Fat Blog' muses as to "*why the selection is getting smaller [when] the market is getting bigger*" (Paul, 2005).

What is also noticeable from Table 27 is that the waist size of female clothing varies between stores by up to four centimetres and if Jane Norman and Matalan are compared, a size 6 in Jane Norman fits a waist size only one centimetre smaller than a size 8 in Matalan. Assuming that these measurement differences continue up the size range, obese shoppers may prefer stores where smaller sizes can be worn so as to make themselves feel better about their body size.

Whilst department stores such as Debenhams stock some ranges which cater for dress sizes up 30, these are tailored for adult ages rather than fashion focused adolescents. The only other high street store to stock larger clothes still appears to be Evans which, along with Roger & Roger (now stocked within Matalan), was mentioned in a negative way by participants in the present study.

At the time participants in the present study were adolescents, it was only these stores and specialist catalogues that catered for larger sizes, although the catalogues were also described as being unfashionable. Again a quick internet search using the terms 'plus size' brings up a range of websites that cater specifically for larger dress sizes, although these are predominantly female orientated.

Whilst it is encouraging from a psychological point of view that certain high street stores, as well as a growing number of online stores, are stocking 'plus size' clothing and potentially decreasing the frustration and upset related to being obese and attempting to be fashionable, from a medical point of view this increase in availability could be seen as advocating an unhealthy life style. A report published in 2006 suggested, under a section "*what can we reasonably do about obesity now?*", that "*clothes sold with waist size >102 cm for men; >94cm for boys; >88 cm or size > 16 for women; 80cm for girls*" should include weight advice helpline numbers (Lean, Gruer, Alberti, & Sattar, 2006, p. 1262). This suggestion, published four years ago, clearly has not been taken on board by medical professionals or clothing stores.

Perhaps the inclusion of such messages in obesity intervention strategies would be of benefit, given that reaching a specific large clothing size was described as a tipping point to weight change attempts for a small number of participants in the present study.

8.5.4 Romantic relationships

Where clothing has been attributed to the development of self-identity, romantic relationships have been described as “*one of the organizing principles of adolescent peer structure*” (Brown, Feiring, & Furman, 1999, p.5) and thus an important social context which “*establish norms and ideals, and provide personal feedback to the adolescent relative to those norms*” (Halpern, King, Oslak, & Udry, 2005, p. 536). This aspect of adolescent life has received little research interest with a number of suggestions put forward as to why this might be. These include it being a construct that cannot be theoretically evaluated; being “*too frivolous for serious study*” (Brown et al., 1999, p.8); being too transient, with ‘relationships’ sometimes only lasting a matter of days; and study of romantic relationships being pushed to the side in favour of studies on adolescent sexuality and sexual behaviours (Brown et al., 1999).

The little research that does exist in this area, and in relation to the present study, tends to investigate the frequency, rather than the experiences, of dating and romantic relationships among overweight and obese adolescents. In one such American study conducted in 1994-95 with an entirely female sample aged 12 to 17, it was found that the probability of having a romantic relationship decreased by six percent for every one point increase in BMI (Halpern et al., 2005). This relationship has been described in other studies, however studies which included both male and female adolescents, found that obese males were no less likely to date or have romantic relationships than overweight or normal weight boys (for example, Cawley, 2001; Cawley, Joyner, & Sobal, 2006; Pearce et al., 2002). It could also be that overweight and obese females would be less likely to approach males as a result of perceiving thinness to be beautiful, thus displaying a stoic acceptance that they would be rejected by males. Certainly one qualitative study with adolescent girls, the majority of whom were normal weight, reported that many would watch their weight to ‘please boys/boyfriend’

with many perceiving being slim as being important to being attractive to boys (Wertheim, Paxton, Schutz, & Muir, 1997).

Such selection tendencies has been suggested in a recent study of American college students (n=1217) which shows that when it comes to selecting potential dates, both males and females, regardless of their own body size, would tend to select people slimmer than themselves (Aruguete, Edman, & Yates, 2009). This study looked to examine The Matching Hypothesis (Walster, Aronsen, Abrahams, & Rottman, 1966) which “*predicts that people will be romantically inclined toward others who are similar in physical characteristics*” (Aruguete et al., 2009, p.143), therefore obese individuals would be more likely to select other obese, over thinner, individuals to become romantically involved with. Whilst there was no indication in the present study as to males’ body size preference in the females they were trying to attract, one female did describe feelings in line with Arguete et al’s (2009) findings in that her first boyfriend was also “*overweight*” which caused her to reflect that she perhaps had dated him because he was a similar size to her.

This less common theme to arise from the data suggested that obesity related appearance factors were perceived to impact on adolescent dating or romantic relationships. Perhaps surprisingly given the literature, these concerns were predominantly reported by males who were worried that their appearance would prevent females from being attracted to them or want to engage in romantic relationships with them. Although weight was one aspect viewed as a potential barrier to romantic relationships, so too were other aspects relating to physical appearance such as skin, hair, teeth, and whether they wore glasses. Females did not appear to feel as restricted in this area, with those who discussed dating, tending to report having had adolescent romantic relationships.

However, participants were not directly asked about whether they had had romantic relationships as adolescents and the examples described in the present study are for those who volunteered this information. This usually came about when being asked if they had had any concerns as adolescents - some males described being concerned about not attracting girls whilst the females who discussed this aspect did so mostly to provide examples as to how their weight had not negatively affected them as adolescents. This might account for why the

findings in the present study, particularly with regards to females, contrast slightly to previous research in this area.

Although this was an area of concern for some participants in the present study, and two related their own weight fluctuations to whether they were happy in a relationship, resulting in weight gain, or had lost weight as a result of a break-up, it appeared that this aspect was an active motivator to change for the male, but a passive occurrence for the female. Thus not all those who were concerned about their weight in relation to adolescent romantic relationships were motivated to make attempts to change their weight or appearance.

8.5.5 Supportive relationships

One factor that appeared to impact on adolescent psychosocial functioning was adolescent friendships. Particularly, those who described having close friendship groups appeared less bothered about their obesity than those who did not have such a support mechanism. The importance of friendships, particularly reciprocated friendships, on adolescents' psychosocial health has been reported.

Studies have found that adolescents who are overweight or obese tend to have fewer reciprocated friendships. For example, a large scale (n=90,118) study of American 13 to 18 year olds investigating social networks of normal weight and overweight (>95th percentile (CDC); n=1852) adolescents asked respondents to nominate five best male and five best female friends. Overweight adolescents were significantly more likely to receive fewer, or indeed no friendship nominations than normal weight adolescents (Strauss & Pollack, 2003). They were also significantly less likely to receive reciprocated friendship nominations, thus demonstrating their social isolation. However, as with the present study, where all participants described having some form of friendship, they found that most overweight adolescents received at least one friendship nomination although the strength of the friendship could not be tested any further than this. It was also not possible to test the strength of friendships in the present study, with recollections appearing to demonstrate considerable variation, with some participants describing friendships being a result of those perceived to be 'outsiders', including other overweight adolescents gravitating together. Those who described less supportive friendships were among the most bothered, but

were also among those least likely to make lasting changes to their weight related behaviours.

Strauss and Pollack's (2003) study also found that overweight adolescents who spent more time participating in social activities such as sports and clubs, and less time watching television, were likely to have more friendships. This was also reflected in the present study, with those who described participating in extra curricular activities, often in the company of friends, being among the least bothered. Conversely, those who described friends stopping their participation in such activities and who therefore stopped themselves, and those who described spending more time at home engaged in solitary activities or spending time with a parent or sibling, were among the most bothered in the study. This appeared to be the case for both males and females.

The findings of the present study therefore demonstrate the importance of friendships in the social functioning of overweight and obese adolescents. The fact that many, particularly failed slimmers, would describe ceasing participation in an activity when a friend did, including those participated in so as to change their weight, demonstrates the importance of friendships and support for those who do wish to make a weight change attempt.

8.5.6 The impact of life trauma

Life traumas may be one aspect of adolescent and young adult life, experienced by ten participants, which may have impacted on the extent to which they were bothered about their size, as well as potentially contributing to subsequent weight gain. Specifically, there were some participants who had; experienced the death of one or both parents, experienced parental separation, experienced being made homeless, suffered from cancer, or had witnessed an armed robbery.

In relation to botheredness, it has been found that the relationship between obesity and clinical depression can partly be explained by life factors such as parental separation (Sjoberg et al., 2005). Thus it may not be their obesity that causes them to be bothered, but other life events, and that these events could act as a distraction to negative weight related experiences. However, all but

two of the ten who experienced potentially stressful life events were among the most bothered. Thus it appeared that stressful life events did not entirely mask negative weight related experiences or perceptions.

There is literature to suggest that such experiences that occur during childhood and adolescence, such as parental death and separation, may put them at risk of developing obesity (D'Argenio et al., 2009). Much research in this area has focused on the impact of sexual abuse during childhood (For example, Aaron & Hughest, 2007; Alvarez, Pavao, Baumrind, & Kimerling, 2007; Grilo et al., 2005; Noll, Zeller, Trickett, & Putnam, 2007). However, there is also evidence to suggest that parental divorce or separation increases the risk of children and adolescents becoming obese. For example, one study found not only this increased risk, but also found it was a result of poorer eating habits, but not decreased physical activity (Yannakoulia et al., 2008). Similarly, a recent study with 156 married or cohabiting mothers found that those children whose parents had more hostile romantic relationships were more likely to have maladaptive eating patterns, although this study did not specify if poor eating patterns resulted in obesity (Haycraft & Blissett, 2010). These findings also relate strongly to those in the present study given that those who experienced parental divorce, separation, or death were likely to also describe emotional or comfort eating behaviours.

8.5.7 Perceived impact on health

Obesity is frequently reported in the media as well as academic and medical journals as being a risk factor for developing serious health problems in adult life. There is also growing evidence to suggest that obesity related health problems, such as insulin resistance and type two diabetes, are now being reported during childhood and adolescence, and not just in adulthood (Rosenbloom, Silverstein, Amemiya, Zeitler, & Klingensmith, 2009; Tresaco, Bueno, Moreno, Garagorri, & Bueno, 2003). In addition, obese children and adolescents have increasingly been found to suffer from hypertension, (Sorof & Daniels, 2002) Atherosclerosis (Steinberger & Daniels, 2003), and sleep apnoea (Dietz, 1998).

Regardless of this, overweight and obese children and adolescents seem either unaware of the health consequences of their weight, or appear to be unconcerned about these. For example, a qualitative study of 'normal' weight, overweight and obese adolescents (n=36) aged 13 to 14 found that very few related overweight to health problems (Wills et al., 2006). Similarly, a Dutch qualitative study of adolescents (n=113) aged 12 to 15 reported that adolescents were mostly disinterested in their future health. This was mainly because they felt physically fit, were generally happy and content, or simply did not care (van Exel et al., 2006).

Similar findings have also been reported in large scale quantitative analyses. For example, one large scale (n=15,239) European study found that only 13% of the total sample listed body weight as influencing health, ranked sixth out of nine possible selections behind smoking, food, stress, alcohol and physical activity (Margetts, Rogers, Widhal, Remaut de Winter, & Zunft, 1999). This percentage was slightly higher among the 1000 UK participants, with 15% of males and 18% of females selecting body weight. Whilst this study did not differentiate between those who were overweight or obese, an American study of overweight (n=1296) and obese (n=1335) adults also found that many did not perceive body weight to impact on health (Gregory, Blanck, Gillespie, Maynard, & Serdula, 2008). This was strongest among males and those who were overweight rather than obese.

These findings are similar to those of the present study which found that many participants described not caring about their health as adolescents and would cite other aspects, particularly their appearance, as more important. Furthermore many males who appeared to not be bothered, would describe being able to run around and participate in activities that interested them. Had this not been the case, they may have been more bothered by their weight and more inclined to make weight change attempts. As young adults, it appeared that health was becoming more of a concern but this appeared to be in the minority of participants, and mainly among those who had begun weight change attempts as adolescents.

This finding is important, since it demonstrates that promoting weight for health to children and adolescents may not be a successful strategy since there are other areas of greater concern to them at this age.

8.6 Behaviour change and weight loss

This section will address weight loss attempts and reasons for these attempts. Generally all participants in this study described behaviours that would be associated with weight change attempts, however the extent that these were adopted varied, resulting in some being more successful than others. In addition, reasons for behaviour change varied. This section will discuss weight change behaviours and how these are gendered before briefly discussing the value of behaviour change models and then finally suggesting that behaviour change is in fact chaotic and not linear. To do this, chaos theory is discussed and related to the findings of the present study.

8.6.1 Weight loss attempts – frequency, method and gender

In the present study, the majority (n=25) of participants described making *active* weight change attempts. Of these active attempts, 16 successfully lost weight during adolescence, with 10 maintaining the weight loss (an adult SDS lower than their previous maximum adolescent SDS) into adulthood, even though 9 had regained some of the weight lost during adolescence.

8.6.1.1 Frequency

A large volume of studies has demonstrated that many children and adolescents, regardless of weight, adopt weight change behaviours such as diet changes and exercise. For example, a range of American studies have found high rates of weight control methods, including dieting, exercise, and use of laxatives or diet pills, among adolescents regardless of age (Larson, Neumark-Sztainer, & Story, 2009; Middleman, Vazquez, & Durant, 1998; Serdula et al., 1993). These rates ranged from 44% to 61.5% of females and 15% to 21.5% of males and were significantly related in all studies to body perception - those who perceived themselves to be overweight were more likely to describe weight change behaviours. However these studies failed to measure actual body weight, making

it impossible to determine the impact actual body weight had on dieting behaviour in these adolescents. An example of a study which did include BMI was a large (n=106119) cross-sectional study conducted in 2001/02 spanning 30 countries across Europe, Israel and North America, which investigated the prevalence of weight change attempts in overweight and non-overweight adolescents (ages 13 and 15). This found that weight change attempts were significantly more likely among overweight (IOTF >85th centile) adolescents with rates ranging across countries from 5 - 46% among males and 23 - 76% among females. This was compared to non overweight rates of 1 - 9% among males, and 9 - 28% among females (Ojala, Vereecken, Valimaa, Currie, Villberg, Tynjala et al., 2007). Analysis of the Scottish data from this survey found 10% of overweight males and 47% of overweight females (compared to 6% non overweight males and 24% of non overweight females) were attempting to change their weight (Ojala, Vereecken, Valimaa, Currie, Villberg, Tynjala et al., 2007) with similar results also being reported among UK-wide adolescent samples (Viner et al., 2006).

Whilst these findings suggest generally high dieting rates, they also suggest that body perception plays an important role in embarking on dieting behaviours. Specifically, studies have reported that ‘normal’ weight adolescents who perceive themselves to be overweight have made attempts to change their weight (Page, Lee, & Miao, 2005; Strauss, 1999). In contrast, although among an older sample (average age 22), overweight and obese adolescents who underestimate their body size have been less likely to report weight change attempts than those with accurate body perceptions (Jaworowska & Bazylak, 2009).

8.6.1.2 Method and gender

As might be expected, participants in the present study predominantly described altering their exercise or diet behaviours when making weight change attempts. These descriptions were gendered - males described exercising whilst females reported dieting. The finding that participants altered their diet and exercise behaviours, and that there were gender differences was far from surprising, given the volume of literature on the adoption of such behaviours (For example, Mackey & La Greca, 2007; McCabe & Ricciardelli, 2003; Neumark-Sztainer & Hannan, 2000; Sweeting, 2008). However, and although reported in other

literature, the gender differences in adoption and perceptions associated with such behaviours was interesting, given that much research on this aspect has been quantitative.

A small number of qualitative studies have investigated or found gender differences in adoption and perceptions associated with dieting and exercise. For example, Wills et al (2006) reported that adolescents who attempted weight change behaviours (half of those defined as overweight or obese) displayed gendered attitudes. Thus, where males described participating in organised sports and losing weight as a result, much like those in the present study, females were more reluctant to adopt such behaviours, particularly on their own (Wills et al., 2006). The importance of co-participation when adopting exercise behaviours has also been described in another qualitative, focus group study with British 13-14 year olds (n=113). This study also found that having physical activity modelled by older adolescents, as well as receiving verbal encouragement from friends were important, although it did not differentiate between weight statuses (Jago et al., 2009). Whilst adoption of exercise in the present PhD study appeared to be gendered, for reasons that will be discussed below, the necessity of co-participation was not. Thus both males and females who did describe exercise behaviours would also describe the importance of having someone to participate with them. Indeed when co-participation ended, so too did their participation in exercise behaviours. The exceptions to this were those who described being too embarrassed to exercise in public, but determined enough to adopt exercise behaviours regardless, actions which often led to lasting weight loss which will be discussed in subsequent sections in relation to 'tipping points'.

It has been suggested that gender-role stereotypes may account for gender differences in exercise participation among children and adolescents (Eccles & Harold, 1991). For example, strength and competitiveness are valued among males whereas aesthetics are valued among females. The role that significant others have in providing gendered feedback to children and adolescents has been implicated in perceptions and enjoyment associated with exercise and physical activity. In addition, value judgments are made in relation to costs associated with participating in exercise. As well as encompassing financial and time costs, this also includes psychosocial costs such as anticipated anxiety and

negative responses from peers, parents, colleagues or neighbours (Eccles & Harold, 1991). Certainly Eccles and Harold (1991) found that among 3000 American 6th graders, males were more likely to relate sport as “*more important, more useful and more enjoyable*” (p.19) than females. This has been supported by more recent research where males had “*higher perceived competence, value and participation in sport*” than females (Fredricks & Eccles, 2005). Within the present study, these gendered attitudes were apparent. Particularly, females described being anxious about having to wear revealing clothes to exercise in or having to get changed in front of others before physical education classes. Coupled with this they discussed concerns about how they would be perceived by peers during physical education classes. The result of this was for females to avoid exercising and participating in physical education classes.

Whilst males did refer to changing their diet, their descriptions of such were less explicit, suggesting that their evaluations of these behaviours were less favourable than their perceptions of exercise. It could also be that diet and diet related words and descriptions are less salient for males, given that magazine and media related to dieting are female focused. Gender differences in dieting behaviours are frequently reported in research with children and adolescents (Borresen & Rosenvinge, 2003; Crow et al., 2006; Field et al., 2007; Holmqvist, Lunde, & Frisen, 2007) as well as adults (Jaworowska & Bazylak, 2009), as are gender differences in exercise behaviours (Fairclough & Ridgers, 2010; Garcia Bengoechea, Sabiston, Ahmed, & Farnoush, 2010; van Sluijs et al., 2008).

The reason for these representations of behaviours may be the perceived femininity of dieting, or eating a healthy diet, and the perceived masculinity of exercising. Certainly, Gough (2007, p. 326) in an “*analysis of contemporary newspaper representations of men, food and health*” concludes that dieting is not masculine. To exemplify this, Gough cites one newspaper article published in the Daily Mail newspaper entitled “*dieting is for girls*” which states “*real men don’t count calories, deny themselves carbohydrates or have a clue what’s in the GI diet*”. In addition, research has suggested that unhealthy diets are viewed as masculine (Sloan, Gough, & Conner, 2009) with men more likely to report eating less healthy foods than females (Courtenay, McCreary, & Merighi, 2002; Wardle et al., 2004). By comparison, exercise is generally regarded as a

masculine pursuit, *“dominated by a particular form of masculinity based on competitiveness, aggression and elements of traditional understandings of the sporting male”* (Wellard, 2002, p. 235). This perception has also been reported in studies with adult (Allender, Cowburn, & Foster, 2006; Wilcox, Richter, Henderson, Greaney, & Ainsworth, 2002) and adolescent (Mabry et al., 2003) females, where perceptions of appearing too masculine have been described as a barrier to exercise.

8.6.2 The need to look beyond health behaviour theories

As discussed in chapter two, there is a long history of health behaviour theories initially developed to help understand behaviour change and form a basis upon which behaviour change interventions can be designed and implemented. The models that have been developed are heavily embedded in motivation theories (Brug, 2006) and based on the principle that behaviour change is a gradual, linear, deterministic process (Resnicow & Vaughan, 2006). However as Resnicow & Vaughan (2006) state, these models do not account for *“why after years of false starts and failed attempts, a person succeeds at increasing their physical activity, eating healthier or losing weight”* (p.1). Rather, these models assume that behaviour change is a conscious gradual process and does not allow for it to occur suddenly and often without conscious thought or planning (Resnicow & Vaughan, 2006). Certainly, in the present study, it was clear that there often was not a gradual linear process (from botheredness to motivation to change). Instead, those who were successful in weight loss tended to describe more sudden behaviour changes.

There has been suggestion that behaviour change should be *“viewed as a quantum event that can be understood through the lens of Chaos Theory and Complex Dynamic Systems”* (Resnicow & Vaughan, 2006, p. 1). This is because *“behaviour change is influenced by such a complex set of interacting variables that it should be viewed as a chaotic system”* and *“behaviour change does not follow a linear pattern but rather occurs with ‘quantum leaps’”* (Brug, 2006, p. 2)

The following sections will describe how the ideas outlined in Resnicow and Vaughans (2006) paper, have been adopted in behaviour change research, even prior to their publication, and are applicable to the present study.

8.6.3 Chaos theory

Chaos theory, or non-linear dynamical systems theory, is described as “*an interdisciplinary branch of science that studies the dynamics of nonlinear mathematical systems and applies the knowledge gained in the phenomena of nature*” (Warren, Hawkins, & Sprott, 2003, p. 369). It is most frequently associated with the study of mathematics, physics and philosophy but is increasingly being applied to the study of health behaviours such as smoking (Larabie, 2005). It is founded on the principle that small differences in an original state can generate vastly different outcomes, otherwise known as the ‘butterfly effect’ (Resnicow & Vaughan, 2006), making long-term prediction impossible (Kellert, 1993). This is perhaps most easily understood when considering the nature of weather and weather change. However, as Resnicow and Vaughn (2006) demonstrate, meteorological terms can be replaced by those related to health behaviour;

“the weather (BEHAVIOUR CHANGE) is an example of a chaotic system. In order to make long-term weather forecasts (PREDICTIONS OF BEHAVIOUR CHANGE) it would be necessary to take an infinite number of measurements, which would be impossible to do. Also, because the atmosphere (HUMAN BEHAVIOUR) is chaotic, tiny uncertainties would eventually overwhelm any calculations and defeat the accuracy of the forecast...” (p.3).

Health Behaviour Theories all state a need for changes in knowledge, attitudes, and beliefs before a behaviour change. In contrast, because it involves complex systems or interactions, the principles of chaos theory state that the “*amount of each required to ‘tip’ the system for a particular individual is virtually impossible to predict, and the outcome is sensitive to initial conditions*” such as an individual’s prior experiences with a particular disease (Resnicow & Vaughan, 2006, p.4). As a result, behaviour change is often unplanned.

This process of ‘tipping’ is referred to as quantum change and has been demonstrated in studies of smoking cessation. For example, an English study

comparing 918 adult smokers to 996 ex-smokers, found that nearly half of attempts to quit smoking had been unplanned (*"I did not plan the quit attempt in advance; I just did it"*). Unplanned attempts were also associated with a greater length of smoking cessation - 65% of unplanned attempts made within five years prior to survey had lasted longer than six months compared to 43% of planned attempts (West & Sohal, 2006). Similarly, one American study of smokers investigated the extent to which successful smoking cessation was planned ahead compared to being a result of a sudden, unplanned, decision to quit (Larabie, 2005). It compared 79 smokers with 67 ex-smokers (had not smoked in past 6 months) aged 14 and over. All participants had to have made at least one serious quitting attempt within the previous 6 months (stopped smoking for at least 24 hours). This study found that those whose quit attempts had been unplanned and unaided were more likely to have long lasting cessation.

Although not the first to recount theories of quantum change, with psychologists such as William James (1842-1910) describing similar constructs, Miller & C' De Baca (2001), having come across frequent stories of sudden behaviour change through their clinical work with addicts, set out to investigate how frequent experiences of quantum change were. They conducted interviews with 55 adult respondents to a newspaper article asking for people who had experienced events resembling the article's description of quantum change to contact them. Interviews were analysed quantitatively and qualitatively for any commonalities between the described experiences. Their findings suggest that quantum change is often a result of a random external or internal event which impacts on factors such as knowledge, attitudes and beliefs. An external event might be hearing someone's particular weight loss or smoking cessation story, whereas an internal, or intrapsychic trigger might simply be an unaccountable increased degree of motivation (Resnicow & Vaughan, 2006).

Two elements that strongly relate to behaviour change of the types described in the present study are 'I just decided' and 'control' (Miller & C' de Baca, 2001). 'I just decided' refers to individuals apparently reaching a point where they know they want to make a change, and set about doing it (e.g. deciding to stop smoking 'cold-turkey'). 'Control' refers to either accepting what is beyond their control, giving control to someone else or a *"higher power"*, or *"realising the*

need and ability to take control and responsibility for ones life" (Miller & C' de Baca, 2001, p. 44).

Similar 'tipping points' have been reported in other behaviour change literature. For example, a recent UK study (n=538) looked to investigate the role of life events in triggering weight change (loss and gain). Weight loss was particularly associated with relationship problems, pregnancy, a special event (e.g. wedding), own illness, bereavement, reaching a certain age, seeing a picture of themselves, travelling, falling in love, and going to university (Ogden, Stavriniaki, & Stubbs, 2009). Many of these aspects emerged as triggers to weight loss in the present study. In particular, respondents described: being an age where they were ready to make a change; losing weight as a result of a relationship break-up; not wanting to be overweight when starting university, being so busy at university there was not enough time to eat properly, or not having enough money while at university to buy enough food; and contracting a viral infection resulting in drastic weight loss.

Miller (2004) suggests that such experiences of quantum change, particularly those that are insightful rather than mystical, lead to long lasting behaviour change. For example, one study of American problem drinkers (n=659) reported that those who experienced a quantum change as a result of being tipped by 'hitting rock bottom', 'experiencing a traumatic event', or undergoing a 'spiritual awakening', were twice as likely to have resolved their problem drinking at the one year follow up (Matzger, Kaskutas, & Weisner, 2005). Another recent UK study conducted qualitative interviews with 24 adult weight losers (lost more than two stone) and 10 ex-smokers, all of whom had maintained their behaviour change for at least three years, with the aim of exploring how they had made and maintained their behaviour change. All had previous unsuccessful behaviour change attempts and it was not until they had some form of 'life crisis' that they made the leap to change. These life crises involved health scares, an age (key birthday) or time related (new millennium) milestone, a relationship break-up, or a desire to get pregnant.

The findings of the present study demonstrate just how complex the thought processes and reasoning of participants were with regards to the need for behaviour change. For example, although generally not all were aware of their

body size, they all knew about the need to increase exercise and decrease/alter eating behaviours in order to lose and maintain a healthy weight. However, not all followed this prescription. The attitudes of participants towards weight change behaviours and attempts were mixed - some were positive about behaviours such as exercise, whilst others were extremely negative. It might be expected, from a health behaviour theory perspective, that those who were, or became, positive about health behaviours would make (successful) attempts to change these behaviours, yet this was not always the case. Indeed, some of those who were extremely negative about health behaviours such as exercise, were among those who made efforts to adopt such behaviours and lost weight as a result.

What both previous research and the present study have demonstrated is that a linear progression towards behaviour change does not account for all individuals' behaviour change processes. Many of those in the present study who made attempts to change their weight related behaviours would not fit the linear models of health behaviour theories. Some of those who were found to be successful weight losers were those who rather than following a gradual cognitive progression, made an apparently sudden decision to change their behaviours.

8.6.4 Tipping points

Within the present study, eight participants described weight change triggers that suggested they had experienced a tipping point. As discussed in earlier sections, some of these related to reaching a certain clothing size, becoming single, a transition between high school and further education, or just reaching a point where they became disgusted with themselves. Only one participant described reaching their tipping point when visiting a doctor and this was a routine visit, unrelated to his weight. These tipping points are varied and were described as occurring at very different time points, either in early, mid or late adolescence, with one further only occurring at the point of interview during young adulthood.

All these tipping points, with the exception of one, were internal in nature - participants appeared to reach a point themselves, whether it was deciding

going up one more clothing size was a step too far, or whether it was reaching a point of feeling self-loathing. The exception to this was the single participant who changed after receiving a health warning from a doctor. Whilst four participants discussed visiting doctors, one female had done so from a very young age because of her weight, but did not describe this in terms of tipping points, and another male described doing so to get advice on how to lose weight and had thus already reached a tipping point. Of the other two, both of whom visited doctors for non weight related reasons, one described receiving a health warning as a result of his weight thus tipping him to make a change, whilst the other, having received the same warning, reported subsequently avoiding the doctors rather than make changes to his weight.

Medical intervention as tipping points has been discussed in relation to change in adolescent weight related behaviours within a cross sectional study of 769 16 to 19 year olds who were above the 85th percentile. Of those who were about 95th percentile and had been told by a doctor that they were overweight, 60% described making a weight change attempt (Kant & Miner, 2007). As this study was not longitudinal, it is not possible to state whether this was enough of a tipping point for lasting weight loss, but it certainly appears to be an avenue for highlighting weight problems to adolescents. However, it is unlikely to work for all, including those like the male in the present study who avoided returning to the doctors rather than making a weight change attempt.

8.7 Long term effects

One of the crucial aspects to lasting weight loss was the extent to which participants monitored their behaviours to ensure that they did not fall back into old patterns. This was the one aspect that clearly varied between those who were successful, long term, weight losers in the present study and those who were either recorded in the **11 to 16/16+ study** as having lost but then regained weight, or those who described weight loss, but were not recorded as having done so thus demonstrating failed weight loss maintenance.

This process of self-monitoring of weight related behaviours is frequently reported in the literature in relation to successful adult weight loss (Wing &

Phelan, 2005). Research has also suggested that the extent to which individuals self monitor impacts on the amount of weight loss, thus those who report high self monitoring behaviours such as extensive diary keeping or strong discipline, are more likely to lose greater amounts of weight (Burke et al., 2008; Burke, Swigart, Turk, Derro, & Ewing, 2009; Elfhag & Rossner, 2005). For example, a study of obese adolescents (n=130) found they were more likely to successfully maintain a weight loss (n=62) of at least 4.5kg for two years, if they self monitored through weighing themselves frequently, in addition to other healthy weight change behaviours such as exercising and eating a healthy diet when compared to failed weight losers (n=68) (Boutelle, Libbey, Neumark-Sztainer, & Story, 2009). However, other authors have suggested that self-weighing may actually be harmful and lead to weight gain among younger adolescents, particularly females (Neumark-Sztainer, van den Berg, Hannan, & Story, 2006). This was reported in a large longitudinal study where younger adolescents, regardless of weight status, were more likely to gain weight over five years if they frequently weighed themselves. This form of self-monitoring was not reported in the present study, with successful weight loss maintainers tending to report being highly vigilant of their eating behaviours. Potentially negative aspects of self-monitoring should be noted before recommending such behaviours to adolescents, particularly those who might be at risk of developing tendencies towards disordered eating. It may therefore not be a message to be included in population level health promotion. Certainly it has been suggested that obesity prevention interventions may actually cause harm by contributing to body dissatisfaction, low self-esteem and eating disorders in children and adolescents (O'Dea, 2005; Striegel-Moore, 2001).

Ogden and Hill (2008) suggest that persistent behaviour change after a tipping point such as a life event results from certain conditions. One of these is that respondents change the function of the restricted behaviour, such that smoking is no longer used as a stress coping mechanism, social prop, or a way to take breaks from work, whilst eating is no longer viewed as a method to manage mood, provide comfort, or to mark celebrations. Another condition is an alteration in respondents' beliefs and understandings with regards to their behaviour. Thus some of Ogden and Hill's (2008) participants described having been under the impression that their overweight was medical and

uncontrollable, much the same as one of the participants in the present study. It was not until they experienced a 'life crisis' or epiphany moment that they altered their way of thinking and made a more concerted effort to change their behaviours, and this time with lasting results.

The findings of this study suggest that whilst many participants had the knowledge and ability to change their weight related behaviours so as to lose weight, change only occurred as a result of a, predominantly internally perceived, tipping point.

8.8 Conclusions and recommendations

Qualitative data collected from 35 individual semi-structured interviews were used to answer these main research questions which were based on previous analysis with the *West of Scotland 11 to 16/16+ study* and refined during the informal information gathering, pre-pilot and piloting phases of the study. The sample were specifically recruited as having been obese on at least at one *11 to 16/16+ study* measurement occasion but those who had lost weight during this period were of greatest interest thus making up a very specific group.

8.8.1 Main conclusions

8.8.1.1 How did young adult males and females who had been obese in adolescence recall their adolescent experiences?

The findings of this study demonstrate that adolescent weight related experiences are complex. Not only did the extent to which they were bothered by their obesity vary, but so too did their awareness of their body size.

Although many participants appeared to dislike their bodies in some form, whether it was unhappiness with their whole body size or a certain body part, there was not the extreme disgust with their bodies which might be assumed based on the volume of literature investigating body dissatisfaction among obese children and adolescents.

Not all participants appeared to fully comprehend just how obese they were, which had implications for how bothered they were, and whether they made weight change attempts. Indeed none of the participants used the term obese to describe themselves as adolescents, tending to use the term 'fat' or 'overweight'.

Although many participants described negative aspects of adolescent lives, it appeared that many had accepted it as just another part of adolescent life and that all adolescents, regardless of size, had worries and negative experiences.

Botheredness did not relate to actual body size, with some of the least obese being among the most bothered, and vice versa. Rather it was the way in which participants internalised their experiences which appeared to matter.

Health was not described as an area of concern in adolescence with some specifically stating they did not care about health as other worries were important.

Adolescence appeared to be a time of great change. Sometimes, changes such as reaching an undesirable clothing size, or making a transition between schools or from school to further education triggered increases in botheredness about obesity.

8.8.1.2 What differences in weight-related behaviour in adolescence were there between those who became non-obese (or managed to lose substantial amounts of weight), and those who maintained or increased weight during adolescence)?

There were no clear differences between weight losers and weight maintainers in the types of behaviours adopted. Almost all participants described dieting or exercising at some point. However dieting appeared to be described as a normal thing for adolescent females to do, and exercise, particularly PE or playing football, was described as a normal part of adolescent males' lives.

All participants understood the benefit of a healthy diet and active lifestyle, yet this knowledge did not necessarily result in effective behaviour change, or

indeed any behaviour change, with some who were knowledgeable purposely avoiding such behaviour changes, particularly exercise.

Further, botheredness and awareness did not always translate into effective weight change attempts. Rather, commencement of change attempts occurred at different ages, school stages, and for very different reasons such as reaching a certain clothing size, or 'just deciding'. There appeared to be no discernable pattern to change other than just being ready to make a change. Those who made more chaotic approaches to behaviour change, i.e. those that described sudden unplanned changes, could make successful, long lasting weight change attempts.

Once behaviour change attempts were undertaken, those who were most successful, in terms of behaviours adopted, were those who made the greatest changes and maintained these changes. Those who described fluctuating periods of weight change attempts were unsuccessful.

8.8.1.3 What differences were there between those who maintained their weight loss into adulthood, those who regained weight as adults and those who lost weight post adolescence?

Whilst increasing age did not necessarily result in improved weight related behaviours, age related transitions were described as being trigger points to change. Participants reached a stage where they were ready to make a change, or were fed up with being a certain size. Those that were 'tipped' towards making a behaviour change were those who had successful long lasting weight loss into adulthood. These individuals were often more determined than those who tried but failed to lose weight or have lasting weight loss.

Those who regained weight in adulthood were generally those who became happier in themselves and more settled in their lives, such as through establishing lasting relationships.

Others, who described weight loss during adolescence and subsequent regain, although not captured by any of the 11 to 16/16+ study measurements, reported that their weight had regained because they had less opportunities to maintain

active lifestyles. This was predominantly described by male participants who no longer had time to play team sports with friends because of their jobs.

8.9 Policy implications and recommendations

8.9.1 Health promotion

Many weight reduction interventions for children and adolescents promote weight loss as being healthy. Based on findings from this, and other studies, where adolescents, and indeed adults, often have little interest in the health impact of being overweight, there is little value in focusing messages on health improvement. Rather, other aspects of adolescent life might be better motivators although these are gendered. For example, among males, promoting weight loss as a means to improving their ability to be able to run around more with friends, and among females, promoting fashion benefits from weight loss.

8.9.2 Intervention targeting

One of the key findings to emerge from this study in relation to weight change was that individuals who did reach a point where they wished to make a lasting change, did not all do so at the same period. However, with the exception of a few cases, transition points appeared to be crucial and so interventions and awareness raising should perhaps be targeted at natural transition points such as between primary and secondary education, at the end of statutory education (aged 16) and for those who remained in secondary education beyond the age of 16, at transition points into further education or before commencing employment.

8.9.3 Increasing body awareness

Given that many participants in the present study appeared to be unaware of the full extent of their body size, perhaps more needs to be done to raise awareness at an individual level rather than constant health messages stating that obesity is bad for health. This is particularly important since research suggests that individuals tend not to describe themselves as being obese, and

that there is evidence to suggest that health is generally not a great concern to individuals.

Perhaps individuals should be more routinely made aware of their body size when going to visit the doctors, even if the appointment is not weight related. This method of awareness raising is being conducted by some UK health boards, with parents of children receiving letters from the school nurse notifying them if their children are overweight after routine school weight monitoring. Similar methods could be employed during school and employment transitions in order to capture individuals when they may be most likely to be 'tipped' into a behaviour change.

8.10 Recommendations for future research

Through conducting this PhD study, a number of areas of interest which would warrant further study became apparent.

The first of these was the extent to which adolescents perceive weight concerns to be a normal part of adolescent life, particularly with the increasing rates of obesity in this population. If this is the case, it could go some way to understanding why there is little motivation to make a change. Perhaps a qualitative study on this topic comparing non-obese and obese adolescents focusing on adolescent concerns, would be valuable. This might begin with focus group gathered opinions from adolescents as a whole, followed by sub-sampling of non-obese and obese adolescents for individual interviews to assess the extent to which they are concerned with weight. In addition, it would be interesting to find out the extent to which obese adolescents feel their life experiences are similar to those who are normal weight or whether they perceive their experiences to differ. Related to this, more research is needed on body perception of those who are non-obese and obese, to compare the psychological well-being of these groups in relation to whether they perceive themselves as normal weight or overweight.

In relation to triggers to weight change, more research is needed into quantum change in relation to behaviour change. How frequently does it really occur? How can it be measured? Are there any similarities among those who experience

a quantum change in relation to weight loss? A further question is whether the principles can be adopted into some form of intervention or support strategy for those overweight so that they are provided with the tools they need for behaviour change when they are ready to make such changes.

Finally, rates of obesity are greater now than when participants in this study were adolescents and yet they already appeared unaware and not as bothered as expected by their obesity. Against this background, similar research could be conducted, either in the same retrospective manner or with current adolescents, in order to build on the findings of this study. If, in fact, adolescents are less aware and bothered by their obesity, tipping points to change could be even less frequent than those reported in this retrospective study.

Appendices

Appendix One: Ethics approval letter

Appendix Two: Informal information gathering information sheet

Appendix Three: Ethics application

Appendix Four: Recruitment letter

Appendix Five: Participant information sheet

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Appendix Eight: Initial photo task photographs

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Appendix Ten: Pre-pilot interview schedule

Appendix Eleven: Pilot and main study interview schedule

Appendix Twelve: Framework chart example

Appendix Thirteen: 11 to 16/16+ Study questions

Appendix Fourteen: Participant summaries

Appendix One: Ethics approval letter

Faculty Ethics Committee
Email: A.Lindsay@lhrs.gla.ac.uk



UNIVERSITY
of
GLASGOW

19 February 2007

Ms Emily Smith
PhD Student
MRC Social & Public Health Sciences Unit

Dear Ms Smith

SSL/06/16 – Experiences of weight concerns during adolescence: a retrospective pilot study

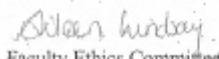
I am pleased to confirm that your application for ethical approval has been approved by the Faculty Ethics Committee.

As a condition of approval and in line with the committee's need to monitor research, the committee requires that a report be provided to it towards the end of the research, giving brief details of the project to date and any ethical issues which have arisen. You will be contacted in due course in this regard. In addition, any unforeseen events which might affect the ethical conduct of the research, or which might provide grounds for discontinuing the study, must be reported immediately in writing to this ethics committee, from which you have received approval. The committee will examine the circumstances and advise you of its decision, which may include referral of the matter to the central University Ethics Committee or a requirement that the research be terminated.

Please note that this approval is valid for the duration of your project. Please confirm in writing the end date for approval. If the project should extend beyond the submission date you entered on your application form it will be necessary for you to contact the committee and seek an extension. As this approval is based upon the information you provided to the committee you will require to seek approval should any changes be made to your project. In particular, please note that if participants in your research involve children or adults with incapacity (as defined in the Adults with Incapacity (Scotland) Act 2000, available via the University Ethics Committee web site) you require to comply with the legislation which governs research involving these groups. If you have not complied with these requirements or you did not anticipate that your research may involve these groups you must exclude them from your study.

Please retain a copy of this letter.

Yours sincerely


Aileen Lindsay
Faculty Ethics Committee

FACULTY OF LAW, BUSINESS AND SOCIAL SCIENCES
Miss Aileen Lindsay, Room T210, Adam Smith Building, University of Glasgow, Glasgow G12 8RT
Direct Line: 0141 330 4725 Fax: 0141 330 3547 Web: www.gla.ac.uk/lhrs

Web: www.gla.ac.uk/LBSS

Appendix Two: Informal information gathering information sheet

Weight concerns as a teenager study:

Participant information



Invitation

You are being invited to take part in a research study. It is important for you to understand why the research is being done and what it will involve before you decide to participate. Please read the following information carefully and discuss it with others if you wish. If there is something you do not understand or if you would like more information about the study, please ask us. Please take the time to decide if you wish to take part.

What is the study about?

We would like to find out what it was like to be a teenager with weight concerns. The information that we gather from this study will help to develop approaches to allow us to look more in-depth at the issues raised in a future study, in order to help teenagers with similar concerns in the future.

What will taking part involve?

You will be asked to take part in one interview which should last no longer than 40 minutes. This will involve the researcher asking you some questions about the topic given above which you are then free to answer in as much detail as you wish.

Why take part?

This will give you an opportunity to discuss your unique knowledge, beliefs, feelings and experiences associated with your weight concerns. Taking part will also enable us to develop future studies and therefore understand more what it's like to have weight concerns during the teenage years. This will then help for support and help to be given to teenagers with similar weight concerns to you.

What happens to my answers?

If you agree, the discussion and interviews will be tape recorded and some of what you say may be quoted when the results of this study are reported.

Will my taking part in the study be kept confidential?

Yes, all information collected from you will be kept strictly confidential. Your names and any details by which you could be identified will not be used. All names mentioned on the tape will be changed on the paper copy of the interview.

What will happen to the results of the research study?

The comments from all those who take part will be looked at together to identify issues about teenage weight concerns and associated factors for use in a

larger future study. Eventually, we hope that the results of these studies will be useful to school and health professionals advising teenagers with similar concerns.

Who is organizing and funding the research?

This research is organised by the MRC Social and Public Health Sciences Unit at the University of Glasgow and is funded by the Medical Research Council.

Who has reviewed this study?

This study has been reviewed and approved by the University of Glasgow, Law Business and Social Sciences faculty ethics committee.

What do I need to do now?

If you would still like to take part in the study, please read and sign the consent form provided by the researcher.

How do I find out more?

If you have any questions about the study after the interview, you can contact me on the details below:

Write to: Emily Smith, MRC Social and Public Health Sciences Unit, University of Glasgow, 4 Lilybank Gardens, Glasgow, G12 8RZ.

Telephone: 0141 357 7560

E-mail: emily@msoc.mrc.gla.ac.uk

Appendix Three: Ethics Application

FACULTY OF LAW, BUSINESS AND SOCIAL SCIENCES ETHICS COMMITTEE APPLICATION FOR ETHICAL APPROVAL

NOTES:

THIS APPLICATION AND ANY ACCOMPANYING DOCUMENTS MUST BE SENT ELECTRONICALLY TO
a.lindsay@lbss.gla.ac.uk

THIS APPLICATION FORM SHOULD BE TYPED NOT HAND WRITTEN.

ALL QUESTIONS MUST BE ANSWERED. "NOT APPLICABLE" IS A SATISFACTORY ANSWER WHERE
APPROPRIATE.

INTERNAL IDENTIFICATION NUMBER **SSL/03/**

Project Title: A retrospective evaluation of adolescent health and lifestyles associated with
obesity

Date of submission: June 2007

Name(s) of all person(s) submitting research proposal: Emily Smith

Position(s) held: PhD student

Department/Group/Institute/Centre: Medical Research Council Social and Public Health
Sciences Unit (MRC SPHSU)

Address for correspondence relating to this submission: 4 Lilybank Gardens,
Glasgow, G12 8RZ

**Name of Principal Researcher (if different from above, e.g. Student's
Supervisor)**

Dr Helen Sweeting ¹

Professor Charlotte Wright ²

Position held

¹ Research Scientist at the MRC SPHSU

² Professor/Consultant in Community Child Health at Glasgow University/Yorkhill Hospital

1. Describe the purposes of the research proposed.

There are very few qualitative investigations of the experience of obesity in comparison to the vast number of quantitative studies. Of the existing qualitative research, very little has focused on adolescent obesity. The proposed study has been designed to attempt to fill this research gap, with the novel slant of surveying young adults about their memories and impressions of adolescent obesity.

This qualitative study will aim to answer two main research questions: 1) how did young adult males and females experience their adolescent obesity; and 2) what differences are there between those who have become non-obese (or managed to lose substantial amounts of weight) and those who maintained or increased weight?

The proposed study is unique in that it will recruit participants from an existing cohort (*The West of Scotland 11 to 16/16+ study*) whose height and weight data were been collected on four occasions during adolescence (see section 9 for further details on the study), so allowing for a detailed sampling framework and to answer questions which no other studies have done to date.

The main applicant for ethical approval, Emily Smith, is at the beginning of a PhD funded by the Medical Research Council, investigating the experience of obesity in adolescence.

2. Please give a summary of the design and methodology of the project. Please also include in this section details of the proposed sample size, giving indications of the calculations used to determine the required sample size, including any assumptions you may have made. (If in doubt, please obtain statistical advice).

The proposed study will be broken down into three main stages, for all of which ethical approval is being sought. These stages will consist of two small pilot studies and the main study.

ALL STAGES:

Methods:

All three stages of this study will involve individual semi-structured interviews, structured around a topic guide.

Context and topics:

In order to answer the two main research questions, the interviews will be structured around the context of adolescent life and will include questions relating to lifestyle, such as activity levels, diet and eating, and substance use (i.e. alcohol, smoking and drug use). Participants will also be asked about their leisure activities, other people in their lives (i.e. friends, family, and teachers) and any concerns related to life and lifestyles they may have had. In all phases of the study, attempts will be made to relate aspects of adolescent life to their weight status. Participants will also be asked to make links between factors in their adolescent life and their young adult life to assess further the impact of their weight status.

Sampling-general:

Young adult participants for this study will be drawn from the existing **West of Scotland 11 to 16/16+ study** cohort using purposive sampling (see section 9). This cohort (born 1983-84, so currently aged 23-24) has been followed since age 11. Measured height and weight at ages 11, 13, 15, and 19 is available. This will allow participants to be sampled on the basis of their body mass index in adolescence, using standard definitions of 'overweight' and 'obese' based on the UK 1990 BMI reference curves for boys and girls (UK90). Equal numbers of males and females will be sought for all stages of the study.

Recruitment:

For all stages, a letter from the principal **11 to 16/16+** researchers, Patrick West and Helen Sweeting, and an information sheet (attached) will be sent to participants stating that they have been selected for an additional **11 to 16/16+** study and that a researcher will be contacting them shortly. Potential participants will be told that the study is on teenage life, health and lifestyles. The letter will make it clear that they are under no obligation to take part. Approximately one week later, the research student will make contact by telephone and ask potential participants whether they would like to be involved. At this point they will be reminded of confidentiality, anonymity and their right to terminate participation at any point. If potential participants are happy to continue then a date, time and venue will be arranged. Written consent will be obtained at the time of the interview. It is proposed that the interviews will take place in participants' homes unless otherwise requested (in which case they could be conducted at the MRC SPHSU). Participants recruited for Pilot Study 1 will be informed in advance that they are taking part in a pilot study.

For all stages, the IDs of potential participants will be selected by the research student and Helen Sweeting on the basis of their BMIs at ages 11-19. These IDs will be given to the **11 to 16/16+** survey manager who will insert names and addresses into the letters inviting participation. These letters will then be signed by Patrick West and Helen Sweeting. The survey manager will also provide names, address and phone numbers (not linked to IDs) of potential participants to the research student in order that she can make contact by telephone. For each stage, an estimated 50% participation rate is anticipated and so around twice as many as those required for each of the three stages will be contacted to participate. Initial contact will be made in waves, with those who best fit the recruitment criteria, and who participated in the most recent **16+** stage (a postal survey, conducted in April 2006) being contacted first. Sampling will then be adjusted, based on response; i.e. should too few of the target participants (see section 9) wish to take part, sampling would be extended to those who did not return the postal survey.

PILOT STUDY 1:

Methods:

This will involve interviewing participants in relation to the topics outlined above. As this is an early pilot study, they will also be asked to feedback on the actual interview on such things as the interview topic and the interviewer. This information will then be used to revise the interview guides for the second pilot and the main study.

Note that a previous attempt was made to recruit university students who had weight concerns to talk about related topics in order to formulate the main study. However, since no participants volunteered, it is now necessary to attempt to conduct this pre pilot stage with members of the existing cohort using more purposive sampling. (LBSS Ethics Committee internal identification number SSL/06/16.)

Sample:

This early pilot study will recruit from cohort members known to have been overweight during adolescence. Although the aim of the main study is to talk to current / previously obese participants, there are limited members of the cohort who fit the criteria for participation, and so only those known to be overweight will be sought for this early stage. This early pilot study will aim to involve six participants.

PILOT STUDY 2:

Methods:

The purpose of this pilot study is to ensure that the approach and recruitment methods are suitable, and to allow for the methodological approach (i.e. the topic guide) to be tested.

Sample:

This pilot study will recruit from cohort members who were continuously obese between the ages of 11 and 19. These participants will be more representative of those to be recruited for the main study in relation to their adolescent obese status, but do not fully meet the purposive sampling criteria for the main study. This pilot study will aim to involve four participants.

MAIN STUDY:

Methods:

This final, main stage of the study, will use the revised topic guide to interview participants about their teenage life including the topics detailed earlier.

Sample:

For the main study, two groups of participants will be sampled; those who were obese as adolescents and made significant weight losses (such that a number were within the normal BMI range by age 19), and those who were obese adolescents and maintained or increased their weight between the ages of 11 and 19. Thus, while all those in the main study will have been obese as adolescents, we expect that this will not currently be the case (although note that most recent height and weight measurements were obtained at age 19). The main study will aim to involve 30 participants, with equal numbers of males and females.

3. Describe the research procedures as they affect the research subject and any other parties involved.

See above

4. What in your opinion are the ethical considerations involved in this proposal?

(You may wish for example to comment on issues to do with consent, confidentiality, risk to subjects, etc.)

Consent:

Along with annual Christmas calendars, participants of the **11 to 16/16+ study** have been provided with an opportunity to inform the MRC SPHSU of their wish to withdraw consent to be contacted. Only those who have not withdrawn consent will be contacted to participate. Approximately one week after receipt of the letter and information sheet, the research student will contact potential participants by phone to provide further details, answer any questions and obtain verbal consent. Written consent will be requested at the time of the interview. At this point, participants will be reminded that they do not have to answer any questions they do not want to, and that they may stop the interview at any point without consequence.

Confidentiality:

All tapes, transcripts and field notes will be kept in a locked cabinet. These will have an ID number and will be stored separately from any contact/identifying details. Participants will be assured that their responses will be completely anonymous and that any future publication (in a thesis or academic papers) will respect this. The MRC has strict guidelines on confidentiality which have been read and understood by the research student.

Risk to participants:

There will be no invasive procedures. The design of the study, using individual interviews, is such that it should not elicit embarrassment among participants as a focus group methodology might. There is a possibility that asking participants to recall their adolescence may evoke negative emotions, particularly if they were adversely affected by their weight status. If this is the case they will have been reassured that they can stop at any time, speak 'off the record' or refuse to answer a particular question. There will also be time at the end for participants to ask any questions and the researcher will be equipped with contact details for a range of organisations should further help be requested.

5. Outline the reasons which lead you to be satisfied that the possible benefits to be gained from the project justify any risks or discomforts involved.

Few qualitative studies of obesity have been conducted. Almost none have investigated what it is actually like to be obese, and how it impacts on day to day life. So far as we are aware, there are no qualitative studies of a general population sample of obese adolescents who have lost weight without significant clinical intervention. The proposed study is unique in that it will recruit participants from an existing cohort where height and weight data have been collected on four occasions during adolescence. These data will allow for a unique sampling framework and to answer questions which no other studies have done to date.

6. Who are the investigators (including assistants) who will conduct the research and what are their qualifications and experience?

Emily Smith graduated from Glasgow Caledonian University with a BSc (hons) in Psychology and is now completing a 1+3 studentship at the MRC SPHSU. She has recently completed the first part of this studentship and been awarded an MSc in Social Science Research from the University of Glasgow. During this course she undertook modules in qualitative methods and advanced qualitative methods. She is also experienced with dealing with university students having worked as a module tutor over recent years.

She is supervised by Helen Sweeting PhD and Charlotte Wright MD. Helen Sweeting is a qualified Clinical Psychologist and has worked with the SPHSU for 15 years. She is one of the principal researchers on the **11 to 16/16+ study**. Charlotte Wright is a Professor/Consultant in Community Child Health at Glasgow University/Yorkhill Hospital.

7. Are arrangements for the provision of clinical facilities to handle emergencies necessary? If so, briefly describe the arrangements made

NA

8. In cases where subjects will be identified from information held by another party (for example, a doctor or hospital) describe the arrangements you intend to make to gain access to this information including, where appropriate, which Multi Centre Research Ethics Committee or Local Research Ethics Committee will be applied to.

NA

9. Specify whether subjects will include students or others in a dependent relationship.

The study will involve the use of consenting young adults aged 23-24 recruited from the **West of Scotland 11 to 16/16+** cohort. They will be contacted with an invitation to participate, and will have the option to opt into the study.

This cohort was originally sampled in 1994 as part of the **West of Scotland 11 to 16 study: Teenage Health**, a longitudinal, school-based study of health and health behaviours in a cohort of children living in the predominantly urban areas in and around Glasgow City. During the **11 to 16 study**, participants were initially surveyed in (Scottish) Primary 7 (aged 11, n=2586) and followed up in Secondary 2 (aged 13, n=2371) and Secondary 4 (aged 15, n=2196) using self-complete questionnaires. These surveys collected data relevant to the investigation of the social patterning of physical and mental health, the contexts through which teenage lifestyles develop (such as smoking, drug use, or diet) and between-school variations in health and/or health behaviours. An extension to the study known as the **16+ study** followed up the cohort after leaving school via interviews conducted in 2002-4 aged 19 (n=1258). At each stage of the

original study and the 16+ follow-up, height and weight, were measured, so allowing for the calculation of body mass index and overweight/obesity status. Cohort members were also contacted in April of 2006 to participate in a postal survey focusing on body image, body satisfaction and body change strategies such as dieting as well as basic information on health, health related behaviours and social circumstances. Of those who completed the postal questionnaire (n=596), forty-one had been obese as teenagers and remained so at the age of 19, eight had been obese as teenagers and had lost substantial amounts of weight and so were not categorised as obese at age 19. A further six had lost less weight, the majority remaining obese.

Members of this cohort have received feedback leaflets following each survey, and, since 1999, annual Christmas cards/calendars plus change of address cards. At each mailing, they have been provided with the opportunity to opt out from further participation.

10. Specify whether the research will include children or people with mental illness, disability or handicap. If so, please explain the necessity of involving these individuals as research subjects.

No children will be involved. Given that this is a community sample, there is a possibility that some of those selected may suffer from a physical or mental illness or disability. The research student will not be looking at individual health data before contact, therefore will not be able to discriminate on the grounds laid out in the question above. Any person unable to provide informed consent will be excluded from the study.

11. Will payment or any incentive, such as a gift or free services, be made to any research subject? If so, please specify and state the level of payment to be made and/or the source of the funds/gift/free service to be used. Please explain the justification for offering payment or other incentive.

Participants will be offered a £20 gift certificate as recompense for taking the time to participate, along with travel expenses and refreshments if travelling to the MRC Social and Public Health Sciences Unit for the interview.

12. Please give details of how consent is to be obtained. A copy of the proposed consent form, along with a separate information sheet, written in simple, non-technical language, MUST ACCOMPANY THIS PROPOSAL FORM.

Participants will be contacted by letter and information sheet (attached) with details of the proposed study, and informed that they will be contacted by telephone by the research student. Consent will be requested orally over the phone and again in writing at the time of the interview (consent form attached) once they have re-read the information sheet and been informed of all research procedures. Consent to audio tape and take notes during the interview will be sought, although participants can request for either or both not to be used.

13. Comment on any cultural, social or gender-based characteristics of the subject which have affected the design of the project or which may affect its conduct.

Whilst gender will be a factor during analysis of the transcripts, it has not impacted on the proposed study design or methodology other than in the desire to recruit even numbers of males and females.

14. Please state who will have access to the data and what measures which will be adopted to maintain the confidentiality of the research subject and to comply with data protection requirements, e.g. will the data be anonymised?

Transcription will be conducted by an external organisation ('Smallbiz') which guarantees adherence to strict confidentiality guidelines. The data (audio tapes and subsequent transcripts) will be anonymised at the earliest opportunity. The tapes will be labelled without using identifiers (e.g. 'pilot interview #1'), and all names of people or places within the transcripts will be replaced. All data will then be stored in a locked filing cabinet. The transcripts and audio recordings will only be accessible to those outlined as being involved in the study in section 6. In line with MRC data protection, all tapes and transcripts will be held in secure storage for ten years before being destroyed.

Any reporting of findings from this study will use pseudonyms so as to maintain confidentiality.

15. Will the intended group of research subjects, to your knowledge, be involved in other research? If so, please justify.

Not to our knowledge

16. Date on which the project will begin *June 2007* and end *September 2009*

The aim is for data collection to be completed by March 2008.

17. Please state location(s) where the project will be carried out.

Interviews will be conducted at the MRC Social and Public Health Sciences Unit, University of Glasgow, or at a quiet, private venue agreed upon by the participant and researcher which could include the participant's home.

18. Please state briefly any precautions being taken to protect the health and safety of researchers and others associated with the project (as distinct from the research subjects), e.g. where blood samples are being taken

MRC SPHSU has strict guidelines for the safety of its researchers and extensive training is given. During periods of fieldwork, researchers are issued with a mobile phone connected to the 'Communicare' network. This is a support device which monitors travel whereabouts and has a panic button facility. Travel arrangements and interview times will be left with a colleague at MRC SPHSU who will be telephoned after each interview. If the researcher feels at all at risk then they will remove themselves from the area and contact emergency services if necessary. MRC good research practice guidelines dictate that a full risk assessment is carried out before fieldwork commences. Since participants have indicated a level of commitment to the wider study and encountered interviewers on several previous occasions, anticipated risk is low.

Name: _____ Date: _____
(Proposer of research)

Where the proposal is from a student, the Supervisor is asked to certify the accuracy of the above account.

I certify that the above account is accurate.


Name: _____ Date: 30th May, 2007
(Supervisor of student)

COMMENT FROM HEAD OF DEPARTMENT/GROUP/INSTITUTE/CENTRE

This is a low risk project on a topic of current policy interest. This Unit has strict confidentiality and health and safety rules, and the two supervisors are experienced field researchers and have clinical psychology/child health qualifications/experience should the student require any advice about how to respond to any worries expressed by subjects.


Name: Sally Macintyre Date:
30/5/07

(Head of Department/Group/Institute/Centre)

Appendix Four: Recruitment letter



Dear <name>,

As you know, you are one of over 2,000 people who have taken part in the **West of Scotland 11 to 16** and **16+** studies. We first surveyed you in primary school in 1994-5 and then in S2, S4 and again after leaving school, when you were 18-19 years old. Last year you kindly filled in a short postal questionnaire. The success of the study is due to all those who, like you, have continued to take part. You can find more information on our website: <http://www.msoc-mrc.gla.ac.uk/studies/11to16/>.

So far, taking part has meant filling in questionnaires or answering set questions in an interview. Because this has not given people the chance to really talk about their lives, we are writing to ask whether you would be willing to take part in a more detailed interview.

The interview will ask about health and things that matter for health, such as diet, exercise, weight, smoking and drinking. You can also talk about how your health may have affected other areas of your life as a teenager and now. The interview will let you express your opinions and experiences. We are particularly interested in talking to people who have had an above average build at some point in their lives.

Taking part will involve talking to Emily Smith, one of our research students, for about an hour. This can be at your home or at our research unit in the West End of Glasgow, and at a time that is most convenient to you. We will pay any travel expenses and as thanks for taking part, will give you a £20 gift voucher.

We have enclosed an information sheet with further details about the study. Emily will phone you in the next few days and ask if you are happy to take part. In the meantime if you have any other questions please do not hesitate to contact Emily or one of us (0141 357 3949).

Dr Helen Sweeting

Professor Patrick West

Appendix Five: Participant information sheet



Teenage Lifestyles and Adult Life: Information Sheet

What is this study about? This study is about how the teenage years affect adult life. It focuses on teenage health and the things that influence it, such as physical activity, diet and smoking. It will also examine how these teenage lifestyle factors might link to other areas of your life such as friendships and relationships, health, weight and image concerns, both then and now. Although we have collected lots of information since you were a teenager, we are seeking more in-depth information now you are grown up.

Why you? We have contacted you because of your continuing participation in the *West of Scotland 11 to 16/16+ Study*.

What's involved? You will be asked to take part in an interview which will last about an hour. It will take place at your home, unless you would rather it happened elsewhere. Rather than giving answers to a series of questions, it will be more like a chat about teenage life guided around certain topics. It is an opportunity for you to tell us in more detail what it was like to be a teenager, and what positive or negative impact it has had on your life so far. You will also receive a £20 gift voucher as thanks for taking part, plus any travel expenses.

What happens to my answers? If you agree, the interview will be tape recorded and examined, along with all the other interviews in the study, for issues associated with teenage health and lifestyles. The results will be written up, and may be published in research journals.

Will my participation in the study be kept confidential? Yes, all information collected from you will be kept strictly confidential. Your name and any details by which you could be identified will not be used. All names mentioned will be changed in any written reports.

Why take part? Over the years, findings from the *11 to 16/16+ Study* have been presented to researchers, teachers, youth workers and health professionals as well as to local Health Boards and the Scottish Executive. We hope the results from this new study can be used to offer support and guidance to future teenagers.

Who has funded, organized and reviewed the study? This study is funded by the UK Medical Research Council, organized by the MRC Social and Public Health Sciences Unit, and has been reviewed by a University of Glasgow ethics committee.

What happens now? Emily Smith will contact you by phone in the next few days to see if you are interested in taking part. If so, you can set up a suitable time and place to meet for the interview.

Who can I contact for more information? If you have any questions or would like any more information before deciding to take part, please feel free to contact Emily Smith, PhD student, on 0141 357 7560, or email emily@sphsu.mrc.ac.uk. Alternatively, contact *11 to 16/16+* researcher, Helen Sweeting (helen@sphsu.mrc.ac.uk), or survey manager Catherine Ferrell (catherine@sphsu.mrc.ac.uk) if you have further questions or concerns.

Appendix Six: Consent form



Teenage lifestyles and adult life: Consent form

To be completed by those wishing to take part in the interview investigating teenage health and lifestyles;

☐

I have read the information sheet that describes this study and agree to be interviewed

☐

I understand that I do not need to answer any questions if I do not want to and can withdraw from the study at any time without consequence

☐

I agree for the interview to be tape recorded

☐

I give permission for brief extracts from my interview to be used for research purposes (including publications and reports), with strict preservation of anonymity. I understand that the taped interviews will become the property of the MRC Social & Public Health Sciences Unit.

Name: _____

Date: _____

Signed: _____

Appendix Seven: Follow up contact letter



<address>

<date>

Dear <name>,

We have recently tried to contact you in relation to a small study as part of the **West of Scotland 11 to 16** and **16+** studies.

Unfortunately some of the contact details we have for you are out of date. We would very much like you to contact us so that you have the chance to participate in this study.

We enclose our original letter and study information sheet. Please take a look and decide whether you wish to take part.

If you decide that you would like to take part or would like further information, please return the change of address card, or contact Emily Smith by telephone on 0141 357 7560 or by email at emily@sphsu.mrc.ac.uk.

Many thanks

Dr Helen Sweeting

Professor Patrick West

Appendix Eight: Initial photo task photographs





No suitable picture with an equivalent overweight man eating healthily





Appendix Nine: Additional photo task photographs



Appendix Ten: Pre-pilot interview schedule

Pre pilot interview schedule

The interview will be guided by the following main questions and prompts:

Preamble

Firstly I'd like to thank you for taking the time to speak with me today. As the information sheet says, I am interested in how teenage years affect adult life. There are a number of areas of teenager life that I am interested in such as health, friends, family and school.

Perceptions of health

Picture task:

- I'm going to show you some pictures and I would like for you to tell me what you think about the people in the pictures. Prompt for
 - Are the people un/healthy
 - Diet
 - Bodies
 - Activities
- Can you think of any ways in which your teenage life related to your health back then? Prompt for
 - Un/healthy activities i.e. smoking, drinking, diet, exercise
 - People i.e. friends, family, peers

Perceptions of being a teenager

I would like to begin by talking with you about what it was like being a teenager;

- Tell me in as much detail as you can, what it was like being a teenager
- Looking back, how would you describe yourself as a teenager?
- Do you think you would have described yourself in the same way when you were a teenager?
- What do you think your teachers would have said about you at school? Prompt for;
 - Good/bad Student, popularity

Teenage life

- What sort of things did you get up to when a teenager? Prompt for
 - Hobbies & interests
 - Jobs
 - Social or anti-social behaviour i.e. drugs, smoking, drinking, etc

Significant people

- Could you tell me who the people are that stick in your mind the most from being a teenager and for what reasons? Prompt for;
 - Friends or peers
 - Family - parents, siblings, others
 - Teachers

- Which of the people you remember from being at school do you feel was most like you and which were the most different to you? Why? Prompt for;
 - Physical differences
 - Social differences
 - Emotional differences
- Was there anyone you knew that you really wished you could have been like? Prompt for why?
- Which of these people still impact on or adult life do you think, and for what reasons?

Concerns

- Do you remember having any concerns while a teenager? Prompt for;
 - School
 - Social - friends, peers, family
 - Health related

Change

- How much do you think you have changed since being a teenager? prompt for:
 - Interests
 - Friends
 - Fashion

Feedback on interview

As you know, we are at the early stages of this study and the information you have given will be used to help us work out what are the most important issues and how best to ask people about them. So I would like to finish off by asking you a bit about the interview

- What do you think of the topics I have covered?
- Is there anything you feel I should not have asked about?
- Or anything that I missed?
- What did you think about the picture task?
- Was it helpful

Appendix Eleven: Pilot and main study interview schedule

Introduction

Firstly I'd like to thank you for taking the time to speak with me today. As the information sheets says, I am interested in how teenage years affect adult life. There are a number of areas of teenage life that I am interested in such as health, friends, family and school. This interview will be broken down into a couple of main areas

Firstly as an icebreaker and also to get an understanding of your perceptions of health, I'm going to give you some picture cards to look at and describe to me.

Secondly I'd like to talk about what you remember about being a teenager: school, friends, family, etc.

Thirdly I'll ask you to tell me about how much you think you have changed since you were a teenager.

While we are discussing different aspects of your teenage life, I am going to provide this timeline which as we go along I might ask you to mark on it when you remember certain things to have happened. Don't worry too much about it, it's just to help you remember more easily, and helps me understand more about your teenage life.

Section 1: Perceptions of health

Picture task:

- I'm going to show you some pictures, and I would like you to begin by sorting the cards into the categories **healthy** and **unhealthy** as best you can...
- Can you now tell me your reasons for putting the pictures into these categories? What do you think healthy and unhealthy means?

Prompt for

- Are the people un/healthy
 - Diet
 - Bodies
 - Activities
- Can you now do the same again but sort them into whether you think they are **happy** or **unhappy** in their lives?
- Who do you think feels good about themselves?
- Tell me in as much detail which of the pictures best represents you as a teenager. It might be more than one picture and that's ok but give me your reasons for your choices
- What do you think of these pictures? Do you think that the gender of a person makes a difference to your opinion of their health and happiness?
- Was health an issue for you that you remember? Prompt for?
 - Diet
 - Weight
 - Smoking

- Drinking
- Medical conditions

Section 2: Perceptions of being a teenager

I would like to begin this section by asking you to talk with me about what you remember it to have been like to be a teenager;

- Tell me in as much detail as you can, what it was like being a teenager
- Looking back, how would you describe yourself as a teenager?

I'd like to go on and ask you some more specific questions about being a teenager but as it's a fairly long period of time, I am going to provide this timeline which as we go along I might ask you to mark on it when you remember certain things to have happened. Don't worry too much about it, it's just to help you remember more easily, and helps me understand your teenage life.

Teenage life

- What sort of things did you get up to when a teenager? Prompt for
 - Hobbies & interests
 - Jobs
 - Social or anti-social behaviour i.e. drugs, smoking, drinking, etc
- Was there anything you wished you could have done as a teenager but didn't for some reason
 - What was this
 - Why didn't you participate in this?

Significant people

- Could you tell me who the people are that stick in your mind the most from being a teenager and for what reasons? Prompt for;
 - Friends or peers
 - Family - parents, siblings, others
 - Teachers
- Which of the people you remember from being at school do you feel was most like you and which were the most different to you? Why? Prompt for;
 - Physical differences
 - Social differences
 - Emotional differences
- Was there anyone you knew that you really wished you could have been like? Prompt for why?
- Which of these people still impact on or adult life do you think, and for what reasons?

Teenage Concerns

- Do you remember having any concerns while a teenager? Prompt for;
 - School

- Social - friends, peers, family
- Health related

Section 3: Change

- As all people change during the teenage years, I would like for you to tell me how you changed. Prompt for:
 - Interests
 - Friends
 - Fashion
- One of the things that you were asked to do in a past questionnaire that you may remember, was complete a scale of how you think your body size and shape changed between different stages of being a teenager. i don't know what you completed back then, so I would like for you to tell me again how you think you changed. We can also mark it on the timeline if that helps.

Section 4: Feedback on interview (ONLY included in pilot interviews)

As you know, we are at the early stages of this study and the information you have given will be used to help us work out what are the most important issues and how best to ask people about them. So I would like to finish off by asking you a bit about the interview

- What do you think of the topics I have covered?
- Is there anything you feel I should not have asked about?
- Or anything that I missed?
- What did you think about the picture task?
- Was it helpful

Post interview (NOT asked in pilot interviews)

One of the things that you were asked to do in a past questionnaire that you may remember, was complete a scale of how you think your body size and shape changed between different stages of being a teenager. i don't know what you completed back then, so I would like for you to tell me again how you think you changed. We can also mark it on the timeline if that helps.

- When you took part in this study at school and as part of the 16+ study you were asked to give your height and weight measurements and we would like for these records to be updated again.
- I'm not able to measure your height, but do you think you have grown any more since you were 18/9 when you took part in the 16+ study? What would you say your height is now?

Would you mind if I was to ask you to be weighed just now?

Appendix Twelve – Framework chart example

The following pages display chart examples for four participants across five of the main themes to arise from the data, these being build in relation to others, impact of being overweight, motivators, barriers to change and effectors to change. These chart examples represent summarised data extracted from individual transcripts where the language used has been kept as true to the transcripts as possible.

The four participants displayed represent a male who had lost weight but remained overweight (Charlie), a male who had lost weight but remained obese (Chris), a female who had lost weight and was normal weight at the time of interview (Nina), and a female who had continued to increase in size throughout adolescence and into adulthood.

	Build in relation to others	Impact of overweight	Motivators	Barriers to change	Effectors to change
Charlie	Spitting image of little brother - same build, was quite big when young now skinny. No resemblance with big brother - he's skinny. Connection with dad and little brother. Compared to pals, was a bit bigger, always heavier. Had one pal same size as himself - both rugby props. Were people that were bigger than him as well.	would have liked to have lost weight but "I wasn't majorly unhappy w/ being overweight if you know what I mean I wasn't depre- didn't get me down, didn't depress me or anything like that" - check transcript again (changed indexing after had coded this one - 190908)	feels there was a definite change but doesn't know whether it was getting to a certain age (20/21) or if it was going to university and 'coming of age' which made the change	Felt was trying to lose weight but maybe wasn't bothering him enough as he wasn't getting anywhere. Felt that when it was really bothering him, he wasn't able to do anything about it for one reason or another. Doesn't know what he was lacking but couldn't do anything about it and doesn't know why let the problem get so bad. Remembers thinking it would be easy to do something about it but wouldn't be able to consistently go on a diet. Just wasn't fully committed to it. Knows that everyone's different and accepted the fact. found it mentally hard to commit to a diet.	<u>Exercise</u> . Now does a lot of running. Started going to gym when started university and 'lost like 4 stone'. The only reason why lost weight. Didn't struggle to go, just changed lifestyle. If wasn't for the gym, would probably be the same size now. Started going as close pals from university were going so just started going with them around the age of 21. <u>diet</u> would diet when younger and would lose weight quite fast but it wouldn't last any longer than a couple of weeks
Chris	<u>FAMILY</u> physically like his dad - big built, he's quite big. Mums pretty slim. <u>FRIENDS</u> mix of sizes, tall, short, fat, thin	self harm, frustration etc. felt was already doing enough and couldn't understand why wasn't losing weight. Would worry get upset and thought that girls would never like him. Was never a major concern, just something wasn't particularly happy with. Always thought that playing football & rugby, and eating the same as skinny friends so why wasn't he skinny. used to get angry because of this and would take it out on self so some self harming was related to weight concerns	Weight started to bother him around age 14/15 and this motivated him to attempt to lose weight.	Felt was already doing enough and couldn't understand why wasn't losing weight. Never stuck to anything for very long	Didn't eat as much as probably should although not deliberate but didn't have enough money for food preferring to spend it on cigarettes and alcohol and lost quite a lot of weight. Joined gym in 2nd year of university. Drop in weight was due to diet but gym helped keep it down and maybe go down a bit more.

	Build in relation to others	Impact of overweight	Motivators	Barriers to change	Effectors to change
Nina	1) Big sister was very thin though filled out and now a size 14. Other sister never had weight problem always been size 8-10 - lucky one. 2) She's probably like her mum, shorter and overweight - struggled with her weight. Dads side taller - sisters resemble him 3) built same as best friend, quite chubby - same height, same weight, same everything. When went to high school she suddenly shot up - became really tall, really skinny, big boobs, completely changed her shape. [Nina] stayed as she was and maybe felt left behind at school. 4) Was maybe always jealous of her sister not being able to get into the same clothes.	1) was quite overweight as a teenager and at the time was trying to begin exercising - something that brought her down, made her unhappy. 2) When overweight, worried about not being able to fit into clothes, when lost a lot of weight in late teens, was out shopping and was out and about - enjoyed fashion and clothes. 3) Vicious circle when a teenager - if overweight don't have the confidence in yourself. Hard to exercise, especially in front of teenagers who can be quite cruel - something that scares the life out of you when you're that age. "It was fear of exercising along with people but fear of being overweight as well" didn't share with anyone, but thinks it wasn't a secret that hated PE. Would quite often get sick notes - mum would always write them. Found the 1st few years really	1) suddenly tried to stop eating as much just to get weight down. Realised that people started to back off a bit and when put make-up on and straightened hair, they left her alone because she blended in a wee bit more. Doesn't know what sparked it off, think just going to high school and realising your different from other kids and they focus on that, you do want to change it. 2) Thinks when went to high school, realised and suddenly managed to lose a lot of weight quite quickly. doesn't know if it was just body changing at same times as deciding to eat healthy	1) Hated getting up in mornings and quite often didn't have breakfast. Would probably have biscuits and then a bag of crisps in the morning. Vending machines were a nightmare at school. 2) Thinks transition between primary and high school, still in child mode and still sort of just eat sweets and crisps all the time. 3) PE was something she dreaded. If had PE the next day, she'd worry right through the night about school. 4) Hated swimming or anything like that in primary 7.	1) Around 13/14 stopped eating dramatically. Wouldn't say was anorexic but didn't eat enough for someone her age. When losing weight, would just have soup and sandwich for lunch at gran's and that was it until main meal at night
Elizabeth	Would wish looked like some other girls but didn't want to be as skinny as them didn't want to be stick. Would see other people wandering about and think how can I like this? Was about 16 when started thinking like that. Compared self to girls wearing high boots and wee short skirts - 'how can they walk about like that?' people looked dead different to way looked. Really resembled dad as teenager - dad quite hefty with a big beer belly. Sisters more like mum - quite skinny. Resembles brother more - tall although he's a long skinny beanpole. Nobody ever said it but felt like was overweight.	BODY PERCEPTION: [repeatedly states] always thought was overweight and that everybody else thought that. "I wasn't but I felt that everybody else thought that I was". Because felt that way, would buy a bar of chocolate to cheer self up. Would think everyone was looking at her and thinking she was overweight and shouldn't be eating a bar of chocolate. Silly things that made her compare herself to skinny others. BULLY: bullied by one boy. Didn't like talking about way she felt, made feel worse. Would go away and hide in a corner and have a good cry to self - not in school where he might see.	1) would see other people wandering around and think <i>"how can I live like this and think well lets do something about it"</i> 2) when was losing weight, made feel much better - going in the right direction. 3) School affected decision to try and change - people looking at her while eating a wee bar of chocolate and they were eating fruit. 4) Mum helped by making sure there wasn't chocolate in the house - knowing that other people cared about how feel helped.	1) Some days would eat healthy and then others would go out and have bag of chips for dinner, or have a chocolate bar when should have been having a bit of fruit or something. 2) Doesn't like going to gym. Self-conscious so doing things in water like aqua aerobics hid her. 3) when went to secondary school, it changed because didn't have as much time as when in primary school to go swimming or whatever. Took longer to get back into it, to build back up to what could do when a wee girl.	1) Remembers starting to eat a bit healthier - when putting plates of food out, would chose a smaller plate so although eating was the same, it would look more. 2) Out walking, doing the rainbows and guides and things. 3) started finding the more walking and swimming and watching what put on plate, was finding that clothes were getting too big and was having to pull things or put belts on or go and buy new clothes 4) watched what eating and only have a bit of chocolate once a week and didn't indulge. Takes time to make something for self - feels more in control, cooking for self, gives pride and accomplishment. 5) Now goes swimming a lot more - aquafit. Doing things that when a teenager, would never dream of doing. Never dream of going to a swimming pool with older women and jumping about like a maniac but now has no problem going to swimming pool, going to classes and talking to the women - when at school, had to know people before talking to them.

Appendix Thirteen: 11 to 16/16+ Study questions

Introduction

The following pages provide individual summaries for each of the study participants. These include information on their living and socio economic circumstances during school, their living and education/working circumstances since school and their marital status at the time of interview. Along with this is a graph plotting the participant's BMI history from age 11 to the time of interview. These are displayed as BMI z scores, where obesity was defined as a BMI standard deviation score about the 95th percentiles for age and sex when compared to the UK 1990 growth reference chart (obese = BMI z score > 1.65). In addition, is a table outlining participants responses to a range of questions administered to them at ages 11, 13, 15 and 19 as part of the 11 to 16/16+ study. Examples of these questions are outlined and displayed in section ***.

Questionnaire items

At ages 11 and 13, participants of the **11 to 16 study** answered these questions in relation to how they felt about their health, weight and looks. For analysis if these items, the first two 'faces' were coded as happy (items 1 and 2) with the remaining three being coded as unhappy.

These faces show how you feel. Look at the faces and put a **circle round the number** which shows best how you feel about each thing

The face which shows best how I feel about...

My health



1

2



3

4



5

My weight



1

2



3

4



5

My looks



1

2



3

4



5

At age 15 and 19, the question was altered slightly as shown below. For these items, 'a lot' and 'a bit' were coded as 'worried' while 'not at all' was coded as 'not worried'

Last, thinking ahead over the next 5 years, do these things worry you a lot, a bit, or not at all?

I worry about ...

	a lot	a bit	not at all
my health	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
my weight	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
my looks	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃

At all ages, participants of the **11 to 16/16+ study** were asked about their dieting behaviour and whether they were worried about putting on weight.

What about special diets and things like that? Are any of these true for you? For each one, put a circle round 'yes' or 'no'.

At the moment...

Are you on a slimming diet to lose weight?.....yes.....no

And ...

Are you worried about putting on weight?.....yes.....no

At ages 11 to 15, these questions allowed yes or no responses as shown above, however at age more response options were provided as shown below. For this variable, items one to three were coded as 'dieting' while item four was coded as not dieting.

What about slimming diets to lose weight? Would you say that at the moment you were on ...

- | | | |
|---|--------------------------|---|
| a very strict diet | <input type="checkbox"/> | 1 |
| a moderately strict diet | <input type="checkbox"/> | 2 |
| not really dieting, but watching what you eat | <input type="checkbox"/> | 3 |
| not concerned about what you eat | <input type="checkbox"/> | 4 |
| refused or don't know | <input type="checkbox"/> | 5 |
-

Participants were also asked about their experiences of victimisation by being asked if they had been teased or bullied as shown below.

Here is a list of things that happen to some kids. **How often do they**

every most less
I get teased or called names.....day.....days.....weekly.....often.....never

every most less
I get bullied.....day.....days.....weekly.....often.....never

At age 11 they were asked how often this happened to them generally, however at ages 13 and 15 they were asked to differentiate between experiencing teasing and bullying at school and “out-with school (in the evenings, weekends or holidays)” (not shown). All of these variables were coded as ‘yes’ (everyday, most days, weekly and less often) and ‘never’

Here is a list of things that can happen to teenagers. **How often do they happen to you?**
 Tick **one** box on each line.

FIRST, how often do they happen AT SCHOOL?

	Every day	Most days	Weekly	Less often	never
I get teased or called names.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get bullied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Finally, at ages 11, 13 and 15 they were asked the likelihood of being overweight by the time they were aged 21. An example of this is shown below.

And what about when you're still older?

Last time we asked what you thought you might be doing by the time you were aged 21. What do you think now? How likely do you think each of these things is by then?
 Tick one box on each line

By the time I'm **21** I will

	Very likely	Quite likely	Quite unlikely	Very unlikely
Be overweight.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix Fourteen: Participants summaries

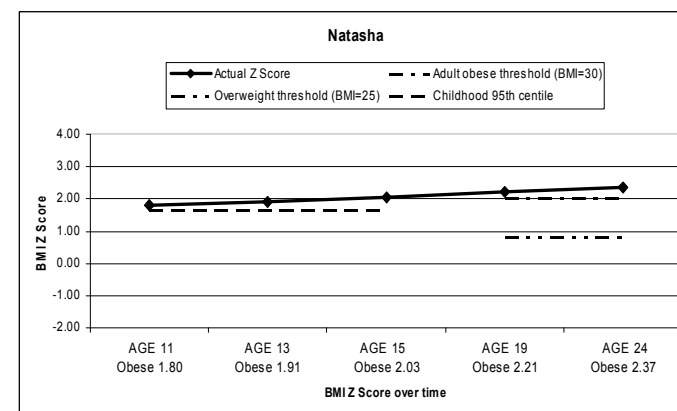
Natasha: Aware, least bothered, adolescent failed slimmer, adult failed slimmer

At the time of interview, Natasha was living with her parents and sister, although when revisited subsequent to the main interview to collect her weight measurements, she was in the process of buying her own flat. As an adolescent and until that time, she had lived with her mother, father, one older brother and one older sister. Although in a relationship at the time of interview, she mentioned no immediate plans to cohabit with her boyfriend even though buying her own flat.

After leaving school, she spent one year travelling before going to university to study children's nursing although this was disrupted when both her grandparents died within a short space of time. She had taken a break from university and worked in a special needs school amongst other things. At the time of interview, she was working in a nursing home and was shortly due to begin the final stage of her university degree.

In appearance, Natasha was probably about average height for a female. She was between shifts when I met her and so was dressed in loose grey trousers/jogging bottoms and a relatively loose fitting top. She had a fairly large chest and thighs and although I would have said she was overweight, I probably would not have referred to her as obese.

To interview, she was happy and relaxed, giving no indication that she was concerned by the topics being discussed.



- Family social class at age 11 = III NM (skilled non-manual)

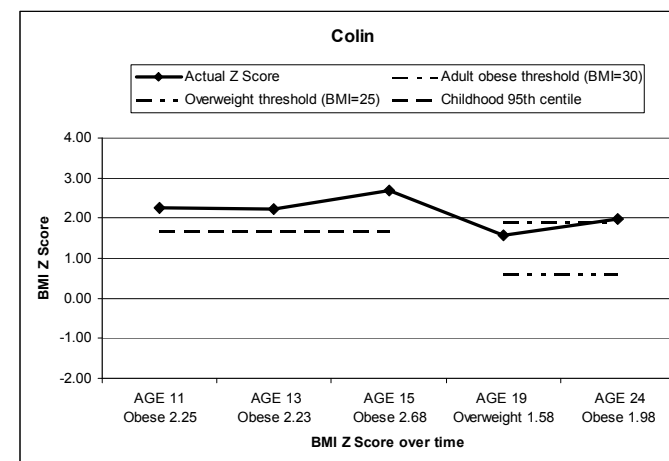
	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt indifferent	Felt indifferent	Worried a bit	Worried - not at all
Feel/Worry about weight	Felt indifferent	Felt indifferent	Worried a bit	Worried a bit
Feel/Worry about looks	Felt Indifferent	Felt indifferent	Worried a bit	NA
Avoid food to slim	No	Yes	Yes	Moderately strict diet
Worry will put on weight	Yes	Yes	Yes	A great deal
Worry too slim	NA	No	No	Not at all
Teased	Never	Less often	Never	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite likely	Quite unlikely	Quite likely	Not asked

Colin: Most Aware, most bothered, adolescent effective slimmer, adult effective slimmer

At the time of interview, Colin was living with his parents and his partner in council housing. He was the youngest of seven boys, some of whom also still lived at home although it was not clear how many. He had always lived in the family home with his current boyfriend also moving in when he was aged 21.

Colin left school at 17 after completing fifth year because he could not get into the classes he wanted to. At that time he had aspirations to be a dancer and trained for a year after leaving school. He quit this when the pressure from instructors to diet became too great - he enjoyed food too much. Colin described not wanting to work when he left school and his mother supported him as long as she could (during and after dance training). Eventually he wanted more money and began working in a Job Centre where he continued for three years until his contract was not renewed due to cuts to the civil service. At the time of interview, he was working long term through a temping agency which he did not want to continue, but described no attempts to look for other work.

To interview, he was extremely friendly and chatty, although did admit to still being very body conscious - demonstrated by his use of a pillow to cover his stomach area during the interview. He was extremely animated, and appeared confident enough talking to me, and disclosed a lot of information about having been bulimic as an adolescent as a result of his weight. He described being particularly determined during adolescence to lose weight since he felt it was not acceptable to be gay and overweight.



- Family social class at age 11 = missing

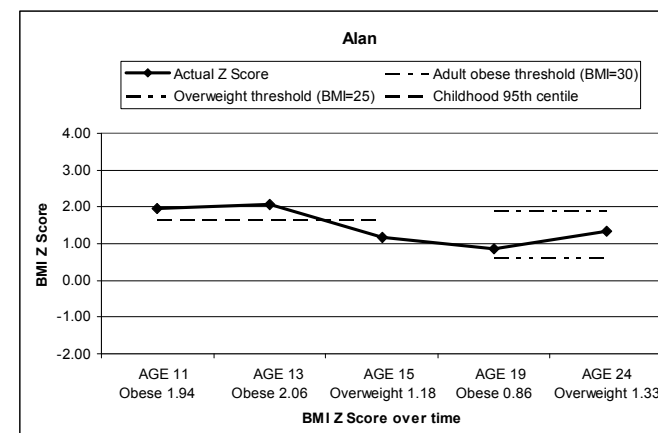
	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt a bit smiley	Worried a bit	Worried a bit
Feel/Worry about weight	Felt a bit sad	Felt indifferent	Worried a bit	Worried a bit
Feel/Worry about looks	Felt indifferent	Felt a bit smiley	Worried a bit	NA
Avoid food to slim	No	No	No	Not really dieting but watching what ate
Worry will put on weight	Yes	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Worried a great deal
Teased	Never	Less often	Less often	Never
bullied	Never	Never	Less often	Never
Likely to be overweight by 21?	Very unlikely	Quite unlikely	Quite likely	NA

Alan: Least aware, least bothered, adolescent effective slimmer, adult effective slimmer

At the time of interview, Alan was working as an officer on an RAF base, living in base accommodation. He had lived with his parents and one younger brother throughout school and university. Living within commuting distance of university, he did this rather than stay in rented accommodation.

During the interview, which took place on base, he appeared relaxed and calm. He was dressed in jeans, a shirt and jumper. In relation to his body size, he appeared slightly stocky in that he was only a little taller than myself (171cm) with a fairly broad frame. He did not appear to consider himself overweight although measurements taken during the interview show that he was. He described feeling that as an adolescent, he resembled his mother facially and in personality in that she was 'boisterous' and outgoing, like him. His father was quieter. In relation to his brother, who was taller and skinner, he described himself as shorter and wider.

- Family social class at age 11 = II (managerial).



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt indifferent	Felt indifferent	Worried a lot	Worried a bit
Feel/Worry about weight	Felt a bit sad	Felt a bit sad	Worried a bit	Not at all worried
Feel/Worry about looks	Felt a bit smiley	Felt very smiley	Worried a bit	NA
Avoid food to slim	No	No	No	Not concerned about what ate
Worry will put on weight	No	Yes	Yes	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Weekly	Most days	Never	Never
bullied	Never	Less often	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite likely	Quite unlikely	NA

Catherine: Most aware, most bothered, adolescent failed slimmer, adult effective slimmer

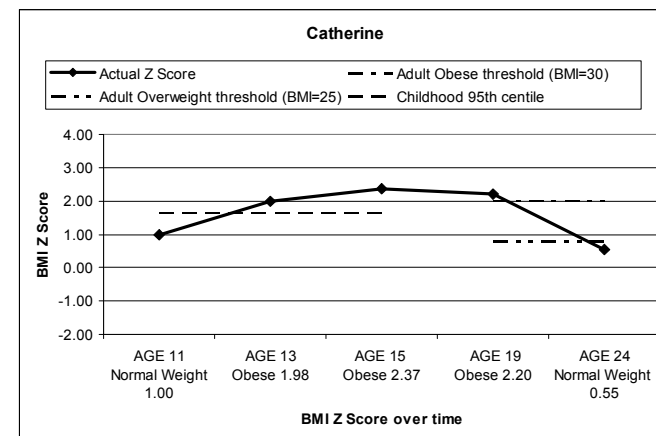
At the time of interview, Catherine was living in a rented cottage flat with her long term boyfriend (they began going out when aged 16) and a son, born when she was aged 20. Prior to leaving home at 18, she had lived with her mother, father and two older brothers. She refers to her mum having five children but only mentions herself and her two older brothers. This might be because the two she mentions were very overweight, along with her mother, and their weight and related health were her main motivators to lose weight.

Catherine left school aged 16 and studied beauty therapy and then hairdressing at college although it did not appear that she had worked long in this area since college. She had for a time worked in a snack bar/sandwich shop but at the time of interview was working part time in a call centre.

Whilst she refers to her immediate family being very overweight, she described her friends as all being skinny, having the metabolism to cope with the things they ate, whereas she would put on weight easily. However as a result of losing weight, she appeared petite and was smartly dressed when interviewed, having been working previously.

She appeared to be a very strong and determined character, this being evident when talking about her feelings about her weight change efforts compared to her family's lack of attempts.

- Family social class at age 11 = III NM (skilled manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt very smiley	Felt a bit smiley	Worried a lot	Worried a lot
Feel/Worry about weight	Felt a bit smiley	Felt a bit smiley	Worried a lot	Worried a lot
Feel/Worry about looks	Felt a bit smiley	Felt very smiley	Worried a bit	NA
Avoid food to slim	No	No	No	Not concerned about what eat
Worry will put on weight	Yes	Yes	Yes	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Most days	Never	Every day	Never
bullied	Less often	Never	Most days	Never
Likely to be overweight by 21?	Very likely	Very unlikely	Very unlikely	NA

Donna: Bothered, adolescent passive slimmer, adult effective slimmer

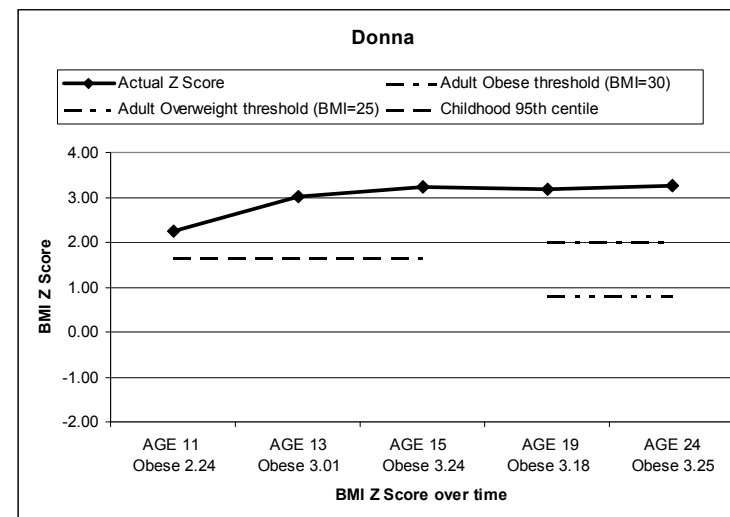
At the time of interview, Donna was single and living alone in her own bought flat. She was an only child and as an adolescent had lived with her mother and father. After leaving school in 6th year, she left home to go to university and stayed in halls of residence in first year and then a shared flat for the remainder of her time at university. As well as her undergraduate, she did a masters degree. She was working at the time of the interview, although we did not discuss what she had studied or what she was employed as.

She described herself in relation to her mother's body size although she was taller than both parents. She felt that with her mother and herself, any extra weight was particularly carried on the top half of the body. Certainly at the time of the interview, she did appear obese and was dressed casually in jogging bottoms and a t-shirt.

Although she discussed having friends at school, she felt they were among the un-cool ones.

To interview, she was fairly softly spoken and often spoke very quickly which could have been because she was uncomfortable talking about some of the more negative issues such as being victimised, but when asked, she did not shy away from discussing these issues. She reflected that given the choice, if she could go back, she would change some of her behaviours, particularly her eating habits, although she described these as coping mechanisms for dealing with stress.

- Family social class at age 11 = I (professional)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt indifferent	Felt indifferent	Worried a lot	Worried a bit
Feel/Worry about weight	Felt very sad	Felt very sad	Worried a lot	Worried a bit
Feel/Worry about looks	Felt indifferent	Felt bit sad	Worried a lot	NA
Avoid food to slim	Yes	Yes	Yes	On a moderately strict diet
Worry will put on weight	Yes	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Less often	Less often	Weekly	Never
bullied	Never	Less often	Weekly	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Very likely	NA

Eilidh: Bothered, adolescent effective slimmer, adult effective slimmer

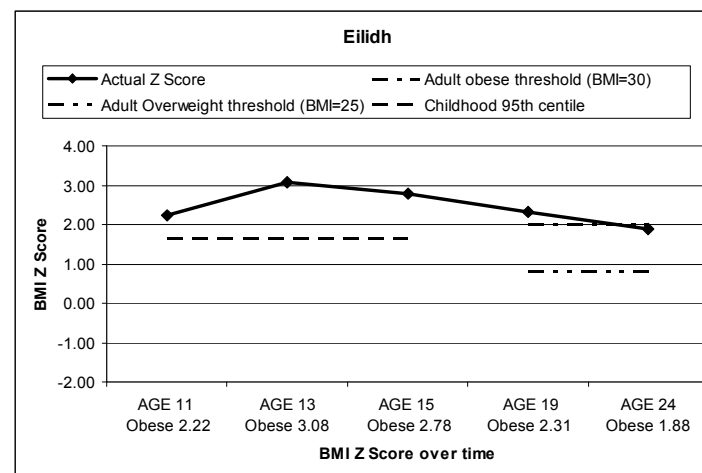
At the time of the interview, Eilidh was renting her own home with her boyfriend. She had two older brothers and during adolescence had lived with her mother and father. Eilidh left school at the end of 6th year and went onto university. She was working full time when interviewed, managing care homes.

In appearance, Eilidh was slightly shorter than me (5'6"). She came to the interview fairly fashionably dressed in a denim skirt, tights, flat boots and a round neck jumper over a white shirt. She appeared overweight with a large chest

At school, she had a big group of friends, some of whom she was still good friends with at the time of interview. She described herself as fairly out-going compared to her friends but also really big. In relation to her family, one of her brothers was tall and broad whilst the other was a keen runner so very thin. She felt that she and the tall brother were similar to her father whereas her mother and other brother were very similar in build and personality.

In the interview she was plainly spoken and seemed quite comfortable with the process. However of all of those interviewed, she is one of ones I remember least about.

- Family social class at age 11 = I (managerial)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt indifferent	Worried a bit	Not at all worried
Feel/Worry about weight	Felt very sad	Felt indifferent	Worried a lot	Worried a lot
Feel/Worry about looks	Felt very sad	Felt indifferent	Worried a bit	NA
Avoid food to slim	No	No	Yes	Not really dieting but watching what eat
Worry will put on weight	Yes	Yes	Yes	A bit worried
Worry too slim	NA	No	No	Not at all worried
Teased	Weekly	Less often	Less often	Never
bullied	Less often	Less often	Less often	Never
Likely to be overweight by 21?	Quite likely	Quite likely	Quite likely	NA

Anne: Least bothered, adolescent passive maintainer, adult failed slimmer

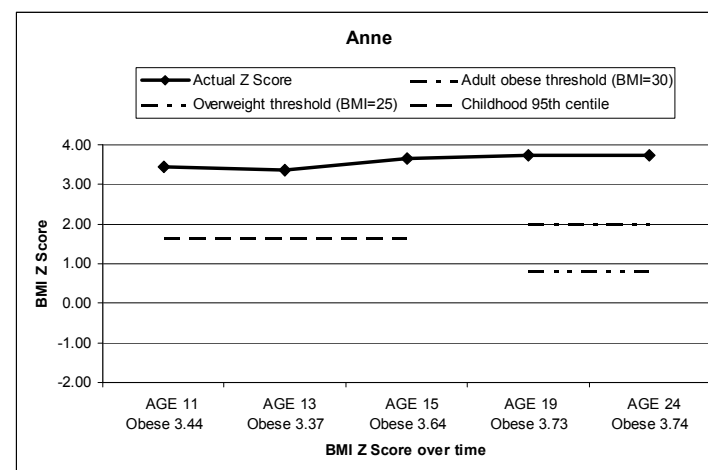
At the time of interview, Anne was renting her own flat (where the interview took place) with her boyfriend. As an adolescent, she had lived with her mother, father and one older brother. She had attended university and was working as a nurse when interviewed.

She was of average height (5'5") and looked obese/overweight. She was dressed casually in loose trousers and top and appeared to be comfortable and relaxed when talking to me.

She described herself as always having had a problem with her weight, having been referred to dieticians at the age of 3. She described her brother as being the same as her - having been big since he was little. She had one very skinny friend but most were a fairly normal weight. She did not describe any friends as being bigger than her.

Anne was fairly quietly spoken and it took her a while to get into the interview. She did not really appear to understand what I was asking of her, and it sometimes seemed that she doubted whether she was answering the questions I was asking her correctly. She appeared slightly defeatist towards her own adolescent weight believing she could not do anything about it.

- Family social class at age 11 = II (professional)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt indifferent	Felt indifferent	Worried a lot	Worried a bit
Feel/Worry about weight	Felt a bit sad	Felt a bit sad	Worried a lot	Worried a lot
Feel/Worry about looks	Felt indifferent	Felt indifferent	Worried a lot	NA
Avoid food to slim	Yes	No	Yes	Not really dieting but watching what eat
Worry will put on weight	Yes	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Never	Never	Never
bullied	never	Never	Never	Never
Likely to be overweight by 21?	Quite likely	Quite likely	Very likely	NA

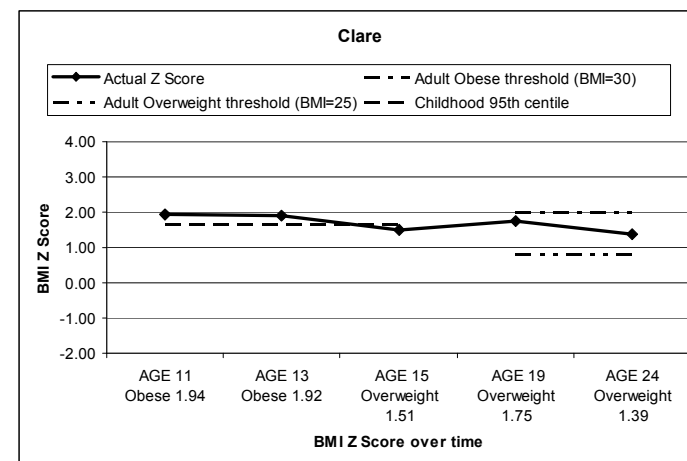
Clare: Least aware, least bothered, adolescent failed slimmer, adult effective slimmer

At the time of interview (conducted in the MRC), Clare was living at home with her parents. She was the youngest of 5 siblings with one older brother and 3 older sisters. It was not clear whether any of these siblings also remained in the family home, although they were quite a bit older than her.

After leaving school she had gone to university to study optometry and was employed as an optician at the time of interview.

In appearance, Clare was one of the slimmest interviewed and although she made occasional reference to her body weight, she did not appear to understand why she was being asked some of the questions, especially when probed about adolescent concerns. She was more keen to discuss having been worried about passing her exams than her weight, although she did refer to having to stop playing badminton so she could use the time to study. This is the main reason why she is categorised in this study as being least aware of, and least concerned with her size.

- Family social class at age 11 = IIIM (skilled manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt indifferent	Worried a bit	Worried a bit
Feel/Worry about weight	Felt indifferent	Felt a bit smiley	Worried a bit	Worried a bit
Feel/Worry about looks	Felt indifferent	Felt indifferent	Worried a bit	NA
Avoid food to slim	No	No	No	Not really dieting but watching what eat
Worry will put on weight	No	Yes	Yes	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Less often	Never	Never	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite likely	NA

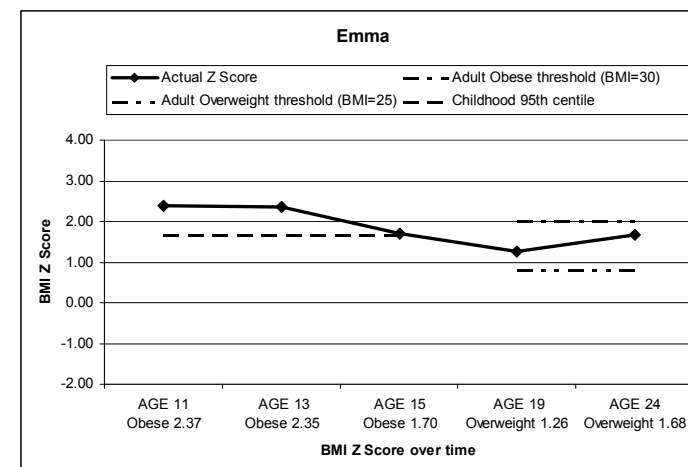
Emma: Most aware, most bothered, adolescent effective slimmer, adult effective slimmer

At the time of interview, Emma was single and living alone in her own home (unclear if owned or rented - Interview conducted at the MRC). As an adolescent she had lived with her mother and older sister. Her father had died when she was aged 2 and her mother had never remarried.

She had left school with an interest in joining the police force, following her grandfather. After leaving school, she worked in a supermarket until she resigned as a result of being picked on by her supervisor. She had two other short term jobs taking her up to age 19 when she joined the police force. During this period of short term employment, she had been trying to lose weight, knowing it was going to be a requirement for successful admission to police training. Although she was successful in losing weight prior to and during police training, she emotionally described being miserable during this process, initially because her diet had to be restricted so much and subsequently because she did not feel comfortable being a size 10 (previously being a size 16 to 18).

Although she sometimes said she was not bothered by her size as an adolescent, she frequently contradicted herself and her demeanour on occasion during the interview suggested that her weight had had a big impact on her. However it should be noted that this was not restricted to her descriptions of being overweight, but also her descriptions of how she felt about her weight loss. In relation to this she described using food as a coping mechanism for stress both as an adolescent and as a working young adult.

- Family social class at age 11 = IIINM (skilled non-manual)



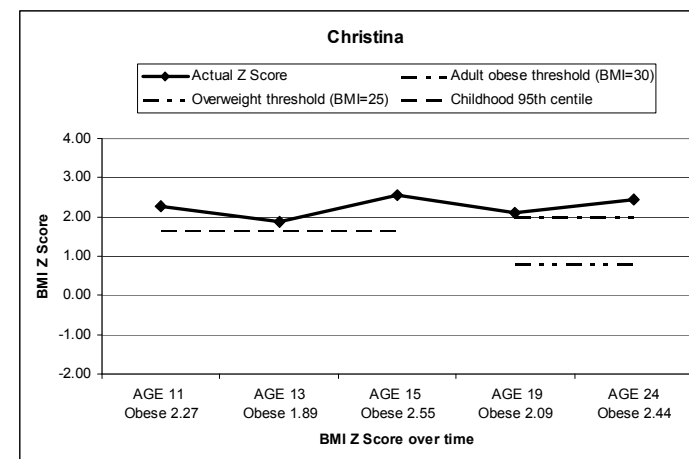
	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt indifferent	Not at all worried	Not at all worried
Feel/Worry about weight	Felt indifferent	Felt indifferent	Worried a bit	Worried a bit
Feel/Worry about looks	Felt a bit sad	Felt indifferent	Not at all worried	NA
Avoid food to slim	No	No	Yes	Not really dieting but watching what eat
Worry will put on weight	Yes	Yes	No	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Less often	Weekly	Less often	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite unlikely	NA

Christina: Aware, bothered, adolescent effective slimmer, adult passive maintainer

At the time of interview, Christina was single and had lived in her rented flat since she was 18. Although she stayed on her own at the time, she indicated that there were often friends and family who would stay in her spare room. Had this not been the case, she said that she would have had a social work carer stay with her. Her adolescent accommodation history had been complicated. She had lived with her mother and her mother's boyfriend until she was 14 upon which time she moved in with her aunt where she stayed until she was 16 and her aunt was unable care for her. Rather than be placed in a foster home, Christina described going to live in a homeless hostel until she was 18 and was placed in council housing. She described having a younger brother and sister although it was unclear as to where they stayed. They were possibly younger and living with her mother. Because of her mental health problems, she was unable to work, but described doing voluntary work and helping out with friends and family. Her inability to work appeared to be a source of great frustration since she believed that she was capable of employment.

She was a very animated character during the interview and certainly did not appear to lack confidence. Although she appeared overweight, she did not appear to be obese - perhaps my perception was a result of her being rather large chested. She frequently described having been overweight as an adolescent although she suggested that a lot of her weight gain was as a result of her moving into her own flat.

- Family social class at age 11 = IIIM (skilled manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt very smiley	Felt very smiley	Worried a bit	Worried a bit
Feel/Worry about weight	Felt a bit smiley	Felt very sad	Worried a bit	Worried a bit
Feel/Worry about looks	Felt very smiley	Felt a bit smiley	Worried a bit	NA
Avoid food to slim	No	Yes	Yes	Not really dieting but watching what eat
Worry will put on weight	No	Yes	Yes	Worried a bit
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Most days	Less often	Never
Bullied	Never	never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Missing	NA

Elizabeth: Most aware, most bothered, adolescent failed slimmer, adult effective slimmer

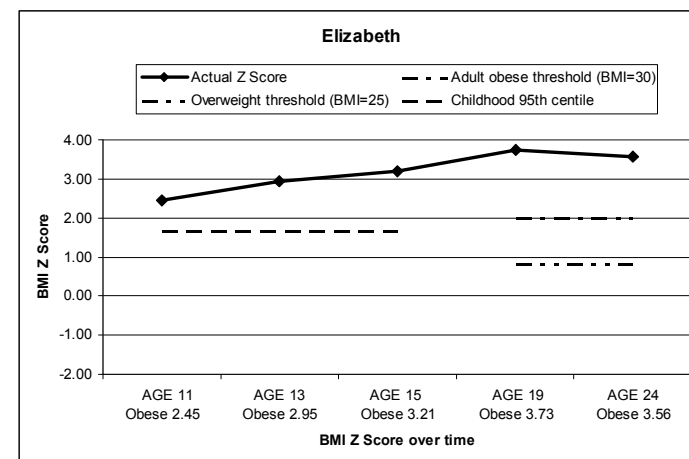
Elizabeth had lived with her mother, father, younger brother and younger sister throughout her childhood and remained there at the time of interview.

Although remaining in high school until 6th year, she had changed high schools during adolescence. Upon leaving school she went to college to study childcare and was working in a children's nursery when interviewed.

In appearance, Elizabeth was clearly obese. She was interviewed at home and was wearing a dressing gown and slippers over what appeared to be her work uniform shirt and jeans.

She was a quiet person and I described her at the time as being 'quite a soul' - she had quite a sad demeanour and came across as carrying the weight of the world on her shoulders.

- Family social class at age 11 = IV (semi-skilled)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt a bit smiley	Worried a bit	Worried a bit
Feel/Worry about weight	Felt indifferent	Felt a bit smiley	Worried a bit	Worried a bit
Feel/Worry about looks	Felt indifferent	Felt a bit smiley	Not at all worried	NA
Avoid food to slim	Yes	No	Yes	Not really dieting but watching what eat
Worry will put on weight	No	Yes	No	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Less often	Never	Never
bullied	Never	Less often	Never	Never
Likely to be overweight by 21?	Quite unlikely	Very unlikely	Very unlikely	NA

Geof: Aware, least bothered, adolescent effective slimmer, adult failed slimmer

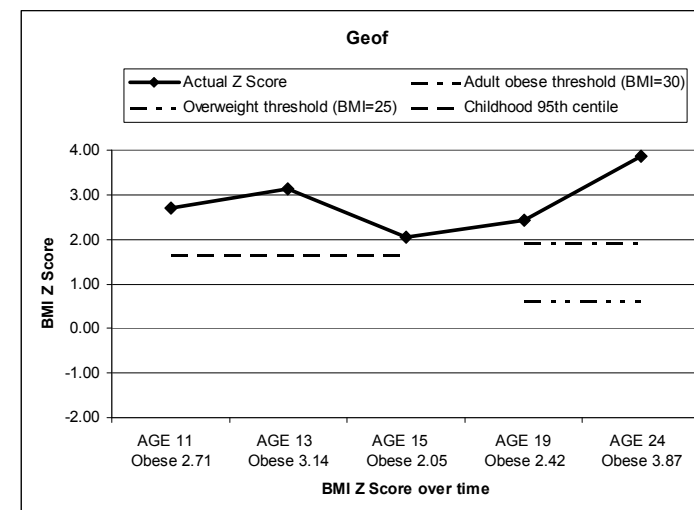
As an adolescent, Geof had lived with his mother and her boyfriend. His parents separated when he was aged 5 and according to the 11 to 16 study data set he had one younger who he also referred to in the interview. However, he also referred to brothers who it appeared may have been from his mother's second relationship. At the time of the interview, he was living in a rented flat with his girlfriend.

Geof left school at the age of 16 and began an apprenticeship as a bricklayer, a job he was still doing at the time of interview.

In appearance, Geof was clearly obese. During the interview he was dressed in jogging bottoms and a football top. He referred to taking after his father, being tall and quite broad whereas his mother and sister were tiny and the other brothers to whom he referred were "quite wee and stocky". In relation to his friends he recalled that a few were big like him whereas others were slim.

He was one of the hardest to interview in that he appeared quite defensive and was prone to shorter answers than others, not elaborating without extra prompting. It came across as an 'I could not care less' manner.

- Family social class at age 11 = IIIM (skilled manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt indifferent	Worried a bit	Not at all worried
Feel/Worry about weight	Felt a bit sad	Felt indifferent	Worried a bit	Not at all worried
Feel/Worry about looks	Felt indifferent	Felt indifferent	Worried a bit	NA
Avoid food to slim	No	No	No	Not really dieting, but watching what ate
Worry will put on weight	Yes	Yes	No	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Less often	Less often	Less often	Never
bullied	Less often	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite unlikely	NA

Jamie: Bothered, adolescent passive maintainer, adult failed slimmer

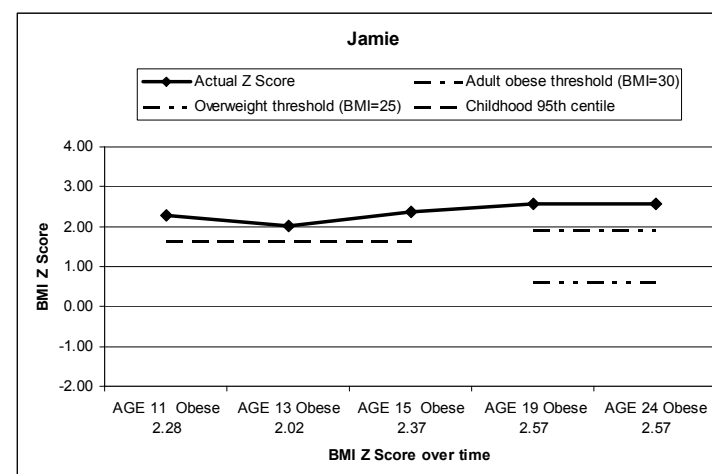
At the time of interview, and throughout his childhood, Jamie lived with his parents and one younger sister. He was single and had spent the year prior to the interview living and working in Asia.

He left school at 18 and studied politics at university. His work in Asia had been related to this. He was unemployed when I interviewed him.

In appearance, Jamie appeared obese with a bulky frame and face. He was dressed in Jeans and an orange v-neck jumper over a shirt.

To interview, he was pleasant and happy, appearing laid back. He was particularly interested in the photo task aspect of the interview and would often refer to the psychological impact of being an adolescent and of being overweight.

- Family social class at age 11 = II (managerial)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt very sad	Felt very sad	Not at all worried	Worried a bit
Feel/Worry about weight	Felt very sad	Felt very sad	Not at all worried	Worried a lot
Feel/Worry about looks	Felt very sad	Felt very sad	Worried a bit	NA
Avoid food to slim	No	yes	Yes	Not really dieting but watching what eat
Worry will put on weight	Yes	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Most days	Most days	Weekly	Once or twice
bullied	Less often	Less often	Less often	never
Likely to be overweight by 21?	Quite unlikely	Quite likely	Quite likely	NA

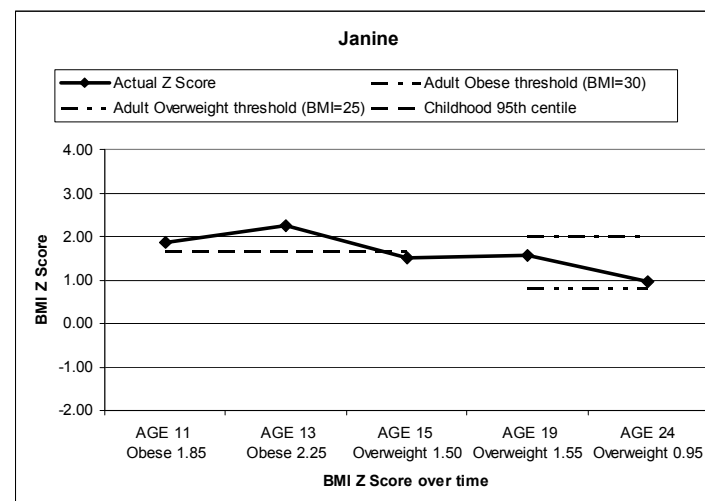
Janine: Most aware, most bothered, adolescent effective slimmer, adult effective slimmer

At the time of interview, Janine was renting a flat with her boyfriend. When at school she had lived with her mother, father and one older brother.

After leaving school, she moved abroad to work as a singer in a hotel for four months. Because she worked as a singer and dancer in shows, contracts were approximately 6 months long and meant moving to England or abroad. This she had been doing since leaving school, with gaps living at home in between contracts. At the time of interview she was working full time for a temping agency but still singing part time at weekends. She had decided to move back home for a bit more stability having grown tired of part time contracts.

In appearance, she was smartly dressed and appeared of a normal weight. She had described herself as being more like her father in build, being broad compared to her slim mother.

During the interview she appeared rather reticent however, the interview was conducted in a busy café, once being interrupted by someone she knew who came over to talk to her. This may have led to her being softly spoken and slightly wary more than what we were actually discussing. However, the way she described being careful to balance out her eating with exercise behaviours by going to the gym when she was not dancing as much suggested that she was a determined character.



- Family social class at age 11 = II (managerial)

	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt very sad	Felt a bit smiley	Worried a lot	Worried a lot
Feel/Worry about weight	Felt very sad	Felt very sad	Worried a lot	Worried a lot
Feel/Worry about looks	Felt indifferent	Felt bit sad	Worried a bit	NA
Avoid food to slim	Yes	Yes	Missing	On a moderately strict diet
Worry will put on weight	Yes	Yes	Yes	Worried a bit
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Weekly	Less often	Never
bullied	Never	Less often	Less often	Never
Likely to be overweight by 21?	Quite likely	Quite likely	Quite unlikely	NA

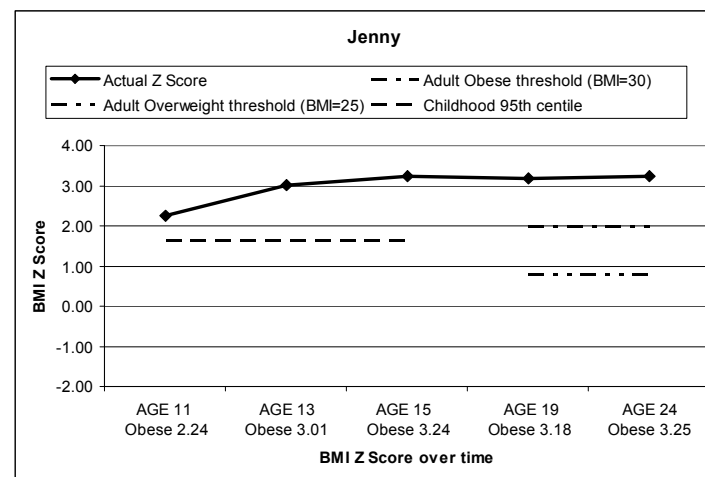
Jenny: Aware, least bothered, adolescent failed slimmer, adult failed slimmer

At the time of interview, Jenny was single and living at home with her mother and father, having done so continuously throughout her life with the exception of summers when she was at college and had worked for Camp America. She had two younger sisters.

Jenny had gone to college after school although we did not discuss what she had studied. At the time of interview, her job was making up food orders for delivery for a supermarket online sales department.

In appearance, Jenny was tall and obese. She appeared extremely suspicious of me and what I was asking her during the interview. She disclosed very little information without significant probing. She appeared almost indifferent but it was difficult to tell if that was the way she really felt about what was being asked, or whether it was a defence mechanism.

- Family social class at age 11 = IIIM (skilled manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt a bit smiley	Worried a bit	Not at all worried
Feel/Worry about weight	Felt a bit sad	Felt a bit sad	Worried a lot	Worried a bit
Feel/Worry about looks	Felt very smiley	Felt a bit smiley	Worried a bit	NA
Avoid food to slim	No	Yes	Yes	Not really dieting but watching what eat
Worry will put on weight	No	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Less often	Most days	Less often	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite likely	Quite likely	NA

Kirsty: Aware, least bothered, adolescent passive maintainer, adult failed slimmer

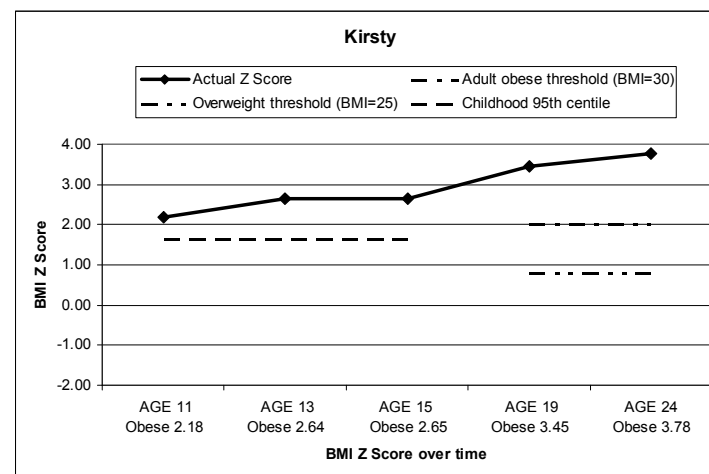
At the time of interview, Kirsty was single and lived with her mother. As an adolescent she had lived with her mother and mother's boyfriend. Her parents had separated when she was a baby. Her mother met her boyfriend when Kirsty was four and his daughter, who she fought with, would stay with regularly. She was an only child although she had stepsisters and stepbrothers as well as a half brother. Between the ages of 15 and 18 she had had a boyfriend. She did not state if she remained in a relationship at the time of interview - it appeared that she was single.

Kirsty left school just before her 16th birthday because she was bored of it and went to work in admin for a haulage company where she was still employed. She attributed most of her weight increase to this job, since it was primarily shift, desk-based work.

In appearance, Kirsty was fairly short and clearly obese. She was wearing jogging bottoms and layered vest tops. She compared herself to her aunt on her father's side saying she was quite heavy with a big chest, whereas he mum was tiny. She also described that she had 2 or 3 friends who were also 'quite big', but also some, who were really thin and some in the middle.

Kirsty appeared comfortable enough during the interview and happy enough to discuss various aspects of her weight. She described not being particularly bothered by it as an adolescent but had recently become fed up with it and was trying to make a change.

- Family social class at age 11 = II (managerial)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt a bit smiley	Worried a bit	Worried a bit
Feel/Worry about weight	Felt very smiley	Felt a bit sad	Worried a bit	Worried a lot
Feel/Worry about looks	Felt indifferent	Felt a bit smiley	Worried a bit	NA
Avoid food to slim	No	No	Yes	Not concerned about what ate
Worry will put on weight	Yes	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Never	Never	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite unlikely	NA

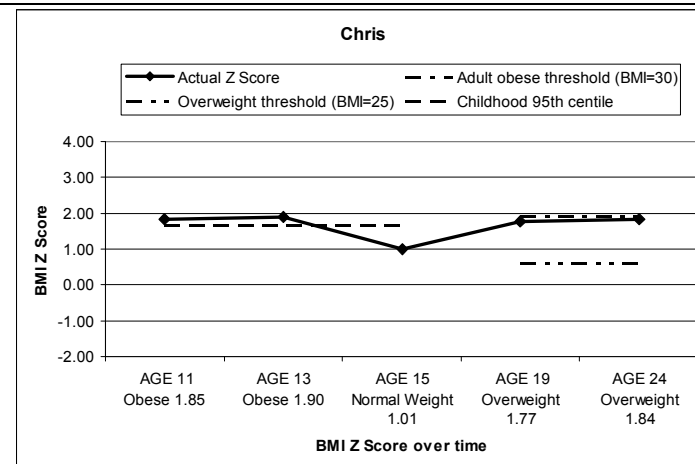
Chris: Aware, bothered, adolescent effective slimmer, adult effective slimmer

At the time of interview, Chris was living in his own home with his girlfriend. As an adolescent he had lived with his mother and father and an older sister.

Chris had left school and moved to Dundee to go to university and had lived independently since graduating when he was 21. He was working at the time of university but we did not discuss what he studied or what his job was.

In appearance, Chris was smartly but casually dressed in jeans and a shirt. He was fairly short, being only slightly taller than myself and was stocky and slightly overweight in appearance. He felt that he resembled his father who had always been 'quite big' whereas his mother had always been 'pretty slim'.

He seemed happy and comfortable being interviewed, a quite jovial character. He was more than happy to go into detail about any of the questions I asked him. He described himself as being more mellow as a young adult but quite moody as an adolescent



- Family social class at age 11 = I (professional)

	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt very smiley	Felt a bit smiley	Worried a lot	Worried a lot
Feel/Worry about weight	Felt a bit sad	Felt a bit sad	Worried a lot	Worried a lot
Feel/Worry about looks	Felt a bit sad	Felt a bit sad	Worried a lot	NA
Avoid food to slim	No	No	No	Not really dieting but watching what eat
Worry will put on weight	Yes	Yes	Yes	Worried a bit
Worry too slim	NA	No	No	Not at all worried
Teased	Less often	Most days	Less often	Never
bullied	Less often	Less often	Never	Never
Likely to be overweight by 21?	Quite likely	Quite unlikely	Quite unlikely	NA

Laura: Aware, bothered, adolescent effective slimmer, adult failed slimmer

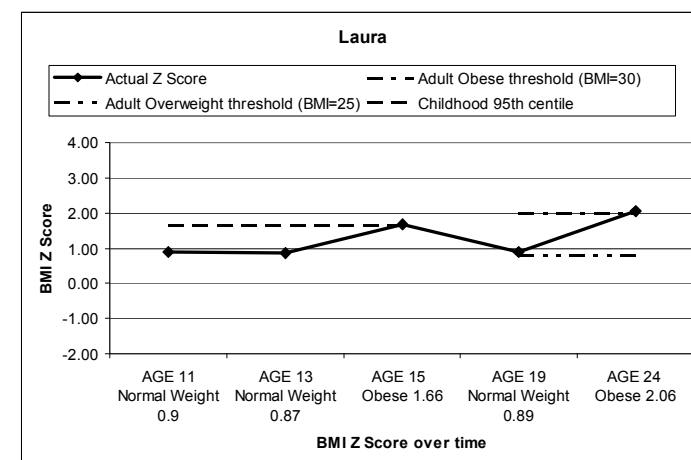
At the time of the interview, Laura was living at home with her mother and father. She had two younger brothers and two younger sisters. All but one of the brothers were still living at home

She did not state when she had left school, but had been in remission from Hodgkin's Disease for the year previous to interview and so had been off work. She had returned to the job she had previously been in but also did voluntary work with Click Sergeant and McMillan's as well as a counselling course. As she was not happy in her job, but did not want to start with a new company and have to explain her remission, she was offered a new role within her company and was working as an IT systems specialist when interviewed. She made no reference to having done any tertiary education.

In appearance, she was short and apple shape with a large chest and obvious stomach. She was dressed for work in skirt, jumper and high heels.

To interview she was extremely happy and bubbly and was happy to talk extensively in response to the questions I asked. She seemed a fairly determined person with her only issues as a teenager being her concerns with her chest and tummy.

- Family social class at age 11 = missing



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt a bit smiley	Worried a lot	Worried a bit
Feel/Worry about weight	Felt indifferent	Felt indifferent	Worried a lot	Worried a bit
Feel/Worry about looks	Felt indifferent	Felt a bit smiley	Worried a bit	NA
Avoid food to slim	No	No	No	Not really dieting but watching what eat
Worry will put on weight	Yes	Yes	No	Worried a bit
Worry too slim	NA	Yes	Yes	Not at all worried
Teased	Never	Less often	Never	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Very likely	Very unlikely	Very unlikely	NA

Lisa: Aware, bothered, adolescent failed slimmer, adult failed slimmer

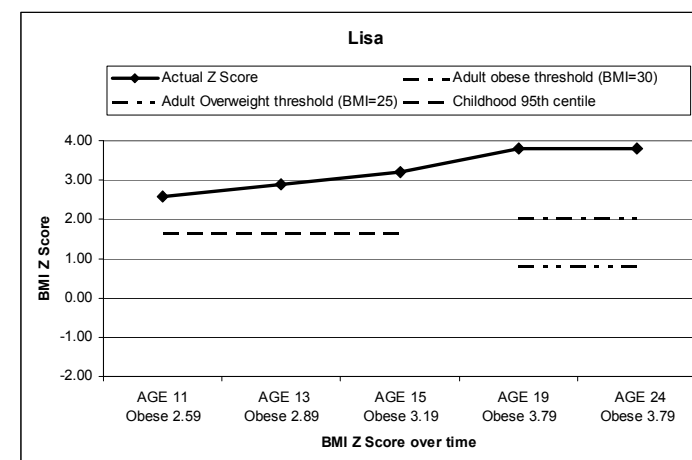
At the time of interview, Lisa was single and still living at home with her mother and stepfather. Her natural father died when she was 3 years old, and when her mother got a new boyfriend, he came to live with Lisa and her mother. She was an only child although her stepfather had other children.

After leaving school, Lisa had gone to university, completing her degree in 2005. Subsequent to that, she had had periods of unemployment, but at the time of interview, was working in a care home.

In appearance, she was taller than average for a female (5'10") and very obese. She was dressed casually in jeans and a vest top. She described her and her mother as both being heavy although in different ways, with her mother being much shorter. She said she did not like resembling her mother, not because her mother was ugly, but because they did not get on very well.

To interview, Lisa seemed at ease with the questions and provided quite in-depth answers requiring little prompting. However her manner of speech was quite ponderous and she was not as animated as some of the others in this study. She was the only participant who refused to be weighed during the interview even when I offered to cover the screen so she could not see what she weighed. She appeared to feel sad and misunderstood, almost sorry for herself although she did not exactly say that.

- Family social class at age 11 = IINM (skilled non-manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt indifferent	Worried a bit	Worried a bit
Feel/Worry about weight	Felt indifferent	Felt very sad	Worried a bit	Worried a bit
Feel/Worry about looks	Felt indifferent	Felt indifferent	Worried a bit	NA
Avoid food to slim	No	No	No	Not concerned about what ate
Worry will put on weight	Yes	Yes	Yes	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Most days	Most days	Less often	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite unlikely	NA

Malcolm: Bothered, adolescent effective slimmer, adult passive maintainer

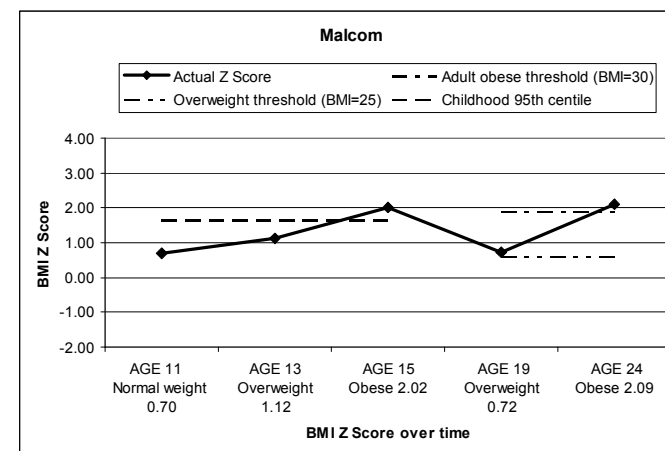
At the time of interview, Malcolm was living in his own home with his girlfriend. As an adolescent he had lived with his mother, father and one older sister.

He left school after 6th year although he did not state if he went onto tertiary education. At the time of interview he was working full time, commuting quite far from his current home.

In appearance, Malcolm was slightly taller than me and quite stocky in appearance although it was difficult to tell exactly what his build was as he was dressed in baggy jeans and a baggy fitting hooded top. He described himself as being like his father in build being roughly the same height and having big hands - he was a big guy. He said he did not know where he fitted in relation to his teenage friends - he could not remember. He said that they all wanted to be same as each other, but not in what ways.

Malcolm was quite difficult to interview. It almost appeared as if he could not be bothered answering any questions. He had an extremely laid back personality and this translated into the responses I got. He needed a lot of probing on some questions and even then would not quite answer certain questions. However this appeared more because what I was asking him was not that relevant, particularly when asking about adolescent concerns since it seemed he did not have many, rather than that he was being resistant to answering questions in these areas.

- Family social class at age 11 = IIM (skilled manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt indifferent	Felt a bit smiley	Worried a bit	Not at all worried
Feel/Worry about weight	Felt a bit smiley	Felt indifferent	Worried a bit	Not at all worried
Feel/Worry about looks	Felt indifferent	Felt very smiley	Worried a bit	NA
Avoid food to slim	No	Yes	No	Not really dieting but watching what eat
Worry will put on weight	Yes	No	No	Not at all worried
Worry too slim	NA	No	yes	Not at all worried
Teased	Never	Never	Less often	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Very unlikely	NA

Mark: Aware, bothered, adolescent effective slimmer, adult effective slimmer

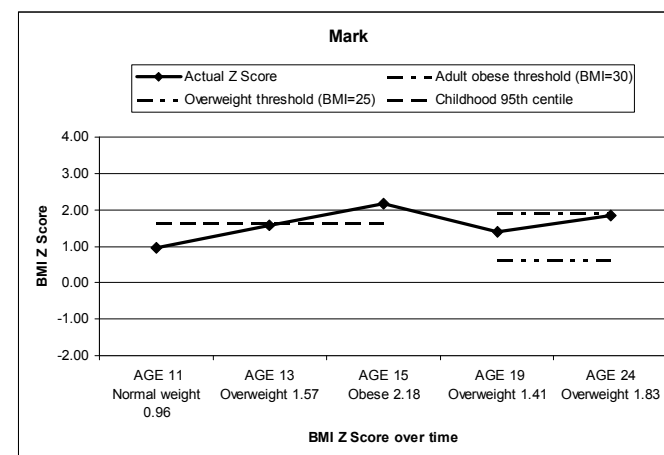
As an adolescent, Mark had lived with his mother, father, older brother and younger sister. At the time of interview, he was living in London with his girlfriend

Mark had stayed on in school till 6th year. He had then left home and gone to university in another Scottish city. After this he completed a sabbatical year with the university before moving to London for the job he was in at the time of interview.

In appearance, Mark was tall and muscular, but did not appear overweight. He worked as a sports co-ordinator and so was dressed in casual combat type trousers and polo shirt. He described himself as being shorter than his father who was well built, and his brother who was very tall and very thin. His sister was also thin with his mother being shorter. In relation to his friends, he felt there was no resemblance, a real mix. He felt that he was about average, a bit taller, bigger, heavier and fatter than average but that he blended in amongst his varied rugby playing friends.

Mark was very easy to interview, providing detailed answers to the questions asked, requiring the minimum of probing. He appeared to be a motivated person, having done a lot to get involved with aspects of university which brought him to the job he was in.

- Family social class at age 11 = II (managerial)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt a bit smiley	Worried a lot	Worried a bit
Feel/Worry about weight	Felt a bit smiley	Felt a bit sad	Worried a lot	Worried a bit
Feel/Worry about looks	Felt a bit smiley	Felt a bit smiley	Worried a bit	NA
Avoid food to slim	No	No	No	Not concerned about what ate
Worry will put on weight	Yes	Yes	Yes	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Less often	Less often	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite unlikely	NA

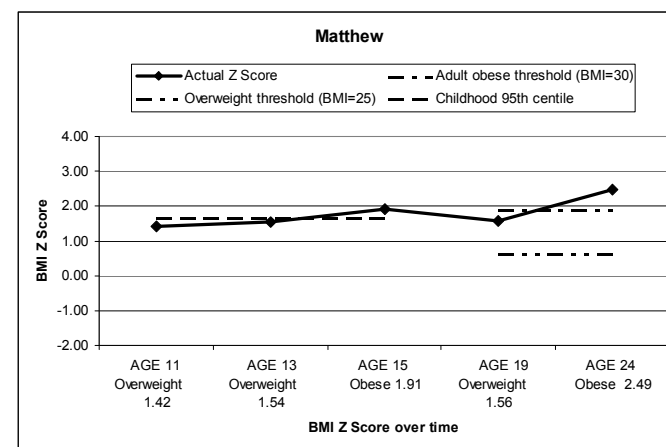
Matthew: Aware, most bothered, adolescent effective slimmer, adult passive maintainer

At the time of the interview, Matthew was living with his girlfriend. As an adolescent he had lived with his mother, father, one younger brother and one younger sister.

After Matthew left school he went to university although he did not mention what he studied, only commenting on university as being more of a social thing and that his studies only 'mattered loosely'. During university he worked in a supermarket for extra money and at the time of interview was employed by a large DIY store.

In appearance, Matthew was about the same height as me (5'7") and appeared stocky and overweight. He was dressed in jeans and a casual shirt. He told me he was taller than both his parents. He described his sister as being tiny and being overweight whereas his brother was the same height as him but had always been slim although he was still only 18 when Matthew was interviewed and starting to put a bit of weight on.

Matthew was extremely easy to interview, he was very up-beat and cheerful and appeared more than happy to answer any questions I asked him.



- Family social class at age 11 = IV (semi-skilled)

	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt a bit smiley	Worried a bit	Worried a bit
Feel/Worry about weight	Felt very sad	Felt a bit smiley	Worried a bit	Worried a bit
Feel/Worry about looks	Felt indifferent	Felt a bit smiley	Not at all worried	NA
Avoid food to slim	No	No	No	Not concerned about what ate
Worry will put on weight	Yes	No	Yes	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Less often	Less often	Less often	Just a few times
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Very unlikely	Very unlikely	NA

Michael: Most aware, bothered, adolescent passive maintainer, adult effective slimmer

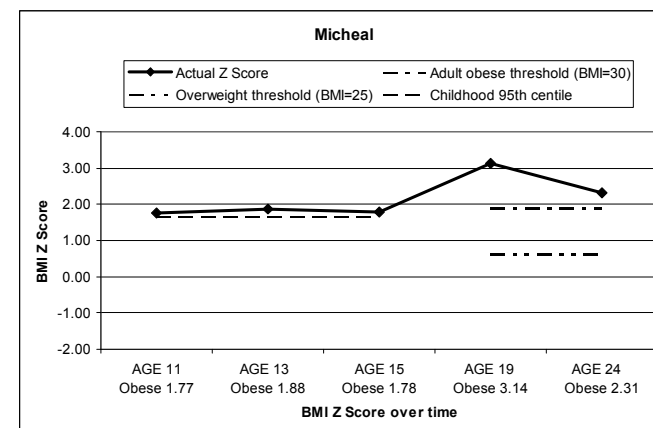
At the time of interview Michael was living at home with his mother, father and one younger school-aged brother. He had lived at home throughout his life, apart from when he had worked in the North of Scotland during his school summer holidays.

Michael left school at 16 after his original high school closed and he was transferred to another which he hated. He had a cleaning job which he also hated and so went to college to do art and design. He quit this just before completion and worked in a variety of jobs until going back to college to do a different course at the age of 19. He did not state what he was doing at the time of interview although did describe having a keen interest in art and drawing.

In appearance, Michael was about the same height as me and appeared stocky more than overweight. He was dressed in jeans and a jumper. He described himself as looking like his father but did not go into any more detail than that.

Although Michael disclosed personal details about his feelings and concerns, I found him quite hard to interview, in that he needed a fair bit of prompting to go into detail when asked questions.

- Family social class at age 11 = IINM (skilled non-manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt a bit smiley	Worried a bit	Not at all worried
Feel/Worry about weight	Felt a bit sad	Felt indifferent	Worried a bit	Worried a bit
Feel/Worry about looks	Felt a bit smiley	Felt a bit smiley	Worried a bit	NA
Avoid food to slim	Yes	Yes	No	Not concerned about what ate
Worry will put on weight	Yes	Yes	Yes	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Less often	Less often	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite likely	Quite likely	Quite unlikely	NA

Neil: Most aware, most bothered, adolescent failed slimmer, adult failed slimmer

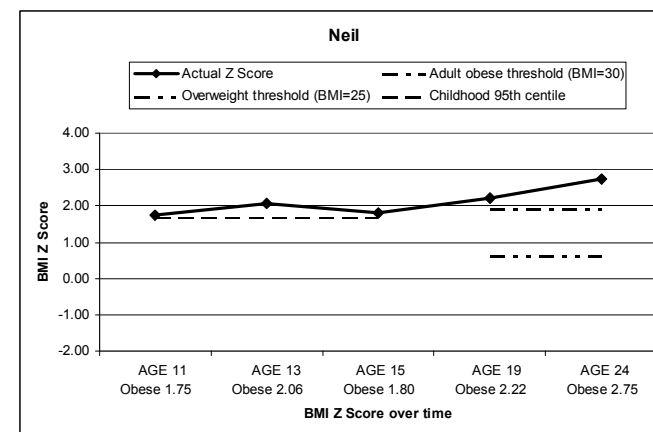
At the time of interview, Neil had a long term girlfriend and lived in his own flat. As an adolescent, he had primarily lived with his mother, step father and one younger brother. His biological parents had separated prior to the study beginning in 1994.

Neil left school at 16, not long after starting his Highers. He had enjoyed school and wanted to stay on, but got a new teacher he did not like and had the opportunity to get a job as a joiner so he left school to go to college and do an apprenticeship. He was still working as a joiner at the time of interview.

In appearance, Neil looked fairly large, appearing overweight. He was dressed in baggy jeans and t-shirt with Van style skate trainers. When sat down, I could identify fatter areas on the body, particularly around the hips and back. He also appeared fairly muscular and described himself as being into martial arts as well as infrequently visiting the gym.

To interview, Neil appeared comfortable with what he was being asked, and he predominantly provided fluent answers with the minimal of probing.

- Family social class at age 11 = IV (semi-skilled)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt Indifferent	Worried a lot	Worried a bit
Feel/Worry about weight	Felt a bit sad	Felt a bit sad	Worried a lot	Worried a lot
Feel/Worry about looks	Felt very smiley	Felt indifferent	Worried a lot	NA
Avoid food to slim	No	No	Yes	Not really dieting but watching what eat
Worry will put on weight	Yes	Yes	Yes	A bit
Worry too slim	NA	No	No	Not at all
Teased	Never	Most days	Most days	Never
bullied	Never	Less often	Less often	Never
Likely to be overweight by 21?	Quite likely	Quite likely	Quite likely	NA

Nina: Most aware, most bothered, adolescent effective slimmer, adult effective slimmer

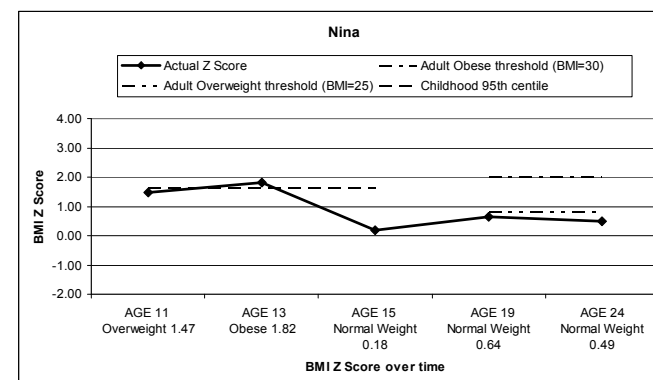
At the time of interview, Nina was living at home with her mother and father. She had two older sisters.

After leaving school, Nina left home and moved out of Glasgow to go to university. She stayed there for 4 years before moving to another large city with her boyfriend. She lived there for two years, the final 9 months on her own after splitting up from her boyfriend. She had also travelled abroad. When interviewed, she had another boyfriend and was planning to emigrate with him to Canada.

In appearance, Nina was fairly short and slim, dressed in jeans and a smart jumper. She described her mother as being shorter than her and overweight, whereas her father and sisters were taller. One of her sisters was 'not overweight but not skinny' whilst the other sister had never had a weight problem. Her best friend had been the same height and build during primary school but became tall and slim compared to her as they grew up.

Nina was easy to interview and appeared happy to discuss her adolescent life. She was fairly quietly spoken but not through unwillingness to answer questions.

- Family social class at age 11 = IINM (skilled non-manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt indifferent	Felt indifferent	Worried a bit	Worried a lot
Feel/Worry about weight	Felt a bit sad	Felt very sad	Worried a lot	Worried a lot
Feel/Worry about looks	Felt indifferent	Felt very sad	Worried a bit	NA
Avoid food to slim	Yes	Yes	No	Not really dieting but watching what eat
Worry will put on weight	Yes	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Weekly	Weekly	Weekly	Never
bullied	Less often	Less often	Less often	Never
Likely to be overweight by 21?	Quite likely	Very likely	Quite likely	NA

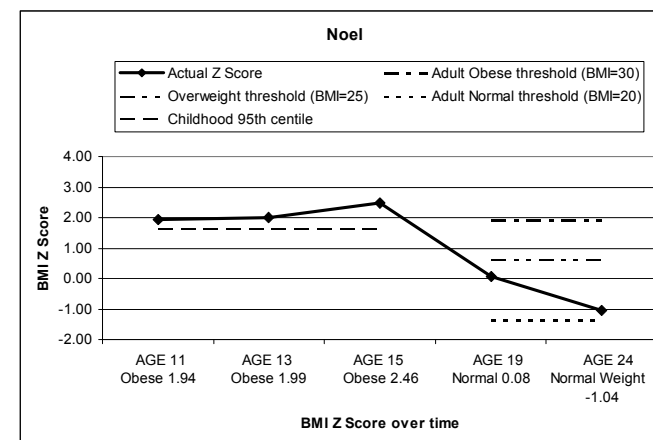
Noel: Aware, least bothered, adolescent passive slimmer, adult passive maintainer

At the time of interview, Noel was single and living in his own home. As an adolescent, he had lived with his mother, father and sister. He left home aged 21.

After leaving school aged 16, Noel began an apprenticeship as a gardener which he had resigned from before taking a job working for Glasgow City Council in their public gardens. This led to him training to be a tree surgeon. During this time, he had 6 months off work due to being ill with a virus to which he attributed all his weight loss.

In appearance, Noel was a little shorter than myself and very thin. When he answered the door, I had wondered if he had perhaps been classified as obese as a result of a measurement error. He described himself as being the only overweight one in his family and amongst his friends.

To interview, Noel seemed fairly laid back. He needed a little more probing than some others to expand on his answers but this did not appear to be because he did not want to disclose anything, just that he was not the type to say more than was necessary.



- Family social class at age 11 = IIIM (skilled manual)

	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt indifferent	Felt indifferent	Not at all worried	Worried a bit
Feel/Worry about weight	Felt indifferent	Felt indifferent	Not at all worried	Not at all worried
Feel/Worry about looks	Felt indifferent	Felt indifferent	Not at all worried	NA
Avoid food to slim	No	No	No	Not concerned about what he ate
Worry will put on weight	No	No	No	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Never	Never	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite likely	Quite likely	NA

Patricia: Most aware, most bothered, adolescent passive slimmer, adult effective slimmer

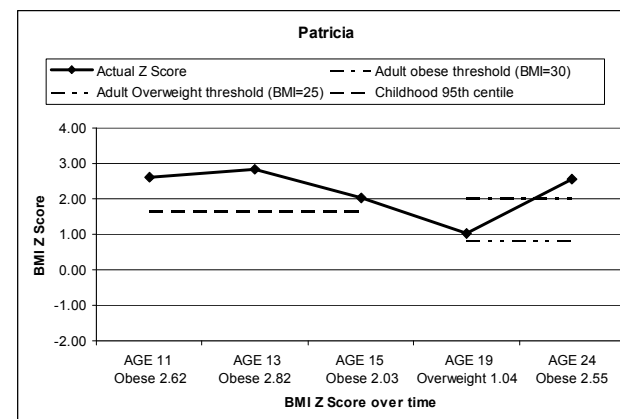
At the time of interview, Patricia was living with her boyfriend in their own home. As an adolescent, she had lived with her mother, father and one older sister.

After leaving school aged 16, Patricia went to college and also worked in MacDonalds, only lasting 8 weeks before getting a part time job in a chip shop which lasted 3½ years. She then went on to study psychology at university, followed by a post graduate degree in primary teaching. She was still employed as a teacher when interviewed.

Patricia was short and appeared obese. She was casually dressed in loose fitting jeans and a t-shirt type top. She described herself as being built more like her father who was quite heavy, whilst her mother had always been slim. She also described having some friends who were tiny in comparison to her, but also some who were bigger.

Patricia was extremely talkative to interview. She appeared to be very happy and bubbly and did not need much prompting to go into detail when asked a question.

- Family social class at age 11 = V (unskilled)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt indifferent	Felt a bit sad	Not at all worried	Worried a bit
Feel/Worry about weight	Felt a bit sad	Felt very sad	Worried a bit	Worried a bit
Feel/Worry about looks	Felt a bit sad	Felt very sad	Worried a bit	NA
Avoid food to slim	No	No	Yes	On a very strict diet
Worry will put on weight	Yes	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Weekly	Weekly	Less often	Never
bullied	Never	Less often	Never	Never
Likely to be overweight by 21?	Quite likely	Very likely	Quite likely	NA

Patrick: Least aware, least bothered, adolescent effective slimmer, adult passive maintainer

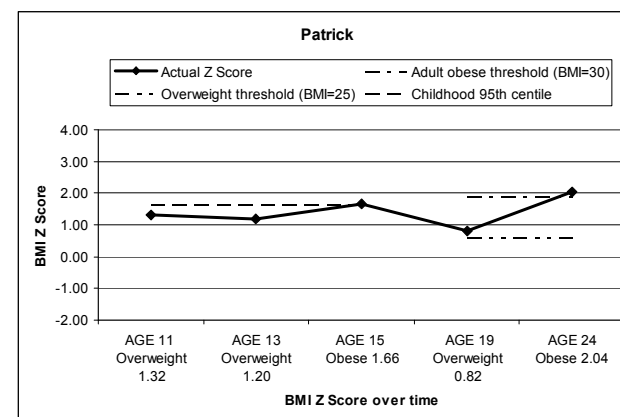
At the time of interview, and throughout his childhood and adolescence, Patrick was living at home with his mother, father and one younger brother.

After leaving school aged 17, Patrick had worked for a while in a sport centre as a lifeguard before going on to college to do an apprenticeship and become a mechanic.

Patrick appeared to be stocky rather than overweight or obese. He was only a couple of inches taller than me and was dressed in jogging bottoms and a rugby top. He felt he was built like his father but was also very like his younger brother in facial appearance. In comparison to his friends, he described them all being fairly similar in build with one or two who were perhaps bigger - he did not describe himself as being one of the bigger ones.

He was fairly quiet during the interview and was another one who needed a bit more encouragement to expand on his answers than some. He was pleasant but appeared a bit more cautious about me than some of the others in the study.

- Family social class at age 11 = IIIM (skilled manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt a bit smiley	Worried a lot	Not at all worried
Feel/Worry about weight	Felt indifferent	Felt indifferent	Worried a lot	Not at all worried
Feel/Worry about looks	Felt a bit smiley	Felt indifferent	Worried a lot	NA
Avoid food to slim	No	No	No	Not really dieting but watching what eat
Worry will put on weight	Yes	No	Yes	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Never	Less often	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite likely	NA

Pete: Aware, bothered, adolescent effective slimmer, adult effective slimmer

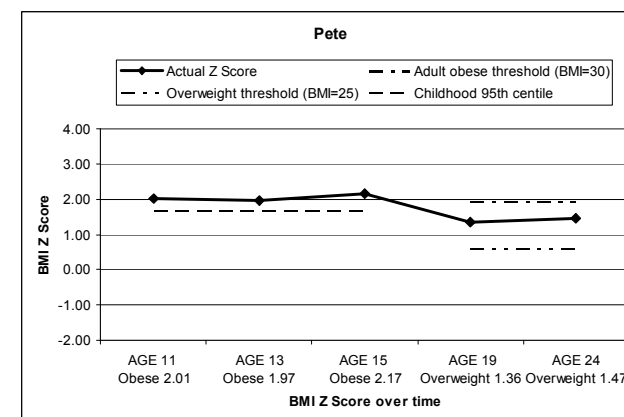
As an adolescent, Pete had lived at home with his mother, father and one younger brother. He had continued to live at home until moving into his own flat with his girlfriend where he was still living at the time of interview.

After leaving school at the end of 6th year aged 17, Pete went on to university where he completed an undergraduate degree in politics before doing a postgraduate certificate in teaching, and at the time of interview he was employed as a modern studies teacher. To earn some extra money as an adolescent/young adult, he had also worked in a supermarket from the age of 16 until he graduated.

Pete was tall (6'4") and appeared of average build. He did not appear particularly thin, but also did not look to be overweight. He described himself as being taller than his parents and brother, who was also smaller in build.

Pete was easy to interview, he was fluent and appeared happy enough to answer questions. The interview itself was comparatively short but this was more because he answered succinctly rather than being because he had little to say or was guarded about what he said. He seemed quite happy and content in himself.

- Family social class at age 11 = IIIM (skilled manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit sad	Felt a bit smiley	Worried a bit	Worried a bit
Feel/Worry about weight	Felt very sad	Felt indifferent	Worried a lot	Worried a lot
Feel/Worry about looks	Felt indifferent	Felt indifferent	Worried a bit	NA
Avoid food to slim	Yes	Yes	Yes	Not really dieting but watching what eat
Worry will put on weight	Yes	Yes	Yes	Worried a bit
Worry too slim	NA	No	No	Not at all worried
Teased	Less often	Most days	Less often	Never
bullied	Less often	Less often	Less often	Never
Likely to be overweight by 21?	Quite likely	Very likely	Quite unlikely	NA

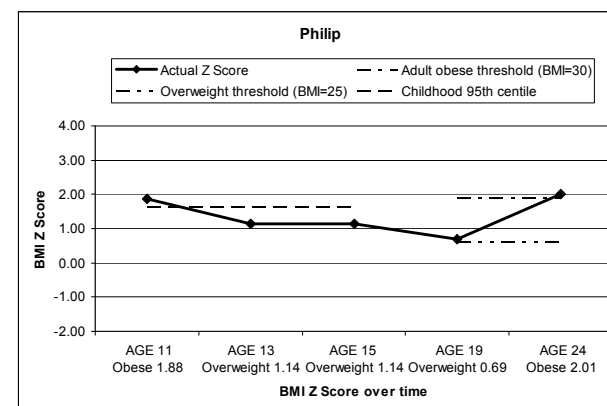
Philip: Aware, most bothered, adolescent passive slimmer, adult passive maintainer

Philip's living arrangements changed between childhood and adolescence. His parents split up when he was aged 6 and **11 to 16 study** data shows that at some point between the ages of 15 and 18, a stepfather moved into the family home. He had one younger sister. He had continued to live with his parents while at university but at the time of interview, was living with his girlfriend.

Philip went to private school where he stayed until the end of 6th year so as to meet entry requirements for university. He was employed as a civil engineer at the time of interview.

In appearance, Philip was tall and well built/muscular, but did not appear obese. He described himself as being slightly shorter than his father and although he describes his father as being well built/athletic, he felt he was more like his mother since she was not athletic. In reference to his friends, he merely said that they were all mixed in body shape and appearance, not stating where he fitted among them.

Philip was fairly quiet and his speech was quite ponderous. It took a fair bit of extra probing on some of the questions but this was due more to his manner than because I felt he was not comfortable answering the questions. He just appeared to be the sort of person that would not say more than he thought necessary.



- Family social class at age 11 = I (professional)

	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt a bit smiley	Worried a bit	Worried a bit
Feel/Worry about weight	Felt indifferent	Felt indifferent	Worried a bit	Worried a bit
Feel/Worry about looks	Felt indifferent	Felt a bit sad	Worried a lot	NA
Avoid food to slim	No	No	No	Not concerned about what ate
Worry will put on weight	No	Yes	Yes	Worried a bit
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Every day	Every day	Never
bullied	Never	Less often	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite unlikely	NA

Rachel: Aware, bothered, adolescent failed slimmer, adult effective slimmer

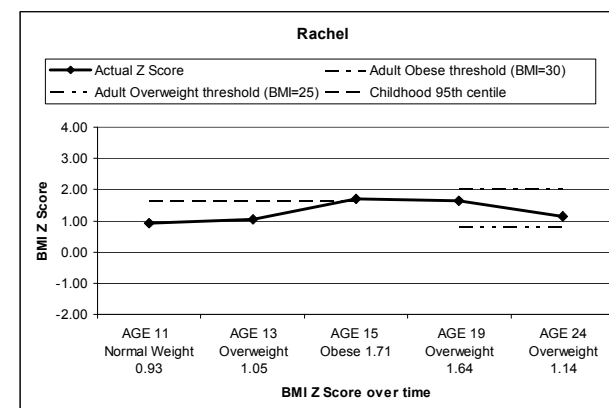
As an adolescent, Rachel had lived with her mother, father and one older sister. She was still living at home when interviewed as she was studying at university in Glasgow and working part time in a bar.

After leaving school at 17, Rachel went straight to university. She was studying again at the time of interview, although this time a more preferred subject area. It was unclear whether she completed the first degree. She had also had a few part time jobs since the age of 16 in shops, department stores and bars.

When interviewed, Rachel did not appear to be overweight. She was dressed casually in jeans and a fitted jumper and when comparing herself to her family she referred to herself as being similar to her mother and quite 'small'. She referred to her father as being bigger but only in recent years through filling out in older age. She also described herself as being in the middle of her friends with some lighter and some heavier. Certainly, Rachel was only marginally obese at one time point during her adolescence.

To interview, Rachel was very quiet and was prone to giving one word answers. It was quite a struggle to get her to go into any great detail. She was pleasant but not the most enthusiastic person I interviewed. She did however refer to herself in the interview as being shy compared to her friends and so it might be that this was the reason for her quietness and seeming lack of enthusiasm.

- Family social class at age 11 = IIIM (skilled manual)



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt very smiley	Felt a bit smiley	Worried a lot	Not at all worried
Feel/Worry about weight	Felt indifferent	Felt very sad	Worried a lot	Worried a lot
Feel/Worry about looks	Felt indifferent	Felt very sad	Worried a bit	NA
Avoid food to slim	Yes	No	Yes	Followed a moderately strict diet
Worry will put on weight	Yes	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Never	Never	Never	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite likely	Quite likely	Quite likely	NA

Richard: Aware, bothered, adolescent failed slimmer, adult failed slimmer

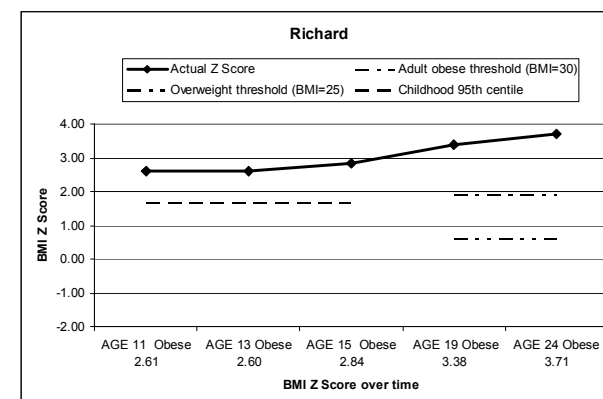
Both of Richard's parents died before he joined the **11 to 16 study** in Primary 7 so he had, and continued to, live with his grandmother. He was an only child according to the **11 to 16** data but described himself in the interview as having two step brothers.

He left school at 15 and worked for a year before going to study sports coaching at college. However a lack of jobs and an inability to drive meant he was unable to find related work, and at the time of interview was working shifts in a food packing factory.

In appearance, Richard was significantly overweight. He was dressed in baggy jeans and a t-shirt when I met him. He described himself as being like his mother who he said was a 'broad shouldered woman'. In relation to his friends, he had one very skinny, one who started thin and got bigger later in high school, and one who was 'massive' - very tall.

Richard was quite softly spoken, but also quite fluent. He seemed happy and comfortable to answer questions even when they touched on the deaths of his parents.

- Family social class at age 11 = missing



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt very sad	Worried a lot	Worried a bit
Feel/Worry about weight	Felt a bit sad	Felt very sad	Worried a lot	Worried a lot
Feel/Worry about looks	Felt indifferent	Felt a bit sad	Not at all worried	NA
Avoid food to slim	Yes	No	No	A moderately strict diet
Worry will put on weight	Yes	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Weekly	Most days	Weekly	Never
bullied	Less often	Most days	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite likely	

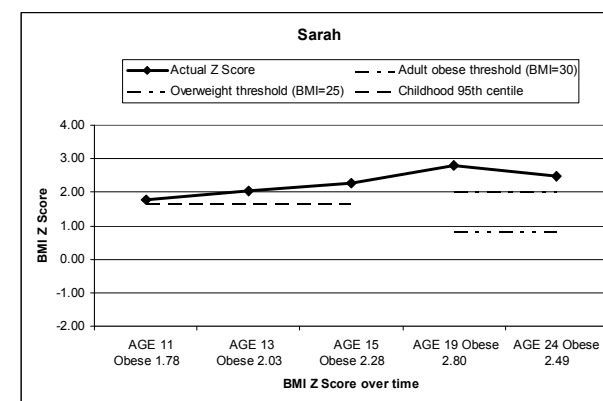
Sarah: Most aware, most bothered, adolescent passive maintainer, adult effective slimmer

As an adolescent, Sarah had lived at home with her mother, father and one older sister. At the time of interview, she was single and living with a friend in a flat she owned.

She left school in 5th year aged 15/16 and went to university to study nursing, a job she was still in when interviewed, although she had aspirations to specialise in counselling.

In appearance, Sarah was short with a large upper body/chest with little waist definition (box shaped in appearance). She wore jeans which were loose and appeared to be falling down because of her lack of hips rather than because they were too big for her. She also wore a loose fitting top. She felt that she and her father were the big ones in her family with her mother being tiny and her sister being taller and thinner than her.

Sarah was easy to interview, being chatty and relaxed to talk to. She did not shy away from talking about any areas and seemed a fairly energetic person.



- Family social class at age 11 = II (managerial)

	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt a bit smiley	Felt Indifferent	Worried a bit	worried a bit
Feel/Worry about weight	Felt Indifferent	Very sad	Worried a lot	Worried a lot
Feel/Worry about looks	Felt Indifferent	Felt Indifferent	Worried a bit	NA
Avoid food to slim	No	Yes	Yes	Not really dieting, but watching what eat
Worry will put on weight	Yes	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Weekly	Weekly	Never	Never
bullied	Less often	Less often	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite likely	NA

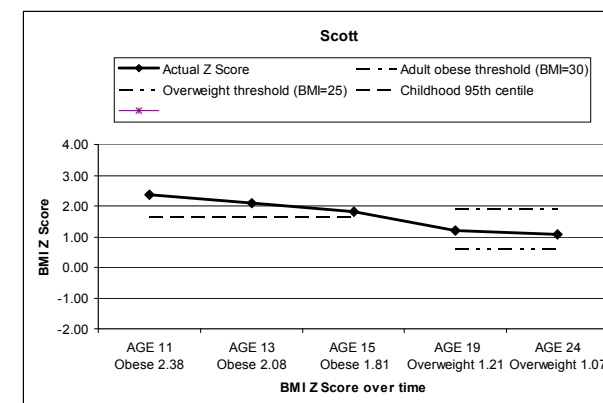
Scott: Aware, bothered, adolescent passive slimmer, adult effective slimmer

As an adolescent, Scott had lived with his mother, father and one younger sister. He continued to live at home during university although would go abroad in the summer breaks to work.

After leaving school at the end of 6th year, Scott spent the summer working in a resort abroad before starting his university degree in sport science. At the time of interview, he was living in England and worked as a sports scientist promoting sports nutrition

When interviewed, Scott was tall and appeared very fit and muscular. He was dressed in smart jeans and a fitted t-shirt. Scott felt that he resembled his father in build stating that his dad was overweight now. By comparison, his younger sister was petite. In relation to his friends, he felt that he was the biggest among them but in height as well as weight.

To interview, Scott seemed a very determined person. He was comfortable and energetic talking about his adolescence, even about areas of concern such as his weight.



- Family social class at age 11 = IIIM (skilled manual)

	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt very smiley	Felt a bit smiley	Not at all worried	Not at all worried
Feel/Worry about weight	Felt a bit smiley	Felt a bit sad	Worried a bit	Worried a bit
Feel/Worry about looks	Felt very smiley	Felt very smiley	Worried a bit	NA
Avoid food to slim	No	No	No	Not really dieting but watching what ate
Worry will put on weight	No	Yes	No	Not at all worried
Worry too slim	NA	No	No	Not at all worried
Teased	Less often	Most days	Less often	Most days
bullied	Never	Less often	Never	Never
Likely to be overweight by 21?	Quite unlikely	Quite unlikely	Quite likely	NA

Charlie: Most bothered, adolescent effective slimmer, adult effective slimmer

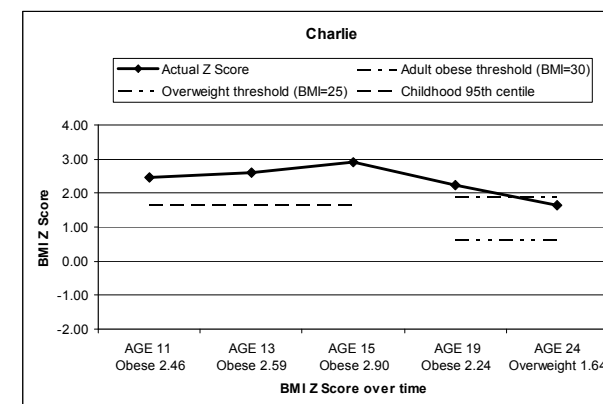
As an adolescent, Charlie had lived with his mother, father, one older and one younger brother. At the time of interview, he was still living at home with his parents.

After leaving school at 16, Charlie had started work in a bar part time and gone to college. He dropped out and was unemployed for a year before working briefly for his father before starting college again to study civil engineering. He hated that and dropped out again, and worked for a year and a half in a call centre before starting university. At the time of interview, he was in his fourth year at university although he did not say what he was studying.

In appearance, Charlie looked to be normal weight although fairly broad in his upper body but with comparatively thin appearing legs. He was dressed in jeans and a jumper. He described himself as being into running to maintain his weight although he was not looking to lose any more. In relation to others, he described himself as being the spitting image of his younger brother and the same build, but as having no resemblance with his big brother who was skinny. He described himself, younger brother and father as all being 'quite big' when they were younger. He was among the bigger ones in his friendship group, but his best friend was same build - they both played as rugby props.

To interview, Charlie appeared to have an extremely laid back personality. He seemed quite an energetic and motivated person though.

- Family social class at age 11 = missing



	Age 11	Age 13	Age 15	Age 19
Feel/Worry about health	Felt indifferent	Felt a bit smiley	Worried a lot	Worried a bit
Feel/Worry about weight	Felt a bit sad	Felt very sad	Worried a lot	Worried a lot
Feel/Worry about looks	Felt a bit smiley	Felt a bit smiley	Worried a bit	NA
Avoid food to slim	No	Yes	Yes	Followed a moderately strict diet
Worry will put on weight	No	Yes	Yes	Worried a great deal
Worry too slim	NA	No	No	Not at all worried
Teased	Less often	Never	Weekly	Never
bullied	Never	Never	Never	Never
Likely to be overweight by 21?	Quite likely	Very likely	Very likely	NA

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