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CHILDREN'S PERCEPTIONS OF EATING AND BODY IMAGE

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ABSTRACT
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CHILDREN'S PERCEPTIONS OF EATING AND BODY IMAGE
by Sara Elizabeth Robinson

Concerns about children's eating problems such as obesity, unhealthy eating, dieting and eating disorders have been rising in recent years because of their detrimental effects on children's health. By exploring nine year old children's perceptions of body image, their perceptions of the link between body size and food, and their perceptions of the control of children's eating, this study seeks to contribute to an understanding of why children may develop these eating problems. 98 children undertook a semi-structured interview which incorporated drawing and card sorting activities. The measurement of the children's body mass index allowed the sample to be grouped into three weight categories.

When describing their ideal body images most children rejected fatness, most girls wanted to be thin to medium and most boys wanted to be medium to muscley. About half the children were dissatisfied with their own body image, and about half wanted an ideal body image which differed to that of an ordinary child. The children described hypothetical fat people as eating large amounts of high calorie foods, such as chips, very quickly. Thin people were described as eating smaller quantities of lower calorie foods, such as fruit, slowly. The children demonstrated a good understanding of how foods could alter body size. Adults, particularly mothers, were perceived as having a great deal of control over the food which children ate. The study indicated that whilst many nine year old girls and boys had the pre-requisite knowledge to diet, girls had more incentive to do so. Boys had less incentive than girls to eat healthy food.

The research draws attention to an association between men and women's perceptions of eating and body image, and boys' and girls'. The current national obesity campaign may be inadvertently fuelling children's eating problems and needs to address children's needs as separate to those of adults. Educational strategies which could make an important contribution to the primary prevention of eating problems include active learning about: the nutritional value of foods such as meat, normal changes in body shape and size, the biology of weight regulation, prejudice and discrimination on the basis of body shape or size, and social images of food and body image. These need to take a gender sensitive approach which acknowledges the biological and cultural differences between girls and boys.

CHAPTER ONE

RATIONALE FOR THE STUDY

INTRODUCTION

Aims

The aim of this study is to explore **children's perceptions of eating and body image**.

The study

The research will investigate nine year old children's perceptions of body image, their perceptions of eating in terms of thinness and fatness, and their perceptions of who controls the quality and quantity of food which they eat themselves. This is because if a child wants to alter their own body image, one way in which they may choose to do this is by altering their food intake. What they then eat will depend upon their desirable body image, their understanding of food and their control over their own eating. It is therefore the relationship between these three themes, from the perspective of children, which lies at the heart of this study.

Goals of this introduction

This introduction will begin by outlining some of the key concerns which provide the impetus for this study at this point in time. It will then introduce the inter-relating features of children's eating problems and explain the need for a primary prevention strategy. This will help to provide a frame of reference for the study. Thereafter the chapter will aim to provide a detailed rationale for the study of **children's perceptions of body image, children's perceptions of the link between body size and food, and children's perceptions of the control of children's eating**.

This rationale will underpin the formulation of the specific objectives of the research. For clarity, these will be written in ***bold italics*** and sequentially numbered.

There are three wider questions which are not specifically addressed in the objectives, but which the study hopes to be able to shed light on. These are:

How do children's perceptions of eating and body image compare to what is known about adult perceptions of these issues?

What role does health play in children's perceptions of eating and body image?

Do wider social and cultural influences, such as the media, seem to be influencing children's perceptions of eating and body image?

Key reasons for investigating children's perceptions of eating and body image

Reports suggest that excessive dieting and eating disorders have increased sharply among young people in recent years (Balding, 1991; Hill, 1991; Hill et al, 1992). Simultaneously there are concerns about children eating unhealthy diets (Daly, 1990; NFCHDP, 1993; Seaman et al, 1997) and about obesity in the wider society (Winkler, 1994; Ernst and Obarzanek, 1994; Nutrition and Physical Activity Task Forces, 1995). As healthy eating is understood to be important for the healthy physical, psychological and social development of children these eating problems are causing concern. In particular children's own perceptions of eating problems seem to be poorly understood. This reflects a general reluctance to place high value on children's perceptions until the last 15 years or so. It is suggested that the gradual expansion of research into children's own perceptions about health has evolved from a gradual acceptance of both children's rights (Castelle, 1989; Department of Health, 1991a), and lay perspectives on health (Williams and Popay, 1994). Therefore this study intends to contribute to this field of research by exploring children's perceptions of eating and body image. By doing so it is hoped that children's eating problems may be better understood and thereby prevented.

The national context of the study

Obesity

Obesity, which is excessive fatness, is a significant public health problem in England due to its association with morbidity and premature mortality (Nutrition and Physical Activity Task Forces, 1995; Prescott-Clarke and Primatesta, 1997; Cadbury, 1997). In 1994 the government's Nutrition Task Force and Physical Activity Task Force met at a symposium to produce a strategy to tackle obesity in England (Nutrition and Physical Activity Task Forces, *ibid*). Not long after, despite widespread recognition that defining the levels of undesirable fatness in children is not possible yet (*ibid*; Cole et al, 1995; Prescott-Clarke and Primatesta, *ibid*) health professionals, notably

school nurses, began their attack on childhood obesity (Department of Health, 1996a). The Health Education Authority launched the 'Active for Life' campaign (Ilic, 1996) to promote exercise, and maintained that the prevention of obesity should be targeted at the seven to 12 age group (Garrow, 1991). Obesity has not only become the key target in the bid to improve the health of the nation, but the NHS Executive recently referred to it as the very symbol of the Health of the Nation strategy (Magowan, 1997). We therefore find nine year old children at the centre of the largest anti obesity campaign ever.

Power et al (1997) has recently called for childhood obesity to be tackled separately from adult obesity on the grounds that the two are not necessarily related. Furthermore although there are valid concerns about obesity there appears to be no concern about the contribution that the campaign may make to the stigmatisation of fatness. One consequence, Wardle et al (1995) argues, may be that it could deter the overweight child from joining the very activities which could help them to reduce weight. Nor does there appear to be any recognition that this campaign seems likely to increase both children's dieting and eating disorders further (Hill, 1993a; Garner, 1997).

Dieting and eating disorders

Both medical advice to avoid excessive fatness along with psycho-social pressures which can stigmatise and isolate fat people (Van Itallie, 1981; Cline, 1990) seem to have contributed to dieting becoming big business (Ibbotson, 1988; Cadbury, 1997) in the United Kingdom. By late adolescence 70% of girls have dieted (Hill et al, 1992). Dieting is of concern to health educators for a number of reasons. One is the number of people of normal weight who diet, many of whom have never been overweight (Knight, 1984; Gilbert, 1989). Another is the number of people dieting who are underweight (Cline, 1990; Koff and Rierden, 1991). Furthermore Gilbert (*ibid*), Chernin (1981), Cline (*ibid*) and Polivy (1996) suggest that people of all weights can find themselves trapped into a cycle of weight loss and gain. This may promote negative physical and psycho-social consequences because dieting does not seem to provide the solution to their weight concerns. Another concern about the promotion of dieting arises from suggestions that there may be a link between

dieting, the promotion of thinness in society and signifiers of eating disorders (Garner and Garfinkel, 1980; 1980a; Lundholm and Littrell, 1986; Hesse-Biber 1989; Patton et al, 1990).

Lawrence and Dana (1990) note that a society's beliefs about what constitutes a desirable body shape and desirable eating practices can be found in both ancient and modern civilizations. Where there is a fear of famine, such as in the ancient civilisations of the Indus valley and some parts of Africa today, there tends to be a high value placed on fatness and therefore eating well. For women, this may be perceived as evidence of fertility. In contrast, the affluent Romans who enjoyed plentiful supplies of food prized thinness and abhorred obesity. They invented the vomitorium in order to encourage people to self induce vomiting and prevent weight gain. The medieval saints are supposed to have refused food for reasons to do with asceticism. The first written record of a woman who starved herself and exhibited the symptoms of anorexia nervosa in the United Kingdom was made by Dr Richard Morton in 1689. During the Victorian era, doctors diagnosed women as being abnormal and in need of treatment if they ate too heartily whilst simultaneously keeping records of women who were starving themselves (Hesse-Biber, 1991). Hesse-Biber suggests that this was a result of the cultural norms of time which dictated that a woman should not show any signs of excessive behaviour. This brief historical analysis supports the view that social beliefs about eating and body image may play a part in the development of eating disorders.

Today, Lachenmayer and Muni-Brander (1988), Lawrence and Dana (1990), Shisslack et al (1987), Cline (1990) and Plehn (1990) are a selection of the many authors who suggest that eating disorders are increasing rapidly within western societies. However neither the Department of Health, the National Health Service, the Central Statistical Office nor the Association of Eating Disorders can provide national epidemiological data to support these claims in the United Kingdom. Some research studies indicate that approximately one to three per cent of adolescent and young women suffer bulimia nervosa and one to two per cent anorexia nervosa (Hill, 1993a; Harley, 1996). Schwartz et al (1983) and Hill (1993a) caution that the rate of the increase in these disorders may be questionable due to the simultaneous increase in diagnosis, reporting and awareness.

It is disappointing to find that most researchers, who have investigated eating disorders amongst western populations, fail to provide details about the ethnicity of their sample populations. In particular, the lack of information about non white/Caucasian people has encouraged Bhadrinath (1990) to write about the case studies of just three Asian adolescents with anorexia nervosa. Buchan and Gregory (1984) report the case of one black Zimbabwean with the same illness. Therefore it is important to note that the literature in this field tends to be written from a perspective which focuses on western populations, and largely ignores ethnic dimensions. It is also noteworthy that investigations into eating disorders have rarely been carried out anywhere other than in the western world (Evans, 1999). It is on this basis that authors such as Anderson (1985) claim that eating disorders are very rare amongst the non white, non western population.

Eating disorders normally include (i) anorexia nervosa - which is essentially starvation frequently accompanied by excessive exercise in a bid to become thinner and thinner, (ii) normal-weight bulimia - which is characterised by recurrent bingeing on large quantities of food accompanied by a purging of the body by methods such as laxative use or vomiting, (iii) bulimic anorexia nervosa - which is starvation accompanied by purging, and (iv) compulsive eating - which is characterised by regular bingeing on large amounts of food and rarely purging (Levine, 1987). It is thought that while anorexics and bulimics both fear body weight, anorexics only feel in control of their bodies, and their lives, as long as their weight is ever decreasing. Bulimics are thought to experience a loss of perceived control when they binge, and again when they purge to 'correct' the consequences of the binge. They find themselves in a chronic state of anxiety (Levine, *ibid*; Lawrence and Dana, 1990). Orbach (1978) and Chernin (1986) suggest that compulsive eaters experience a loss of control every time they binge. In this way the perception of control features as a key factor in the discourse around eating disorders (Buckroyd, 1989). While anorexics, bulimics and compulsive eaters may be extreme ends of the spectrum, Orbach (1978), Brone and Fisher (1988) and Levine (1987) suggest that it is important to understand them as part of a continuum which includes many of the concerns of the obese. These concerns include a fear of fat; an obsession with food, weight and calories; a strong association between food and emotions; and a view that values their external appearance very highly.

It seems that the pressure to slim may encourage inappropriate dieting. In the presence of additional psychological, familial and social factors the pressure to diet, and dieting itself, could lead to an eating disorder (Garner and Garfinkel, 1980; Slade, 1982; Chernin, 1986; Epstein, 1987; Levine, 1987; Miles, 1988; Olivier, 1989; Cline, 1990; Lemma-Wright, 1994). Alternatively the pressure to diet could further intensify the problems of the obese. Therefore in this way obesity, dieting and eating disorders seem to be intricately linked and are collectively referred to as eating problems in this study.

Children's eating problems

Williams et al (1989), Hill et al (1992) and Koff and Rierden (1991) suggest that by nine years old many children, not merely the overweight, are both very aware of and dissatisfied with their bodies in terms of weight and shape. When nine year olds are asked about their own body image they indicate that they do not want to be fat (Hill, 1993; Hill et al, 1994; Hill and Silver, 1995). In America Richards et al's (1990) research indicates that the 'dieting mentality' is present in many nine to 11 year olds and in the UK Hill et al (1992a) suggest that nine year olds who express a desire to be thinner are significantly more likely to change their eating habits than those who do not. These studies suggest that at about nine years old children begin to respond to body image dissatisfaction by either thinking about dieting or beginning to do so.

Although Stein and Reichart (1990) suggest that skipping meals, self induced vomiting and taking diet pills is rare amongst eight and nine year olds, both symptoms of, and fully diagnosed, eating disorders in children of nine (Maloney et al, 1989), eight (Young, 1994), seven and a half (Mihill, 1993) and six years of age (Cohen, 1995) have been reported. The number of current cases, perhaps 5,000 children or more in the UK according to one newspaper report (McCartney, 1997), is clearly enough to cause concern.

If children wish to change their body image by altering their diet, a significant factor in whether they do may be the degree of control that they have over the food which they eat. Some studies suggest that the perceptions of control within the family are central to the dynamics of family eating (Charles and Kerr, 1988) as well as the aetiology of eating disorders (Edwards, 1987). Also it is interesting to note that the massive expansion of convenience foods has increased children's control over their

own eating behaviour in the last 40 years, during which time eating problems have risen (Hardyment, 1995). This study will look at children's perceptions of who controls the quality and quantity of food which they eat from the supermarket to the plate.

The need for a primary prevention strategy

Many British authors, writing about eating disorders, focus on caring, coping and suggestions for referral (Lawrence, 1984; Anderson, 1985; Lawrence, 1987; Biley, 1989; Lawrence and Dana, 1990; Burgoyne, 1990) thus emphasising factors concerned with rehabilitation and treatment. These can be classified as both secondary and tertiary prevention approaches (Ewles and Simnett, 1992; Forster, 1995; Katz and Peberdy, 1997). Secondary prevention aims to halt or reverse the development of an eating disorder and would include education about the importance of healthy eating for someone who was becoming pre-occupied with their body image and dieting. Tertiary prevention would include preventing an established eating disorder becoming worse through therapy. Having prevented the demise in health, it may be possible to help someone to learn to live with their perceived body image dissatisfaction.

Primary prevention aims to deter healthy people from becoming unhealthy in the first place, and primary health education aims to do this through educational means (Ewles and Simnett, *ibid*; Forster, *ibid*; Katz and Peberdy, *ibid*). In America and Canada there seems to be an accumulation of knowledge about the causes of eating disorders in order to develop primary health education strategies (Shisslack et al, 1987; Levine, 1987; Moriarty et al, 1988, 1988a; Moriarty and Chanko, 1988; Moriarty and Moriarty, 1988; Shisslack and Crago, 1994). Crisp (1988) is an important, though possibly unique, UK contributor to this field. Like Levine (1987) he thinks that strategies which aim to prevent eating disorders are linked to those which aim to prevent obesity.

Many of these authors discuss primary health education strategies in the context of schools or summer camps. They suggest that the education should focus on topics such as bodily changes and puberty (Levine, *ibid*; Moriarty and Chanko, 1988),

media images of fashion and people (*ibid*), the meaning of abnormality (Levine, 1987), the biology of weight regulation (*ibid*), basic nutrition (Moriarty and Chanko, 1988; Crisp, 1988), the risks of unsafe dieting and safe dieting (Moriarty and Chanko, *ibid*), emotional aspects of food (Levine, 1987; Moriarty and Chanko, *ibid*; Crisp, 1988), social images of food (Moriarty and Chanko, 1988), feeling at ease with yourself (*ibid*), ownership of your own body (*ibid*; Crisp, 1988), personal attitudes and behaviour (Crisp, 1988), interpersonal relations (*ibid*), the influence of gender (*ibid*), fears and anxieties (Levine, 1987). Many authors emphasise the importance of developing skills in young people. These include assertion skills (Moriarty and Chanko, 1988), relaxation skills (*ibid*), stress management (*ibid*; Crisp, 1988) and coping skills (Levine, 1987; Crisp, 1988). They recommend strategies such as information giving (Levine, 1987; Crisp, 1988), 'girls only' discussion groups (Shisslack and Crago, 1994), family and community involvement (Shisslack et al, 1987; Levine, 1987; Moriarty and Chanko, 1988), behavioural techniques (Crisp, 1988), personal/experiential exploration (*ibid*; Levine, 1987), the use of role models (Levine, 1987), self help groups (Moriarty and Chanko, 1988) and problem solving (Crisp, 1988). Levine (1987) highlights the teacher's role in this work, and the importance of good preparation. These primary health education approaches are aimed at teenagers, and yet we have seen that eating problems are increasing in childhood.

Britain has a long history of primary health education in the context of healthy lifestyles (DHSS, 1976; Winn, 1980), healthy eating (Open University, 1985; Hardyment, 1995) and children's health (Campbell, 1984; McWhirter et al, 1994; Wetton and McWhirter, 1995; Weare and Gray, 1995). The national curriculum outlines many opportunities for primary health education about food and nutrition (Coulson et al, 1998), and some opportunities for learning about wider issues which may affect children's perceptions of eating and body image. These opportunities arise in the design and technology curriculum (Department for Education, 1995), the science curriculum (Department for Education, 1995a) and the health education curriculum (National Curriculum Council, 1990).

To recap, obesity, dieting and eating disorders, in severe cases, can cause ill health and sometimes death. It is proposed that an understanding of children's perceptions of eating and body image are vital to preventing any of these three eating problems

occurring in the first place. Therefore this study will explore nine year old children's perceptions of eating and body image. Specifically it aims to analyse children's perceptions of body image, children's perceptions of the link between body size and food, and children's perceptions of the control of children's eating. This study hopes to be of interest to anyone involved in the primary prevention of eating problems.

CHILDREN'S PERCEPTIONS OF BODY IMAGE

The aim of this first section is to explore the significance of body image to children's well being, and to provide a rationale for studying children's own perceptions of body image in this study.

Body image and its relationship to eating problems

We need to clarify what we mean by the term body image in the context of nine year old children. McCrea (1986) describes body image as meaning a psychological experience of the body. She suggests that an individual's body image is based upon how an individual organises their subjective feelings and attitudes about their body in their mind. Hoover (1984) discusses an individual's self image and suggests that it includes three relevant characteristics. These are how an individual thinks they appear to another person, their thoughts of how that other person judges them and the individual's emotional response such as pride or embarrassment. Several authors suggest that an individual's body image is an integral part of their self image (Bruch, 1977; Garfinkel and Garner, 1983; Levine, 1987).

A number of authors, many of them psychologists and therapists, have claimed that people with an eating problem often have unhappy or distorted feelings about their own body image (Bruch, 1974; Orbach, 1978; Dana, 1987; Rust, 1987; Rand and Stunkard, 1978; Hill et al, 1989; Abraham and Llewellyn-Jones, 1992). Authors such as McCrea (1986) have compared measurements of people's bodies to their own perceptions of their bodies. In some people the results were very different, suggesting a discontinuity between the individual's body and the individual's body image. This discontinuity has been found in normal weight women (Cullari et al, 1989), but seems to be more common amongst obese women (McCrea, 1986) and both adults and children with eating disorders (Bruch, 1974; Selby, 1987; Slade and Brodie, 1994). People with eating disorders tend to perceive themselves to be fatter than they are. Therefore it would seem that understanding children's perceptions of body image is a vital part of understanding their eating problems.

Turning to children specifically, we will now consider the evolution of a child's body image. Giddens (1989) suggests that children learn through their gradual socialisation to have perceptions about their own body image. Kearney-Cooke and

Steichen-Asch (1990) argue that boys' perceptions of body image are influenced by an identification with fathers, male peers and wider social images of male bodies. Hoover (1984) suggests that there is debate about the degree to which social influences or inner psychic experiences form and maintain the child's perceived body image.

Body image and gender

Having looked at the relevance of body image to this study, we will explore the rationale for taking a gendered perspective. Whilst sex refers to the physical differences between the male and female body, gender concerns the psychological, social and cultural differences (Giddens, 1989). It is proposed that to approach a study of children's perceptions of body image as if it were a sexless or gender neutral concept ignores both biological and social reality.

The developing body image of girls and boys

In 1970 Broverman et al undertook a study which showed that mental health professionals described a healthy female as someone who was interested in her own appearance and neat in habits, whereas a healthy male was not overly concerned about appearance and was very active and adventurous. Kilbourne's (1994) review of television and Turner-Bowker's (1996) review of children's books suggest that the media frequently associates girls with beauty and passivity, and boys with action and power. Rubin et al (1974) found that within 24 hours of birth parents described their infant daughters as little, beautiful, pretty and cute significantly more than their sons, and they described their sons as hardy, large and strong significantly more than their daughters.

Bem (1983) proposes that children learn culturally defined gendered stereotypes and may evaluate their own personal attributes against them. Their self esteem may be related to how well they meet these standards, and in response change themselves. In childhood Phillips (1990) notes that girls' nicknames tend to reflect physical attributes such as beauty, and boys reflect strength, largeness and hardness. At school, girls have been observed behaving in ways which keep their bodies 'little', taking up minimal space, tucking in their elbows, crossing their legs. This is in contrast to boys who have been observed as dominating physical space through running, play and stretching their arms and legs (Holly, 1985; Askew and Ross,

1988). Grabrucker's diary of her daughter's early years provides vivid illustrations of how a girl may learn the value of her appearance. Recording her thoughts when her daughter Anneli was less than a year old she writes:

"Every time we meet, Karin admires Anneli, saying how pretty she is, how dainty and graceful her legs are, and what a good ballet dancer she'd make. She admires Anneli's long eyelashes and blue eyes and says that later on her flirtatious glance, her smile and delicate figure will turn men's heads and they'll run after her..... But neither his mother nor I say anything like this about her son."

(Grabrucker, 1988 p.18)

In contrast, Grabrucker's diary illustrates examples of boys being encouraged to value their abilities to be active and assertive. She suggests that by age two and a half, children may have learnt that 'muscles mean male':

"There is another boy there who is almost four and he goes straight up to Anneli, holds up his arm, bends it and says, 'Look at my muscles.'..... at my instigation Anneli also demonstrates her 'biceps'. The boy leaves us without another word.....The boy turns to another girl with the same approach. She gazes at him in wonderment and says nothing."

(*ibid* p.105)

So it seems that gender may be an important influence on children's perceptions of body image. Freedman (1984) argues that girls are socialised into investing heavily in their appearance, and Mickalide (1990) argues that boys are socialised into placing a high value on athleticism and strength.

A nine year old's body

Children's perceptions of body image also need to be judged against the reality of children's physical development if they are to be fully understood. Historically the height and weight of children has played a central part in the measurements of physical development. The most recent data suggests that children have gained weight over the last 30 years (Freeman et al, 1995). Today there are slightly more 'overweight' children than 'underweight' children in this country, and girls are slightly fatter and heavier for their height than boys (Peckham et al, 1985; Freeman et al, 1995; Cole et al, 1995). About half of all children fall within the range which may be described as 'normal weight'. This means that the ratio of their height to weight (body mass index) falls within acceptable, healthy, limits.

On the basis of anthropometric and biochemical data, Malina and Bouchard (1991) suggest that whilst girls and boys go through similar patterns of growth until they are eight, thereafter the bodily changes for each sex, both in terms of character and timing, are distinctly different. We will consider fat first. Girls have more subcutaneous fat, that is fat under the skin which affects appearance, than boys at all ages from infancy to 18 years. At six or seven years old girls show a slight reduction in this fat, before it begins to increase again. At nine the girls begin to grow rapidly. This is called the adolescent growth spurt which is always prepubertal. For girls it is suggested that puberty starts at about 10 years old (Bee, 1995) - earlier than ever, and coincides with an increase in fat which is related to menarche (Young et al, 1968). Today, menarche in the West usually occurs from 11 years old (Bee, 1995) which is earlier than at any time during the last 150 years (Scambler and Scambler, 1993). Boys have less subcutaneous fat than girls throughout childhood and the teenage years. Like girls they experience a slight reduction in fat between six and seven and then it increases again, but does not catch up with the girls. The boys' adolescent growth spurt followed by puberty occurs at around 12 to 13 years. Like girls they experience increased fat just before puberty, but this occurs well after nine years old. It is interesting to note that Sinclair (1989) suggests that at puberty, girls have twice as much body fat as boys. Therefore it would seem possible that nine year old girls feel fat in comparison to boys. This feeling may be particularly acute for the 'early maturers'. Thus girls may feel fat compared to boys and may be aware of gaining fat during the previous few years.

Body shape

The distribution of fat within a body, is likely to be an important determinant of body shape. Malina and Bouchard (1991) suggest that the distribution of fat is similar for both sexes in childhood, and at nine both girls and boys have more fat on their tummies than limbs. With the onset of puberty both will proportionately gain more fat on their tummies. Although this is less so for the girls compared to the boys it occurs earlier for the girls, between eight and 12 years of age. This suggests that at nine some girls may be feeling that their tummies are fat both in comparison to a few years before and in relation to boys. In addition to this, early maturing girls of nine may begin to experience the fat distribution associated with

puberty. This means that a few nine year old girls may be beginning to experience increased fat on their thighs, upper arms and breasts.

A second key feature related to body shape is muscularity. At nine years old Malina and Bouchard (1991) suggest that boys' bodies not only contain very slightly more muscle mass than girls' but the width of individual muscles is greater. However noticeable differences between the sexes do not begin until the adolescent growth spurt in boys at about 12 years. After this there are clear spurts of increased muscularity in arms and calves in particular which do not occur in girls. Therefore at nine the differences in muscularity, in terms of appearance, are considered to be insignificant.

This evidence indicates that nine year old girls differ to boys in that some of them may be affected by the early changes of puberty which means increased general and specifically located areas of fatness. However there is no evidence that male pubertal changes, notably increased muscularity, are present in nine year old boys. At nine the girls are moving towards increased fatness and the development of a rounded shape whereas the boys are moving towards increased muscularity and leanness during adolescence. Therefore Cole et al's (1995) finding that girls have a higher body mass index (BMI) compared to boys at nine is probably accounted for by their relatively greater fat.

A third feature which affects shape are bones. Malina and Bouchard (1991) suggest that nine year old boys differ slightly to girls. In particular girls have relatively wider hips, compared to shoulder breadth, than boys. Boys have relatively wider shoulders compared to hips, than girls.

Therefore at nine years old there are small but important differences between girls' and boys' bodies which may influence their perceptions of their own and others' body image. These are summarised in Table 1.1. It is an age which just precedes an acceleration in that difference. It has also been suggested that children develop gendered perceptions of their bodies - their body images - and indeed other children's bodies, which may have had nine years in which to establish themselves. It is for these reasons that this study considers the boys' and girls' perceptions of body image separately where appropriate.

Perceptions of body image

The study intends to explore the value placed on thinness, fatness and muscularity as we have seen that they are key determinants of body shape and therefore have an obvious place in the perceptions of body image.

TABLE 1.1

A SUMMARY OF CHILDREN'S PERCEPTIONS OF BODY IMAGE

	Children	Girls	Boys	Objectives of the Study
Children's body awareness	Conscious of appearance by nine years. High levels of discontent in some. Strong dislike of fatness.	Emphasis on appearance in early years. Dissatisfaction noted at five years old.	Emphasis on strength and muscularity in early years. Dissatisfaction noted at nine years old.	
Nine year old bodies	Most children normal weight. Very slightly more overweight than underweight.	Most normal weight. Compared to boys - very slightly more overweight and higher proportion of body fat. Relatively large hip to shoulder breadth ratio.	Most normal weight. Compared to girls - very slightly less overweight and lower proportion of body fat. Relatively large shoulder to hip breadth ratio.	
Projected bodily changes beyond nine years old	Sex specific.	Increased growth and fat. Extra fat on tummy, thighs, arms and breasts.	No significant change for three years. Increased muscularity and less fat through adolescence.	
Social context: adults' ideal body image	Not fat.	Very thin. Not fat. Immature.	Well muscled. More toleration of fat than women.	
Possible perceptions about own body image at nine years old	Most may feel medium.	May be beginning to feel fat. Feel fatter than boys. Feel fat around tummy. Early maturers feel fat on thighs, arms, breasts. May be feeling large around hips compared to boys.	May feel less fat than girls. May feel fat around tummy, but not as much as girls. May be feeling broad across shoulders compared to girls.	(i)
Children's body image in relation to actual weight at nine years old	Actual weight versus perceptions of body size - normal weight children are most accurate.	Actual weight of more importance to girls than boys.	Actual weight of less importance to boys than girls.	(ii)
Children's ideal body image compared to actual weight of children at nine years old	Heavier children want to be lighter. Lighter children want to be heavier.	Want to be slightly underweight.	Want to be slightly overweight.	(ii)
Children's body image satisfaction at nine years old	Lowest satisfaction among the overweight.	Most satisfaction when slightly underweight.	Most satisfaction when average weight.	(iii) (iv) (v)
Children's ideal body image compared to perceptions of own body image at nine years old	Overweight children want to be thinner.	Want to be thinner unless very underweight.	Want to be broader unless very overweight.	(iii) (iv) (v)

Objective (i): to analyse girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image

Objective (ii): to discover how girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image differs to their own body mass index

Objective (iii): to analyse how satisfied girls and boys are with their own body image and how they want it to change

Objective (iv): to analyse the reliability of girls' and boys' answers concerning body image satisfaction

Objective (v): to discover how girls' and boys' satisfaction with their own body image differs according to their own body mass index

Body image, thinness and fatness

It would be misleading to assume that the pursuit of thinness and the avoidance of fatness are one and the same thing, and so it is necessary to look at both these phenomena separately. Within western societies, thinness seems to be promoted as the culturally acceptable image of attractiveness (Garner and Garfinkel, 1980; Hesse-Biber, 1989; Cline, 1990; Seid, 1994). Hayes and Ross (1987) conclude that to be perceived as attractive generates increased personal success in terms of interpersonal relations, social contacts and obtaining more tolerance of poor performance. This may explain why successful slimmers testify to the positive social benefits of being slimmer rather than fatter (Gilbert, 1989; Stowe, 1998).

The relationship between perceptions of attractiveness and thinness seem to be heavily influenced by gender. Chernin (1981; 1986), Wolf (1994), Kilbourne (1994) and Cooke (1995) all argue that thinness is promoted as being central to the ideal body image of the female. They suggest that this is because thinness, along with youth and glamour, is frequently portrayed as the ultimate image of femininity in the media. They also suggest that thinness is associated with vulnerability and powerlessness because to be thin is to look small, fragile and without strength. Thinness may be associated with self control as it represents the visible outcome of controlling eating or exercise. Perhaps for some or all of these, thinness is thought to be attractive to males. This view of thinness may help to explain why some women want a thin body image in preference to images promoted by health professionals which are not so thin (Allan, 1988; Hesse-Biber, 1989; Henderson and Vickers, 1995).

It seems that similar perceptions to those found in women can also be found amongst adolescents especially those whose career aspirations, such as dancing or sport, may add to the wider cultural pressure to be thin (Garner and Garfinkel, 1980a; Brooks-Gunn and Warren, 1985; Rosen et al, 1986). Macintyre and West's (1991) research showed that pictures of thin 15 year old girls were rated as more attractive than pictures of both fatter and average weight girls. How much the culture of the older female

influences younger girls is debatable. However the popularity of Barbie and Cindy dolls is perhaps the clearest indication that there may be a relationship between the older females' perceptions of an ideal body image and those of younger females. Barbie and Cindy dolls are described as, "pointedly thin," depicting the, "ideal appearance and lifestyle of 90's women," (Hill, 1996 p.4), and it has been noted that some eight year old (Grogan and Wainwright, 1996) and nine year old girls (Hill et al, 1992a; Hill and Silver, 1995) want to be thin.

Fursland (1987), Chernin (1981) and Cooke (1995) have all noted that attractive media images of females, such as models, not only embrace thinness, but immaturity also. Wooley (1994) suggests that women reject their mature womanly curves because they are trying to disassociate their own body images from those that are displayed in pornography. Chernin (*ibid*) argues that these images simply reflect men's desire for childlike dependent women, and cites the rapid increase in child pornography as part of her argument. If, as authors suggest, females tend to be judged by appearance rather than deeds (Freedman, 1984; Orbach, 1978; Grabrucker, 1988; Olivier, 1989), to be thin is a vital ingredient towards achieving a positive self image. This seems to be because through being perceived as vulnerable and feminine women achieve social, especially male, acceptance, and through this they achieve power. Therefore they need to exercise self control in order to maintain this thinness.

Turning to perspectives on male body image, Pugliese et al (1983) and Strong (1990) both suggest that rather than taking action in order to promote thinness, many men act in order to avoid fatness. Indeed a concern about becoming too thin has been reported in teenage boys (Wardle, 1991) and nine year old boys (Hill et al, 1994). Little research has specifically investigated why this may be so, though it is interesting to note that Strong (*ibid*) describes thinness as being associated with androgyny and Mickalide (1990) suggests that it has long been the ideal body image of homosexual men. This may help to explain why thinness is much more highly valued amongst females than males, and why boys may wish to avoid it.

Like thinness, perceptions of fatness seem to be gendered. Despite studies which indicate that men are more frequently the overweight sex (Knight, 1984; Open University, 1985; Beck and Barker, 1985; Mickalide, 1990; Nutrition and Physical Activity Task Forces, 1995), it seems to be women who demonstrate most concern about this problem (Barker and Cooke, 1992). Watson's (1993) interviews with men suggest that whilst fatness is negatively perceived in terms of representing a lack of self control, male 'middle age spread' is fairly acceptable. In contrast Bruch (1974), Rand and Stunkard (1978), Cline (1990), Orbach (1978), Chernin (1981, 1986) and Gilbert (1989) is a small sample of the wealth literature which suggests that women do not want to be fat under any circumstances. Their reasons include fatness being perceived as 'unfeminine', desexualising and a burden which forces women to negate their own feelings and wishes in deference to others who are seen as being 'more deserving' than themselves. In a further analysis of these perceptions Chernin (1981, 1986) suggests that women may in fact be afraid of fatness arguing that the increased body size represents a power with which they are far less comfortable compared to men.

Turning to children, a frequently quoted piece of research in this context, is one where American children were asked to look at pictures of other children. The children liked fat children less than other children, even those with disabilities, disfigurements or deformities (Wooley et al, 1979). Since this research was done, further studies report American children describing fat children as children who bump into things, are made fun of and feel bad (Edelman, 1982; White, 1983). In England, children are reported as describing fat children as ugly, stupid, mean, sloppy, lazy and dishonest (Wardle et al, 1995). Fat children are also associated with health problems such as smoking, drinking, self pity, illness, weakness (Williams et al, 1989a) and a poor record of healthy eating and fitness (Hill and Silver, 1995) by other children. One report suggests that at least half of Britain's six year old girls are worried about being overweight (Garner, 1997).

Children's general rejection of fatness may be one of the few aspects of body image which applies to both sexes. Hill and Silver (1995) argue that when nine year old children indicate a preference for thinness it may be based on an avoidance of fatness, like men, rather than aiming for a 'thin perfect' body. Wardle et al's (1995) study also suggests that children's attitudes towards fatness seem to operate independently to their valuing of thinness. There are subtle gender differences within this framework. Girls seem to report feeling fat more than boys (Wardle and Beales, 1986), and evidence to suggest that this perception may be rooted in biological reality has been presented. Also, as we have seen, within the broad context of anti-obese sentiments girls seem to value thinness more highly than boys. Therefore this study is not merely interested in thinness and fatness, but in the nature of the relationship between them in the context of children's perceptions of body image.

Body image and muscularity

Now we will consider the theme of muscularity in the context of body image. We have noted that muscles may be associated with masculinity from infancy. Kearney-Cooke and Steichen-Asch (1990) suggest that the ideal masculine body shape is lean, muscular and strong with broad shoulders. It is best epitomised by the Chippendales (Hope, 1993). Within this context boys' heroes, such as Superman, Spiderman, Action Man and Power Rangers may be considered with interest. Each display classic 'V' shaped torsos which feature arms, legs and chests which bulge with muscles. These would seem to be vital ingredients to achieving the pinnacle of activity, athleticism and strength valued not only in boys, as we have seen, but in men also (Watson, 1993; Bruckenwell et al, 1995).

Mansfield and McGinn's (1993) research into the world of female body builders further underlines the relationship between muscularity and the male. They report that female body builders are marked down in competition if they are considered to be too masculine. This is defined as having excess muscularity and the classic 'V' shape with broad shoulders and small waists.

Muscularity does not directly relate to eating patterns in the same way that thin and fat do, however it is included in this study because it is suggested that it has been an omission in most previous studies which have explored body image. This may be as a result of most studies evolving from a concern about eating disorders in females, and a lack of literature on male eating and body image issues generally despite a rise in male eating disorders (Maloney et al, 1989; Strong, 1990; Wilps, 1990; Mihill, 1993). Also as Macintyre and West (1991) found, when two adolescents of similar weight are compared the boy is more likely to be described as muscley and the girl as fat; this suggests that observers of body size may blur the differences between fatness and muscularity. This lack of separation has left many authors hypothesising that boys want to be muscley (Freedman, 1984; Williams et al, 1989; Hill et al, 1992a; Hill et al, 1994) without being able to demonstrate empirically that this may be so. Therefore there is a need to carry out a study of body image which allows fatness and muscularity to be researched separately.

So far it has been suggested that muscles are not traditionally associated with females. However Steiner-Adaire (1994) argues that eating disorders are partly a product of society having multiple, and conflicting, expectations of women. She suggests that, in addition to the reified image of the ultra thin female, is the cultural image of the female 'superwoman'. She is tall, thin and strong. In this description she is referring to a need for women to metaphorically take on board men's muscles in order to successfully compete with men in the work place. In this context it is interesting to take a brief look back at female fashion and note that broad shoulders have been popular at times when assertion of female power has occurred. The eras of the Suffragette movement and the Second World War illustrate this well (Oakley, 1982; Rothstein, 1984). Today Wooley (1994) argues that the female body itself plays a much greater role in communicating the desired body shape to others as clothes have become less thick and structured. This is interesting in the context of the increased popularity of body building amongst women (Mitchel, 1987), and the encouragement for girls to exercise (Cooke, 1995; Whitehead, 1995). Whether this signals a greater

acceptance of, or desire for, muscularity in girls is something which the study may be able to shed light upon.

Investigating perceptions of body image and body parts

This study intends to explore nine year old children's perceptions of their ideal body image and their own body image in terms of thinness, fatness and muscularity. Consideration will be given to whether children seem to have absorbed adult perceptions of body image. This is because some authors argue that adult values in general (Hill et al, 1992; Hill, 1996), and adult perceptions of body image in particular (Feldman et al, 1988), seem to have some influence over children's perceptions of body image.

Peers are people of the same status who share similar attitudes, beliefs and behaviour. Peers interact frequently and can be role models for each other (Davenport, 1994). Peer influence and support, during a young person's life is well documented (Giddens, 1989; Phelps et al, 1994; Coggans and McKellor, 1994; Ross, 1995). With age, the peer group becomes more important (Davenport, 1994; Bee, 1995) and children's self consciousness about their appearance increases (Williams et al, 1989a; 1990). Mayall (1994) notes that children may spend their days learning how to conform and how to avoid standing out from the rest. In particular peer support, both in general and in terms of appearance, seems to be especially important to females of all ages (Holdsworth, 1988; Rakusen, 1989; Webb, 1989). Graziano et al's work (1993) suggests that women are more influenced by peer evaluations of physical attractiveness than men. Therefore it is for these reasons that it would seem useful to look at children's perceptions of their own and their ideal body images in relation to their perceptions of the ordinary children who surround them.

We have also established that the term 'body image' emphasises a subjective perspective on the body as opposed to an objective one. As there is a wish to concentrate on the subjectivity of children's perceptions the term 'body image' will be used throughout the study as opposed to perceptions of 'bodies'.

Body parts

Most of the studies about children's perceptions of body image, such as Hill et al 's (1994) and Koff and Rierden's (1991), have asked children to consider the whole body and have focused on overall weight and shape dimensions. Although some research with adults has specifically looked at their perceptions of body parts (Franzoi and Herzog, 1987) little is known about children's perceptions of these, and therefore this study will explore children's perceptions of their arms, tummies, legs and bottoms.

Objective (i) of this study is: *to analyse girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image.* Each child will be asked to describe their ideal body image in terms of what kind of arms, tummy, legs and bottom they would like. They will be encouraged to describe them as either thin, fat, medium or muscley. This data will be compiled to provide a description of their overall ideal body image. In a similar way each child will be asked to describe their own body image and the body image of a hypothetical ordinary child. By comparing the children's perceptions of their ideal body image, an ordinary child's body image and their own body image we can gain a deeper understanding of their perceptions. The study will investigate girls' perceptions of female body image and boys' perceptions of male body image and compare answers.

Children's perceptions of body image in relation to actual weight

It will be necessary to compare children's perceptions of body image against their actual weight. So **objective (ii)** of the study is: *to discover how girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image differ according to their own body mass index.*

There seem to be two ways of calculating the relationship between the weight of a child and their perceptions of body image. The first was used by Hill et al (1992a). They looked at the actual weight of the nine year old child and worked out their body mass index (BMI) without taking age into

account (for an explanation of BMI see appendix 1). The children were then banded into weight categories ranging from very underweight to very overweight and asked to indicate a drawing which best represented their own body image and their ideal body image. Hill et al compared the drawing of the preferred shape to the child's actual weight and noted any differences.

Blissett et al (1996) used a different method to look at the relationship between children's weight and their perceptions of body image. A sample of nine year old children's heights and weights were compared to height and weight tables, and the children were divided into four weight categories. These ranged from underweight, normal, overweight to obese. They asked the children to describe themselves in terms of being 'thin', 'medium weight', 'overweight/chubby' or 'very fat'. The authors then made the assumption that 'thin' corresponded to underweight, 'medium weight' corresponded to normal weight and so forth. They analysed the relationships between the variables - the children's perceptions as measured against what their weight suggested they looked like themselves. From this they suggest that children's perceptions of themselves, their own body images, closely correspond to what their actual weight suggests they look like.

From calculations based on children's preferred shape and their actual weight Hill et al (1992a; 1994) conclude that children's ideal body images differ according to children's actual weight. Those who want a thinner ideal body image seem to be most frequently the heavier children, and those who want a broader body image seem to be most frequently the lighter children. Blissett et al's (1996) findings agree with Hill et al's (1992a) in suggesting that overweight children want to be thinner than their weight suggests that they are themselves, and underweight children want to be relatively fatter. These findings suggest that there is a pull towards wanting to be 'medium' which the children perceive as being healthy (Blissett et al, *ibid*).

Hill et al's (1992a) findings also suggest that girls want to be, on average, lighter than the average weight for nine year old girls; and boys want to be heavier than the average weight for nine year old boys.

Turning to children's perceptions of their own body image, Blissett et al (1996) suggest that there seems to be a tendency for underweight children to describe themselves as fatter than they are, and for the overweight to describe themselves as thinner than they are. This may suggest that these children have a less accurate perception of their own body image, or that they may be less willing to be truthful about their perceptions.

Therefore these studies suggest that children's perceptions of their ideal body image and of their own body image vary according to the weight of the children. This is summarised in Table 1.1. The present study will investigate this issue by using different research methods. The children's BMI, which will take age into account, will be calculated to provide the normative data against which their perceptions can be analysed.

Children's satisfaction with their own body image

So far we have discussed children's perceptions of body image. We will next consider their feelings about their body image, in particular their satisfaction and dissatisfaction with their own body image.

Body image dissatisfaction

It has been suggested that body image dissatisfaction is a common feature in people with eating problems (Levine, 1987). However this does not seem to be a suddenly acquired symptom. Indeed, as we have seen, awareness of body image probably occurs in infancy, and Feldman et al (1988) suggest that dissatisfaction can be present in children by the time children are five years old. By nine years old this dissatisfaction seems to be more widespread (Koff and Rierden, 1991; Hill et al, 1992; Hill et al, 1992a). Hill et al (1994) suggest that this is more strongly based upon children's perceptions of their own body image rather than their actual weight. It is important to note that measuring satisfaction is based upon the

difference between a person's ideal body image compared to their own body image.

We have noted that women seem to suffer more from the promotion of thinness and rejection of fatness in society. Franzoi and Herzog (1987) suggest that both men and women primarily judge women's attractiveness in terms of body weight. If we accept that appearance seems to be central to women's perceptions of their identity (Garner et al, 1983; Freedman, 1984) it is not hard to see why authors suggest that women are more dissatisfied with their body image than men (Hoover, 1984; Franzoi and Herzog, *ibid*; Olivier, 1989; Cline, 1990; Mickalide, 1990). Furthermore it is thought that these adult perceptions are present in teenagers (Freedman, 1984; Greenfeld et al, 1987; Wardle, 1991; Ryan et al, 1998) where, as we have seen, these may be explained by both physical development and psycho-social factors. As girls enter adolescence they gain body fat whilst simultaneously living in a culture which promotes thinness for females and is anti-fat for everyone. This may affect their satisfaction with their body image - a factor on which they may depend for self esteem, approval and self recognition.

However it should not be assumed that females have the monopoly on body image dissatisfaction. This impression is perhaps a popular one because of the paucity of literature which seems to discuss male body image. Morgan (1993) and McKee (1995) are among those who suggest that men are developing increasing self consciousness about their body images as they move towards the next century. Morgan suggests that men are increasingly reflecting upon themselves, and therefore their bodies, as a consequence of their reduced power in society. This vulnerability is illustrated by Grogan et al (1996) who report that men, like women, experience a decrease in their satisfaction with their own bodies after looking at pictures of same sex attractive photographic models.

Turning to nine year old children, Hill et al's (1992a) study suggests that among both sexes there seems to be more dissatisfaction than satisfaction with their own body images. Like adults, nine year olds who perceive

themselves to be fat, which is not necessarily the same as being overweight, tend to want to be thinner (Hill et al, 1994; Hill and Silver, 1995; Blissett et al, 1996). Children who do not perceive themselves to be fat may have different aspirations which will be explored in this study. Furthermore analysis of body image satisfaction and gender suggest that nine year old boys may be more satisfied with their body image than girls (Hill et al, 1992a). Hill et al (*ibid*) suggest that girls want to be thinner to the point of being underweight and that boys want to be 'broader'. However confirmation is needed as to whether this means muscularity.

Objective (iii) of the study is: ***to analyse how satisfied girls and boys are with their own body image and how they want it to change.***

Specifically, it proposes to investigate nine year old children's satisfaction and dissatisfaction with their perceptions of their own bodies. This will emerge from a comparison of their perceptions of their ideal body image with their perceptions of their own body image, using a different research method than those mentioned in the studies so far. It is hoped that this will verify the validity of those findings. The research will also investigate how children compare their own bodies to their perceptions of an ordinary child. Various studies have considered children's dissatisfaction and children's aspirations, but do not seem to have looked at these in the context of their perceptions of normality. This study will therefore explore whether children consider themselves to have a body image similar to, or different from, their perceptions of an ordinary child. Therefore the study will explore whether some children are dissatisfied because of feeling 'abnormal'. The study will also investigate children's perceptions of their ideal body image compared to their perceptions of an ordinary child's body image. This will indicate how realistic their aspirations are.

Objective (iv) of the study will be: ***to analyse the reliability of girls' and boys' answers concerning body image satisfaction.*** The study will obtain data concerning body image satisfaction in two ways, using an indirect method and a direct one. These are explained in the next chapter on methods. The two sets of results will be compared in order to provide a measure of reliability.

Dissatisfaction with body parts

We will now consider specific body parts. Some studies suggest that women are most dissatisfied with their breasts; legs, particularly the hips, thighs and shape; stomachs and bottoms (Franzoi and Herzog, 1987; McKee, 1995). Among teenage girls dissatisfaction seems to be focused around their perceptions of their hips (Wardle, 1991). Men seem to have different concerns. McKee (1995) suggests that men tend to indicate most dissatisfaction with their stomachs and chest while Franzoi and Herzog's (1987) assertion that both men and women judge male attractiveness in terms of upper body strength suggests that this area of the body may be important also. Compared to women, men seem to have significantly less negative feelings about their legs and bottoms. Although it has been suggested that many nine year old children may be dissatisfied with their own body image (Hill et al, 1992a; Hill and Silver, 1995), little is understood about how this dissatisfaction relates to individual body parts. Therefore this will form part of the remit of this study.

Children's satisfaction with their own body image in relation to actual weight

We have noted that nine year old children's ideal body image may vary according to the children's actual weight. We have also noted that body image satisfaction may vary according to how children perceive their own body image. In this section we consider how this satisfaction may be influenced by children's actual weight.

Hill et al's (1992a, 1994) research suggests that overweight children are some of the least satisfied with their body image. Indeed Banis et al (1988) and Hill et al (1992a, 1994) suggest that these children not only feel very unhappy with their bodies, but have a lower general self esteem compared to their peers. We have already noted that these children, along with those that perceive themselves to be fat, want to be thinner than their perceptions of themselves.

The desire to be thinner than their perceptions of themselves, seems to occur in normal weight girls as well as overweight ones (Hill et al, 1994). Studies suggest that this may be because they feel fat (Davies and Furnham, 1986; Wardle and Beales, 1986; Wardle, 1991). This would explain Hill et al's (*ibid*) findings which suggest that most satisfaction is found among nine year old girls who are slightly underweight (Table 1.1).

Among the boys, there seems to be most satisfaction when they are average weight - that is relatively heavier than girls. Wanting to be thinner seems to be a concern of the very overweight boys only (Hill et al, 1994) (Table 1.1).

As we have seen, dieting seems to be a consequence of body image dissatisfaction. This may explain why dieting seems to be prevalent among overweight girls (Hill and Robinson, 1991; Hill et al, 1992; Blissett et al, 1996). However it is also practised by underweight girls (Hill et al, 1992). This may be explained by the suggestion that children's perceptions of their own body image, for example feeling fat, seem to be more important than their actual weight in determining their decision to diet (Hill et al, 1989; Hill and Robinson, 1991; Hill et al, 1992; Hill et al, 1992a).

Hill et al (1994) suggest that underweight children want to be broader than they perceive themselves to be. They indicate that although this applies to both girls and boys, only the very underweight girls want to increase their size. Therefore increased breadth and weight seem to be more important to boys, and as stated earlier, Hill et al (*ibid*) suggest they want muscle rather than fat.

Moving onto perceptions of ordinary children, how the weight of a child affects their perceptions of ordinary children seems to be unknown. The relevance of this enquiry was graphically illustrated by an overweight American boy who was staying at a fat camp in America:

"I really couldn't care if I was fat or skinny. Just as long as I am normal. It's like you exist for the normal people - for something to laugh at."

(tearful, obese boy; Filkin, 1990)

Therefore how children, of different weights, perceive themselves compared to their perceptions of ordinary children will be explored in this study. This will indicate how their actual weight may affect how 'normal' they feel. Similarly, children's body image satisfaction and aspirations will be explored in the context of children's weight. **Objective (v)** is therefore: ***to discover how girls' and boys' satisfaction with their own body image differs according to their own body mass index.***

CHILDREN'S PERCEPTIONS OF THE LINK BETWEEN BODY SIZE AND FOOD

Having explained the rationale for investigating children's perceptions of body image, the aim of this next section is to consider children's perceptions of eating, and how the two inter-relate.

Dieting - a consequences of body image dissatisfaction

Although we have noted that an individual's dissatisfaction with their own body image is a problem, it is the consequences of body image dissatisfaction which are of particular concern. Many authors (Blissett et al, 1996; Wardle, 1991; Regis, 1991; Hill et al, 1992a; Conner et al, 1996) suggest that girls are likely to deal with their wish to be thinner by dieting - particularly if their mothers diet (Hill et al, 1990; Ruther and Richman, 1993). Mothers have been found to encourage their daughters to diet, but not their sons (Johnson and Birch, 1994). The word 'dieting' needs to be used with caution. Nichter et al (1995) illustrate that when researchers refer to dieting they often fail to make a distinction between 'watching what is eaten', perhaps eating healthily, and 'reducing diets' which entail a clear reduction in calorie intake. Also Blissett et al (1996) warn that just because children say they are dieting it does not mean that they are. However Hill and Robinson (1991) have specifically researched what dieting means to nine year old girls and suggest that it means missing meals, especially breakfast, eating slimming foods and eating less at meal times. This behaviour contradicts current healthy eating advice for children (Department of Health, 1991; White et al, 1992; Pender, 1994; Coles and Turner, 1995), advice for healthy weight loss (Nutrition and Physical Activity Task Forces, 1995; MAFF, 1995; Robinson, 1996a) and is thought to be a risk factor for encouraging disinhibited eating which may in turn lead to bingeing (Crisp, 1988; Herman and Polivy, 1991). Children, having less knowledge about nutrition than older people, may be potentially more vulnerable to fad diets and unsafe diets. Furthermore, the combination of dieting and body image dissatisfaction is notable as being part of the constellation of precipitants which can evolve into eating disorders (Beumont and Abraham, 1983; Levine, 1987; Hill, 1993).

If nine year old boys are dissatisfied with their body image they seem to turn to dieting much less than girls (Hill et al, 1992a; Hill, 1994). Perhaps they have similar views to some men who report that dieting is 'unmanly' (Watson, 1993). Wardle's (1991) and Edelman's (1982) research suggests that if boys want to reduce their weight they are more likely to capitalise on what we have seen has value for boys - exercise. If this is so, it suggests that boys adopt a strategy which would both help to prevent obesity, promote health (Garrow, 1988; Nutrition and Physical Activity Task Forces, 1995) and encourage muscularity. However there is evidence, from America, that some nine year old boys are combining exercising with vomiting in their bid to lose weight (Maloney et al, 1989), which is suggestive of eating disordered behaviour and has been noted in male jockeys, swimmers, models and dancers by Mickalide (1990). Although the scale of boys with eating disorders is unknown, findings such as these illustrate the need for further research into issues surrounding boys' body image and weight control. Although children's perceptions of exercise is clearly a key part of this, for practical reasons this study can only look at perceptions of eating and body image.

There is much to be learnt about why children may diet and children's perceptions about the relationship between what they eat and their body image. In order to address some of these concerns the study will explore what children think a hypothetical thin and fat person eats. Furthermore the study will explore their perceptions of how much a thin and fat person eats, what type of food they eat, how they eat and why they may eat these foods.

The relationship between body size and the quantity of food

We begin by considering the relationship between body size and food quantity from two perspectives: science and the media.

The scientific view of body size

The laws of science indicate that in order for weight to remain stable, energy intake, in terms of food calories, must equal energy output in terms of heat or exercise. Bearing in mind that genetic make up can predispose people towards obesity (Ottley, 1997), the scientific evidence suggests that

overweight and obese people must be consuming proportionately more calories, and therefore more food, than those who are not in relation to their energy output (Garrow, 1988; *ibid*). The excess food which is not metabolised for energy is stored as fat. A large proportion of this fat then sits under the skin as adipose tissue and subsequently there is an increase in body size (Sinclair, 1989; Malina and Bouchard, 1991). On the other hand, if a smaller amount of food is eaten, or more heat is lost or exercise carried out, the fat stores in the adipose tissue will be metabolised for energy. This leaves less under the skin, and body size is reduced. In dieting, where the body may be taking in very much fewer calories than it is expending in energy, muscle tissue may also be metabolised thus reducing the size of the body further (DHSS, 1987; Garrow, 1988).

The apparent simplicity of the laws of science can seem to contrast sharply with the complexities of these issues in the 'real world' where Wooley et al (1979) and Cline's (1990) social research suggests that there is a perception of the 'greedy' obese person, and that this is based on prejudice rather than fact. Overweight people tend to under-report their diets under research conditions (Ottley, 1997), and many of these social studies fail to take energy expenditure into account. This means that an obese person may eat no more than anyone else, but may exercise less. The scientific argument is not disproved.

The Nutrition and Physical Activity Task Forces (1995) were unable to say whether the excess eating or lack of exercise was the greater cause of obesity in the UK, only that it is the inter-relationship between the two. Therefore in looking at eating only, it is acknowledged that this study of the link between body image and food is omitting a very important factor. In considering a fat and thin person's eating, this study assumes that energy expenditure is equal, and therefore we would expect the fat person to eat more than the thin.

The media view of body size

Giddens (1989) suggests that the media can be a powerful influence on children in terms of transmitting social norms. It therefore follows that the

media may be influential in the formation of children's perceptions of a thin and fat person's eating.

A scan through the popular Mr Men and Little Miss books by Roger Hargreaves reveals an interesting picture. The tales of Mr Skinny (Hargreaves, 1978a), Mr Greedy (Hargreaves, 1971), Mr Perfect (Hargreaves, 1990), Mr Grumpy (Hargreaves, 1978), Little Miss Greedy (Hargreaves, 1981) and Little Miss Wise (Hargreaves, 1990a) show that Hargreaves' books seem to associate fatness with greed, large quantities of food and large units of food. They seem to associate eating small quantities with being perfect and wise, and eating too little is associated with being skinny, and undesirably underweight. Cakes, biscuits and sweets are associated with being greedy or grumpy. Mr Greedy eats more large units of food than Little Miss Greedy. The only large unit of food which she eats are pink, sweet cakes. These books not only associate larger quantities of food with fatness, and smaller quantities with thinness, they also link each of these to negative and positive personal attributes. None of these books make reference to exercise. These findings are summarised in Table 1.2. Wardle et al (1995) report that the majority of children of four to 11 years think that fat people eat more than thinner people. Assuming that energy expenditure is the same, this is scientifically true. The media may also have influenced this perception. Thus we may begin to understand how children's negative perceptions of obesity and their perceptions of eating may be linked.

Researching the relationship between body size and food quantity

Studies in this field do not seem to have investigated children's beliefs about the relationship between the quantity of food and body size by asking them to attribute food to thin and fat people. Yet this is particularly relevant when we recall that nine year old girls are reporting dieting behaviour that includes reducing the quantity of food eaten. Therefore **objective (vi)** of this study is: **to discover if girls and boys attribute different quantities of food to thin and fat people.** In this study the quantity of food will be measured in terms of the number of individual foods which are attributed to

a thin and fat person, and the children's descriptions of the portion sizes of these foods.

The relationship between body size and the quality of food

We will now consider the issues which may affect children's perceptions of the quality of a fat and thin person's diet. In particular we will examine social perceptions of food, children's diets and the nutritional content of food.

Social perceptions of food

Children's perceptions of what a thin and fat person eats may be influenced by wider social perceptions of food. These social perceptions may be partly based on empirical evidence, though they frequently encompass additional perspectives.

Social perceptions of healthy food

Hill and Silver (1995) suggest that girls can be motivated to diet because they perceive it to be a healthy thing to do. This raises questions about the

**TABLE 1.2 PERCEPTIONS OF FOOD AND EATING
IN RELATION TO BODY SIZE AND GENDER**

<p><i>scientific perceptions of unhealthy food</i></p> <p>low in nutrients high fat high sugar low fibre</p>	<p><i>scientific perceptions of a fat person's food</i></p> <p>more food more calories high fat high sugar low fibre</p>	<p><i>scientific perceptions of a thin person's food</i></p> <p>less food less calories low fat low sugar high fibre</p>	<p><i>scientific perceptions of healthy food</i></p> <p>high in nutrients low fat low sugar high fibre</p>
<p><i>social perceptions of unhealthy foods</i></p> <p>high fat high sugar low fibre</p> <p>sugar beef burgers cheese chips eggs butter</p> <p>snacks</p> <p>easy to eat enjoyable cheap tasty</p>	<p><i>high calorie 'fattening' foods</i></p> <p>high fat high sugar low fibre</p> <p>sugar beef</p> <p>cheese chocolate eggs butter</p> <p>sweet snacks</p> <p>easy to eat enjoyable cheap tasty</p> <p>unhealthy</p>	<p><i>low calorie 'slimming' foods</i></p> <p>low fat low sugar high fibre</p> <p>fruit vegetables</p> <p>salad cereals bread</p> <p>not enjoyable expensive grim</p> <p>healthy</p>	<p><i>social perceptions of healthy food</i></p> <p>low fat low sugar high fibre</p> <p>fruit vegetables</p> <p>salad cereals bread</p> <p>'proper' meals</p> <p>hard to eat</p> <p>expensive</p>
<p><i>children's perceptions of unhealthy food</i></p> <p>cakes</p> <p>chips sweets biscuits sausages cheese?</p> <p>crisps</p> <p>high fat high sugar high salt</p> <p>tasty</p>	<p><i>popular food with children</i></p> <p>cakes raw vegetables chips sweets biscuits meat products</p> <p>breakfast cereals fruit bread puddings crisps</p> <p>high fat high sugar</p> <p>junk food finger food</p> <p>tasty</p> <p>reward independence popular with peers</p>	<p><i>unpopular food with children</i></p> <p>cooked vegetables potatoes</p> <p>meat off the bone</p> <p>low fat low sugar</p> <p>knife and fork</p> <p>not tasty</p> <p>dependence parental control</p>	<p><i>children's perceptions of healthy food</i></p> <p>vegetables nuts rice eggs chicken cheese? breakfast cereals fruit bread fish</p> <p>low fat low sugar low salt</p> <p>traditional roast dinner</p> <p>not tasty</p>
	<p><i>social perceptions of a fat person's eating behaviour</i></p> <p>greed large quantity fast eating big bites</p> <p><i>media portrayals of fat person's eating behaviour</i></p> <p>greed large quantity big bites large units</p>	<p><i>social perceptions of a thin person's eating behaviour</i></p> <p>not greedy small quantity slow eating small bites</p> <p><i>media portrayals of thin person's eating behaviour</i></p> <p>not greedy small quantity small bites small units</p>	
<p><i>media portrayals of a female fat person's eating behaviour</i></p> <p>greed few large units</p>	<p><i>media portrayals of a male fat person's eating behaviour</i></p> <p>greed many large units</p>	<p><i>media portrayals of a female thin person's eating behaviour</i></p> <p>eats regularly eats healthily</p>	<p><i>media portrayals of a male thin person's eating behaviour</i></p> <p>not greedy small quantity small bites small units undesirable</p>
<p><i>foods associated with masculinity</i></p> <p>meat and meat products</p> <p>savoury</p>		<p><i>foods associated with femininity</i></p> <p>chocolate vegetarian sweet snacks diet foods</p> <p>sweet</p>	
<p><i>masculine eating styles</i></p> <p>large quantity fast eating large units big bites</p>		<p><i>feminine eating styles</i></p> <p>small quantity slow eating small units small bites</p>	

relationship between healthy eating messages and children's eating problems.

Foods which are high in fat and sugar are not only associated with obesity. In both adults and children high fat foods have been linked to heart disease (NFCHDP, 1993; Department of Health, 1994a), and high sugar foods have been linked to dental caries (Blinkhorn and Kay, 1993). It is largely for these reasons that the Health Education Authority (HEA) (1995), World Health Organisation (1990) and the Department of Health (1989, 1991, 1994) promote foods which are low in fat and sugar as being healthy foods, particularly if they are also high in dietary fibre and other nutrients. In particular they advise that the population needs to increase its consumption of fruit, vegetables, salad, cereals and bread (Table 1.2). A recent MORI survey (1992) suggests that a very high proportion of the British population have understood the importance of these messages, and perceive fat and sugar to be unhealthy and dietary fibre to be healthy.

Current HEA policy is to promote healthy eating as a means to sensible weight control (Robinson, 1990; HEA, 1995). Hill and Silver (1995) suggest that adults blur the boundaries of healthy eating and dieting, and Nichter et al's (1995) paper suggests that this can be true of researchers too. Whilst the promotion of a low fat, low sugar, high fibre diet would seem to be beneficial to adult health (WHO, 1990), it should be viewed with caution for children. The problem lies less in the general principles and more in the specific recommendations which are thought to be promote a diet too high in fibre to include all the nutrients, such as protein and iron, which children need for growth and development (Department of Health, 1991; Pender, 1994). Moreover a very high fibre diet for a child is unlikely to provide the recommended amount of calories. Whilst many children's diets would benefit from a reduction in fat and sugar (NFCHDP, 1993; Department of Health, 1989), girls who are looking for ways to reduce their weight via diet may find that the nutritional messages aimed at adults wanting to lose weight could be an unhealthy influence in certain respects.

The media may also be influencing girls' perceptions about healthy eating and dieting. Barbie dolls, along with Cindy dolls, have been discussed in relation to their thinness and maturity being a potential influence on girls' perceptions of their ideal body image. Recently children's books have been published which describe Barbie's exciting life. It seems that Barbie eats a regular and generally healthy diet and does not advocate the skipping of meals (Kelly, 1996; Baker, 1996). This media portrayal of a thin, female's eating behaviour is included in Table 1.2. Whilst the books place much emphasis on appearance as a means to success, which we have noted as a feature of the female gender role, Barbie clearly keeps thin by exercising which she does five times a week (Allan, 1996). In this way Barbie books promote the suggestion that healthy eating is associated with a slim and glamorous appearance.

This investigation into children's perceptions of the relationship between body size and the quality of food may shed some light on the influence that these healthy eating messages may be having.

Social perceptions of slimming foods, fattening foods, junk foods and healthy foods

In terms of the science of nutrition, there is no such thing as slimming food, fattening food, healthy food or junk food. However these expressions seem to describe commonly understood social characteristics of certain foods.

In the context of nutritional science, slimming foods tend to represent low calorie foods which are associated with aiding weight maintenance and weight loss (MAFF, 1995). This is based on the premise that energy expenditure is more likely to exceed energy intake if lower calorie foods are eaten. Recipe books which aim to be about low calorie cooking predominantly use ingredients which are low in fat and high in fibre such as fruit, vegetables, salad, cereals and bread (Gullo, 1988; Schneider, 1990). These tend to be expensive as supermarkets make their largest profits on them (Robinson, 1996).

Fattening foods are those which promote fatness. This is based on the premise that energy intake is more likely to exceed energy expenditure if more calories are eaten. Calorie dense food, in particular that which is high in fat, is therefore 'fattening'.

Healthy foods are those which promote health. Although the Health Education Authority (1995) is promoting the consumption of fruit, vegetables, salad and cereals because the nation tends to eat too little of these, they also advocate the importance of smaller quantities of meat, fish and dairy produce.

Social perceptions of slimming foods, fattening foods and healthy foods differ from those of nutritional science in some interesting ways. The word 'grim' is used by Bowen (1977) to describe dieting and by Schneider (1990) to describe low calorie cooking. Wills (1996) and Shenkin (1996) promote their recipes as being healthy ones which, incidentally, will help with slimming. In this way they seem to be counteracting the negative image of slimming with the positive image of health. Wills emphasises how her healthy recipes will taste good and how she has relaxed some of the perceived 'restrictions' of dieting by including ingredients such as beef, cheese, eggs, desserts, butter and sugar. Thereby Wills seems to associate lack of taste and lack of choice with slimming foods, and implies that the ingredients she is going to introduce are usually perceived as the very opposite - fattening and unhealthy. By adding these ingredients to her recipes Wills not only aims to revolutionise perceptions of slimming food, but also healthy food. She describes healthy eating in the 80's as being "hard-to-chew and even harder-to-digest..... torture" (p.6). In describing the enormous challenge of transforming calorie-laden 'satisfyingly delicious' cheesecakes into healthy alternatives Erickson (1998) grapples with the apparent contradiction between 'delicious' and healthy. There seems to be a perception that fattening food is not only high calorie, but is enjoyable, easy to eat, tasty, 'wicked' and unhealthy. Slimming food seems to be perceived as low calorie, grim, difficult to eat, restricted and unenjoyable, but also healthy.

Junk food, from a nutritional science perspective, is food of poor nutritional quality, particularly in terms of vitamins and minerals (Pender, 1994). Four fifths of the food advertising, during children's television, in 1990 was made up of foods which could be defined as junk food (The Food Commission, 1990), and junk food is thought to comprise of one third of children's calories (Dibb, 1993). This includes foods such as biscuits, crisps, confectionery and cakes (*ibid*). Social perceptions of junk food seem to encompass ideas of unhealthy food which is mass produced, processed, often high in fat or sugar and low in nutritional value, and is easily acquired 'ready to eat' from shops or as take-aways.

The social perceptions of food differ from those of nutritional science in that they place foods into an emotional and social context, they do not include reference to energy expenditure and they do not seem to allow for foods which are not particularly low calorie, such as some meat, fatty fish, and dairy produce, being healthy. These scientific and social perceptions are summarised in Table 1.2. This study will consider whether children's perceptions of the quality of a thin and fat person's diets may be influenced by both nutritional science and social perceptions.

Gendered food

Charles and Kerr (1988) suggest that children do not only adopt certain perceptions about food because of their gender, but also because of the relationship between gender and food. They suggest that foods are considered to be masculine or feminine based on cultural assumptions about gender.

Meat may be described as a gendered food because not only do men seem to eat more meat than women (Rolls et al, 1991), but boys eat more than girls (Department of Health, 1989). Also, Lund et al (1991) report that when 11 to 13 year olds are asked which food items should be increased in order to achieve a more healthy diet, boys are much more in favour of increasing meat, particularly red meat, than girls. These reports are interesting in the light of Charles and Kerr's (1988) research which suggests that mothers encourage boys to eat meat largely because of a

cultural association between meat and masculinity. Hardyment (1995) suggests that this phenomenon is borne out of men's historical role as hunters; whereas Waterhouse (1995) suggests that men are motivated to eat meat for the protein it provides which builds and maintains a muscular body. This suggests that there may be a relationship between meat, gender and body image.

Furthermore, besides being a source of high quality protein which is important for children's growth and development, red meat is an excellent source of haem iron. As iron deficient anaemia is the most common diet related disease in pre-school children (Lawson, 1991; Gregory et al, 1995), and is very common in adolescent females after menarche (Scrimshaw, 1994; Dibb, 1993; Pender, 1994), the rejection of red meat by girls is of concern. In addition, red meat is noted as a significant contributor to fat in the British diet (Gregory et al, 1990), and thereby obesity (Department of Health, 1994). In this light Lund et al (1991) suggest that girls' relatively negative attitude to red meat may be related to girls' perceptions about dieting. This hypothesis is supported by Ryan et al (1997) who found that teenage girls who wanted to be slimmer, or who were dieting, ate less red meat than others. Therefore girls' and boys' perceptions of red meat may be tied up with gender, health and body image. It is hoped that this study may illuminate their perceptions of the relationship between thinness, fatness and red meat.

Hardyment (1995) suggests that feminine eating patterns are borne out of women's historical domestic role. This explains the stronger relationship between grains and females compared to males. This idea reflects Ortner's (1974) suggestions that women are more strongly associated with nature than men. This may provide an explanation for vegetarianism being more popular among teenage girls than boys (Pender, 1994; National Dairy Council, 1995; Hardyment, 1995), although this may just be the 'flip side' of girls' relative rejection of meat. The findings from this study may be able to shed light on whether there is a relationship between gender, vegetarianism and the diet of a thin and fat person.

In the same way that males of all ages seem to be associated with meat, females seem to be associated with chocolate (Waterhouse, 1995). Cline (1990), Orbach (1978) and Charles and Kerr (1988) suggest that women have an emotional relationship with food. It has been suggested that chocolate, perhaps more than any food, has been symbolic of love, luxury, indulgence and comfort throughout history (Wild, 1995). It is thought that this is partly because it contains a natural amphetamine which is thought to promote a feeling of well being and comfort (Steer, 1994; Waterhouse, 1995). Murfitt (1994) suggests that this may become addictive. Therefore there seems to be a perception that it is a food which may directly affect female emotions. Furthermore, we have noted that many females diet in order to lose weight, and chocolate is perhaps the very antithesis of weight loss.

Whereas dieting is described as being a behaviour of self control and self denial (Orbach, 1978; Fursland, 1987; Charles and Kerr, 1988; Gilbert, 1989; Cline, 1990), chocolate may be associated with being out of control. When some women are stressed, perhaps 'out of control', they eat (Herman and Polivy, 1975; Cline, *ibid*; Gilbert, *ibid*; Orbach, *ibid*). Dieting itself may cause stress, and what better food to indulge in than one which provides a feeling of comfort. This, Charles and Kerr suggest, may lead to guilt and a vicious cycle of comfort and despair. However this is not the whole story. Besides being a very high calorie food (Holland et al, 1991) chocolate, like other very sweet foods, can produce rapid rises and falls in blood sugar, and therefore insulin. This can create a physiological need to eat further (Passmore and Eastwood, 1986; Department of Health, 1991). It is acknowledged that some of these suggestions have not been specifically shown to be true for nine year old girls, and indeed Kortzinger (1996) suggests that primary school girls eat no more chocolate than boys. However they are put forward in order to indicate why chocolate may have a social association with females more than males, and this association may be shown to relate to their perceptions of fat and thin people's eating.

Conner et al (1991) suggest that young women eat more sweet snacks than men. Charles and Kerr's (1988) analysis of food diaries indicate that

women seem to eat more biscuits and sweets than men. Conner et al (*ibid*) also report that women are more aware of weight problems associated with sweet snacking, and feel under more pressure from 'health experts' not to eat sweet snacks than men. Recalling what we have said about chocolate also, this suggests that there is a stronger social association between sweet foods and females than males. Whether this relates to girls' and boys' perceptions of a thin and fat person's diet will be explored in this study.

Another group of foods which may have gendered associations are diet foods. In the context of this study diet foods are defined as those foods which are specifically marketed as special foods which will aid weight loss. These are viewed with caution by health educators who sometimes question them on nutritional, financial, ethical and educational grounds (Robinson, 1990; Dunkeld, 1995). Diet foods include foods such as Slimfast and Weight Watcher products. We have noted that females report dieting more frequently than men, and so reports that women consume more 'foods associated with calorific restriction' than men is perhaps not surprising (Rolls et al, 1991). Although this does not confirm that women eat more diet foods than men, in combination with Dibb et al's (1996) findings that advertisements for diet foods are predominantly found in slimming magazines and women's monthly magazines, it would seem reasonable to suggest that they may. Therefore it is suggested that diet foods are gendered in that they have a stronger social association with females than males. These gendered perceptions of foods are summarised in Table 1.2. In this context this study will consider how children relate diet foods to thin and fat people.

Children's diets

Children's perceptions of what a thin and fat person eats may be influenced by the foods which they eat themselves. When considering what nine year olds eat it is almost impossible to be specific. Instead research indicates patterns of eating from which probabilities can be suggested. Charles and Kerr (1988) carried out interviews with 200 women with families and asked them to keep diaries of their family's food consumption. The resulting data

suggests that children's consumption of certain foods seems to increase with age up to the age of 11 years. These include: sweets, crisps, cakes, raw vegetables, chips and meat such as sausages, beef burgers, bacon, mince, liver and stewing steak. Between the ages of 10 and 16 years it is suggested that bread, chips, milk, meat products, cakes and puddings provide most of the calories in children's diets (Department of Health, 1989). While chips have the honour of being reported to be children's favourite food throughout childhood (Williams et al, 1989a), it seems that burgers may not be far behind. The Leatherhead Food Research Association reports that children consume 50% of all burgers and 37% of all chips sold. As children only make up 17% of the population, their consumption of these foods would seem to be considerable (Dibb, 1993). Children's excess fat and sugar intakes are causing concern about children's health, and in particular childhood obesity (*ibid*).

Young et al (1996) say that the influence of advertising on children's food choice is questionable. They suggest that television advertising, in particular, may only influence children's choices of foods if the food is perceived as having other positive attributes. However Dibb (1993) suggests that all advertising is influential because children lack the skills to assess and understand the purpose of advertising. The result is that children mistake advertising for informing. Dibb demonstrates that it is hard to ignore the similarities between food which is heavily advertised, and that which they eat. It is reported that Burger King, McDonalds, chocolate and breakfast cereals made up some of the most frequent advertising in the 1990s (The Food Commission, 1990, 1992, 1994, Dibb, 1993).

Turning to consider the diet of girls and boys separately, the COMA report on the diets of British school children (Department of Health, 1989a) suggests that girls of ten and 11 years eat more fruit than boys and less white bread, cereal products, milk, meat products, chips and potatoes. Although the reduction in chips may make the girls' diet look healthier, the Department of Health expresses concern that girls are vulnerable to nutritional deficiencies in the vitamin riboflavin, calcium and iron, and imply that the girls' diets, in this context, are of more concern than boys'.

The key features of children's diets are summarised in Table 1.2. By investigating what children think thin and fat people eat may contribute to a better understanding of why boys and girls eat what they do.

The nutritional quality of food

Objective (vii) of the study is: ***to analyse the differences in the quality of food attributed by girls and boys to thin and fat people.*** As we have seen, fatter people eat more calories than thin people, provided energy expenditure is the same. Most slimming diets are based on reducing calories (Dunkeld, 1995). Therefore, it is suggested that children should attribute food of more calories to a fat person than a thin one, if they have understood these principles.

In the present study, the children will be asked to name individual foods which they think a thin and fat person would eat, and to attribute pictures of foods to a fat and thin person. The average number of calories attributed to each person will be calculated as will the calorie density of each food item. In order to be as accurate as possible children's descriptions of individual foods will be considered during the analysis. However it is acknowledged that the result can only be an estimate due to the lack of scientific rigour ideally desirable for accurate results. However, all methods of dietary measurement have their drawbacks (Baranowski and Simons-Morton, 1991), and crude as it may be, it is argued that it will show up major differences between a thin and fat person's eating, though minor ones would have to be analysed with caution.

Turning to consider the fat content of the diet, Gilbert (1989), Ottley (1997) and the Nutrition and Physical Activity Task Forces (1995) suggest that fatter people tend to eat food which is higher in fat arguing that because it makes food more palatable and has a low satiety value, it is easy to over-consume. A gram of fat contains almost twice the number of calories as a gram of carbohydrate or protein (MAFF, 1995). In this way fat people, by eating differently to thin people, eat more calories.

Sugar, though less calorie dense than fat, is a source of pure calories and nothing else of nutritional value (*ibid*). Sugar also has a low satiety value, and therefore like fat it is easy for someone to increase calories and palatability by adding sugar to food without the inhibiting sensation of feeling full.

For these reasons, a diet which is high in fat and sugar is associated with obesity (Lawson, 1991; Dibb, 1993; Nutrition and Physical Activity Task Forces, 1995) and one which is low in fat and sugar has been advocated as one suitable to promote weight loss (WHO, 1990; HEA, 1995). This is shown in Table 1.2. These associations, based on scientific research, are evident in the fictional accounts of the Mr Men and Little Miss books. Edelman (1982) carried out a small scale study in America which suggests that children think that sweet and fatty foods make people fat. This study hopes to build upon this through a larger and more detailed investigation of children's perceptions by analysing the types of food that they think a thin and fat person would eat.

Researching the relationship between body size and food quality

To summarise, we have suggested that children's perceptions of what a thin and fat person eats may be influenced by social perceptions of food, children's own diets and the nutritional quality of food. These potential influences will be considered when analysing which individual foods children attribute to the diet of a thin and fat person in this study. In order to examine broader patterns of attribution the study intends to analyse the attributed food in terms of food groups as well as individual foods. The food groups are based on nutritional and social perspectives which have been discussed. They are: vegetables and salad, fruit, bread and sandwiches, meat and meat products, sweet snacks, cereal based food, desserts and puddings, fish and fish products and diet foods.

Food and a changing body size

How well nine year olds understand that certain foods are likely to increase or decrease body size seems not be recorded, and yet it is clearly central to this study. The fact that dieting is reported as being a method of weight

control more frequently employed by girls than boys, raises the question of whether girls may have a better understanding of this relationship than boys. Therefore *objective (viii)* is: ***to discover if girls and boys understand that differing food can affect body size and shape in terms of thinness and fatness.*** It hopes to clarify whether children are able to understand that a person may become thinner or fatter after eating certain foods.

Children's perceptions of food

Next we will consider what is understood about children's own perceptions of food. It would seem reasonable to suggest that these perceptions may affect children's reasons for attributing certain foods to the diet of a thin and fat person.

Much of the research in this field has concentrated on children's perceptions of healthy eating. Turner (1993) reviewed two major research studies which had asked children to draw and write about healthy foods. Her conclusions suggest that children between five and 12 years of age perceive vegetables, fruit, breakfast cereals, bread, cheese, fish, rice, milk, eggs, nuts and chicken to be healthy; and cakes/biscuits, sweets, crisps, chips, coke/cola and foods high in fat such as sausages to be unhealthy. Many of these findings are supported by Lund et al's (1990) research with 11 year olds and Tilston et al's (1993) with five to eight year olds, and suggest that at nine children seem to understand healthy eating in line with the social perceptions of healthy food which have been discussed. Children's perceptions of healthy food is summarised in Table 1.2.

It seems that from four years upwards children seem to develop an increasing awareness that the quality of food matters. They begin to use terms such as 'whole', 'brown' and 'fibre', and demonstrate increasing knowledge that fat, sugar and salt are unhealthy (Williams et al, 1989; Mauthner et al, 1993). At nine Baranowski et al (1993) illustrate that children seem to associate fruit and vegetables with qualities such as health, slenderness, beauty and building muscles. However, along with young children's increased articulation about food quality comes evidence

of their confusion. For example they may not always understand that some fats and sugars can not be seen (Tilston et al, 1993). By 11 to 16 years old Lund et al (1991a) report that older children demonstrate a better understanding of food composition in relation to health, although they note that there seems to be confusion about cheese. Together these studies suggest that by nine years old children are likely to be able to articulate, with some clarity, their perceptions of why they may associate certain food with thin or fat people.

Of further interest is research that suggests that 11 to 13 year old girls may have a better understanding of nutritional principles than boys (Lund et al, 1990, 1991a). Lund et al found that girls suggested, correctly, that reducing fat and sugar would help to achieve a healthy diet more frequently than the boys. These findings seem to support Mauthner et al's (1993) suggestion that primary school girls have a greater knowledge about food than boys. Whether this means that nine year old girls are more able to apply sound dietary principles when considering the diets of a thin and fat person than boys will be explored in this study.

Having established that children have some knowledge about which food is healthy, it is salutary to note that it is reported that the majority of children indicate that they do not care about eating healthy food (Mauthner et al, 1993; Ross, 1995; Watt and Sheiham, 1997). In fact Baranowski et al (1993) suggest that children tend to identify food, which they do not like the taste of as being healthy, and that which tastes nice as being unhealthy. It seems that children are likely to view food in terms of good and bad, and in doing so it is their perceptions of taste and texture (Mauthner et al, 1993; Baranowski et al, 1993) along with perceptions about whether the food implies reward (Charles and Kerr, 1988) that are taken into account. On this basis children's love of sweets, sugar, chips (Charles and Kerr, 1988; Williams et al, 1989; Mauthner et al, *ibid*) and fruit may be explained, as may their dislike of cooked vegetables including non-chipped potatoes (Charles and Kerr, *ibid*; Baranowski et al, *ibid*; Whiting and Lobstein, 1995). The food which is popular with children is shown in Table 1.2.

We have already noted that children's own food preferences may be linked to the foods which they perceive a thin and fat person may eat. Here, this discussion raises questions about whether children think that a thin and fat person would choose certain food on the basis of what they like and don't like, as children do.

Therefore this study will explore children's perceptions of the diets of a thin and fat person and consider their reasons in the light of this discussion.

Therefore **objective (ix)** is: ***to understand girls' and boys' perceptions of the reasons for thin and fat people's choice of food.***

The study intends to ascertain a measure of the reliability of the findings concerning the attribution of foods, and the reasons for their attribution, to thin and fat people, by comparing data from the two research methods which will be used to look at each issue. These will be explained in the next chapter on methods. **Objective (x)** is: ***to analyse the reliability of girls' and boys' perceptions of what and why foods are eaten by fat and thin people.***

Eating behaviour and body image

The study intends to find out what children think about how a thin and fat person eats as well as what and why. Firstly we will consider general perceptions of eating behaviour and body image followed by gendered perceptions.

Perceptions of eating behaviour and body image

We have already noted that children's books may promote an association between fatness, greed, eating large quantities and large units of food; and thinness with eating small units of food. We have also seen that while the former has a negative ethos; the latter has a positive one. According to Wooley and Wooley (1979) and Gilbert (1989) there is a general perception that fat people eat more quickly, more frequently and take bigger bites of food than thinner people (Table 1.2). Yet both have found no evidence to suggest that this is true. Indeed the image of someone stuffing large quantities of food into their mouths with great rapidity seems to reflect

descriptions of bingeing rather than obesity. As we have seen, bingeing is part of the scenario of symptoms usually associated with bulimia nervosa or compulsive eating. Whilst it may not be uncommon for compulsive eaters to be overweight, there seems to be no evidence to suggest that bingeing or compulsive eating is common amongst the overweight population (Anderson and Rossner, 1996). Similarly, although there seem to be many people who restrict their food intake and employ strategies such as eating slowly in order to stay slim (Cline, 1990) there seems to be no evidence to suggest that this is the normal eating pattern of all thin people. It is suggested that in terms of the way in which people eat, thinness and fatness does not seem to be an influential factor.

If people eat different types of food, this has implications for the way in which they eat it. For example food which can be eaten without cutlery will necessitate a different eating behaviour than food which needs to be eaten with a knife and fork. Similarly the setting in which the eating takes place may influence the way in which food is eaten. This, in turn, may be influenced by wider issues such as time, culture, religion, the environment, food policy (WHO, 1990; Charlton, 1992; Crockett and Sims, 1995) and so forth. Less time may encourage faster eating (Mauthner et al, 1993; Turner et al, 1995) and a culture which admires obesity may encourage the eating of large quantities. Therefore there are many factors which can affect eating behaviour, but in general we can see that eating behaviour may have a completely independent relationship to body image.

Gendered perceptions of eating behaviour and body image

The relationship between eating behaviour and body image seems to be influenced by gender. The eating behaviour of a dieter and someone who binges have already been mentioned, and both of these are notably more frequently female behaviours rather than male ones (Levine, 1987).

However in the context of 'normal' eating Rolls et al (1991) suggest that there is a masculine eating style which differs from a feminine one.

Chaiken and Pliner (1987) carried out some research in which they asked people to read a food diary which was attributed to a fictitious male or female. This described the eating patterns of either someone who ate

small quantities or someone who ate large quantities of breakfast and lunch. They asked the readers to describe the attributes of the diarist. From their findings, they suggest that the attributes of the fictitious male did not seem to change in the light of knowing his eating habits. However the fictitious female was attributed more feminine, 'emotionally expressive' traits, such as being concerned about appearance and being better looking, after reading that she ate the small quantity diet. Chaiken and Pliner's (1987) work supports Rolls et al's (1991) assertion that there are feminine and masculine eating styles. These are summarised in Table 1.2.

A feminine eating style is characterised by a restriction of food intake, eating slowly and taking small bites (Rolls et al, *ibid*). Cline's (1990) interviews with women indicate that many seem to be aware of the importance of adopting a feminine eating style. Some women report feeling guilty if they display any lack of self control around food. It seems to be a small step, if a step at all, from these ideas to those of female dieters who are reported as describing self control and restriction as being the way to achieve an attractive, desirable body image (Orbach, 1978; Gilbert, 1989; Cline, 1990). Not only does this illustrate, again, that the division between dieting and 'watching what is eaten' may be very blurred, but it suggests that self control around eating is central to perceptions of femininity.

Rolls et al (1991) report that under controlled conditions men eat significantly more, faster and in larger units than women. Men take fewer bites of food compared to women, and chew for less time. Leininger (1988) argues that it is beliefs about self-reliance, competition and achievement, along with a fast pace of life, which influences this masculine eating style. As discussed earlier, boys seem to be judged by their active and assertive qualities whereas girls seem to be judged by passivity and appearance. It is interesting to note how these qualities seem to be reflected in ideas about masculine and feminine eating styles. Charles and Kerr (1988) and Olvera-Ezzell et al (1990) suggest that boys are often encouraged to eat more than girls because of a perceived difference in their physical activity rather than a real one. Also, Williams et al (1989a) report that girls associate food with looking good and feeling good, while boys associate it with strength. These

observations seem to suggest that gendered adult perceptions of eating may be influencing children. It seems that these perceptions may be linked to perceptions about body image.

Therefore it has been suggested that children's perceptions of the eating behaviour of a thin and fat person may be influenced by their general perceptions and, more specifically, gendered perceptions about eating behaviour and body image. These will therefore be considered within ***objective (xi)*** which is: ***to understand girls' and boys' perceptions of thin and fat people's eating behaviour.***

Table 1.2 illustrates a summary of the inter-relationship between children's perceptions of food, social perceptions, nutritional science and gender. It shows an association, in the literature, between perceptions of unhealthy food, high calorie food, a fat person's food and that which is popular with children. Similarly healthy food, low calorie food, a thin person's food and food which is unpopular with children can be associated. Portrayals of a fat person's eating behaviour seems to have many features in common with a masculine eating style while a thin person's eating behaviour seems to have many features in common with a feminine eating style. By contrast, the media's portrayal of a thin male's eating behaviour seems to be the antithesis of the masculine eating style. The media's portrayal of a thin female's eating behaviour suggests an association between healthy food, a thin person's food and femininity. This provides the context for the initial analysis of girls' and boys' perceptions of the difference between male and female eating, in the context of thinness and fatness. Girls will be asked about female eating and boys about male eating. This analysis will then be considered in relation to children's perceptions of body image in order to explore children's perceptions of the link between body size and food.

CHILDREN'S PERCEPTIONS OF THE CONTROL OF CHILDREN'S EATING

The third aim of the study is to analyse children's perceptions about who controls children's eating because, as outlined earlier, if children want to

change their own eating the degree of control which they have over their food is a key factor.

Control of children's eating

Many mothers (Charles and Kerr, 1988) and children (Watt and Sheiham, 1997) seem to understand healthy eating to be about the 'regular consumption' of 'proper' meals. A 'proper' meal and a 'healthy' meal, for many adults and children, is typified by the traditional roast dinner with its roast meat, vegetables and potatoes (Murcott, 1982; Charles and Kerr, 1988; Williams et al, 1989a). Charles and Kerr (*ibid*) and Hardymont (1995) describe these mealtimes as characterised by children being encouraged to eat 'properly' - sitting at a table, using a knife and fork with the family. This combination of nutritional and social values seem to give 'proper' meals a particular importance.

Hardymont (1995) suggests that since the war there has been a sharp decline in 'proper' meals eaten in the home due to changes in society such as more parents working, the rise of fast and convenience foods, changes in food and appliance technology and an ethos of constantly needing to save time. This may increase parents' desire to communicate the importance of 'eating properly' when the opportunity arises, and so they exert parental control over their children (Charles and Kerr, *ibid*; Cline, 1990; Watt and Sheiham, 1997).

Both Charles and Kerr (1988) and Cline (1990) suggest that parental control over children's meals can cause much conflict. We have noted that children may dislike using cutlery for eating in preference to fingers, and in particular they may find meat off the bone difficult to cut and chew (Charles and Kerr, *ibid*). We have also suggested that children frequently dislike cooked vegetables and non-chipped potatoes. Therefore there may be conflict between what parents and children want to eat at mealtimes. Charles and Kerr suggest that the main meal of the day is often the one about which children have least choice, and parents the most. One response from children may be to refuse food (Whiting and Lobstein, 1995). Charles and Kerr (*ibid*) suggest that this course of action is about children

asserting their independence and rejecting parental control. It is for these reasons, therefore, that Charles and Kerr suggest that family meals can become the foci of battles of will. The consequences may be that children reject food which parents consider to be particularly healthy, because the children perceive it to be enmeshed in an ethos of dependence and lack of autonomy.

The control of meals, and family eating seems to be influenced by gender (Graham, 1984; Charles and Kerr, 1988; Cline, 1990). McGuffin (1986) and Charles and Kerr (*ibid*) argue that many men have more overall control over family eating than women, and Murcott (1982) suggests that the choice of food is at best a compromise between women's tastes and their male partners. Male control manifests itself in several ways. Murcott (1983), Ellis (1983), and Charles and Kerr (1986, 1988) suggest that many wives are made to make meals for husbands on return from work despite many being in full time work themselves. Campling (1989), Dobash and Dobash (1979), Ellis (1983) and Cline (1990) provide various accounts of food being a medium through which some women are subjected to violence and oppression by men. Perhaps it is partly for these reasons that it seems to be common for mothers to give priority, in quality and quantity of food, to men, then children, and lastly themselves (Charles and Kerr, 1985, 1986, 1988; Graham, 1986). Cline (1990) and Charles and Kerr (1988) suggest that many women try to control their children's eating. They argue that it is an area over which they can have control although both suggest that frequently fathers override decisions made by the mother, and thereby undermine the control which she has.

In addition to wanting to have control, Charles and Kerr (1988), Graham (1984) and Cline (1990) suggest that many women try to control their children's eating because they perceive themselves to have a vital health promoting and socialising responsibility within the family. By preparing food Oakley (1985) suggests that some women may be trying to live up to an ideology of the 'good mother' being someone who feeds her family 'properly'. Ortner (1974) argues that this idea is rooted in a social perception of women's 'natural' association with domesticity. Coxon's

(1983) perceptions that cooking in the home is 'naturally' women's work seems to illustrate what Ortner is saying. Perhaps because of this deep rooted social history females seem to have greater knowledge about food than males. A recent OPCS survey shows that more women prepare meals and have more knowledge about food and cooking than men (Niclaas, 1995). This difference between the sexes is also noted by McGuffin (1986). It seems possible that these perceptions and behaviours in adults may help to explain why primary school girls seem to have greater involvement with and knowledge about food than boys.

Several authors (Orbach, 1978; Dana, 1987; Chernin, 1981, 1986; Cline 1990) suggest that women are more likely than men to use food as a tool of psychological expression because of women's historical association with food. Women diet more than men (Gregory et al, 1990). Edwards (1987) suggests that the restriction of food by girls with anorexia nervosa may be interpreted as a rebellion against excessive control within a family, and as a striving for autonomy. She also argues that female dieting can similarly be interpreted as being a rebellion against family control including parental control over food choices. In this way females may be striving for control over their bodies, and their lives, through the manipulation of food.

So female dieting may serve two functions. It may be perceived as a rejection of parental authority whilst simultaneously expressing a problem through the traditional female medium of appearance. It is also a strategy which is socially encouraged as the end product, a thinner body, will reap social rewards. Therefore this provides a rationale for investigating children's perceptions of who controls the food which they eat in order to better understand their perceptions of eating and body image.

Children's control over their eating

Adamson et al's (1996) research suggests that 11 to 12 year olds eat food away from home as frequently as they eat it at home, and what is purchased from school tuck shops, shops and cafes tends to be junk food (Dibb, 1993; Hardyment, 1995). In Adamson et al's (1996) study 30% of the children's total calorie intake came from foods which were eaten

outside the home. Here, unlike in the home, is where children can control what they choose to eat at the point of purchase (*ibid*).

Mayall (1993) suggests that many children like buying sweets because it is something that they can do alone. Similarly she argues that many children like having packed lunches for school because they feel that they have some control over their content and the way they are eaten. In the same way, we may consider that children's love of junk food may rest on being able to experience the pleasure of choice and control in buying 'ready to eat' burgers, chips, biscuits and cakes. In this way having personal control may be important to children's perceptions of food.

On a more practical level junk food rarely involves the inconvenience of requiring special utensils, cookery skills, cooking appliances, or table etiquette to eat it. In fact junk food is very often finger food. The attractiveness of eating food with hands may partly explain why Baranowski et al (1993) found that children seem to like fruit, why Mauthner et al (1993) found that many of the children in their study preferred packed lunches to school dinners, and why Charles and Kerr (1998) suggest that children are better disposed to eat vegetables if they are raw. It is suggested that to be able to eat foods quickly and easily with hands may promote feelings of independence.

Mauthner et al (1993) noted in one primary school that where the children could sit and who with were more important to the children than what they ate. Similarly places where burgers and chips are sold facilitate the interaction of young people thus providing them with a social niche which they may be unable to find elsewhere. This is illustrated by Deseau Iniers:

"Everywhere in the land, McDonald's rather than the youth club is the place for the younger set to see and be seen. Where else, after all, is there to go?"

(Desau Iniers, 1993 p.197-198)

Thus the social setting may promote not only personal control and independence from adults, but also the peer approval and conformity which we have noted is so important to children. This suggestion is supported by

Chapman and Maclean (1993) and Watt and Sheiham (1997) who report that teenage girls associate junk food with affordability, convenience, pleasure, friends, being away from home and independence. Therefore it would seem that children's food choices may be influenced by having personal control, independence and peer support (Table 1.2).

Perceptions of control and eating problems

At this point it is interesting to reflect back on how the three themes of control, independence and peer support have already been touched upon in relation to body image. The theme of wanting control over the body has emerged in the context of eating disorders and dieting, and Chapman and Maclean's (1993) research with teenage girls suggest that they are well aware of the association between junk food, perceptions of independence and weight gain. We have also suggested that children do not want to be fat, and yet peer acceptance and independence from adults seem to be important to them (Giddens, 1989; Phelps et al, 1994; Coggans and McKellar, 1994; Bee, 1995; Ross, 1995). Food which offers control, independence and peer support seems to be frequently, though not exclusively, junk food which is high in calories and seems to be associated with fatness. This suggests that there may be a conflict between children's pursuit of independence and children's ideal body image. As it has been noted that thinness is more highly valued among girls than boys this conflict may be more keenly felt by them. Therefore these issues may provide a rationale for children's perceptions of eating and body image, and will be discussed in the light of the findings from the study.

Methods of exerting control

Methods of exerting control seem to vary from complete control to no control. Cline (1990) suggests that the exertion of excessive control to a degree where children are too scared not to eat what they are told, may result in negative mental, physical or social consequences. More subtly food may be used as bribery, and parents may encourage children to eat by employing guilt inducing tactics (Whiting and Lobstein, 1995). Alternatively democratic negotiations may take place as described by Olvera-Ezzell et al (1990) and Whiting and Lobstein (1995). Parents may

make suggestions about what children should eat, asking them questions, and providing food choices. In this way the responsibility rests with adults, but children can be influential. We have also seen that parental control may be achieved by using food as a reward (Charles and Kerr, 1988). In certain contexts children may have almost complete control such as spending pocket money in a shop. In these ways it seems that the control of children's food may range from being completely controlled by an adult to completely controlled by a child.

Controlling the quality of food

The study aims to find out children's perceptions of who controls the quality of their diets. Baranowski et al (1993) suggest that in order for children to control their food it must first be available to them, and then they must want to enact the skills necessary in order to acquire it. This includes the skills of asking for it, choosing it and buying it. We will consider children's control over the quality of the food which they eat by looking at food shopping, meals and snacks.

Food shopping

In America Crocket and Sims (1995) suggest that the average ten year old child makes approximately 250 food purchases a year without their parents. They point to the number of food products which are either directly marketed as 'children's food' or which are indirectly marketed towards children by the way that they are packaged, described or advertised. If children wish to change their body image their perceptions of food bought whilst shopping may be one factor in controlling the food which they eventually eat. Therefore *objective (xii)* is: **to analyse girls' and boys' reasons for their food choices**. In particular the study will note whether children's food choices seem to be influenced by concerns which may directly or indirectly be associated with their body image.

Turning to who shops for food, Charles and Kerr's (1988) research found that 85% of the women they spoke to said that they alone decided what food to buy when shopping. This left only 15% who made their decisions in consultation with partners and children. How much influence children have over food choices made when shopping was not directly addressed by Charles and Kerr, however, as we have seen, Crocket and Sims (1995) point out that the food marketing people certainly think that children can have influence.

Meals and snacks

We will now consider how children's eating may be controlled within the contexts of breakfast, lunch, evening meals and snacks.

Breakfast

Whiting and Lobstein (1995) suggest that many supermarkets display breakfast cereals, featuring brightly coloured cartoon characters, on the lower supermarket shelves in order to ensure that children can see them. The skills required to pour breakfast cereals into a bowl, and add cold milk may be established by the time a child goes to primary school. Breakfast cereals do not require cutting or excessive chewing. Together these factors may explain why cereals seem to be the most common breakfast which children eat (Box and Landman, 1994; Hardyment, 1995). They may

also explain why research indicates that almost half the nine year olds in America (Crocket and Sims, 1995) and the eight year olds in this country (Box and Landman, 1994) may be preparing their own breakfasts.

Therefore the attraction of breakfast cereals may not only be about the presentation and taste of the food, but the potential they have for allowing children to feel that they have control over their eating.

A second way of controlling breakfast is by not eating anything. In Box and Landman's study (1994) 5.1% of their sample of children did not eat breakfast and Hardyment (1995) cites a Kelloggs' survey which suggests that this figure could be higher at 9%. Unfortunately this data does not provide information about how many children were, or were not, offered breakfast. From a child's point of view there may be three positive consequences of not eating. Firstly, as indicated, the child may have asserted themselves by refusing breakfast. Secondly, as we have seen, girls who want to be thinner may gain a sense of achievement by missing breakfast (Hill and Robinson, 1991; *ibid*). Thirdly, some children may make up for missing breakfast by buying snacks outside home to eat before or during the school day (Box and Landman, 1994). This gives them control at the point of purchase. Hardyment (*ibid*) suggests that the substituting of meals, especially breakfast, for high fat and sugar snacks is becoming more prevalent. Furthermore she suggests that this pattern of eating is an important contributor to obesity.

Lunch

We will now consider school lunches followed by packed lunches within the context of perceptions of control.

Hardyment (1995) and White et al (1992) suggest that, historically, school meals not only tried to be role models of healthy nutrition, but a means through which socially acceptable eating practice was mediated. Indeed the same philosophy which Charles and Kerr (1988) suggest underpins mother's views of good family eating today, seemed to underpin those of school meals in the past. In 1982 and 1983 Her Majesty's Inspectorate of schools observed a number of school dinner times. They reported that they

were pleasant, they encouraged social skills and interaction amongst pupils and staff (HMI, 1983, 1983a, 1983b). However more recently there have been reports of meals being eaten in classrooms rather than dining halls (HMI, 1986), and out of paper bags (HMI, 1990a) in conditions which are cramped and overcrowded (HMI, 1990). Two inspectors' reports (HMI, 1986; HMI, 1990) suggest that school food rarely reflects the cultural diversity of the children, and there is no encouragement of good table manners. White et al (1992) and O'Rourke et al (1992) suggest that the nutritional standards of meals have declined since the 1980 Education Act abolished the previous standards, and Her Majesty's Inspectorate (HMI, 1990) note that fruit and vegetables seem to be in short supply and are often poorly displayed. It would seem that over the last 15 years school meals have shown a decline in terms of social acceptability and nutritional quality.

In addition to certain standards falling, it could be argued that the last 15 years have seen a move from the choice of food being the responsibility of government, via local authorities, to the responsibility of the child through the emergence of self service systems. This may have had some positive repercussions in terms of raising children's self esteem, however there have been negative nutritional consequences (HMI, 1986, 1990b). As we have seen, children do not make food choices on the basis of health, and like elsewhere, within school Laurent (1996) notes that their choices are determined by presentation, taste and peer influence. Concerns arising from this situation have prompted organisations such as the School Meals Campaign and the National Food Alliance into fierce debate about inadequate nutrition education for children and a lobby for the provision of healthy foods from which children can choose (School Meals Campaign, 1992; Health Education Trust, 1995; White et al, 1992; Cawdren et al, 1994). Both these strategies seem to endorse the position that children should remain in a position of having some, but not total, control over food choices.

Simultaneous to changes in school meals the number of children taking packed lunches to school has risen. Ruxton et al (1996) analysed the

weekday lunches eaten by seven and eight year olds in Scotland. Their findings suggest that about 37% of all the lunches eaten per week are packed lunches, and these contain more calories and sugar than school lunches. Mauthner et al's (1993) observations in a primary school suggest that typical packed lunches may contain predominantly crisps, colas, biscuits, chocolate bars, chocolate biscuits, the occasional yoghurt or piece of fruit, processed cheese and jam sandwiches. Mauthner et al's research suggests that reasons for children liking packed lunches may be due to factors such as peer approval, taste and familiarity which we have discussed. Mauthner et al also point out that the children may co-operate in the making of packed lunches or indeed have some influence over the person who makes them for them. This influence may include choosing the food and how it is presented. Almost by definition it is suggested that children's packed lunches need to contain finger foods which can be packed, transported and eaten easily, and thereby fulfilling more of children's preferences. Finally Mauthner et al suggest that having packed lunches at school may mean that children have an increased choice over where they sit to eat the food, how they eat it and who they eat it with compared to children having school lunches. Therefore packed lunches may give children more choice and control over their eating than a school lunch.

Evening Meal

Hardyment (1995) suggests that many parents perceive the evening meal as being essential for family life. However sitting together and having a 'proper' meal seems to be increasingly difficult due to social changes. She suggests that certainly by the time children are teenagers many reject this traditional family eating pattern and assert their independence by refusing certain foods, becoming vegetarians or eating at different times. The arrival of microwave ovens and convenience foods may have enabled the new order to come about along with changes in working patterns which prevent families being all together to eat at the same time in the evening. Charles and Kerr (1988) suggest that in some families, if the father is not present, the food served is less likely to be a 'proper' meal and more likely to be a 'snack' type of meal. As Charles and Kerr argue that 'proper' meals, both in

terms of the food eaten and the way it is eaten, are about the assertion of male control over the family, contemporary changes in the evening meal may reflect and produce changes in this pattern of control. Indeed Hardyment (1995) and Whitcroft-White et al (1996) suggest that evening mealtimes may be the focus of important negotiations which are central to overall family harmony. These negotiations seem likely to affect children's perceptions of their control over food.

Snacks

Children's food can not be adequately researched without taking into account snacks. In Box and Landman's (1994) study, 10% of five to eight year olds had a snack on the way to school, and another 6% on arrival at school. They go on to report that nearly half the children had snacks mid morning. Therefore snacks may comprise a significant proportion of a child's diet. It is reported that many school tuck shops sell crisps, biscuits and sweet foods (HMI, 1986) for both economic and nutritional reasons. Some schools argue that the children will buy snacks from elsewhere if not at school (HMI, 1986; HMI, 1990) and that they are providing food for children who have not had breakfast (HMI, 1983a; HMI, 1990b). As children grow older, towards 11 years, Charles and Kerr (1988) suggest that they increase their consumption of snack foods, thus contributing to the overall concern about children's unhealthy diets which has been discussed (Dibb, 1993). At seven and eight years old Ruxton et al (1996) suggest that crisps, sweets and chocolate biscuits are the most frequently eaten snacks. These would seem to fulfil the criteria of taste, presentation and peer popularity. Snacks may often be bought by children in the context of shops where they are positioned at children's eye level (Crocket and Sims, 1995) and where, as we have noted, children have control at the point of purchase (Adamson et al, 1996). Sometimes snacks, unlike meals, are reported as being made by children themselves, or in co-operation with adults (Kirby et al, 1995). These factors would seem to increase children's influence over their food. Contento (1981) suggests that by nine years old children can distinguish between meals and snacks, and associate different foods with each occasion.

In the light of this discussion we can see that children's perceptions of control over their food and eating may vary according to the time of day and the type of occasion. So **objective (xiii)** of the study is: ***to analyse girls' and boys' perceptions of who chooses their breakfast, lunch, evening meal and snacks.***

Controlling the quantity of food

Children's eating may be controlled in terms of the quantity of food eaten as well as its quality. Hardyment (1995) illustrates how food shortages during the second world war produced a generation of people who could not tolerate food wastage. Since the war radical changes in farming and industry have meant that the quantity of food is no longer a nutritional problem in this country (Robinson, 1996; Hardyment, *ibid*). We have noted that the quality of food is of more concern. Whiting and Lobstein (1995) suggest that another reason why parents may encourage children to 'eat up' is that the rejection of food may be erroneously interpreted as a rejection of the person who has cooked it. Cline (1990) suggests that adults control the quantity of food eaten in order to assert control over children. She provides several examples of children being forced to consume everything that is on their plates in atmospheres of tyranny. Johnson and Birch (1994)

suggest that parental control over food may diminish the ability for young children to be able to self regulate how much food they need. Whiting and Lobstein's advice to parents to concentrate on making healthy food enticing, and to resist pressurising children into eating up everything on their plates, seems to have some sound foundations. Although they do not suggest that parents make special food for children who are rejecting what is in front of them, they do suggest that rigidly forcing children to eat up can produce negative consequences. How much control children feel they have over the quantity of food which they eat will be considered within ***objective (xiv) to analyse girls' and boys' perceptions of who controls how much they eat.***

This concludes the rationale for this study. To summarise, the investigation into **children's perceptions of body image** will fall into four parts:

children's perceptions of body image, children's perceptions of body image in relation to actual weight, children's satisfaction with their own body image, and children's satisfaction with their own body image in relation to actual weight. These categories reflect the four differing foci of studies which have looked at children's perceptions of body image in the UK. They have never been brought together within one study. Next the study will **explore children's perceptions of the link between body size and food** by analysing their perceptions about the types of food and eating behaviour which they associate with thinness and fatness. This will help to determine whether children have the knowledge to change body image through nutritional means. Finally, the study will investigate **children's perceptions of the control of children's eating**, in the context of food shopping, meals and snacks in order to see if children perceive that they have the power to change their eating if they wanted to.

CHAPTER TWO

METHODS

We will recall that the aim of the study is to explore **children's perceptions of eating and body image**. Here we will discuss the underlying rationale for the research methods used.

THE PHILOSOPHICAL BACKGROUND TO THE STUDY DESIGN

Positivist approaches to research

Epistemology, simply, means the study of how we know what we know. It is concerned with the criteria which allow distinctions to be made between what is knowledge and what is not (Usher, 1996). Much of the research concerning eating and body image seems to have been dominated by a positivist/empiricist epistemology. Empiricism is the belief that true knowledge can only be obtained through the senses as opposed to tradition or inheritance (Hayes, 1994). Positivism, sometimes called logical empiricism (Harre, 1981), suggests that the social world can be understood in the same way as natural science. Usher (1996) suggests that positivism implies that the world is 'objective'. It exists independently. The world is predictable, and can be explained by general and universal laws. The purpose of positivist research is to discover existing facts through an objective, impersonal, systematic process of deduction (Johnson, 1984; *ibid*). This 'scientific method' aims to prevent the subjective values of the researcher from contaminating the investigation of the objective world. In this way the researcher can draw reliable conclusions from factual observations (Frankfort-Nachmias and Nachmias 1996). Thus the unbiased and neutral researcher can be interchanged with any other researcher, and the objective facts would remain (Usher, *ibid*). From these the world can be understood.

Traditionally the positivist/empiricist approach to research has been associated with quantitative methodology. This methodology, in simple terms, produces quantifiable data in the form of numbers. Quantitative methods include experiments which look at cause and effect. However, in order for experimental findings to be generalisable to a whole

population they need to be carried out on very large groups (Bell, 1987). It is for these reasons that surveys are more frequently the method of choice. These enable relationships between phenomena to be identified and generalised.

Examples of surveys concerned with eating and the body include epidemiological studies such as Garrow's (1988) research into the relationship between degrees of obesity and ill health in adults. From this, Garrow evolved generalisable predictions to the whole population. He represented his findings in the form of height and weight tables which show the predicted relationship between BMI (body mass index) and ill health. Similarly the National Child Development Study (Power and Moynihan, 1988) investigated the relationship between children's height, weight and social class, and concluded that lower social class children were more frequently overweight than others.

Quantitative methods also include structured interviews, postal questionnaires and performance tests (Scott, 1996). The latter have been used extensively in psychological investigations of eating and body image such as the Eating Disorder Inventory which was devised by Garner et al (1983) and used by Eisele et al (1986) with young adolescents. The Eating Attitude Test was modified by Maloney et al (1989) into a children's version (Ch EAT) and used to measure children's eating attitudes and dieting behaviours. Also Regis (1991) used Balding's Health Related Behaviour Questionnaire to analyse the frequency of characteristics in teenagers associated with a model of anorexia nervosa devised by Slade (1982).

The key benefits of positivist/empiricist approaches to research are that they aim to produce objective facts which can be generalised to the wider population. However the discovery of facts alone can rarely provide insight and understanding about a subject. For example Allan (1988) and Foreyt (1987) question the generalisability and use of height and weight tables for every individual, whilst Power and Moynihan (1988) are left unable to explain why there was the relationship between social class

and child obesity which they had found. These kind of concerns have led to the adoption of hermeneutic/interpretive approaches to research.

Hermeneutic/interpretivist approaches to research

Hermeneutic/interpretive research aims to understand the meaning of social behaviour and experience on all levels from unconscious to personal, to social and cultural. It is interested in how people interpret their experience (Hayes, 1994), and so researchers seek to gain insight into perspectives rather than gain facts (Johnson, 1984; Buchanan, 1992). So as not to limit the range of perspectives which may arise from an investigation hermeneutic/interpretive approaches, in contrast to positivist/empiricist ones, may be less able, or unable, to clearly define the boundaries of research before commencement (Scott, 1996).

Usher (1996) explains that the objective/subjective divide of positivism is not present in hermeneutics. For example in positivism the research design aims to control for the subjective attitudes and beliefs of the researcher so that the research agenda, process and outcomes are not tainted by human bias. The hermeneutic/interpretive approach seeks to minimise the researcher's influence, but nevertheless acknowledges that the researcher's role can never be totally objective, neutral and 'invisible'. Hermeneutic/interpretive research frequently openly explains how the subjectivity of the researcher may affect the research.

The hermeneutic/interpretive approach to research tends to be associated with qualitative methodology. This produces words, not numbers. According to Miles and Huberman (1994) qualitative research is conducted through intense contact with 'normal', 'natural' situations of everyday life. It obtains data through a process of empathic understanding. The researcher puts aside any preconceptions, and no standardised instruments are used. Typical methods are participant observation, unstructured interviews and diary writing (Scott, 1996). These produce texts from which themes, meanings and interpretations are made by the researcher. Examples include Wilps' (1990) autobiographical analysis of his experience of bulimia nervosa,

Grabrucker's (1988) participant observation of her daughter's early years and Mayall's (1994) ethnographic case study of children within a primary school.

The mixing of quantitative and qualitative methodologies

We have suggested two different approaches to research; positivist/empiricist which is traditionally associated with quantitative methodology, and hermeneutic/interpretive which is traditionally associated with qualitative methodology. However these associations are being challenged. Miles and Huberman (1994) and Schwandt (1993) suggest that interpretivists frequently use pre-designed conceptual frameworks. Hammersley (1992) notes that quantitative researchers may quantify using words such as 'often' and 'sometimes'. He also notes that the artificiality of a laboratory may be no more artificial than the abnormality of a social situation being researched. Most research remains the interpretation of the researcher despite trying to play an invisible and controlling role in quantitative research, or a visible and facilitative role in qualitative research. Also Secker et al (1995) suggest that qualitative methods may be analysed using approaches more in keeping with quantitative research and a positivist/empiricist epistemology. So it seems that the traditional division between epistemology and methodology has become blurred. Furthermore, at the level of specific methods, it is not unusual for research to mix quantitative and qualitative techniques (Buchanan, 1992; Milburn et al, 1995; Bird, 1995; Bird et al, 1996). This, Bird (*ibid*) suggests, is because the most important factor to influence a research method should be the purpose of the research, and the purpose may be best served by the two approaches being used hand in hand.

STUDY DESIGN

As outlined in chapter one, the purpose of this study was to gain an understanding of children's perceptions of eating and body image. The wish to focus on perceptions determined that, at a philosophical level, this study adopted a hermeneutic/interpretivist approach. It is however accepted that the review of the literature in this field led to the formulation

of specific objectives which provided a pre-defined structure for the study. In this way it can not claim to be perfectly hermeneutic/interpretivist in its approach.

At a methodological level, the study utilised, for the most part, qualitative methodology which entailed the analysis of words from which meaning might emerge. However at the level of specific methods it adopted techniques of data measurement which ranged from being quantitative to qualitative. This was because it was thought that the categorisation and quantifying of words would help to show useful patterns of meaning. Also, in order to best interpret children's perceptions it was decided to look at them within the context of some objective criteria such as their perceptions of their body image against a measurement of their actual body, their BMI. In this way, the study adopted Bird's (*op cit*) approach and used techniques which were thought to best meet the aim of the study.

Methods

Measuring Body Mass Index

Hill et al (1992, 1992a) and Hill and Silver (1995) used height and weight data in conjunction with a questionnaire in order to understand the relationship between children's BMI and their given answers. Similarly Mendelson and White (1982) compared the answers from a questionnaire with children's actual weight in order to measure the relationship between children's feelings about their bodies, their self-esteem and their actual weight. So, like these studies, this study also included the measurement of the children's height and weight, in order to calculate their BMI.

Measuring calories

It was thought that insights into children's perceptions about why a hypothetical person may eat certain food might be usefully complemented by a measurement of the number of calories contained in that food. So the number of calories which the children attributed to a fat

and thin person was calculated, along with the calorie density of the individual foods.

Measuring children's perceptions

Children rarely speak for themselves, they are spoken for by adults suggests Mayall (1994). It was the challenge to find ways in which children can speak for themselves which lay at the heart of trying to find appropriate methods for researching children's perceptions.

Qualitative methods were used to obtain data on children's perceptions because traditionally quantitative methods, such as questionnaires and psychological tests, seemed to contain several drawbacks. Many tests are too difficult for nine year olds to complete without very careful modification and pre testing, and most are subject to questions about their ability to invite honest answers from respondents. All are constrained by the researcher having to place limitations on the number of items that can be included, and very many by the lack of correlation between written answers and reality, what they say and what they do (Contento, 1991). Any type of questionnaire places demands on the reading and writing skills of children, and this may limit both the number of children who can respond as well as the quality of their responses. Similarly diary writing, which is a qualitative method, was rejected because of its reliance on children's writing.

Observation, a qualitative method which does not include writing, was felt to be impractical for a number of reasons. These included it being very time consuming, the likelihood of children's behaviour altering in the presence of an observer and doubts about the method being able to meet some of the objectives of the study.

Williams et al (1989) report having faced many of these methodological concerns when embarking upon their large scale investigation into children's perceptions of health. In previous research projects the authors had noted the effectiveness of drawing, writing and other creative activities for obtaining detailed insights into children's understandings.

This developed into the 'draw and write' technique which prompts children to draw in response to an open question. In order to illustrate what the drawings show they are labelled by the child, or an adult based on what the child says if necessary. The labels are inductively analysed, meaning that themes and categories emerge from the words of the labels rather than words being put into pre-defined categories. Thus 'draw and write' adopts a qualitative approach to the research and analysis. It is particularly good for children as it does not rely on reading or writing.

The importance of the 'draw and write' method as a contribution to the understanding of children's perceptions can be measured by its adoption not only by Williams et al (1989a) in their next study of children's perceptions, but by a number of other researchers since (Turner, 1993; Mauthner et al, 1993; Mayall, 1994; Pridmore and Bendelow, 1995; Pridmore and Landsdown, 1997). It is the blend of child centredness, interpretation and pragmatism which makes Williams et al's work an important influence on the thinking behind the methods for this study. 'Draw and write' per se was not used, but it is important to acknowledge that many of the methods emerged from the ideas contained within it.

Rationale for using a semi-structured interview

It was decided that most of the data about children's perceptions would be obtained through an interview. Interviews are traditionally associated with qualitative research because of their relatively greater flexibility than many other methods (Scott, 1996). Unlike questionnaires, responses do not have to be taken at face value, but can be clarified through the use of prompts (Bell, 1987). They also avoid reading and writing. For these reasons an interview became the method of choice.

An unstructured interview inevitably would have been very time consuming. It would have limited the number and range of children who could be interviewed, and might have done little to explain some of the key questions which had emerged from reviewing the literature in this field. So it was decided to base the interview on a standardised interview guide. This is shown in appendix 2. The guide was structured around pre-defined

criteria, an approach which is traditionally associated with positivism. A semi-structured interview has the disadvantage that it unavoidably places more power with the interviewer, who chooses the questions and asks them, than the interviewee. However this was felt to be necessary due to the wish to answer the specific objectives of the study and practical considerations such as time and the inexperience of the researcher as an interviewer.

A semi-structured interview, as the name suggests, lies somewhere between complete structure, characterised by closed questions with limited scope for answers, and no structure, characterised by spontaneous open questions with an infinite scope for reply (Bell, 1987). A review of the research methods used in other studies helped to clarify how structured, or unstructured, this semi-structured interview was to be. For example Birch and Sullivan (1991) and Price and Sanders (1992) asked children to use pictures of 'smilie' faces, which smiled and frowned, to indicate their response to foods. This method was felt to be too structured for this study. It was decided that the interview should be mostly comprised of predetermined open questions as far as possible. Nutbeam (1988) had successfully used this technique to obtain insight into why children took up smoking on entering secondary school. It was hoped that open questions would allow the child and the interviewer to explore ideas and clarify meanings. They would also allow the children to use their own words.

Meeting the needs of nine year olds

The details of the semi-structured interview not only needed to meet the requirements of the objectives, but needed to be appropriate for nine year old children's cognitive ability. Although Piaget is not the only theorist to consider cognitive development, and his work has been subsequently criticised (Donaldson, 1978), he is widely recognised as having produced many ideas which will stand the test of time (Head, 1982; Turner, 1984). Piaget suggests that children progressively learn to understand and construct the world around them by playing and interacting with the environment, a theory supported by Bruner (Gross, 1987). At nine

Piaget suggests that children are likely to fit into a period of development called the concrete operational stage. This implies that nine year olds are likely to be able to think logically about tangible situations or events, but are not able to reason in an abstract manner. Hence the semi-structured interview needed to incorporate tangible, visible, concrete stimuli in order to help children to understand and express their thoughts.

Rationale for the format of the interview

Two pieces of research were particularly influential in the thinking behind the final format of the interview for this study. Mauthner et al (1993) carried out a case study on a primary school in order to investigate the pupils' perceptions of food. Various methods were used including documentary analysis, participant observation, a self completion food recall chart, interviews and mini focus groups into which a number of practical activities such as drawing, writing, reading and sorting were incorporated. The interviews and activities were the principle means of obtaining information. Children were asked to 'draw and write' both as a means of creating a good rapport at the beginning of the interview, and to express their perceptions of food related issues such as school dinners and lunch time. Mauthner et al used an interview guide so that the categorisation of answers at the end would be easier, but the interviews themselves were structured around certain themes whilst allowing space for the children's own agendas. Mauthner et al's research illustrated that interviews, supported by an interview guide, were able to produce detailed data about children's perceptions. In particular Mauthner et al's research reinforced the use of drawing as both an 'ice breaker' and an informative research tool. These were incorporated into the methods of this study. Here, the children were asked to draw a thin and a fat person as well as some imaginary food shopping.

Mauthner et al's study incorporated the concept of triangulation which was used in parts of this study. Frankfort-Nachmias and Nachmias (1996) explain that by using two or more research methods, the specific advantages and disadvantages of using just one method may be minimised. It may also help to reduce the inevitable bias which may arise

from one researcher carrying out research using, perhaps, their own favourite method. Mauthner et al's study also found that blending qualitative and quantitative methods helped them to meet the purpose of their study.

The second study which was particularly influential when thinking about the format for this study was Tilston et al (1993) who carried out interviews with children about their perceptions of food. Tilston et al created a game based on playing with pictures of food in order to keep the children who were not being interviewed happy. Thus Tilston et al prompted the idea to include an exercise where children attributed pictures of food, called food cards, to their drawings of thin and fat people, in this study. The food cards would act as tangible, visible concrete stimuli when asking the children to think about food as well as, hopefully, making the research enjoyable for them.

Gender

The study aimed to investigate the relationship between gender and perceptions of eating and body image. We have explained that the rationale for investigating children's perceptions of eating and body image is because if a child wants to alter their own body image, one way in which they may choose to do this is by altering food intake. What they then eat will depend upon their desirable body image, their understanding of food and their control over their own eating. We have noted that children's perceptions of desirable body image is probably, to some extent, influenced by gender (Garner and Garfinkel, 1980a; Brooks-Gunn and Warren, 1985; Wardle, 1991; Macintyre and West, 1991; Kilbourne, 1994; Hill, 1996). We have also noted that there are many psycho-social factors which suggest that children's perceptions of food are likely to be influenced, to some extent, by gender (Ortner, 1974; Chaiken and Pliner, 1987; Charles and Kerr, 1988; Rolls et al, 1991; Waterhouse, 1995). Clearly girls will have perceptions of boys' body images and boys' eating and vice versa, but investigating these perceptions did not form part of the remit of this study. The purpose was to consider the relationship between girls' perceptions of girls' body image, their own, their ideal and other girls'; girls' perceptions of female

eating and girls' perceptions of the control of their own eating so that these can be compared to boys' perceptions of these three things. Therefore the study design reflected this particular perspective on gender.

Gaining the children's trust and interviewing them in pairs

As we have seen, central to research carried out within a broad hermeneutic/interpretivist approach is the belief that the role of the researcher unavoidably affects the research process, content and outcomes. Here we discuss the role of the researcher in terms of gaining the trust of the children. Rapport and trust is central to being able to obtain honest and accurate answers (Eichelberger, 1989), to gain clear understanding of those answers (Denzin and Lincoln, 1994), to being brought into the interviewee's confidence and to being able to understand the context of their answers (Powney and Watts, 1987).

Mayall (1996) suggests that children who are being interviewed by an adult in school may view that adult within a context of many understandings. These include understanding that the adult has school approval yet is not part of it, she is non-official yet has commonalities with the teachers and she wants to know about 'us'. Running through these is the understanding that the researcher is an adult and has decided what she wants to know, whilst the children are children and are waiting to be asked. Thus the imbalance in the power relationships between interviewer and interviewee, discussed earlier, is clearly more exaggerated where children are involved. The children in this study were interviewed in pairs in order to try to redress this imbalance, and to allay obvious worries which the children may have about being alone with a researcher whom they did not know. Pairs were chosen in preference to larger numbers on the basis that Nutbeam (1988) had found pairs to be more workable in the context of his interviews.

Powney and Watts (1987) argue that the researcher needs to call upon a range of experience in order to appreciate and empathise with the views of interviewees. This, in turn, can help to breakdown the imbalance within the interview. Therefore, in this study, the researcher's experience of working

with children, as a nanny, baby-sitter and nurse, was called upon to enable her to feel relaxed with the children. This, it was hoped, was conveyed to the children. Care was taken to make the children feel welcome and speak to them in a language which they could understand. The researcher sat at the same level as the children, called herself by her first name, explained who she was and tried in every way to be friendly, neutral, approachable and encouraging as suggested by Walker and Adelman (1975). It is acknowledged that these measures could only partly redress the disempowerment of the children because of the inescapable fact of being an adult.

The validity of the methods

If the methods in this study obtained what they intended to, that is they measured what they were supposed to measure and they described what they were supposed to describe, they may be said to be valid (Bell, 1987).

Body Mass Index

In order to measure the children's BMI, each child was weighed, without shoes, on weighing scales which were provided by the schools. The school staff reassured the researcher that these scales were used by the school nurse and were considered to be accurate, though the researcher was unable to check this for herself. A height measure, fixed to a wall, was used to measure the children's heights, and a book was placed on each child's head to help with accurate reading. These follow the guidelines outlined by Slack (1978) for school nurses with one exception. Slack recommends that the weight of school clothes should be subtracted from the weight of each child so that the child's naked weight can be calculated. It was not possible to do this which means that the resulting BMI calculations may have been very marginally high.

BMI is based on Quetelet's index which states that the ratio of weight to height squared is roughly constant. This study calculated the children's BMI taking age into account using Cole's Growth Assessment Slide Rule which Cole et al (1981) validated. A fuller explanation of BMI, in the context of this study, is given in appendix 1. On the basis of the children's BMI they

were grouped as being 'underweight', 'normal weight' or 'overweight'. This grouping was based on cut off points recommended by the British Nutrition Foundation (personal communication). These descriptors do not only represent those children who may have been clinically 'underweight' or 'overweight', but include those children who may have been relatively thin or fat for their weight, compared to the 'normal weight' children. This is discussed in more detail in appendix 12.

Calories

The study included calculating the number of calories in foods. The Royal Society of Chemistry regularly produces this information based on their experimental work (Holland et al, 1991). This is endorsed by the Ministry of Agriculture, Fisheries and Foods, and is widely disseminated as the basis on which most data bases on the composition of foods rest.

The selection of the food cards

The children were to be asked to attribute food cards (appendix 3) to their drawings of thin and fat people. The food cards were selected from a pack of A5 size, laminated photographs of food used in a teaching resource (O'Boyle, 1986). Initially the complete pack was previewed by three independent hospital dieticians, at different times. The dieticians were asked to classify the pictures in terms of low and high calorie foods. On the basis of their replies some pictures were omitted. This was usually because the way in which the food was cooked could significantly change their calorific value. The dieticians agreed that the final eighteen pictures could be clearly identified as low calorie or high calorie foods. The dieticians' perceptions were supported by food tables which were able to confirm the calorific density of the foods (Holland et al, *ibid*). Foods which contained more than 150 kcals per 100 grams were defined as 'high calorie' within this study, and those below 100 kcals per 100 grams were defined as 'low calorie'. These details are shown in appendix 4.

All the dieticians commented that the cooking methods and the quantity of the food could alter the calorific value. Therefore the calorific density of the foods was calculated, using tables in Holland et al (*ibid*), according to their cooked or uncooked state as appropriate. The results indicated that it made little difference, in terms of grouping foods as 'high calorie' or 'low calorie' density, whether they were perceived as cooked or not. Therefore if the children thought subconsciously about the food in a different state than it was in fact shown on the food card, it would not alter the findings.

Children's perceptions

Usher (1996), citing the arguments of Habermas, suggests that validity is about aiming to achieve meaningful, true, justified and sincere communication. It was hoped that the incorporation of some triangulation, using food cards and a verbal response to obtain children's views about what a hypothetical thin and fat person might eat, and by using two strategies to look at their satisfaction with their own body image, would test the validity of the children's answers in these two respects. However the study did not employ an alternative research technique such as observation as a measure against which the validity of the children's answers from the interview could be viewed. Furthermore, we need to consider Feldman et al (1988) and Hill and Silver's (1995) caution that there can be a gap between children's perceptions about a hypothetical person, such as those in their head or in a drawing, and those of a real person in a real situation. There may also be gaps between how the children interpret, say, thin and fat people's eating, and how the researcher interprets the children's interpretations. This is called the double hermeneutic (Scott, 1996).

The relative formality of conversation within a semi-structured interview may impede the respondents' openness and honesty (Cohen and Manion, 1980). An interview, perhaps inadvertently, has the potential to embarrass an interviewee or make them look ignorant. In this situation Powney and Watts (1987) suggest that interviewees are likely to employ strategies in order to maintain their self esteem. These may include denying things which they know to be true in order to cover up either undesirable characteristics or to avoid having to admit to socially undesirable ones. The interviewee may quite simply exaggerate or lie. In this study by dealing with sensitive issues such as body image and family eating patterns there were clearly areas where the children may have felt a need to sacrifice truth for self esteem. Therefore this study, like many qualitative ones, contained many ambiguities which could threaten the validity of the findings.

Whilst it is not possible to eradicate all the factors which threaten the validity of a study, a researcher needs to try to remove as many as possible. Therefore in order to try to gain valid answers from the children five specific strategies were employed. Firstly it was predicted that it would

be necessary to ask extra probing questions, beyond the interview guide, in order to check that the researcher had fully and accurately understood what the child was trying to say. Therefore there was a need to ensure that these probing questions were open and neutral, and did not lead the child in any way. By listening to the tape recordings from the pilot study the researcher critically self assessed her questioning and aimed to learn from her mistakes. Secondly it was hoped that reassuring the children about their anonymity and the confidentiality of their answers would encourage valid responses. Thirdly, in order to encourage the children not to feel that they should be giving the answer which the researcher may want, after all pleasing the teacher is what a great deal of their education is about (Wells, 1983; Mayall, 1996), she made an effort to express encouragement and sincere interest in their views through her verbal and non verbal behaviour. During the exercise in which the children were asked to attribute pictures of food to thin and fat people they were placed in positions where they could not see the other child and therefore could not be influenced by them. Lastly, the transcriptions were typed out by a secretary who was informed about the importance of accuracy. Random transcriptions were checked against the tapes by the researcher in order to check consistency of standards. In this way the transcripts aimed to be accurate representations of what the children said. Through these five strategies efforts were made to achieve valid findings.

PREPARATION FOR THE STUDY

As we have seen, it was decided to explore children's perceptions by using a semi-structured interview complemented by activities involving drawing and the attribution of food cards. These methods needed to meet the objectives of the study, and it needed to work in practice. Therefore in preparation for the study it was necessary to test both the procedure and the instruments.

The methods were tried out, and modified, as a result of a small pilot project which was undertaken in June 1993 at a local County Primary School situated in the centre of a city (School A). The initial interviews helped to clarify the details of the questions in the interview guide. For

example it became clear that there were certain words, such as 'quantity', which the children did not always understand, and it illuminated certain additional questions which needed to be asked. The context of each individual interview sometimes necessitated a different emphasis or repetition of certain words in order to maintain clarity, trust and the relaxed ethos which was sought. The final questions, illustrated on the interview guide (appendix 2), were therefore partly a product of understanding what phrases 'worked'. It became clear that these could never be specific, word for word 'scripts' though the intention was to keep to them as closely as possible. The pilot project also provided an insight into the more general aspects of the interviews such as their timing and how the children responded to the emotional and practical dimensions of the different tasks which they were asked to do. Twelve children undertook the pilot interviews in their final form.

It was necessary to record the interview so that transcripts could be made and analysed. The pilot project demonstrated many of the benefits of using tape recorders as outlined by Hull et al (1985). A good quality recorder had to be obtained so that interference was minimised, and though transcription time was long, the benefits in terms of quality of information and ease of use was felt to outweigh this. Nutbeam (1988) found that letting children see the tape recorder caused too much distraction, and he subsequently opted to hide it, whilst letting the children know that they were being recorded. However the pilot project, for this study, revealed that the recorder, perhaps being smaller than Nutbeam's and perhaps a more familiar item to the 'Walkman children' of today than in the 1980s, became a positive asset to the interview in terms of eliciting genuine enthusiasm to talk into it and listen afterwards. Therefore the researcher felt confident about using the tape recorder in the main study.

Further details of the preparatory work will be explained, as appropriate, throughout this chapter.

THE MAIN STUDY

Methods used to investigate children's understanding of the link between body size and food

Body size and the quantity and quality of food

Firstly the children were asked to draw someone called Mr/Miss Thin and then someone called Mr/Miss Fat, in accordance with the sex of the child. Whilst looking at their drawings the first child was asked, "**What do you think Mr/Miss Fat eats for his/her lunch?**" and subsequently, "**Why?**" The questions were repeated for Mr/Miss Thin. The second child was questioned similarly. The children were asked to imagine a lunch time situation because this avoided the confusion of just talking about food in general (Contento, 1981) and provided some standardisation to the interview content.

Secondly the children were given the matching packs of the food cards, shown in appendix 3, and instructed, "Don't worry about how *much* of the food is shown, just think about the *kind* of food that it is." They were then asked, "**Who would eat this? Mr/Miss Fat, Mr/Miss Thin or both?**" and to place the cards on top of the appropriate picture. If they thought both people would eat the food, the card was placed in the middle. These questions were asked because, as we saw in the rationale chapter, the food which seems to be associated with thin and fat people differs in both quantity (Hargreaves 1978, 1978a, 1990) and nutritional quality (Gilbert, 1989; Lawson, 1991; Nutrition and Physical Activity Task Forces, 1995; Ottley, 1997). However little seems to be known about children's perceptions of a thin and fat person's food. The researcher was interested to see whether there was any commonality between the food which children eat themselves (Charles and Kerr, 1988; Department of Health, 1989a; Dibb, 1993), social perceptions of food in terms of health (Department of Health, 1989, 1991, 1994; MORI, 1992), 'fattening' or 'slimming' food (Gullo, 1988; Schneider, 1990; Wills, 1996), gendered food like meat or chocolate (Rolls et al, 1991; Waterhouse, 1995), diet foods, advertised foods (The Food Commission, 1990, 1992, 1994), children's fantasy, and children's perceptions of the foods which they thought a thin

and fat person might eat. These questions aimed to meet the following two objectives of the study:

(vi) to discover if girls and boys attribute different quantities of food to thin and fat people;

(vii) to analyse the differences in the quality of food attributed by girls and boys to thin and fat people;

The researcher recorded the positioning of the cards by going through each one and saying it out loud. In this way the attribution of the food cards was recorded and transcribed.

The pilot work had tested how well the food cards worked in practice. In particular as the food cards illustrated different quantities of food there was a need to find out whether the children were distracted by this or were able to focus on the quality of the food alone as desired. After all it is difficult to present an average portion size of a food when perceptions of what is normal vary so much. The pilot project confirmed that the children enjoyed using the food cards and seemed able to focus on the quality rather than quantity of the foods shown.

Children's reasons for food choice

Whilst looking at their attribution of food cards, each child was asked, **“Why did you choose these foods for Mr/Miss Fat?”**, **“Why did you choose these foods for Mr/Miss Thin?”**, **“Why did you choose these foods as ones which both would eat?”** These questions were asked because we have noted that children may choose their own foods because of their perceptions about healthy foods (Lund et al, 1990, 1991a; Baranowski et al, 1993; Tilston et al, 1993; Mauthner et al, 1993), the food's popularity in terms of taste and texture (Mauthner et al, *ibid*, Baranowski et al, *ibid*) and peer popularity (Dibb, 1993; Mauthner et al, *ibid*), yet we do not know about children's perceptions of the reasons why thin and fat people may eat as they think they do. These questions aimed to meet the following objective:

(ix) to understand girls' and boys' perceptions of the reasons for thin and fat people's choice of food.

Children's perceptions of eating behaviour and body image

The researcher continued, “**Do you think that they (both) would eat them in the same way?**”. This question was asked because we have noted an association between fatness, fast eating and greed (Hargreaves, 1978; Wooley et al, 1979; Cline, 1990), and thinness, slow eating and small bites of food (Chaiken and Pliner, 1978; Hargreaves, 1978a; Rolls et al, 1991). This question aimed to fulfil the following objective:

(xi) to understand girls' and boys' perceptions of thin and fat people's eating behaviour.

Children's perceptions of food and a changing body size

Swapping over the piles of food cards in front of the child, the researcher asked, “**What would happen to Mr/Miss Fat if s/he ate the food you have put on Mr/Miss Thin?**” and, “**What would happen to Mr/Miss Thin if s/he ate the food you have put on Mr/Miss Fat?**” These questions were repeated for the second child with their cards. These questions were asked because, as we may recall, the scientific evidence suggests that, provided energy output is the same and bearing genetic disposition in mind, a fat person probably eats more calories than a thin one, and therefore gains weight (Garrow, 1988; Ottley, 1997). The reverse occurs with thin people. Some children's books also illustrate this pattern (Hargreaves, 1978, 1878a, 1990). Taking into account the calorific value of the foods which the children distributed to Mr/Miss Thin and Fat, it would be possible to examine whether they demonstrated this relationship between calories and body size. Therefore these questions aimed to fulfil the following objective:

(viii) to discover if girls and boys understand that differing food can affect body size and shape in terms of thinness and fatness.

The reliability of children's perceptions of food

A comparison of the results obtained in the context of lunch and food cards was carried out in order to see the degree to which the children maintained the same response to questions put to them in slightly differing ways. This aimed to fulfil the following objective:

- (x) *to analyse the reliability of girls' and boys' perceptions of what and why foods are eaten by fat and thin people.***

Methods used to explore children's perceptions of body image

How the pilot work informed the methods

The methods used to discover children's perceptions of body image emerged from the pilot project. The 'say and see' method and the rationale for the use of highly structured questions are discussed.

The 'say and see' method

At the start of the pilot project the researcher asked children to draw their 'ideal' body, an 'ordinary' body and 'their' body, and then discuss them. The children were unable to discuss 'the pictures in their heads' and instead concentrated on describing 'what they had actually drawn' which, for many was different due their limited drawing ability. Frequently this also led the children to talk about the way that they had drawn a face or clothes rather than being able to focus on the body image. Powney and Watts (1987) provide some explanation for this suggesting that children sometimes have a tendency to pay attention to unexpected details and to use different logic than an adult interviewer. Some children also drew pictures of adults, thus projecting themselves into their future adult images. In view of these problems the researcher had to find an alternative method. It was felt to be unwise to try to analyse children's drawings without specific training (Roback, 1968; Bruner et al, 1977; Freeman et al, 1983; Atkinson, 1991), and there was a wish to avoid using a method which asked the children to label their drawings (Pridmore and Lansdown, 1997) as this relied on writing and may have inhibited the quality of response.

A method was needed which would accurately record what the children perceived without losing the valuable visual cue that drawing can provide. Trials of the researcher doing the drawing in response to what the children said proved able to meet these goals. The drawing evolved before their eyes and provided a visual context into which each subsequent body part could be described. As the children's answers preceded the drawing of the body part, the drawing of the part could not influence their answers. The children could see a visual representation of what they had said afterwards. The children's verbal descriptions of each body part were tape recorded and analysed. In these ways the method was truly inductive and qualitative. It is accepted that the researcher's drawing is unlikely to have matched precisely the 'picture' in children's heads, and that the existing drawing may have influenced what the children said next. As far as is known, this method has not been previously used within this field of research, and therefore its reliability and validity have yet to be thoroughly tested. This is partially addressed by the methods used to meet **objective (iv)** in this study, which are discussed below.

Structured questions

In addition to formulating the 'say and see' method, the pilot work also confirmed the need to build structure into the questions. This was because of the requirement to investigate thinness, fatness and muscularity specifically. By providing the children with the words thin, medium, fat or muscley they were deterred from describing body parts in terms of wider descriptions. It is recognised that these questions developed into highly structured ones. This facilitated easier analysis of the comparisons between the children's perceptions of their ideal body images, ordinary body images and their own body images.

Children's perceptions of body image

Returning to how the interview progressed, the researcher removed the drawings and food cards used in the first part of the interview, and took up a pencil and paper, and asked, **"Imagine you are on the beach in your trunks/swimming costume on a hot summer's day. If you could have any body that you wanted, what would it look like? Think about the**

outline of the body - the shape...” The researcher made an outline of a body with her hands, in the air, in order to encourage the first child to think in terms of the shape of their ideal body image. The researcher drew a neck and shoulders and encouraged the child to describe their 'ideal' arms whilst prompting them to use the words: thin, fat, medium or muscley. This was repeated for the tummy and legs. A 'side view' drawing was drawn by the researcher as the child was asked to describe their ideal bottom. Girls described girls' bodies and boys described boys' bodies. After this, the researcher asked, **“Describe what you think most boys'/girls' bodies look like on the beach. What does an *ordinary* body look like?”** Again, they described ordinary child's arms, tummies, legs and bottoms whilst watching the researcher draw. Finally, the researcher asked, **“Describe your own body. What do you think you look like on the beach?”** The child subsequently described themselves - 'me', and this was drawn by the researcher. An example of a set of these drawings is shown in appendix 5. The beach setting was taken from Loureiro's (1992) research . This was felt to be ideal as the study took place within easy reach of several beaches, and the children could be portrayed wearing swimwear.

These questions were asked because as we saw in the rationale chapter some children seem to be dissatisfied with their body image (Feldman et al, 1988; Koff and Rierden, 1991; Hill et al, 1992, 1992a). This is of concern because body image dissatisfaction may play a part in the rise of children's dieting and eating disorders (Beumont and Abraham, 1983; Levine, 1987; Hill, 1993). Although there seems to be some evidence to suggest that many children do not want to be fat (Wooley et al, 1979; White, 1983; Wardle et al, 1995; Hill and Silver, 1995) and that many girls want to be thin (Hill et al, 1992a; Hill and Silver, 1995), it is unclear whether the aspiration towards thinness found in older females (Allan, 1988; Hesse-Biber, 1989; Henderson and Vickers, 1995) is in fact a rejection of fatness (Hill and Silver, 1995; Wardle et al, 1995). Children's perceptions of muscularity seem to be an under-researched area and yet both physiological evidence (Malina and Bouchard, 1991) and research into adult perceptions (Kearney-Cooke and Steichen-Asch, 1990; Mansfield and McGinn, 1993) suggest

that muscularity may play an important role in perceptions of body image. The question concerning the children's perceptions of an ordinary child's body image was asked because this does not seem to have been researched and yet the influence of other children in terms of providing 'acceptable norms' has been noted as important in other areas of children's lives (Giddens, 1989; Mayall, 1994; Phelps et al, 1994; Ross, 1995). These questions aimed to meet the following objective:

- (i) to analyse girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image.***

Children's perceptions of body image in relation to actual weight

A few weeks after the interviews had been completed, the children's height and weight measurements were taken as described earlier in this chapter. Consequently their BMI ratios were calculated, as described in appendix 12, and the children were grouped into those who were 'underweight', those who were 'normal' weight, and those who were 'overweight'. In combination with the interview, these findings aimed to fulfil the following objective:

- (ii) to discover how girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image differ according to their own body mass index.***

Children's satisfaction with their own body image

It was hoped that a comparison of the answers given would provide information about children's satisfaction with their own body image. As discussed in the rationale chapter, this not only comprised of looking at how well the children's perceptions of their own body image matched those of their ideal body image, but it also included looking at how 'normal' the children felt. This was measured by comparing their perceptions about

their own body image to their perceptions of an ordinary child's body image. Also, by comparing their perceptions of an ordinary child's body image to their ideal body image, the researcher aimed to see whether they were in fact aiming for a body image which was 'ordinary' or not ordinary, perhaps abnormal. These comparisons aimed to fulfil the following objective:

(iii) to analyse how satisfied girls and boys are with their own body image and how they want it to change.

Children's satisfaction with their own body image in relation to actual weight

By looking at the comparisons of body images, as described above, in the context of the children's body mass index the study aimed to meet the following objective:

(v) to discover how girls' and boys' satisfaction with their own body image differs according to their own body mass index.

The reliability of children's perceptions of body image satisfaction

Returning to the interview, the next questions to be asked to the first child were, "**Is there anything that you *don't* like about the shape and size of your body?**" and, "**What do you like about the size and shape of your body?**" If appropriate, the researcher asked, "Why?" These questions were asked because, as we may recall, research in this field seems to focus on overall size and shape, and little seems to be understood about particular body parts or specific reasons for dissatisfaction. It was hoped that these open questions would complement the highly structured questions about body image asked beforehand, with some qualitative information. In addition to this, there was a wish to see if the children's perceptions about their body image satisfaction remained constant in the context of being asked about this in two different ways. A comparison of the answers to these direct questions with the results which compared their ideal body image with their own body image, which we shall refer to as the indirect method, aimed to fulfil the following objective:

(iv) to analyse the reliability of girls' and boys' answers concerning body image satisfaction.

All these body image questions were repeated for the second child.

Methods used to ascertain how much control children think they have over what they eat

Reasons for choosing food when shopping

The children were shown an A3 size, laminated picture of a supermarket which was taken from some primary school education materials written for teachers (Hargrave and Brooks, 1986). This is shown in appendix 6. Each child was given an A4 sized, photocopied drawing of an empty shopping trolley, as shown in appendix 7. They were told, **“Imagine that you have as much money as you want to spend on food in the supermarket. Draw in the shopping trolley all the things which you are going to buy.”** They were advised that they could choose food which was not shown in the picture, but which they knew supermarkets and food shops sell. This activity was designed partly to be a light, enjoyable exercise following the more serious body image work. The idea of allowing children complete freedom in a supermarket reintroduced them to thinking about food, and to consider in particular the choice of food. The pictures of the supermarket and the trolley were tested out in the pilot work. There was a need to find out whether children felt comfortable drawing pictures of their proposed food shopping onto the trolley and whether they were able to use the picture of the supermarket as a prompt without them restricting their food choices to those shown only in the picture. These resources worked well in these respects.

After recounting what the children had ‘bought’, one child was asked, **“ Why did you choose those?”** This question was asked because, as we have seen, it is thought that children may choose food because of its taste, texture and popularity. We have also noted that there seems to be an association between food which is popular with children, unhealthy foods,

high calorie foods and perceptions of a fat person's food. This question aimed to fulfil the following objective:

(xii) to analyse girls' and boys' reasons for their food choices.

Children's perceptions of who controls the quality of food

Each child was asked, “ **Who normally goes food shopping in your home? Who chooses what goes into the shopping trolley?**” After this, the following questions were asked in a way that took the child, chronologically, through a typical weekday at school. They were asked, “**Who normally decides/chooses what you have for breakfast?**” and then, “ **....during the morning ... for lunch ... in the afternoon ... when you go home ... in the evening.**” These questions were asked because, as we saw in the rationale chapter, it seems that children may prefer food over which they have more control (Charles and Kerr, 1988; Baranowski et al, 1993; Mauthner et al, 1993). Children’s choices of food, for example junk food, seem to have features in common with the types of food which are associated with fatness (Dibb, 1993; Chapman and Maclean, 1993; Nutrition and Physical Activity Task Forces, 1995). We have also noted that the perception of control seems to be a feature of dieting (Cline, 1990) and eating disorders (Edwards, 1987). Together this implies that there may be a relationship between perceptions of control over food, eating and body image, but whether and how this may be relevant to children is unclear. These questions were asked in order to meet the following objective:

(xiii) to analyse girls’ and boys’ perceptions of who chooses their breakfast, lunch, evening meal and snacks.

Children's perceptions of who controls the quantity of food

Finally the child was asked, “**Who normally decides how much you eat?**” and, “**What happens if you leave food on your plate?**” These questions were asked because, as we have seen in the rationale chapter, children’s food can be controlled in terms of quantity as well as quality (Cline, 1990; Johnson and Birch, 1994). If thinness and fatness can result from altering the quality and quantity of food, as we have seen, then both these factors need to be considered when we are looking to see how easily children can control their own diets. These questions therefore aimed to fulfil the following objective:

(xiv) to analyse girls' and boys' perceptions of who controls how much they eat.

After this, the second child was asked these last few questions relating to food shopping, meals, snacks and quantity of food.

Ethical considerations for the study

Parental and child consent

Mayall (1996) proposes that giving consent to participate in research is agreeing to put oneself in the hands of the researcher and the researcher's agenda. According to the Medical Research Council (1991), the responsibility of a researcher to gain consent prior to carrying out research reflects the ethical right of individuals to self determination. In the case of children they argue that their participation in research can only be considered to be ethical if the consent of their guardians or parents is obtained. In the context of interviewing children in their schools, obtaining parental consent to research also helps to keep parents informed about what the school is doing, and underlines the fact that it is through parental consent that pupils are entrusted to schools. Therefore, for these reasons, all parents and guardians of children, of pre-defined age within the schools included in the study, were given a letter written by the researcher. This is shown in appendix 8. The letter was designed to be truthful whilst not disclosing too much information which may affect the research. Care with the language was taken - aiming for clarity and the avoidance of jargon. Parents were offered the opportunity of contacting the researcher personally. On signing the letter the parents gave consent to the research, and to any subsequent publication of drawings and answers. Only children whose parents had signed the consent form were included in the research.

In order to speak to children in schools, it was necessary to gain the consent of the head teacher and relevant members of staff who had responsibility for the children whilst at school. This fulfilled the ethical requirement of trying to 'do no harm' (Beauchamp and Childress, 1989). In particular the staff's consent was needed in order to help ensure that the research would not put the children in physical or psychological danger.

Therefore the researcher, in this study, discussed the research in detail with the head teacher and class teachers prior to its commencement, and obtained their consent.

Gaining children's own consent to research, where their ability to understand allows, is felt to be ethically desirable by the Medical Research Council (1991). Indeed Mayall (1996) argues that obtaining their consent is part of empowering the child within the research context. Therefore the children in this study were verbally informed about the study in very general terms, such as it being 'about food and being voluntary' by class teachers, when they were asked to take letters home to their parents. At the beginning of each interview, the participating children were also provided with further information about the research process, the opportunity to voice concerns and told that they could opt out at any time. An impression of the type of pre-interview talk which was given is shown in appendix 9. This specific information was outlined to the children, away from the rest of their class, so as to ensure that it was not peer pressure which had forced reluctant children to volunteer. In this way the researcher tried to ensure that the children gave informed consent, and that reluctant children had the opportunity to refuse.

Confidentiality and anonymity

We discussed the importance of trust earlier in this chapter, and a central part of obtaining children's trust in an interview situation is to ensure them of confidentiality and anonymity. Powney and Watts (1987) highlight the vulnerability of interviewees, noting how they worry that others will have access to their comments. For this reason all the interviews, for this study, took place in reasonably quiet, private rooms. Staff rooms, medical/sick rooms and classrooms were used. If someone entered the room the interview was stopped until they had left. The children were well aware that their comments were being recorded, not only because they were informed at the beginning of the interview, but also because they could see the small tape recorder placed in the middle of the table around which the children and researcher sat. If children asked to listen to other children's answers, the intention was to refuse and suggest that they may speak to the child

concerned personally. At the end of each interview the researcher would remind the children not to discuss the interviews with other children. It was intended that the children in this study would be reassured in the pre-interview talk that only the researcher, her secretary and the other child who was being simultaneously interviewed would know what they said. Therefore it was important that the children were interviewed with children who were their friends, and with whom they felt comfortable. By trying to maximise the confidentiality of the children's answers, the researcher aimed to protect the children's privacy.

Interviewing, and subsequent publishing, gives a large number of people access to potentially powerful information (Powney and Watts, 1987), and so the maintenance of an interviewee's anonymity is essentially about protecting them from any repercussions from the research (Adelman et al, 1984). This is clearly linked to confidentiality and the building of trust also. In this study there were two main sources of data; tape recordings and drawings. Both the tapes and the drawings were labelled with a code which could only be understood by the researcher. This identified the sex of the child, the school, the number of the interview and which of the pair of children, 'a' or 'b', they were. This was done immediately at the end of each interview. The researcher kept a list comprising of the codes and each child's Christian names only. This was so that she could identify which one of the pair was talking when listening to the tapes later. The secretary who helped to transcribe the tapes only heard the children's Christian names, did not know the schools involved in the research, and labelled the transcriptions with the codes only. In this way the assurance which was given to the parents, that their child's identity would be kept anonymous, was fulfilled.

The sensitivity of the research content

Any piece of research which seeks to 'do no harm' must consider carefully how questions may be perceived by the interviewee. In this study there was particular concern about the questions around body image. To address this concern the researcher reviewed previous research in this field, and held discussions with teachers and health professionals.

Together these indicated that it was very unlikely that children would be upset by the study. However advice was taken from the local manager for child and adolescent psychiatry where it was recommended that if a child became distressed the researcher should: (i) inform the teacher of any problems, (ii) offer physical presence such as touch, (iii) consider distraction, and (iv) give the child time and patience. The interview, naturally, would stop.

In an effort to be sensitive to potential problems, the interview was structured in a way that the most sensitive task, the body image work, took place in the middle of the interview and 'fun' tasks came at the beginning and towards the end.

Ethics committee

In order to be absolutely sure that the study was ethically sound in its design, it was submitted to, and passed by, an ethics committee located within the educational institution in which the researcher worked.

The sample for the main study

The sample of children was drawn from within an area covered by one district health authority and two neighbouring local authorities. This was situated in the south-east of England. Socio-economic data, about each electoral ward within this area, was reviewed. This was in order to gain a picture of the health, in the broadest, holistic, sense of the word, of the local population. This type of data has been endorsed as a suitable indicator of the health of a population (Townsend, 1991; Townsend et al, 1992). The reviewed data included: economic position (females) aged 16 and over (unemployed or on Government scheme); economic position (males) aged 16 and over (as above); and data about households with dependent children (0-17) by housing characteristics (over 1.5 persons to a room, sharing use of bath/shower and/or WC, without central heating, not in self contained accommodation, in owner occupied accommodation, in households without a car) (OPCS, 1991). On the basis of this information three electoral wards were selected as 'high' (low unemployment, less than 1.5 persons to a room, unlikely to share amenities, more likely to be owner

occupiers with cars), 'medium', and 'low' (high unemployment, more than 1.5 persons to a room, likely to share amenities, less likely to be car or home owners). The researcher aimed to sample equal numbers of children, of both sexes, from each of the 'high', 'medium' and 'low' areas thus achieving a broadly representative sample from the geographical area.

TABLE 2.1
THE SAMPLE OF CHILDREN AND SOCIO-ECONOMIC STATUS

<i>Socio-economic area</i>	<i>Children</i>	<i>Girls</i>	<i>Boys</i>
'high'	34	21	13
'medium'	33	19	14
'low'	31	18	13
total	98	58	40

The final sample consisted of 21 girls and 13 boys from School B in a 'high' socio-economic area, 9 girls and 5 boys from School C in a 'medium' socio-economic area, 10 girls and 9 boys from School D also in a 'medium' socio-economic area, and 18 girls and 13 boys from School E in a 'low' socio-economic area. There were 98 children, 58 of whom were girls, and 40 were boys. This is summarised in Table 2.1.

The size of the sample needed to be such that it would enable the objectives of the study to be met. The sample had to be small enough that the researcher, working alone, could carry out interviews of a reasonable length with each child. There needed to be enough time to gain accurate insights about children's perceptions. The researcher aimed to complete the field work within six months, bearing in mind the practicalities of carrying out research on a part time basis. The sample needed to be large enough to facilitate statistical analysis (Clegg, 1990). For example, it was anticipated that the study needed to compare boys' and girls' perceptions, so there needed to be large enough numbers of each sex to allow for this. Clegg (*ibid*) suggests that traditions within research are often used as a guidance to appropriate numbers. The researcher took advice from experienced researchers and concluded that at least 30 girls and 30 boys were required. The final figure of 58 girls and 40 boys allowed for statistical

tests to be applied to many of the findings. A larger sample was not warranted because the calculation of probability values, $p < 0.05$ in this study, takes into account the sample size. Matthews (1998) suggests that both small and large studies of the same quality are equally likely to have significant results which may be due to chance. Therefore obtaining a balance between quality and being able to carry out some statistical analysis were the main criteria for the eventual sample size.

It has been suggested that both eating habits (Leininger, 1988; Loureiro, 1992) and perceptions of body image (Hesse-Biber, 1989) are influenced by ethnic identity and culture. Bearing in mind the limitations of some of the research in this field, eating disorders seem to be very rare in non white, non western, populations (Anderson, 1985; Bhadrinath, 1990). It is for these reasons that it was decided to include only white children's perceptions within this study. This also provided standardisation across the sample. However children from ethnic minority groups were not prevented from taking part in the interviews. It was decided that this could introduce negative feelings both among the children and the staff who may not fully understand the reasons for exclusion. Therefore neither the parents, teachers nor pupils of ethnic minorities were told that their results would not ultimately be used. In this way these children could be fully included in the field work, could accompany their friend to the interview, and would not feel left out or singled out. As the study took place in an area where there was a notably high white/Caucasian population it was anticipated that the vast majority of children would not be affected by this. In the final analysis, there were three children whose answers were not used for this reason.

The age criteria for selecting the children was that they should be between 8 years 0 months and ten years 11 months.

The schools

The schools were selected by the schools co-ordinator of the local teacher training institution. His job included placing undergraduate trainee teachers on teaching practice in the area. The selection was therefore limited to

schools with which he had contact already, and those which then agreed to take part. All participating schools were coeducational.

The head teachers of the schools were initially contacted by letter and telephone. Subsequently, as mentioned earlier, meetings took place with both the head teacher and the individual teachers. The school was informed that they could withdraw from the research at any time, and that some feedback would be given to them once the research was finished

TABLE 2.2
CHARACTERISTICS OF THE SCHOOLS

<i>School</i>	<i>School characteristics</i>	<i>Social environment</i>
School B	Church of England Primary School	Rural village. Children from professional families and from unskilled and skilled workers, such as farmers and ex miners.
School C	County Primary School 88 pupils 64% on the Special Needs audit	Amongst many large council houses within a small village. A high proportion of the children's mothers seemed to be particularly obese.
School D	County Junior School 367 pupils	Town. Mix of local council estates and owner occupied houses.
School E	Church of England Primary School 32% on the Special Needs audit Newly built	Large seaside town. High unemployment and 'traditional, working class'. Significant number of the children living in temporary accommodation.

The head teachers were asked to provide a summary of the characteristics of each school in order to gain a general understanding of the children's backgrounds. The summaries are shown in Table 2.2. It was notable that the schools themselves did not perhaps reflect the socio-economic status of the electoral wards in which they sat. For example School C, in 'medium' location, appeared to the researcher to be much more deprived in material terms than School E in 'low' location.

Putting the children into pairs

The class teacher was asked to ask the children, whose parents had given consent, to choose a friend with whom they would like to be interviewed. For the vast majority of cases this occurred, although a few children were paired up by the teacher due to an odd one being left unpaired. In these

cases the researcher gained reassurance from the teacher that the children were friends and that the teacher was sure they would feel comfortable answering potentially sensitive questions in front of one another. In one class, the teacher suggested that two children be paired because one child was noticeably overweight and sensitive about it. She was paired with a girl who was mildly overweight with the reassurance that they were friends also. In this way it was hoped that the children would feel comfortable whilst being interviewed.

Methods of data analysis

The children's answers were typed into a standardised format as illustrated in appendix 10. This helped to organise the data into sections which related to specific questions.

Qualitative analysis

In order to analyse the answers to the open questions, it was necessary for the researcher to listen to extracts from nearly all the tapes in addition to reading the transcriptions. This was to hear the children's expressions and to clarify meanings by reference to the wider conversational contexts.

The open questions which concerned children's perceptions of what and why Mr/Miss Thin and Fat ate, and those concerned with body image satisfaction, necessitated a slightly different type of analysis to the questions concerning the children's perceptions of the control of children's eating. The process of analysing the former began during the analysis phase of the pilot project because the intention of the pilot work was to test the methods of analysis as well as the research. The researcher noted on paper all the individual reasons which were given for Mr Fat's diet and then began to group them into themes such as 'because he is fat'. Care had to be taken to distinguish between, for example, the fat person eating because he is fat from eating because he wants to be fat. Having decided on the key emergent themes, these were checked against each child's answer to each question, by reference to the transcriptions and listening again, until the researcher was satisfied

that the themes adequately encompassed all that had been said. Many of the themes which had been identified in the pilot project emerged again during the fieldwork, but some changes were made. The relationship between the themes and each child were plotted onto a hand written grid. Some examples are shown in appendix 11.

In the section concerning children's perceptions of the control of children's eating the four categories had already been decided before the analysis. These ranged from the perception that the adult had total control over the choice of food, that control was shared between adult and child, through to the perception that the child had total control. This is because, as we have seen, these differing degrees of exerting control over children's eating have been noted in the literature (Cline, 1990; Olvera-Ezzell et al, 1990; Whiting and Lobstein, 1995; Crocket and Sims, 1995). By using the transcriptions and listening to most of the tapes it was possible to categorise the children's answers in the way which best represented what the children were saying. These findings were entered onto the hand written grid.

Later, in order to be able to illustrate the findings, the researcher transcribed 'word for word' various quotes from the tapes using the transcriptions and the hand written grid as guides to locate examples of each theme. In most cases several examples of quotes were written out before a selection was made for inclusion in the next chapter. The selected quotes were usually chosen on the basis that they were a very typical representation of the types of quotes which made up the theme. However some attention was also paid to the overall impression that the collection of quotes would give in relation to a specific question, as the researcher wanted to convey to the reader something of the range of answers. For example within any given theme a number of topics, for example individual foods, could emerge. This prompted much thought about whether unusual answers were so atypical as to be misleading if included, versus whether they should be included as legitimate examples of the range. In all events the aim was to provide quotes which illustrated an honest representation of the children's thoughts. It would have been

good to have obtained a second opinion from someone to check that the selection of the quotes was a true representation of the findings, but this was not possible.

Further details concerning the qualitative analysis will be given in the context of individual questions throughout chapter three.

Quantitative analysis

In the same way that Williams et al (1989, 1989a) and Turner (1993) quantified the emergent themes from their qualitative research, the themes from this study were similarly quantified. Although it was possible to calculate frequencies from the hand written grid, further calculations would have been difficult. Therefore the data, that is numbers of children against themes, were transferred to a computer and analysed using SPSS (Statistical Package for Social Sciences).

We may recall that the questions concerning the children's perceptions of individual body parts were semi-structured, and as such the researcher sought to obtain one word descriptions for each body part. Therefore these answers were transferred directly from the transcriptions into a computer for quantitative analysis using SPSS also.

In addition to the statistical analysis which was carried out using SPSS, some additional calculations were done using the StaTpak software programme.

The *chi*-square test was used because it is an appropriate test for data at this level of measurement. It was able to assess whether there was an association between one categorical variable and another. The categories, such as girls, boys, Mr/Miss Thin and Mr/Miss Fat, were mutually exclusive. It was recognised that the test contained some weaknesses. The test could not be applied to frequencies of less than five. For example if only three girls gave an answer, this result could not be compared to the boys using *chi*-square. Another limitation of *chi*-square was that it could only show a measure of association, it could not

show causality (Clegg, 1990). However, it was felt that no other statistical test would be more appropriate.

A 0.05 level of significance was used for all statistical analysis. This means that in 5% of cases it was possible that the *chi-square* might provide a false significant result.

The foods which the children had ascribed to Mr/Miss Fat and Thin were directly entered into a computer from the transcriptions and then analysed using the Lifeline Comp-Eat nutritional software package.

Results in the form of percentages were rounded to the nearest whole percentage, and in the case of 0.5 the figures were rounded up. The results are presented in the next chapter.

CHAPTER THREE

RESULTS

This chapter will present the results of the study. The sample of children who participated will be described followed by the results concerning: **children's perceptions of body image, children's perceptions of the link between body size and food, and children's perceptions of the control of children's eating.** For clarity, each section of results will be preceded by the section of the interview, written in bold, to which they relate.

THE CHILDREN

The sample comprised of 98 children (58 girls and 40 boys). The youngest child was eight years four months and the oldest 10 years five months. Therefore the mean age of the children was nine years 3.7 months. The mean age of the girls was nine years 3.7 months, and the boys was nine years 3.6 months.

Four children's answers were omitted from these results although they completed the interview. One girl was too young at seven years old. It was a mistake that she had received an invitation to partake. Three children were not of white ethnic origin. We may recall that the rationale for these omissions, based on age and ethnicity, was explained in the previous chapter.

How the children were paired

Out of the 58 girls, 50 (86%) were paired up with other girls. Out of the 40 boys, 32 (80%) were paired with other boys. There were eight pairs of boys and girls. Therefore the pairs were: 26 girl/girl pairs; 16 boy/boy pairs; eight boy/girl pairs.

The children's weight

On the basis of the children's height and weight measurements, their BMI was calculated taking their age into account. The results indicated that most of the children were 'normal' weight, and that of the remainder more

were 'overweight' than 'underweight'. Also, the girls were slightly heavier, relative to their height, than the boys. This suggests that the sample of children used in this study did not differ significantly from national norms. This is explained more fully in appendix 12. This data will be used in the section of results concerning children's perceptions of body image.

CHILDREN'S PERCEPTIONS OF BODY IMAGE

The results relating to this section came from the part of the interview concerning body image.

To recap on the research methods, the children were asked to describe their ideal body image, an ordinary child's body image and their own body image by selecting from the four descriptions: fat, medium, thin or muscley, whilst the researcher drew. In order to provide an example of the flavour of how this part of the interview went in practice, a randomly picked transcript is given in appendix 13, and a random set of the researcher's drawings is shown in appendix 5.

It is important to remember that the drawings were simply a tool to provide a visual cue in response to the children's words. The body part was not drawn until after the child had spoken. The single word descriptions were analysed not the drawings, and these are discussed below.

Children's perceptions of body image

Firstly we will address *objective (i): to analyse girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image.*

Children's descriptions of their ideal body image, an ordinary child's body image and their own body image will be discussed in this first section.

TABLE 3.1
CHILDREN'S BODY IMAGE DESCRIPTIONS

<i>Body Image</i>	<i>Description</i> <i>n</i>	<i>% total descriptions</i>		
		children's descriptions (<i>n</i> =392)	girls' descriptions (<i>n</i> =232)	boys' descriptions (<i>n</i> =160)
Ideal	Thin	29%	36%	19%
	Medium	50%	53%	45%
	Fat	5%	4%	6%
	Muscley	16%	7%	30%
Ordinary	Thin	29%	31%	26%
	Medium	49%	50%	48%
	Fat	17%	15%	21%
	Muscley	5%	4%	6%
Me	Thin	22%	23%	19%
	Medium	57%	56%	58%
	Fat	18%	20%	14%
	Muscley	4%	1%	8%

Children's perceptions of their ideal body image

"Imagine you are on the beach in your trunks/swimming costume on a hot summer's day. If you could have any body that you wanted, what would it look like? Think about the outline of the body - the shape...."

prompt: "arms, tummy, legs, bottom."

prompt: "thin, fat, medium, muscley."

The children's verbal descriptions of their ideal arms, tummies, legs and bottoms were analysed in terms of being thin, fat, medium or muscley. These detailed findings are displayed in two ways in appendix 14. The frequency of the thin, fat, medium and muscley descriptions were then totalled up in order to provide an overall description of their ideal body image. These are shown in Table 3.1. Half (50%) of all the ideal body image descriptions were medium followed by 29% thin descriptions and 16% muscley ones. Fat was the least popular description (5%). Girls gave medium descriptions (53% of descriptions) more than thin ones (36%) and rarely gave muscley (7%) or fat ones (4%). Boys cited

medium (45%) followed by muscley (30%) descriptions most frequently. Thin descriptions were cited more frequently by girls (36%) than boys (19%) to a statistically significant level (*chi-square* = 11.568, *df*=1, $p<0.05$) and muscley descriptions were cited more frequently by boys (30%) than girls (7%) to a statistically significant level (*chi-square* = 35.327, *df*=1, $p<0.05$).

The results suggest that many of the girls wanted to be 'medium to thin'. In particular they wanted 'medium to thin' tummies, legs and bottoms, but more clearly medium arms. Of interest was the finding that girls tended to attribute muscley descriptions to their ideal arms in preference to any other body part. The boys seemed to want to be 'medium to muscley'. In particular many boys wanted 'medium to muscley' arms and legs, and 'medium to thin' tummies and bottoms. Details of these findings are shown in appendix 15.

Children's perceptions of an ordinary child's body image

“Describe what you think most boys'/girls'/bodies look like on the beach. What does an ordinary body look like?”

prompt: “arms, tummy, legs, bottom.”

prompt: “thin, fat, medium, muscley.”

Again, the children's descriptions of an ordinary child's arms, tummies, legs and bottoms were analysed in terms of thin, fat, medium or muscley. These results are shown in appendix 14. The frequency of these descriptions were totalled to provide an overall description of the ordinary child's body image. About half (49%) of all the descriptions of an ordinary child's body image were medium. 29% were thin and 17% fat. The least cited description was muscley making up only 5% of the descriptions. Girls gave mostly medium descriptions (50%) followed by twice as many thin (31%) as fat ones (15%). Boys also cited medium descriptions the most frequently (48%) followed by almost equal thin (26%) and fat (21%) ones. Significantly more thin descriptions were cited by girls (31%) than boys (26%) (*chi-square* = 30.767, *df*=1, $p<0.05$). These results are shown in Table 3.1.

The results shown in appendix 14 suggest that girls and boys tended to describe an ordinary child's body image predominantly in medium terms, though after this the girls were more likely to describe them as thin. The girls tended to describe their arms and legs as 'thin to medium' and their tummies and bottoms as medium. The boys' descriptions were more notably medium for all body parts with relatively more fat associated with their tummies.

Children's perceptions of their own body image

"Describe your own body. What do you think you look like on the beach?"

prompt: "arms, tummy, legs, bottom."

prompt: "thin, fat, medium, muscley."

By totalling the descriptions in the same way as before, we can see in Table 3.1 that over half (57%) of the children gave medium descriptions of their own body parts. 22% gave thin descriptions and 18% fat ones. Only 4% were muscley. Both girls and boys described predominantly medium features to an almost equal degree (girls 56%, boys 58%) followed by thin and then fat descriptions. Boys (8%) described muscley features more frequently than girls (1%) to a statistically significant degree (*chi-square* = 11.671, *df*=1, *p*<0.05).

These results suggest that girls and boys described their own body images predominantly in medium terms, though the boys were more likely to describe them as muscley. This was particularly notable for arms and legs. The boys not only described their tummies as being medium or fat more than other body parts, but they described their tummies as being thin more frequently than their arms or legs. The girls tended to describe their tummies, legs and bottoms as relatively fatter than their arms. The finding that more girls described their arms as being thinner and fatter than the boys, and their legs as being thinner than the boys, is mostly explained by the higher frequency of muscley descriptions by boys. These findings are discussed in more detail in appendix 15.

Comparison of descriptions across the three body images

TABLE 3.2
COMPARISON OF BODY IMAGE DESCRIPTIONS:
STATISTICALLY SIGNIFICANT TRENDS (p<0.05)

<i>Body Image Descriptions</i>			
	Ideal	Ordinary	Me
Children	Thin	Thin Fat	Medium Fat
Girls	Thin Muscle		Fat
Boys	Muscle	Fat	Medium

We can look at the results shown in Table 3.1 in another way. By analysing how the frequencies of thin, medium, fat and muscle descriptions vary in the context of the three body images we can see some general trends emerge. The details of this analysis are shown in appendix 15, but the overall trends are shown in Table 3.2. The table shows that thin and muscle descriptions were more strongly associated with children's ideal body image than with their image of themselves. Fat and medium descriptions seemed to be mostly reserved for perceptions of ordinary children and themselves.

Therefore in answer to ***objective (i): to analyse girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image***, we have noted that when describing their ideal body image the children did not want to be fat. The girls seemed to want a thin to medium body image whilst the boys seemed to want a medium to muscle one. The boys particularly wanted extra muscularity in their arms and legs. In describing an ordinary child's body image muscularity was rarely mentioned by the children. Although both girls and boys described the ordinary child in medium terms, the girls cited more thin descriptions than boys. In describing themselves the children most frequently gave medium descriptions. The boys described themselves as having muscle arms and legs more frequently than the girls. When comparing the three body images the children associated

thin and muscley descriptions with their ideal body image; thin and fat ones with ordinary children's body images and medium and fat ones with themselves.

Children's perceptions of body image in relation to actual weight

Now we will look at how children's perceptions of body image may differ according to their actual weight (BMI) in order to address ***objective (ii): to discover how girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image differ according to their own body mass index.*** In this study, based on the calculations outlined in appendix 8, there were 11 'underweight' children (11%), 62 'normal weight' children (63%) and 25 'overweight' children (26%) within the sample. 6% (9 girls) of the girls were 'underweight', 53% (31 girls) were 'normal weight' and 31% (18 girls) were 'overweight'. 5% of the boys (2 boys) were 'underweight', 78% (31 boys) were 'normal weight' and 18% (7 boys) were 'overweight'. It was not possible to use statistical tests across the three weight categories because of the small samples of 'underweight' and 'overweight' children. However statistical comparisons between 'normal weight' girls and boys were carried out.

The 'underweight', 'normal weight' and 'overweight' children's descriptions of body parts were analysed as shown in detail in appendices 16 and 17. As before, the descriptions were totalled to provide overall descriptions of body image for each weight category. These are shown in Table 3.3.

TABLE 3.3

'UNDERWEIGHT', 'NORMAL WEIGHT' AND 'OVERWEIGHT' CHILDREN'S BODY IMAGE DESCRIPTIONS

<i>Body Image</i>	<i>Description</i>	<i>% of children's total descriptions</i>			<i>% of girls' total descriptions</i>			<i>% of boys' total descriptions</i>		
		<i>'under-weight'</i> <i>(n=44)</i>	<i>'normal weight'</i> <i>(n=248)</i>	<i>'overweight'</i> <i>(n=100)</i>	<i>'under-weight'</i> <i>(n=36)</i>	<i>'normal weight'</i> <i>(n=124)</i>	<i>'overweight'</i> <i>(n=72)</i>	<i>'under-weight'</i> <i>(n=8)</i>	<i>'normal weight'</i> <i>(n=124)</i>	<i>'overweight'</i> <i>(n=28)</i>
Ideal	Thin	16%	24%	45%	19%	31%	53%	0%	19%	25%
	Medium	55%	47%	42%	58%	58%	42%	38%	46%	43%
	Fat	2%	6%	4%	3%	6%	1%	0%	5%	11%
	Muscley	27%	23%	9%	19%	5%	4%	63%	30%	21%
Ordinary	Thin	32%	28%	31%	25%	34%	31%	63%	22%	32%
	Medium	43%	50%	48%	47%	51%	49%	25%	50%	46%
	Fat	23%	17%	15%	28%	12%	13%	0%	22%	21%
	Muscley	2%	5%	6%	0%	3%	8%	13%	6%	0%
Me	Thin	45%	21%	13%	44%	23%	13%	50%	19%	14%
	Medium	50%	61%	49%	50%	62%	47%	50%	60%	54%
	Fat	5%	13%	36%	6%	13%	40%	0%	13%	25%
	Muscley	0%	5%	2%	0%	2%	0%	0%	9%	7%

TABLE 3.4

CHILDREN'S DESCRIPTIONS OF THEIR IDEAL BODY IMAGE, AN ORDINARY CHILD'S BODY IMAGE AND THEIR OWN BODY IMAGE IN RELATION TO ACTUAL WEIGHT

Ideal body image				Ordinary body image				Own body image			
	'unde rweig ht'	'normal weight'	'over weigh t'		'unde rweig ht'	'normal weight'	'over weigh t'		'unde rweig ht'	'normal weight'	'over weigh t'
Children <i>(n=98)</i>	11%	63%	26%	Children <i>(n=98)</i>	11%	63%	26%	Children <i>(n=98)</i>	11%	63%	26%
<i>Descriptions</i>	<i>thin</i>	<i>mediu m</i>	<i>fat</i>	<i>Descriptions</i>	<i>thin</i>	<i>mediu m</i>	<i>fat</i>	<i>Descriptions</i>	<i>thin</i>	<i>medium</i>	<i>fat</i>
% descriptions for ideal body image	29%	50%	5%	% descriptions for ordinary body image	29%	49%	17%	% descriptions for their own body image	22%	57%	18%
Girls <i>(n=58)</i>	6%	53%	31%	Girls <i>(n=58)</i>	6%	53%	31%	Girls <i>(n=58)</i>	6%	53%	31%
<i>Descriptions</i>	<i>thin</i>	<i>mediu m</i>	<i>fat</i>	<i>Descriptions</i>	<i>thin</i>	<i>mediu m</i>	<i>fat</i>	<i>Descriptions</i>	<i>thin</i>	<i>medium</i>	<i>fat</i>
% descriptions for ideal body image	36%	53%	4%	% descriptions for ordinary body image	31%	50%	15%	% descriptions for their own body image	23%	56%	20%
Boys <i>(n=40)</i>	5%	78%	18%	Boys <i>(n=40)</i>	5%	78%	18%	Boys <i>(n=40)</i>	5%	78%	18%
<i>Descriptions</i>	<i>thin</i>	<i>mediu m</i>	<i>fat</i>	<i>Descriptions</i>	<i>thin</i>	<i>mediu m</i>	<i>fat</i>	<i>Descriptions</i>	<i>thin</i>	<i>medium</i>	<i>fat</i>
% descriptions for ideal body image	19%	45%	6%	% descriptions for ordinary body image	26%	48%	21%	% descriptions for their own body image	19%	58%	14%



Children's perceptions of their ideal body image in relation to their actual weight

“Imagine you are on the beach in your trunks/swimming costume on a hot summer's day. If you could have any body that you wanted, what would it look like? Think about the outline of the body - the shape.....”

prompt: “arms, tummy, legs, bottom.”

prompt: “thin, fat, medium, muscley.”

The children's overall descriptions of their ideal body image in relation to the three weight categories are shown in Table 3.3. The analysis of these particular results will draw on a method used by Blissett et al (1996). This assumes that there is an association between 'thin' and 'underweight', 'medium' and 'normal weight', and 'fat' and 'overweight'.

Table 3.4 shows the weight distribution of the children compared with their descriptions of their ideal body image taken from Table 3.1. Here we can see that the children tended to describe their ideal body image as thinner than the children's actual weight would suggest they were themselves. Furthermore a look at the results shown in Table 3.3 shows that thin descriptions were most frequently cited by the 'overweight' children (45%) and least by the 'underweight' (16%), whilst muscley descriptions were most frequently cited by the 'underweight' children (27%) and least by the 'overweight' (9%). Therefore these results suggest that thinness was more important to heavier children and muscularity to lighter ones.

We have seen that most children did not want to be fat. In particular the pattern of results, which can be observed from the detailed findings in appendix 17, shows that with increased weight the children were more likely to cite thin arms, tummies, legs and bottoms in the context of their ideal body image. Curiously, they were also more likely to cite fat tummies. With decreased weight the children were more likely to cite medium legs, tummies and bottoms; muscley arms, tummies and legs, and fat arms. Therefore although fatness seemed to be acceptable in one or two specific cases, generally it was rejected amongst children of all weights.

Girls' perceptions of their ideal body image in relation to their actual weight

By comparing the girls' weight distribution with their descriptions of their ideal body image in Table 3.4, the findings indicate that many of the girls gave thinner descriptions than their actual weight would suggest they were themselves. This is supported by considering the results shown in Table 3.3 which show that most of the 'underweight' (58%) and 'normal weight' (58%) girls' descriptions were medium ones. Among the 'overweight' girls thin descriptions (53%) were most frequently cited. This suggests that although the girls, as a whole group, wanted to be 'thin to medium' in fact the desire for thinness was stronger amongst the heavier girls. Moreover the results not only suggest that the 'underweight' girls were relatively less interested in thinness than the others, but also that they were relatively more interested in having muscularity (19% of descriptions).

Boys' perceptions of their ideal body image in relation to their actual weight

Turning to the boys, if we compare their weight to their descriptions of their ideal body image in Table 3.4, we can see that the boys seem to want a thinner body image than their actual weight suggests they had themselves. However, further analysis shows that the overall picture is more complicated than this. Table 3.1 shows that 30% of the boys' descriptions were muscley, and we can see in Table 3.3 that the muscley descriptions were more popular with decreasing weight. Bearing in mind that we have noted that many boys wanted to be medium to muscley, it seems that the muscularity was important to boys of all weights whilst thinness tended to be of concern to the 'overweight' boys only. Therefore the pattern of results suggest that many of the 'underweight' boys wanted to increase their size with muscle, many of the 'normal weight' boys wanted to be medium and muscley, and many of the 'overweight' boys wanted to be thin to medium and muscley.

A comparison of the 'normal weight' girls' and boys' descriptions served to underline the importance of muscley arms and legs to boys compared

to the girls. This is shown in appendix 16. However there were no differences of statistical significance ($p < 0.05$) between the normal weight girls and boys.

Children's perceptions of an ordinary child's body image in relation to their actual weight

We will now consider the relationship between children's perceptions of an ordinary child's body image and their actual weight. These results relate to this part of the interview:

“Describe what you think most boys'/girls' bodies look like on the beach. What does an ordinary body look like?”

prompt: “arms, tummy, legs, bottom.”

prompt: “thin, medium, fat, muscley.”

The children's descriptions of an ordinary child's body parts were analysed against the weight of the children (appendix 16 and 17). From this the children's overall descriptions of an ordinary child's body image were compared to their weight. This data is presented in Table 3.4. We will recall that the children tended to describe the ordinary child's body image predominantly as medium though this analysis suggests that some of the children described an ordinary child in thinner terms than their actual weight would suggest they were themselves. A further look at the results in Table 3.3 show that although there is a slight indication that 'underweight' children described fat features (23% of descriptions) in ordinary children more than 'overweight' ones (15%), actual weight appeared to make little difference to the frequency of specific descriptions cited.

The pattern of results shown in appendix 17 suggests that with decreased weight the children were more likely to cite fat arms, thin and fat legs, and thin bottoms in the context of the ordinary child's body image. With increasing weight the children were more likely to cite medium and muscley arms, fat tummies, and medium and fat bottoms. Children in all three weight categories rarely cited muscley features, the exception being 'overweight' children's citing of muscley arms.

Girls' perceptions of an ordinary girl's body image in relation to their actual weight

A similar comparison of the girls' actual weights with their perceptions of an ordinary girls' body image, shown in Table 3.4, suggests that they perceived ordinary girls to be generally thinner than they were themselves, based on actual weight. Further analysis, based on the results in Table 3.3, suggests that the lighter girls described an ordinary girl as fat more frequently than the others.

Boys' perceptions of an ordinary boy's body image in relation to their actual weight

Turning to the boys, the data in Table 3.4 suggests that they, like the girls, tended to describe an ordinary boy as being thinner than their actual weight suggested they were themselves. It also suggests that a very small number of boys cited fatter descriptions than themselves. A further analysis of the results (Table 3.3) indicates that the 'underweight' boys were the most likely to describe an ordinary boy as thin. However it should be borne in mind that there were only 2 'underweight' boys in the sample.

A more detailed comparison of the girls' and boys' descriptions (appendix 16), indicates that their actual weight made no statistically significant ($p < 0.05$) difference to their answers. There was a high level of agreement between the girls and boys of 'normal weight'.

Children's perceptions of their own body image in relation to their actual weight

Finally, we will consider children's perceptions of themselves in relation to their actual weight and gender using the same process of analysis. The results have been obtained from this part of the interview:

“Describe your own body. What do you think you look like on the

beach?”

prompt: “arms, tummy, legs, bottom.”

prompt: “thin, medium, fat, muscley.”

Again, the children’s descriptions of their own body parts were analysed against the weight of the children. This is shown in appendices 16 and 17. We have seen that the children described themselves in predominantly medium terms. Table 3.3 shows that the heavier children described themselves as relatively fatter and the lighter ones as relatively thinner. Thus the children’s descriptions of themselves seem to be in line with what we might expect based on their actual weight. However, as we saw earlier in Table 3.4, the overall pattern of results suggests that some children were describing themselves as thinner than their weight suggests they were. In particular it was the ‘overweight’ children who tended to describe themselves as thinner - that is in medium and thin terms rather than in fat, rather than the ‘normal weight’ (Table 3.3). To a much lesser extent the ‘underweight’ children tended to describe themselves as fatter - that is in medium and fat terms rather than thin ones (Table 3.3).

More specifically, the pattern of results shown in appendix 17 suggests that with increased weight the children were more likely to describe themselves as having medium or fat arms, fat tummies and fat legs in the context of their own body image. With decreased weight the children were more likely to describe themselves as having thin arms, thin tummies, thin and medium legs and thin and fat bottoms.

Girls’ perceptions of their own body image in relation to their actual weight

Turning to the girls, again we can see from Table 3.3 that their descriptions of themselves resembled what we may expect according to their actual weight. The heavier girls tended to describe themselves as fatter, especially their tummies (appendix 16), and the lighter ones as thinner. Also, as we have seen for the children, the overall picture is one

where the girls tended to provide thinner descriptions than their weight would suggest they were themselves (Table 3.4).

Boys' perceptions of their own body image in relation to their actual weight

A similar pattern is seen amongst the boys where the heavier ones described themselves as relatively fatter, and the lighter ones as thinner (Table 3.3). Also, among the boys, several perceived themselves to be thinner than their weight suggests they were (Table 3.4). Of interest is that a small number of muscley descriptions were attributed to both 'normal weight' and 'overweight' boys' arms and legs (appendix 16).

Therefore these results suggest that both boys' and girls' perceptions of their own body images were reasonably accurate in terms of what one would expect based on their actual weight, with the exception that some boys and girls perceived themselves to be thinner than they probably were. There were no statistically significant ($p < 0.05$) differences between the 'normal weight' girls and boys (appendix 16).

Therefore in answer to ***objective (ii): to discover how girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image differ according to their own body mass index***, the results suggest that with increasing weight the desire for a thin body image increased amongst both girls and boys. Also, with increasing weight, they indicate that they wanted an ideal body image which was thinner than their own weight would suggest that they had themselves. The 'underweight' children indicated that their ideal body

TABLE 3.5

SUMMARY OF CHILDREN'S PERCEPTIONS OF BODY IMAGE

Sample	Child's own body image	Ideal body image	How child's own body image needs to change to meet ideal body image	Apparent satisfaction	Ordinary body image	Ordinary body image compared to child's own body image	Child's self perception as ordinary or different	Child's ideal body image compared to ordinary body image	Child's wish to be ordinary or different
<i>All children's (n=98) descriptions (n=392)</i>	57% medium 22% thin 18% fat 4% muscley	50% medium 29% thin 16% muscley 5% fat	51% same 24% thinner 14% more muscley 9% fatter 2% less muscley	51% satisfied 49% dissatisfied	49% medium 29% thin 17% fat 5% muscley	46% same 29% thinner 19% fatter 4% more muscley 3% less muscley	46% ordinary 54% different	41% same 24% thinner 15% fatter 15% more muscley 5% less muscley	41% ordinary 59% different
<i>Girls' (n=58) descriptions (n=232)</i>	56% medium 23% thin 20% fat 1% muscley	53% medium 36% thin 7% muscley 4% fat	52% same 31% thinner 10% fatter 6% more muscley 1% less muscley	52% satisfied 48% dissatisfied	50% medium 31% thin 15% fat 4% muscley	43% same 33% thinner 19% fatter 4% more muscley 1% less muscley	43% ordinary 57% different	46% same 26% thinner 18% fatter 6% more muscley 3% less muscley	46% ordinary 54% different
<i>Boys' (n=40) descriptions (n=160)</i>	58% medium 19% thin 14% fat 8% muscley	45% medium 30% muscley 19% thin 6% fat	48% same 26% more muscley 15% thinner 8% fatter 4% less muscley	48% satisfied 52% dissatisfied	48% medium 26% thin 21% fat 6% muscley	50% same 23% thinner 19% fatter 5% less muscley 3% more muscley	50% ordinary 50% different	33% same 28% more muscley 21% thinner 11% fatter 6% less muscley	33% ordinary 77% different

TABLE 3.6

SUMMARY OF THE DIFFERENCES BETWEEN GIRLS' AND BOYS' PERCEPTIONS OF BODY IMAGE

Sample	Child's own body image	Ideal body image	How child's own body image needs to change to meet ideal body image	Apparent satisfaction	Ordinary body image	Ordinary body image compared to child's own body image	Child's self perception as ordinary or different	Child's ideal body image compared to ordinary body image	Child's wish to be ordinary or different
<i>Girls and BOYS (based on total percentages of descriptions)</i>	MUSCLEY	thin MUSCLEY		LESS DISSATISFIED (ON DIRECT QUESTIONING)	thin				
<i>Arms</i>	MEDIUM MUSCLEY thin fat	MUSCLEY medium thin	same fatter MUSCLEY					fatter MUSCLEY	DIFFERENT>SAME
<i>Tummy</i>									
<i>Legs</i>	thin MUSCLEY	MUSCLEY thin						same MUSCLEY	DIFFERENT>SAME
<i>Bottom</i>				satisfied>dissatisfied					
<i>Overall</i>			MORE MUSCLEY thinner					MORE MUSCLEY	

Girls are illustrated by lower case letters and boys by upper case letters. The table summarises the differences between girls' and boys' perceptions of body image by highlighting where there were statistically significant ($p < 0.05$) differences and the nature of that difference.

image would be fatter and more muscley then their own weight would suggest that they were themselves. Muscley descriptions were popular amongst the boys at all weights. The children tended to describe the ordinary child in slightly thinner terms than their own weight would suggest they were themselves. With decreasing weight, the girls described an ordinary girl's body image as fat more frequently, whereas the boys described an ordinary boy's body as thin more frequently. The children's descriptions of themselves broadly correlated with what their weight would suggest they looked like although there was a trend to describe themselves as thinner than the weights of the sample would suggest that they were themselves. When describing themselves the descriptions seemed to be less accurate amongst the 'underweight' and 'overweight' children

Children's satisfaction with their own body image

The results in this section look at how satisfied the children were with their own body image. They aim to address ***objective (iii): to analyse how satisfied girls and boys are with their own body image and how they want it to change.*** These findings are based primarily on a further analysis of the data which has already been presented. This is defined as the indirect data. This is done by comparing the answers given by the children about their body parts with those given for the ideal and ordinary child's body parts. From this it is possible to deduce whether they wanted to be thinner, fatter, more muscley, less muscley or the same as their perceptions of an ordinary child's body image or their ideal body image. Similarly it is possible to deduce whether the children perceived an ordinary child's body image to be the same as their ideal one or different. Further details about the analysis are given in appendix 18 and the detailed results relating to individual body parts in appendix 19.

Children's satisfaction and dissatisfaction with their own body image - indirect questioning

We will address how satisfied the children were with their own body image by comparing the children's descriptions of their own body parts with their descriptions of their ideal ones. By totalling up the comparative descriptions such as wanting to have a thinner or fatter body part, we can obtain an overview of the direction of change which most children wanted. Table 3.5 shows this overview, and is derived from the

more detailed data given in appendix 19 . For clarity, the table also includes key findings which have already been discussed.

51% of the comparative descriptions indicated satisfaction in that the children described their ideal body parts in the same way same as their descriptions of their own. Therefore 49% of the descriptions indicated a difference. This mostly comprised of wanting to be thinner (24% of descriptions), followed by wanting to be more muscley (14%) or rarely fatter (9%).

Turning to compare the boys' and girls' answers, the data shows that the girls' descriptions indicated slightly more satisfaction (52% of descriptions) than the boys' (48%). However a third (31%) of the girls' descriptions indicated wanting to be thinner, and a quarter (26%) of the boys' indicated wanting to be more muscley. Indeed the girls indicated that they wanted thinner body parts (72 descriptions) significantly more than the boys (24 descriptions) (*chi-square* = 12.313, *df*=1, *p*<0.05), and the boys mentioned that they wanted more muscley body parts (40 descriptions) significantly more than the girls (13 descriptions) (*chi-square* = 28.833, *df*=1, *p*<0.05).

A further analysis of specific body parts is summarised in Table 3.6 and is based on the detailed data in appendices 19 and 20. This data shows that in general the girls wanted relatively thinner tummies, legs and bottoms compared to their arms. Indeed significantly more girls (47%) than boys (43%) described their ideal arms in the same way as their own (*chi-square* = 19.915, *df*=2, *p*<0.05), and significantly more girls (22%) than boys (5%) described their ideal arms as fatter than their own (*chi-square* = 14.877, *df*=2, *p*<0.05). However significantly more boys (43%), than girls (12%), described their ideal arms as more muscley than their own (*chi-square* = 10.267, *df*=2, *p*<0.05).

A further comparison of the girls and boys (appendix 20) shows that the number of girls who were satisfied with their bottoms was greater than those who were dissatisfied to a statistically significant degree, using a 'goodness of fit' test (*chi-square* = 4.4309, *df*=1, *p*<0.05) (Table 3.6). The boys were most satisfied with their bottoms and least satisfied with their legs.

Children's satisfaction and dissatisfaction with their own body image - direct questioning

Now we will look at the same issue by using different data so that **objective (iv): to analyse the reliability of girls' and boys' answers concerning body image satisfaction** can be met. This analysis relates to direct questions which were put to the children. Firstly:

“Is there anything that you don’t like about the shape and size of your body?”

**TABLE 3.7
WHAT CHILDREN DISLIKED ABOUT THEIR
BODY IMAGE ON DIRECT QUESTIONING**

<i>“Is there anything that you don’t like about the size and shape of your body?”</i>	<i>% children (n=98)</i>	<i>% girls (n=58)</i>	<i>% boys (n=40)</i>
Nothing/no/satisfied	51%	40%	68%
Want to be thinner	8%	12%	3%
Want to be fatter	1%	0%	3%
Want to be more muscley	3%	2%	5%
Arms - too fat/want to be thinner	1%	8%	0%
Arms - too thin/want to be fatter	5%	7%	3%
Arms - want to be more muscley	2%	0%	5%
Tummy - too fat/want to be thinner	10%	14%	5%
Tummy - too thin/want to be fatter	2%	3%	0%
Legs - too fat/want to be thinner	13%	16%	10%
Legs - too thin/want to be fatter	3%	5%	0%
Legs - want to be more muscley	1%	0%	3%
Bottom - too fat/want to be thinner	2%	3%	0%
Other	1%	2%	0%

Table 3.7 shows that just over half the children (51%) could not name anything which they didn’t like about their bodies answering, “No,” or stated that they were satisfied with them. 13% of the children wanted thinner legs, or complained that they felt they were too fat. The analysis also shows that 40% of the girls were satisfied with their bodies, or could not specifically name anything which they were dissatisfied with. 16% of girls wanted thinner legs as illustrated by an extract from an interview with one girl:

“Is there anything that you don’t like about the shape and size of your body?”

“Don’t like my legs.”

prompt: “You don’t like your legs. Why don’t you like your legs?”.....(no answer)..... “How would you like your legs to be different?”

"I'd like them to be a bit thinner."

(girl)

Turning to the boys, 68% of the boys were either satisfied with their bodies and simply answered, "No," or could not think of anything which they were dissatisfied about. 10% wanted thinner legs, or thought that their legs were too fat.

The differences, between the sexes, in terms of the frequency of individual answers did not differ to a statistically significant degree with the exception that the boys cited nothing which they didn't like (68%) more than the girls (40%) (*chi-square* = 6.273, *df*=1, *p*<0.05).

After being asked about what they did not like, this section of the interview ended on a more positive note by asking the children:

"What do you like about the size and shape of your body?"

TABLE 3.8**WHAT CHILDREN LIKED ABOUT THEIR BODY IMAGE**

<i>“What do you like about the size and shape of your body?”</i>	<i>% children (n=98)</i>	<i>% girls (n=58)</i>	<i>% boys (n=40)</i>
Everything/satisfied	10%	5%	18%
Nothing/no	55%	60%	48%
Arms	11%	9%	15%
Tummy	7%	10%	3%
Legs	14%	12%	18%
Other	5%	3%	8%

Table 3.8 shows that over half the children (55%) said that they did not like anything about their own bodies, again most simply answered, “No” or, “Nothing.” This rose to 60% of the girls and 48% of the boys.

10% of the girls liked their tummies, like this girl:

“What do you like about the size and shape of your body?”

“My tummy because it’s nice and slim.”

(girl)

15% of the boys liked their arms. For example:

“My arms.”

prompt: “Why do you like your arms?”

“Coz they’re not too fat and they’re not too skinny.”

(boy)

To summarise children’s satisfaction with their own body image we have seen that the data suggests that about half the children were satisfied and half were dissatisfied. Amongst the girls whilst 52% indicated satisfaction based on the indirect data, 40% indicated satisfaction when asked directly about their body image. Amongst the boys, the indirect questioning suggested that 48% were satisfied whilst the direct questioning indicated that 68% were. Based on the direct data only, the boys indicated more body image satisfaction than the girls. However none of these differences were found to be statistically significant ($p < 0.05$).

TABLE 3.9

**GIRLS' AND BOYS' BODY IMAGE DISSATISFACTION:
DIRECT AND INDIRECT QUESTIONING**

	% girls (n=58)		% boys (n=40)	
	indirec t	direc t	indirec t	direc t
Arms - too fat/want to be thinner	19%	2%	8%	0%
Arms - too thin/want to be fatter	22%	7%	5%	5%
Arms - want to be more muscley	12%	0%	40%	5%
Tummy - too fat/want to be thinner	40%	14%	20%	5%
Tummy - too thin/want to be fatter	7%	3%	18%	0%
Tummy - want to be more muscley	0%	0%	13%	0%
Legs - too fat/want to be thinner	33%	16%	15%	10%
Legs - too thin/want to be fatter	10%	5%	5%	0%
Legs - want to be more muscley	7%	0%	33%	3%
Bottom - too fat/want to be thinner	33%	3%	18%	0%
Bottom - too thin/want to be fatter	0%	0%	0%	0%
Bottom - want to be more muscley	3%	0%	15%	0%

Turning to consider the children's satisfaction with individual body parts, we can see that there were differences in their answers depending on whether they emerged from indirect or direct questioning. A comparison of their satisfaction with body parts shows that both girls and boys indicated greater satisfaction, to a statistically significant level ($p < 0.05$), with all body parts in the context of indirect questioning than direct questioning with the exception of boys' arms. These findings are detailed in appendix 21. This suggests that the boys' perceptions of arms, where between 15% and 43% of boys were satisfied, was the most reliable answer.

Amongst the girls we have seen that 48% were dissatisfied with their body image, according to the indirect data, and 60% when asked directly. This difference was not statistically significant ($p < 0.05$). Although they seemed to want comparatively thinner tummies, legs and bottoms and fatter arms, according to the indirect analysis (Table 3.9), their wish for thinner legs was the most reliable answer in the context of the two methods (appendix 21). Between 16% and 33% wanted thinner legs.

Amongst the boys, we have seen that 52% were dissatisfied with their body image according to the direct data, and 32% were dissatisfied according to the indirect data. This difference was not statistically significant ($p < 0.05$), although it was interesting to note that the dissatisfaction seemed to be located in wanting more muscley arms in particular (Table 3.9). However it was the boys' responses concerning wanting thinner tummies and legs which were the most reliable in the context of the two research methods (appendix 21). Between 5% and 20% of boys wanted a thinner tummy, and between 10% and 15% wanted thinner legs.

In response to ***objective (iv): to analyse the reliability of girls' and boys' answers concerning body image satisfaction***, the answer seems to be that the answers were not reliable. The majority of their answers, with respect to specific body parts, differed to a statistically significant level ($p < 0.05$) (appendix 21). This suggests that the research method may significantly affect the responses which children give to questions about their body image satisfaction.

Children's perceptions of an ordinary child's body image compared to their own

We will now look at whether the children described themselves in similar or different ways from their perceptions of an ordinary child's body image. This analysis attempts to discover if the children thought of themselves as ordinary or different. We may recall that Table 3.5 is largely based upon the detailed data shown in appendix 19.

By totalling up the children's descriptions it was possible to conclude that almost half (46%) of the descriptions given by the children for themselves were the same as those given for the ordinary child's body image (Table 3.5). Of those that were not the same, 29% thought that an ordinary child had thinner body parts, 19% fatter ones

and 4% more muscley ones than themselves. An analysis of the girls' and boys' descriptions (appendix 19) revealed no differences of statistical significance ($p < 0.05$). About half the girls' (43% of descriptions) and boys' (50% of descriptions) descriptions indicated that they thought that they had body parts like those of an ordinary child. Their perceived differences seemed to be concerned with thinking that they were either thinner or fatter than other children though these perceptions were not focused on any particular body part.

Children's perceptions of an ordinary child's body image compared to their ideal body image

Again, by totalling up the descriptions we can consider how close children's perceptions of an ordinary child's body image matched those of their ideal body image. In this way we can find out whether their aspirations were to be 'ordinary' or to be something different. 59% of the descriptions demonstrated a difference in the children's perceptions of an ordinary child's body image compared to those of their ideal body image child (Table 3.5). Therefore over half the descriptions indicated that the children did not want to be 'ordinary'. Of these, 24% of the descriptions indicated that they wanted a thinner ideal body image, 15% indicated that they wanted to be fatter and 15% more muscley compared to their perceptions of an ordinary child.

Amongst the boys three quarters (77%) of their descriptions indicated that their ideal body image was different to that of an ordinary child, whilst this comprised just over half (54%) of the girls' descriptions (Table 3.5). The boys (28% of descriptions) expressed wanting to be more muscley than girls (6% of descriptions) to a statistically significant level ($\chi^2 = 34.435$, $df=1$, $p < 0.05$).

Further analysis, based on the details shown in appendices 19 and 20, shows that amongst the boys, significantly more boys wanted different arms (67%) than wanted them to be the same (33%) ($\chi^2 = 6.425$, $df=1$, $p < 0.05$) and legs (75%:25%) ($\chi^2 = 10.025$, $df=1$, $p < 0.05$). This is largely accounted for by the boys' wish for muscley arms. They described wanting more muscley arms (50%) than their perceptions of an ordinary boy's, significantly more than the girls (10%) ($\chi^2 = 33.638$, $df=2$, $p < 0.05$). Conversely, significantly more girls (21%) than boys (5%) described their ideal arms as being fatter than an ordinary girl's ($\chi^2 = 9.691$, $df=2$, $p < 0.05$). Turning to perceptions of legs, 29 girls (50%) described their ideal legs

in the same way as those of an ordinary child as opposed to only ten boys (25%). This difference was found to be statistically significant (*chi-square* = 5.176, *df*=2, *p*<0.05). Also, significantly more boys (35%) described their ideal legs as more muscley compared to an ordinary child's, than girls (7%) (*chi-square* = 10.666, *df*=2, *p*<0.05). Therefore many of the children seemed to want their arms and legs to be different in some way from those they perceived in ordinary children. In particular, the boys' seemed to want more muscley arms and legs than those they associated with an ordinary child. These findings are summarised in Table 3.6.

This section of results has attempted to provide answers to ***objective (iii): to analyse how satisfied girls and boys are with their own body image and how they want it to change.*** The key findings seem to suggest that about half the children were satisfied with their body image, and half were not. There was some evidence to suggest that the girls may have been less satisfied than the boys, but this was not reliable. The girls' dissatisfaction seemed to revolve around wanting to be thinner, whilst the boys' revolved around wanting more muscularity. In looking at how 'normal' the children feel, by comparing their own body image to their perceptions of an ordinary child, we have seen that about half the descriptions given indicated a perception of difference. This difference seemed to be made up of perceptions of being both fatter than an ordinary child and thinner than one. Furthermore, not only have the results indicated that many of the children felt different to other children, but many did not want to have a body image like that of an ordinary child. About half the children wanted an ideal body image which was different to their perceptions of an ordinary child. This suggests that they were in fact aiming for something 'abnormal'. In particular they seemed to want to be thinner and to a lesser extent fatter or more muscley. Whilst many of the girls notably wanted fatter arms, many of the boys wanted more muscley arms and legs than an ordinary child.

Children's satisfaction with their own body image in relation to actual weight

Having looked at how satisfied the children were with their own body image by comparing their perceptions of the three body images researched, we will now consider how their actual weight affected the degree of satisfaction expressed. In this way we will address ***objective (v): to discover how girls' and boys' satisfaction with their own body image differs according to their own body mass index***

Children's satisfaction with their own body image in relation to actual weight

In this section, we will look at children's perceptions of their ideal body image, and compare them to their perceptions of their own body image, taking their actual weight into account. As we have seen in the previous section, it is possible to deduce whether a child wanted to be thinner, for example, by comparing their perceptions of their ideal body image to their own. This exercise was repeated for the descriptions of each body part and analysed according to the weight of the child. Table 3.10 summarises the key findings based on the detailed data shown in appendix 22.

By totalling up the descriptions, we can see that 54% of the 'normal weight' children's descriptions indicated satisfaction with their own body image (Table 3.10) which made them a more satisfied group than the 'overweight' (44% of descriptions) and 'underweight' (48% of descriptions) children. However these differences were not statistically significant ($p < 0.05$). If we look at the causes of dissatisfaction, the data suggests that with increasing weight the children wanted to have thinner body parts than their perceptions of their own. It also suggests that the 'underweight' children preferred to increase their size with muscle rather than fat.

TABLE 3.11**GIRLS' AND BOYS' SATISFACTION WITH THEIR OWN BODY PARTS IN RELATION TO ACTUAL WEIGHT**

<i>Body Parts</i>	<i>% satisfied 'underweight' girls (n=9)</i>	<i>% satisfied 'normal weight' girls (n=31)</i>	<i>% satisfied 'normal weight' boys (n=31)</i>	<i>% satisfied 'overweight' girls (n=18)</i>	<i>% satisfied 'overweight' boys (n=7)</i>
Arms	11%	55%	39%	50%	71%
Tummy	67%	58%	52%	28%	57%
Legs	56%	52%	32%	39%	43%
Bottom	78%	74%	68%	39%	57%
Average satisfaction rating	53%	60%	48%	39%	57%

Table 3.11 shows that the 'normal weight' girls were the most satisfied with their body image in that they described their own body parts in the same way as their ideal ones more than the others. However it should be noted that almost half their descriptions indicated dissatisfaction. The 'overweight' girls were the most dissatisfied. The table also shows that the 'overweight' boys were more satisfied with their body image compared to the 'normal weight' boys.

A more detailed analysis of the boys' and girls' answers is shown in appendix 23. This suggests that amongst the 'underweight' girls the preference for increased size came from both fat and muscle. While the 'normal weight' girls either wanted to have fatter or thinner body parts, the 'overweight' ones wanted to have either the same or thinner body parts. Amongst the boys, the 'normal weight' and the 'overweight' wanted to have either more muscley or thinner body parts than they perceived themselves to have. There were only two boys in the sample, but it was noticeable that increased muscularity was important to both.

We have already seen that many of the children did not want to be fat, and noted that with increasing weight children more frequently indicated that they wanted to be thinner than their own weight would suggest they were. Here we can see that the heavier children also wanted to be thinner than their perceptions of themselves. We

have also noted that muscularity was more important to the 'underweight' girls and to many boys when describing their ideal body image. Here we can see that 'underweight' girls, and indeed boys of all weights, wanted more muscularity than they perceived themselves to have.

Further statistical analysis of the 'normal weight' girls' and boys' answers, shown in appendix 23, suggests that the number of boys' answers indicating that they wanted increased muscularity in their arms and legs compared to how they perceived their own, was significantly greater than the girls. Having fatter arms, than how they perceived their own, was relatively more important to the girls.

Children's perceptions of an ordinary child's body image compared to their own, in relation to their actual weight

We will now consider the relationship between the children's perceptions of themselves compared to their perceptions of an ordinary child's body image, taking weight into account. In this way we may suggest how 'normal' the 'underweight', 'normal weight' and 'underweight' children felt. Table 3.10 shows that 52% of the 'normal weight' children's descriptions indicated that they perceived themselves to have a body part which was the same as an ordinary child. The 'underweight' children perceived themselves to be most frequently different from an ordinary child (68% of descriptions), though the 'overweight' ones were close behind (63% of descriptions). This suggests that the 'normal weight' children felt more like other children than the others, although, even among them, there were frequent perceptions of feeling different.

We have seen that the children tended to describe an ordinary child in medium terms, and that their descriptions were generally thinner than the children's weight would suggest they were themselves. Here, we can see that the 'overweight' children, in particular, tended to feel that ordinary children were thinner than they perceived themselves to be (44% of descriptions).

TABLE 3.12

GIRLS' AND BOYS' PERCEPTIONS OF AN ORDINARY CHILD'S BODY PARTS COMPARED TO THEIR OWN

<i>Body Parts</i>	% <i>'underweight' girls (n=9)</i> <i>Same</i>	% <i>'normal weight' girls (n=31)</i> <i>Same</i>	% <i>'normal weight' boys (n=31)</i> <i>Same</i>	% <i>'overweight' girls (n=18)</i> <i>Same</i>	% <i>'overweight' boys (n=7)</i> <i>Same</i>
Arms	33%	45%	61%	50%	57%
Tummy	11%	52%	45%	33%	14%
Legs	22%	39%	61%	56%	29%
Bottom	44%	61%	48%	17%	29%
Average satisfaction rating	28%	49%	54%	28%	32%

Table 3.12 suggests that most of the 'normal weight' boys described themselves as like their perceptions of an ordinary child's body image the most frequently. Among the 'overweight' girls the number of girls (15 girls) who described their bottoms as different from those of an ordinary girl was significantly greater than those who described them as the same (3 girls) (*chi-square* = 8.055, *df*=1, *p*<0.05). The girls' and boys' individual answers (appendix 23) revealed no differences of statistical significance (*p*<0.05).

Children's perceptions of an ordinary child's body image compared to their ideal body image in relation to their actual weight

Finally, we will now consider the relationship between the children's perceptions of an ordinary child's body image compared to their perceptions of their ideal body image, in the context of their weight. In this way we can suggest which children wanted to be 'ordinary' and which wanted to be something else. Table 3.10 shows that the 'normal weight' children most frequently described their ideal body image in the same way as that of an ordinary child (43% of descriptions). However most of the children, particularly the 'underweight' ones, wanted to be different (73% of descriptions). Whilst the 'overweight' and 'underweight' children wanted a thinner body image than their perceptions of an ordinary child, the 'underweight' in particular wanted more muscle (27% of descriptions).

TABLE 3.13

GIRLS' AND BOYS' PERCEPTIONS OF AN ORDINARY CHILD'S BODY PARTS COMPARED TO THOSE OF THEIR IDEAL BODY IMAGE

<i>Body Parts</i>	% <i>'underweight' girls (n=9)</i> <i>Same</i>	% <i>'normal weight' girls (n=31)</i> <i>Same</i>	% <i>'normal weight' boys (n=31)</i> <i>Same</i>	% <i>'overweight' girls (n=18)</i> <i>Same</i>	% <i>'overweight' boys (n=7)</i> <i>Same</i>
Arms	33%	58%	26%	44%	71%
Tummy	22%	45%	35%	33%	57%
Legs	33%	58%	32%	44%	0%
Bottom	33%	32%	39%	44%	29%
Average satisfaction rating	30%	48%	33%	41%	39%

Table 3.13 shows that the 'normal weight' girls tended to want to be like their perceptions of an ordinary girl more than the others. It also shows that the 'overweight' boys wanted to have a body image like that of an ordinary boy more than the 'normal weight' boys. This suggests that the goal of these children was to be like others. Of interest is the finding that many of the 'underweight' girls, more than the others, seemed to want an ideal body image which differed to their perceptions of an ordinary one. A further breakdown of the findings, shown in appendix 23, show that the 'underweight' girls tended to want thinner tummies and legs, and the same or more muscley arms. Many of the 'normal weight' boys wanted their arms and legs to be more muscley than their perceptions of an ordinary child, and wanted this more than the girls to a statistically significant level ($p < 0.05$). Indeed wanting muscley arms and legs seemed to be important to boys of all weights. In these ways, it could be argued that many of the 'underweight' girls and 'normal weight' boys wanted to be different - indeed it could be argued that they wanted to be 'abnormal'.

In this section we have tried to answer ***objective (v): to discover how girls' and boys' satisfaction with their own body image differs according to their own body mass index.*** The results show that there was almost as much satisfaction as dissatisfaction amongst the children, and many felt different to ordinary children. More children wanted a body image that was different to an ordinary child, particularly underweight children, than wanted one that was the same. The 'normal

weight' children seemed to be the most satisfied. They tended to feel most like their perceptions of an ordinary child and they were most likely to want to look 'ordinary' rather than something different. Many of the boys seemed to be satisfied at a higher weight relative to the girls. 'Overweight' children, girls in particular, wanted to be thinner and felt that ordinary children were thinner than themselves. With decreasing weight the children tended to want more muscularity. The 'underweight' children were most likely to want a different body image than their perceptions of an ordinary child. The 'underweight' girls tended to want to be thinner than their perceptions of an ordinary child whilst boys of all weights, though notably the 'normal weight' ones, wanted more muscularity in their arms and legs than they thought an ordinary child had.

Summary of children's perceptions of body image

These are some of the key points to emerge from these findings.

- Most of the children of all weights rejected fatness for their ideal body image.
- Most of the girls seemed to want a thin to medium body image, whilst most of the boys seemed to want a medium to muscley one.
- The boys tended not only to want muscley arms and legs, but many thought that they had them already.
- Most of the children thought that an ordinary child had a predominantly medium body image although the girls tended to describe them in thin terms more than the boys.
- The children tended to associate thin and muscley descriptions with their ideal body image more than either themselves or the body image of an ordinary child.
- The desire for thinness seemed to be more important to heavier children, and muscularity to lighter ones.
- Having muscularity seemed to be important to most boys of all weights.
- 'Underweight' girls were more likely to describe an ordinary girl as fat and 'underweight' boys were more likely to describe an ordinary boy as thin.
- Most of children's descriptions of themselves were broadly accurate, however some children described themselves as thinner than they probably were.
- Children who were not 'normal weight' were more likely to perceive themselves as having a body image which differed from ordinary children.

- The research method affected many of the children's answers to questions about body image satisfaction to a statistically significant level ($p < 0.05$).
- About half the children thought that their own body image differed to that of an ordinary child.
- About half the children wanted a body image which was different to that of an ordinary child, and many boys wanted more muscularity in particular.
- About half the children were satisfied with their body image, boys more than girls, but not reliably so.
- 'Normal weight' girls and 'overweight' boys were most satisfied with their body image, and 'overweight' girls were the most dissatisfied.
- 'Overweight' and 'underweight' girls described themselves as different to their perceptions of an ordinary child most frequently.
- 'Normal weight' girls and 'overweight' boys tended to aspire towards a body image like that of an ordinary child. The 'underweight' girls and, to a lesser extent, 'normal weight' boys seemed to have the least realistic ideal body images.

CHILDREN'S PERCEPTIONS OF THE LINK BETWEEN BODY SIZE AND FOOD

Having considered children's perceptions of body image, we will look at **children's perceptions of the links between body size and food**. We may recall that this data was obtained at the beginning of the interview with the children.

To recap on the research methods, each child was asked to draw someone called Mr/Miss Fat and Mr/Miss Thin. Examples of these drawings are shown in appendix 24. After this the children were asked to describe what each of these people ate for lunch, and why. Next the children were asked to distribute the food cards which can be seen in appendix 3 in a way which indicated who they thought would eat the food, and then to explain their attributions. Lastly the children were asked to consider if Mr/Miss Fat and Mr/Miss Thin would eat their food in the same way, and what would happen if each ate each other's food.

The relationship between body size and the quantity of food

Firstly we will look at the results which address *objective (vi)* of this study: ***to discover if girls and boys attribute different quantities of food to thin and fat people***. As stated earlier, in order to observe if the children attributed different quantities of food to a fat and thin person, the number of food items attributed to each, and the children's descriptions of portion sizes were observed. These were based on the children's response to the questions:

“What do you think Mr/Miss Fat eats for his/her lunch?” and

“What do you think Mr/Miss Thin eats for his/her lunch?”

Number of food items

TABLE 3.14

ATTRIBUTION OF THE NUMBER OF FOOD ITEMS* TO MR/MISS FAT AND MR/MISS THIN

	<i>Food items</i>	<i>Adjusted figures**</i>
Miss Fat	192	192
Mr Fat	127	184.15
Total for Mr/Miss Fat	319	376.15
Miss Thin	110	110
Mr Thin	63	91.35
Total for Mr/Miss Thin	173	201.35
Total for Miss Thin and Miss Fat (girls)		302
Total for Mr Thin and Mr Fat (boys)		275.5

* The number of food items were defined as the number of single foods or recipes regardless of quantity. For example, "Loads of eggs, and two turkeys and a chicken" (boy) was counted as three items.

** adjusted to account for the sample containing a ratio of 1.45:1 girls to boys

Table 3.14 shows the number of food items which were attributed to Mr/Miss Fat and Mr/Miss Thin. The table shows that the children attributed more food items to Mr/Miss Fat (319 items) than Mr/Miss Thin (173 items) by a ratio of 1.84:1 which was statistically significant ($\chi^2 = 85.467$, $df=1$, $p<0.05$). This difference can be illustrated by one girl's comments which were typical:

"What do you think Miss Fat eats for her lunch?"

"Hamburgers, lots of ice cream, chocolate, bacon, fish, seafood and junk food."
(6 items)

"What do you think Miss Thin eats for her lunch?"

"Vegetables, fruit and things that are good for her."
(2 items)

(girl)

Table 3.14 also shows that the girls named more food items, in total (302 items), than the boys (275.5 items) taking into account that the number of girls in the sample was greater than the boys. They attributed more food items to Miss Fat than the boys did to Mr Fat and more food items to Miss Thin than the boys did to Mr Thin, but not to a statistically significant degree ($p < 0.05$).

Descriptions of portion sizes

TABLE 3.15

ATTRIBUTION OF PORTION SIZES TO MR/MISS FAT AND MR/MISS THIN

		<i>Total number of food items attributed</i>	<i>Number of food items described as less than average portion size</i>	<i>Number of food items described as more than average portion size</i>	<i>%</i>
Children (<i>n=98</i>)	Mr/Miss Thin	173	20	-	11.6%
		173	-	4	2.3%
	Mr/Miss Fat	319	5	-	1.6%
		319	-	58	18.2%
Girls (<i>n=58</i>)	Miss Thin	110	10	-	9.1%
		110	-	3	2.7%
	Miss Fat	192	3	-	1.6%
		192	-	20	10.4%
Boys (<i>n=40</i>)	Mr Thin	63	10	-	15.8%
		63	-	1	1.6%
	Mr Fat	127	2	-	1.6%
		127	-	38	29.9%

Sometimes the children described the quantity of the food they were mentioning. For example:

“What do you think Mr Fat eats for his lunch?”

*“Eight packets of chips, hamburgers, 15 sausages, two steaks.
For pudding two chocolate fudge drink.”*

(boy)

In this example the boy indicated that Mr Fat would eat large portions of chips, sausages and steaks. Drinks were not included in the analysis, as discussed in appendix 25. Similarly children sometimes indicated a portion size for Mr/Miss Thin:

“What do you think Miss Thin eats for her lunch?”

“Half a cheese and pickle sandwich, banana.”

(girl)

“What do you think Mr Thin eats for his lunch?”

“One chip.”

(boy)

The girl and boy in these examples indicated that Mr/Miss Thin may eat small, less than average, portions of food. In this way children’s descriptions of portion size could be analysed.

Table 3.15 shows that the majority of the food items mentioned by the children did not have a portion size specifically described. Of those that were described, the children attributed more small portions to the thin person (11.6% - 20 items) than the fat (1.6% - 5 items), and more large portions to the fat person (18.2% - 58 items) than the thin (2.3% - 4 items).

In comparing the girls’ and boys’ answers, the only difference of note was that the boys suggested large portions for the fat person (29.9%) more frequently than the girls (18.2%) to a statistically significant level (*chi-square* = 18.259, *df*=1, *p*<0.05). Closer analysis of the children’s words show that the boys were not only more likely to attribute a greater number of larger portions to Mr Fat, but were more likely to attribute very large portions to him. An illustration of this is given below:

“What do you think Mr Fat eats for his lunch?”

“First ... first he has ten sandwiches all in one like that ...”

“Yes.”

“Then he has a whole cake and just stuffs it in in one go ... Then he has them little cakes. Then he has ten yoghurts. Then he has ten biscuits, and then has has um ... ten what do you call them ... sort of like ... oh ... er ... and he has ten pints of beer.”

(boy)

Therefore in answer to **objective (vi): to discover if girls and boys attribute different quantities of food to thin and fat people**, it seems that many of the children thought that the fat person would eat more than the thin one. In order to indicate a difference the girls tended to increase or decrease the number of food items, whereas the boys were more likely to alter the portion size.

The relationship between body size and the quality of food

Having looked at the quantity of food which the children thought the fat and thin person would eat, we will now consider the quality of food in order to address **objective (vii): to analyse the differences in the quality of food attributed by girls and boys to thin and fat people**. In particular we will analyse the children’s descriptions of the individual food items for lunch, their attribution of food cards and the distribution of food groups between Mr/Miss Fat and Thin. These will illustrate the children’s perceptions of any dietary differences. Following this, further analysis of the foods aims to highlight differences of which the children may or may not have been conscious. These include analysis of unrealistic, inedible or vague food items, the average number of calories attributed to Mr/Miss Fat and Mr/Miss Thin’s lunch, the calorie density of the individual food items which were suggested for lunch, and the distribution of food cards in terms of their calorific values.

Analysis of the food items

Firstly we will analyse the food items which the children cited in response to:

“What do you think Mr/Miss Fat eats for his/her lunch?” and later

“What do you think Mr/Miss Thin eats for his/her lunch?”

Some typical children’s answers included:

“What do you think Miss Fat eats for her lunch?”

“Chocolate and biscuits and crisps ... and I don’t know what else.”

(girl)

“Cakes, sweets, lots of crisps, drinks a lot and eats hamburgers, chips, McDonalds, Kentucky fried chicken.”

(boy)

“What do you think Mr Thin eats for his lunch?”

“Some salad, some carrots and tomatoes and a sandwiches and a yoghurt.”

(boy)

Not only do these examples illustrate the range of food items mentioned, but they show how each food item is open to various interpretations. A description of how the food items were interpreted is given in appendix 26. The range of food items was so great that it was decided to select the five most frequently mentioned foods cited by the girls and boys for Mr/Miss Thin's lunch and the five most frequently mentioned food items cited by girls and boys for Mr/Miss Fat's lunch. These ten food items became a list of twelve because some food items were mentioned with identical frequencies. These are named in the tables below. We will consider the food items attributed to Mr/Miss Fat followed by those attributed to Mr/Miss Thin.

TABLE 3.16
FOOD ITEMS CHOSEN FOR MR/MISS FAT

Based on the five top ranked foods by girls and boys for Mr/Miss Fat

<i>Food items</i>	<i>% children (n=98)</i>	<i>% girls (n=58)</i>	<i>% boys (n=40)</i>
Chips/French fries	60%	59%	63%
Burgers - ham/beef - Big Mac	34%	29%	40%
Chocolate	17%	26%	5%
Sausages & hot dogs	17%	19%	15%
Sweets	14%	17%	10%
Bacon	13%	17%	8%
Eggs	13%	16%	10%
Baked beans	12%	16%	8%
Crisps	9%	9%	10%
Sandwiches (various)	8%	3%	15%
Cakes (big and small)	8%	5%	13%
Pizza	6%	3%	10%

Table 3.16 shows that 60% of the children cited chips more frequently than any other food item for the fat person's lunch. Burgers were mentioned by a third of the sample (34%), and 17% of children mentioned chocolate and sausages/hot dogs. By looking

at the boys and girls separately we can see that both boys and girls cited chips and burgers more frequently than other foods for the fat person. Further analysis shows that the girls (26%) thought that the fat person would eat chocolate more than the boys (5%) to a statistically significant level (*chi-square* = 5.805, *df*=1, *p*<0.05).

TABLE 3.17
FOOD ITEMS CHOSEN FOR MR/MISS THIN

Based on the five top ranked foods by girls and boys for Mr/Miss Thin

<i>Food items</i>	<i>% children</i> <i>(n=98)</i>	<i>% girls</i> <i>(n=58)</i>	<i>% boys</i> <i>(n=40)</i>
Vegetables	22%	22%	20%
Fruit	17%	22%	10%
Sandwiches (various)	14%	17%	10%
Salad	12%	12%	13%
Chips	11%	10%	13%
Nothing	9%	9%	10%
Banana	7%	9%	5%
Carrots	7%	3%	13%
Bread/bread roll	6%	5%	8%
Slimfast drink/bar	5%	3%	8%
Apple	5%	9%	0%
Peas	4%	0%	10%
Tomato	4%	3%	5%
Sprouts	2%	0%	5%

Table 3.17 shows that vegetables (22%), closely followed by fruit (17%) were the main foods chosen for the thin person's lunch. Specific types of vegetables and fruit were also mentioned, but to a lesser extent than the generic groups. There were no statistically significant (*p*<0.05) differences between the girls and the boys.

A comparison of the food items which the children attributed to Mr/Miss Thin and Mr/Miss Fat shows that chips were the only food common to both people's lunches. The girls thought that Miss Fat (59%) would eat chips more than Miss Thin (10%) to a statistically significant degree (*chi-square* = 27.817, *df*=1, *p*<0.05) as did the boys (Mr Fat 63%: Mr Thin 13%, *chi-square* = 19.253, *df*=1, *p*<0.05).

TABLE 3.18

ATTRIBUTION OF FOOD CARDS TO MR/MISS FAT, MR/MISS THIN AND BOTH

Food cards	Mr/Miss Fat						Mr/Miss Thin						Both		
	% children (n=98)		% girls (n=58)		% boys (n=40)		% children (n=98)		% girls (n=58)		% boys (n=40)		% children (n=98)	% girls (n=58)	% boys (n=40)
	Mr/Miss Fat (only)	Mr/Miss Fat (includ- -ing both)	Miss Fat (only)	Miss Fat (includ- -ing both)	Mr Fat (only)	Mr Fat (includ- -ing both)	Mr/Miss Thin (only)	Mr/Miss Thin (includ- -ing both)	Miss Thin (only)	Miss Thin (includ- -ing both)	Mr Thin (only)	Mr Thin (includ- -ing both)	Both	Both	Both
Chips	87%	92%	90%	95%	83%	88%	8%	13%	5%	10%	13%	18%	5%	5%	5%
Sausages	84%	93%	85%	93%	85%	93%	7%	15%	7%	16%	8%	15%	8%	9%	8%
Trifle	84%	89%	86%	93%	80%	83%	11%	16%	7%	14%	18%	20%	5%	7%	3%
Crisps	84%	89%	90%	93%	75%	83%	11%	16%	7%	10%	18%	25%	5%	3%	8%
Sugar	83%	96%	79%	98%	88%	93%	4%	17%	2%	21%	8%	13%	13%	19%	5%
Sausage rolls	72%	89%	74%	88%	70%	90%	11%	28%	12%	26%	10%	30%	16%	14%	20%
Peanut butter	72%	89%	67%	90%	80%	88%	11%	28%	11%	33%	13%	20%	17%	23%	8%
Digestive biscuits	56%	77%	55%	76%	58%	61%	24%	44%	24%	45%	23%	63%	20%	21%	20%
Cheese	41%	69%	31%	64%	55%	78%	31%	59%	36%	69%	23%	44%	29%	33%	23%
Peas	25%	38%	26%	47%	23%	45%	62%	76%	53%	74%	75%	76%	13%	21%	3%
Cauliflower	15%	27%	9%	64%	25%	33%	74%	85%	78%	91%	68%	75%	11%	14%	8%
Pears	14%	31%	9%	28%	23%	35%	69%	76%	72%	91%	65%	76%	16%	19%	13%
Carrots	13%	19%	9%	14%	20%	28%	81%	87%	86%	91%	73%	80%	6%	5%	8%
Cabbage	12%	24%	9%	17%	18%	33%	77%	88%	83%	91%	68%	83%	11%	9%	15%
Tomatoes	12%	25%	9%	19%	18%	33%	76%	88%	81%	91%	68%	83%	12%	10%	15%
Apples	9%	24%	5%	22%	15%	28%	76%	91%	79%	95%	73%	85%	15%	16%	13%
Lettuce	9%	16%	5%	14%	15%	20%	84%	91%	86%	95%	80%	85%	7%	9%	5%
Sprouts	9%	20%	9%	22%	19%	18%	80%	91%	78%	91%	83%	90%	11%	14%	8%

Food cards

The children were asked to consider their drawings of Mr/Miss Fat and Mr/Miss Thin. They were given the pack of 18 food cards, which can be seen appendix 3 and asked to consider the question:

"Who would eat this? Mr/Miss Fat, Mr/Miss Thin or both?"

The children put the food cards onto Mr/Miss Fat, Mr/Miss Thin or both. We will recall that the positioning of the cards had been transcribed from the tapes and therefore the frequency of the attributions was manually counted straight from the transcriptions. It is important to note that if, for example, the children wanted to attribute the food to the fat person they could place it on either the Mr/Miss Fat pile or on the 'both' pile. Therefore in order to be clear about what they thought Mr/Miss Fat ate, it is necessary to illustrate the results in terms of Mr/Miss Fat (only) and Mr/Miss Fat (including both). Similarly the food which they thought Mr/Miss Thin ate is illustrated in terms of Mr/Miss Thin (only) and Mr/Miss Thin (including both).

Firstly we will consider the food cards which the children attributed to Mr/Miss Fat. The results are shown in Table 3.18. We can see that the children attributed chips (87%) to Mr/Miss Fat (only) more than any other food. However if the foods which were attributed to 'both' are included, sugar (96%) was the most strongly associated with Mr/Miss Fat. Sausages, trifle and crisps were also strongly associated with Mr/Miss Fat.

The analysis of the food cards attributed to Mr/Miss Fat (including both) revealed that girls thought that the fat person would eat cauliflower (64%) more than boys (33%) to a statistically significant level (*chi-square* = 8.067, *df*=1, *p*<0,05), and boys (20%) thought that the fat person would eat lettuce more than girls (14%) to a statistically significant level (*chi-square* = 13.485, *df*=1, *p*<0.05).

FIGURE 3.1

GIRLS' ATTRIBUTION OF FOOD CARDS TO MISS THIN (ONLY) AND MISS FAT (ONLY)

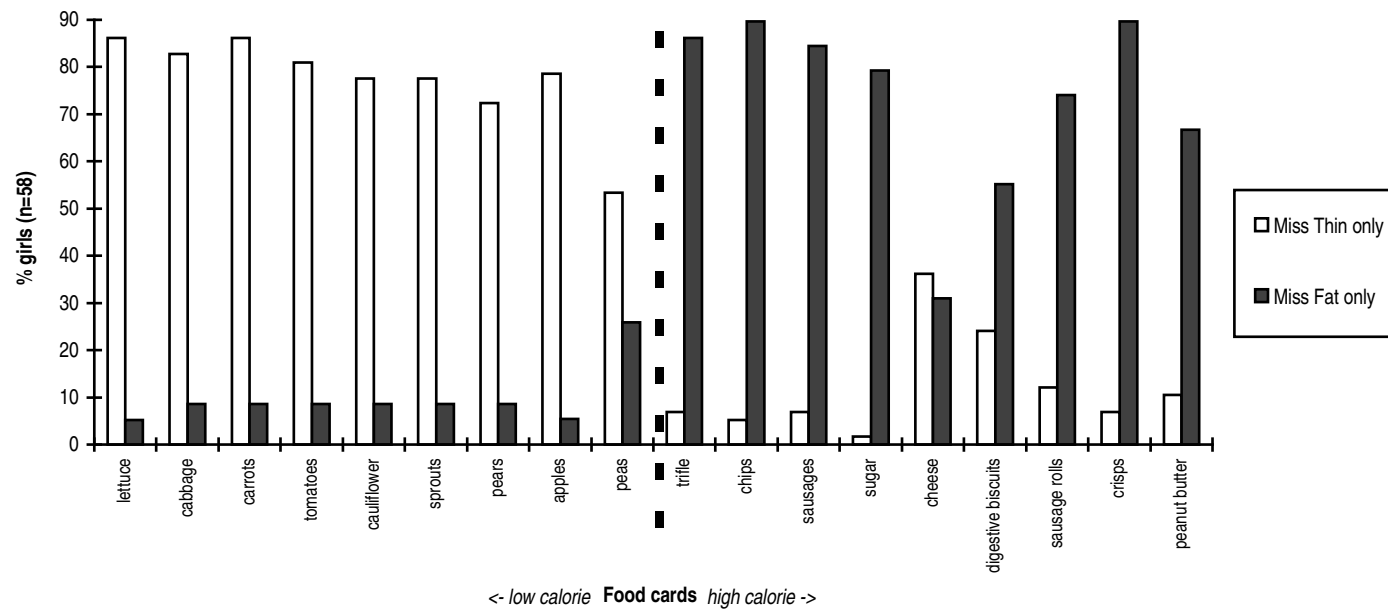
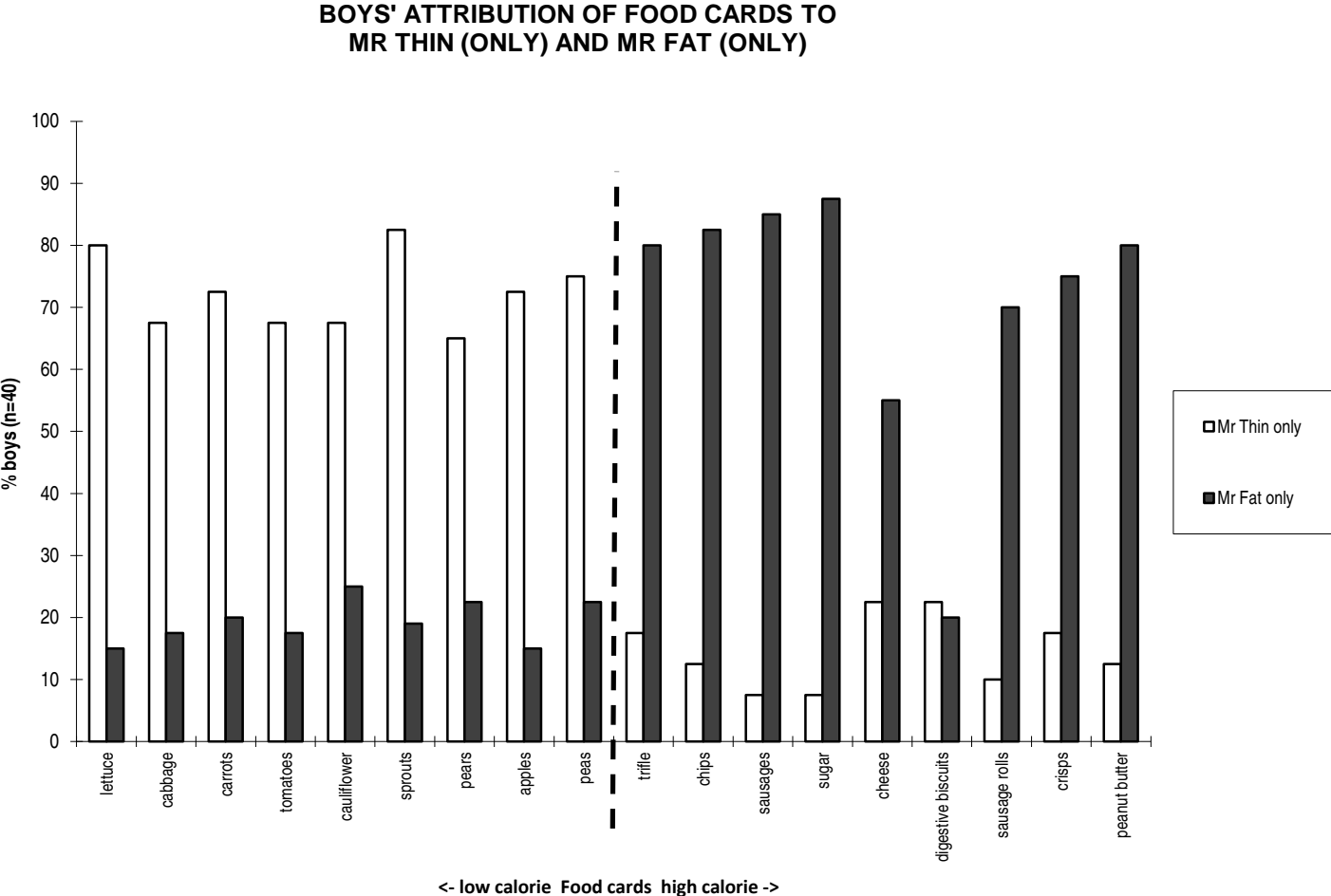


FIGURE 3.2



Turning to consider the food cards which were attributed to Mr/Miss Thin we can see from Table 3.18 that lettuce was clearly associated with the diet of Mr/Miss Thin (84% Miss Thin only, 91 % including both). The table also shows that all of the fruit and vegetables, with the exception of chips, were more highly associated with Mr/Miss Thin than other foods. Significantly more girls (69%) thought that the thin person (including both) would eat cheese more than the boys (44%) (*chi-square* = 4.68, *df*=1, *p*<0.05).

Having considered the food cards which were attributed to Mr/Miss Fat and Mr/Miss Thin, we will look at those which were attributed to 'both'. Table 3.18 shows that cheese (29%) was the food card which most children thought both Mr/Miss Thin and Fat would eat. A fifth of the children thought that both would eat digestive biscuits, and more girls (21%) than boys (3%) thought that both people would eat peas to a statistically significant level (*chi-square* = 5.319, *df*=1, *p*<0.05).

The girls' and boys' attribution of the food cards were found to be statistically significant (*p*<0.05) in all cases except for the girls' attribution of cheese. These details are shown in appendix 27 This means that the children distributed all but one of the cards in a different way than may be expected by chance. We can see in Figure 3.1 and 3.2 how the pattern of distribution was clearly different for the fat person compared to the thin.

Therefore by looking at the food items for lunch and the food cards, we have seen that children thought that the fat person would eat chips, burgers, chocolate, sausages/hot dogs, crisps and trifle, while the thin person would eat fruit and vegetables (rarely chips).

Food groups

The food items, which we have discussed in the context of lunch, were categorised into ten food groups which were formed on the basis of nutritional, social and taste factors. These were discussed in the rationale

TABLE 3.19

FREQUENCY OF FOOD GROUPS CITED FOR MR/MISS THIN AND FAT'S LUNCH

<i>Food groups</i>	<i>Mr/Miss Fat</i>			<i>Mr/Miss Thin</i>		
	<i>% children (n=97*)</i>	<i>% girls (n=58)</i>	<i>% boys (n=39*)</i>	<i>% children (n=94**)</i>	<i>% girls (n=57**)</i>	<i>% boys (n=37**)</i>
Vegetables and salad	66%	62%	74%	57%	51%	68%
Meat and meat products	62%	66%	59%	7%	9%	5%
Sweet snacks	36%	43%	26%	5%	7%	3%
Other	21%	21%	23%	10%	14%	3%
Bread and sandwiches	16%	12%	23%	23%	25%	22%
Cereal based foods	11%	9%	15%	4%	5%	3%
Savoury snacks	8%	9%	8%	5%	7%	3%
Fish and fish products	8%	10%	5%	2%	4%	0%
Dessert and puddings	7%	9%	5%	2%	4%	0%
Fruit	6%	7%	5%	33%	39%	24%
Diet foods	0%	0%	0%	4%	4%	5%

**one boy's answer was categorised as either inedible, unrealistic or vague.*

*** one girl and three boys' answers was categorised as either inedible, unrealistic or vague*

FIGURE 3.3

GIRLS' ATTRIBUTION OF FOOD GROUPS FOR MISS THIN AND MISS FAT

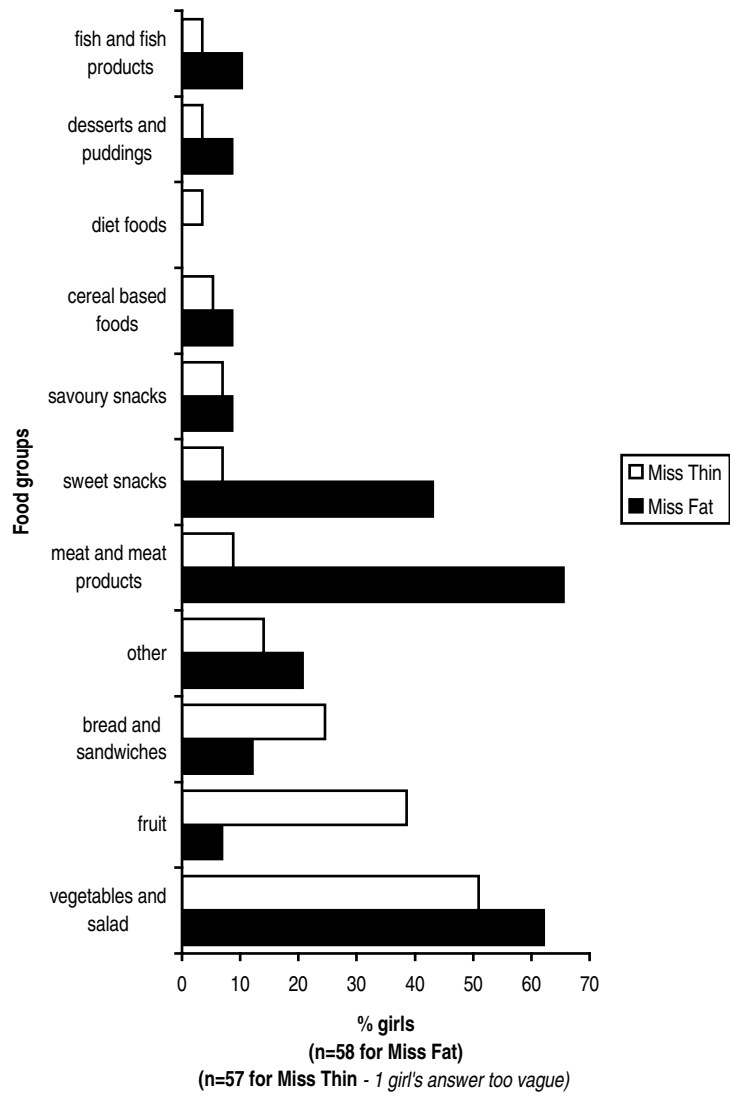
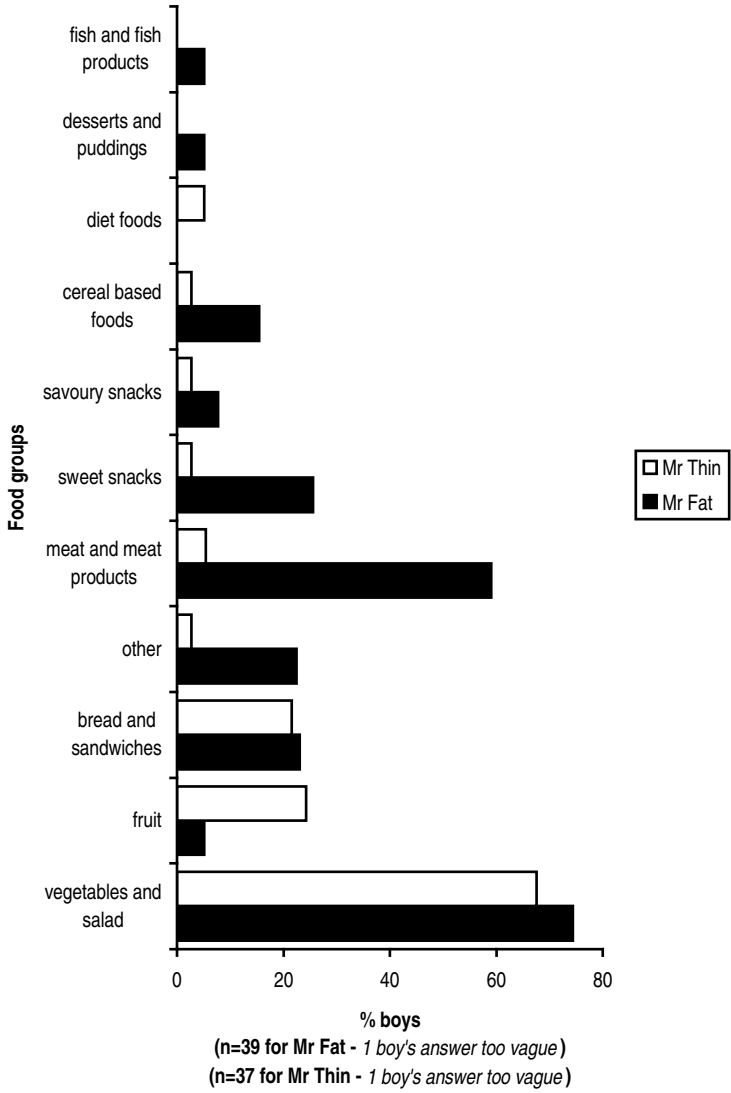


FIGURE 3.4

BOYS' ATTRIBUTION OF FOOD GROUPS FOR MR THIN AND MR FAT



for the study. How individual food items were grouped is explained in appendix 28 Table 3.19 shows that the vegetables and salad group, which includes chips, was the most frequently cited food group for the fat person's lunch (66%). This was closely followed by meat and meat products (62%). Sweet snacks were mentioned by 36% of the children, and bread based foods by 16%. This answer cites food from the four most frequently mentioned food groups:

"What do you think Miss Fat eats for her lunch?"

"Hamburgers, chips, sweets, sandwiches ... fatty with loads of butter ... beans and sausages, mashed potato."

(girl)

Table 3.19 also shows that more than half the children (57%) thought that the thin person would eat foods which can be classified as vegetables and salad for their lunch. Fruit and bread based foods were next, being cited by 33% and 23% of children respectively. After these, the frequencies of other food groups were relatively very small. One answer about Mr Thin's lunch exemplifies these findings:

"What do you think Mr Thin eats for his lunch?"

"Salads, sprouts, vegetables, healthy things, Slimfast."

(boy)

There were no statistically significant ($p < 0.05$) differences between the boys' and girls' answers. However there were statistically significant differences between the food groups associated with the fat person and the thin, which we will discuss next.

Figure 3.3 shows that the girls thought that Miss Fat (66%) would eat more foods from the meat and meat products group than Miss Thin (9%) to a statistically significant level ($\chi^2 = 34.511$, $df=1$, $p < 0.05$). They also thought that Miss Fat (43%) would eat sweet snacks more than Miss Thin (7%) ($\chi^2 = 17.983$, $df=1$, $p < 0.05$). Fruit was the only food group which they thought Miss Thin (39%) would eat more than Miss Fat (7%), to a statistically significant degree ($\chi^2 = 14.748$, $df=1$, $p < 0.05$).

Figure 3.4 shows that the boys, like the girls, thought that Mr Fat (59%) would eat food in the meat and meat products group more than Mr Thin (5%) to a statistically significant degree ($\chi^2 = 22.316$, $df=1$, $p < 0.05$). They also attributed fruit to Mr

Thin (24%), more than to Mr Fat (5%), to a statistically significant degree (*chi-square* = 4.208, *df*=1, *p*<0.05).

Therefore the children tended to make an association between the fat person and vegetables and salad, and meat and meat products. They also tended to make an association between the thin person and vegetables and salad, fruit and bread based foods. In particular both girls and boys strongly associated meat and meat products with the fat person, and fruit with the thin one.

Having considered the children's perceptions of Mr/Miss Fat and Thin's diets, we will now carry out a further analysis of the differences between the two diets. This further analysis will look at inedible, unrealistic or vague food items; the average number of calories attributed to Mr/Miss Fat and Thin's lunch; the calorie density of the individual food items which were suggested for lunch and the distribution of food cards in terms of their calorific values.

Inedible, unrealistic or vague food items

Inedible or unrealistic food items refer to 'foods' which emerged from children's fantasy such as "*elephant*" and "*pike*". Vague food items included comments such as "*stodgy food*", and "*sweet things*". These are examples of answers which were given in reply to the questions:

"What do you think Mr/Miss Fat eats for his/her lunch?" and

"What do you think Mr/Miss Thin eats for his/her lunch?"

It was decided to omit these items from the analysis of food items, food groups and calories. However it is interesting to note where they appeared.

6.3% (31 items) of the 492 food items which were mentioned by children for lunch, were either unrealistic, inedible or vague. 11% of the children (11 children) described at least one such item for the thin person's lunch; whereas 20% (20 children) did so for the fat person's. This difference was found to be statistically significant (*chi-square* = 4.129, *df*=1, *p*<0.05). Therefore a higher percentage of inedible, unrealistic or vague food items were mentioned in the context of the fat person.

Girls (14%) were more likely than boys (8%) to include inedible, unrealistic or vague items when discussing the thin person's lunch. These comprised eight girls (14%) whose answers included, "Green things," and "Things that are low in fat." Girls (24%) were also more likely than boys (15%) to attribute inedible, unrealistic or vague food items to the fat person. For example they cited, "Stuff that is very fattening," and "All fatty foods." The boys' answers included, "Lots of fatty foods..... anything with fat or sweet stuff in," and, "McDonalds."

Attribution of calories for lunch

TABLE 3.20

ATTRIBUTION OF CALORIES FOR MR/MISS FAT AND THIN'S LUNCH

	<i>Mean number of calories</i>	<i>Standard Deviations</i>
Miss Thin (n=57*)	186.40 cal	198.68 (min: 0, max: 1104)
Mr Thin (n=38*)	125.26 cal	140.36 (min: 0, max: 509)
Mr/Miss Thin (n=98)	157 cal	
Miss Fat (n=58)	671.59 cal	354.35 (min: 80, max: 1635)
Mr Fat (n=40)	1667.70 cal	2663.47 (min: 116, max: 12668)
Mr/Miss Fat (n=98)	1078 cal	

* one girl and two boys' answers could not be analysed because they were either inedible, unrealistic or vague

We can also analyse the quality of food by looking at the average number of calories which were attributed to the Mr/Miss Fat and Mr/Miss Thin by the children. Again these results are based on responses to the questions:

"What do you think Mr/Miss Fat eats for his/her lunch?" and

"What do you think Mr/Miss Thin eats for his/her lunch?"

It is important to note that the children did not talk in terms of calories, but these were calculated by the researcher based on their descriptions. An explanation of how the calories were calculated is given in appendix 25.

Table 3.20 shows the average number of calories attributed to Mr/Miss Fat and Mr/Miss Thin. It also shows the standard deviation of the calories which were attributed in order to provide an indication of the range of the children's answers.

The children ($n=98$) attributed a total of 105,660 calories to the lunch of the fat person and 15,385 calories to the lunch of the thin person. The average number of calories which each child attributed to the fat person was 1078, and 157 calories for the thin person. The fat person's lunch consisted of up to 12,668 calories in one instance. Therefore these findings indicate that the children thought that the fat person would eat more calories for their lunch than the thin, by a factor of seven.

Looking at the girls and boys, we can see that the boys attributed, on average, less calories to Mr Thin (125.26 cal.) than the girls did to Miss Thin (186.40 cal.). In fact, five girls and four boys thought that the thin person would eat nothing. In contrast, Table 3.20 shows that the boys, on average, attributed more than twice as many calories to Mr Fat (1667.7 cal.) than girls did to Miss Fat (671.59 cal.). Boys were also much more wide ranging in the number of calories mentioned (standard deviation: 2663.47) than the girls (standard deviation 354.35). This was due to some of the boys attributing excessively high numbers of calories to Mr Fat. The boys thought that there would be a greater difference between the total calories ingested by a thin person compared to a fat person than the girls.

Furthermore, additional analysis of the food items revealed that, on average, the individual foods which the children attributed to the fat person contained 274.3 calories whereas those attributed to the thin person contained 156.7 calories. Therefore the children, indeed both boys and girls, thought that the fat person would eat more 'fattening' (calorie dense) food than the thin person.

Food cards and calories

The last way in which we will look at the differences in the quality of food which the children attributed to Mr/Miss Fat and Mr/Miss Thin is to consider the calorific value of the food cards. As explained in the rationale, the food cards were categorised into nine 'high calorie' and nine 'low calorie' food cards (appendix 4). These were attributed either to Mr/Miss Thin, Mr/Miss Fat or 'both' in response to being asked:

“Who would eat this? Mr/Miss Fat, Mr/Miss Thin or both?”

The children were encouraged to consider the kind of food rather than the quantity.

FIGURE 3.5

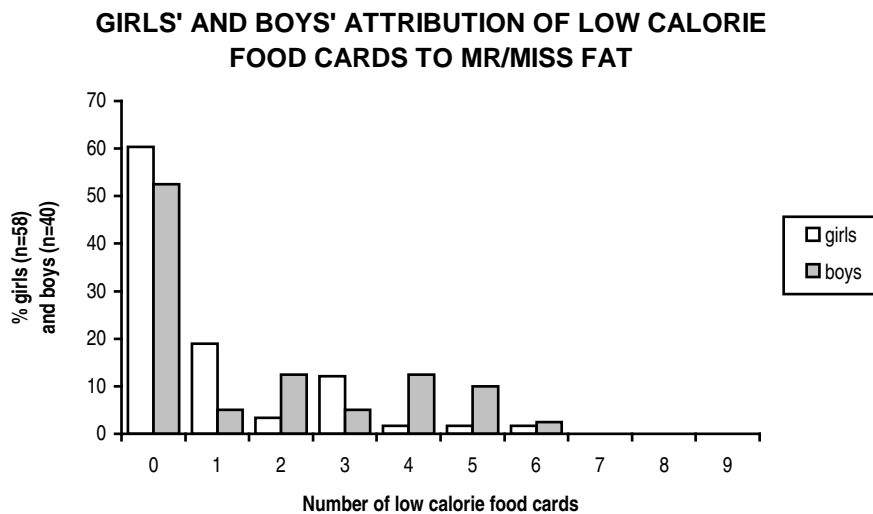


FIGURE 3.6

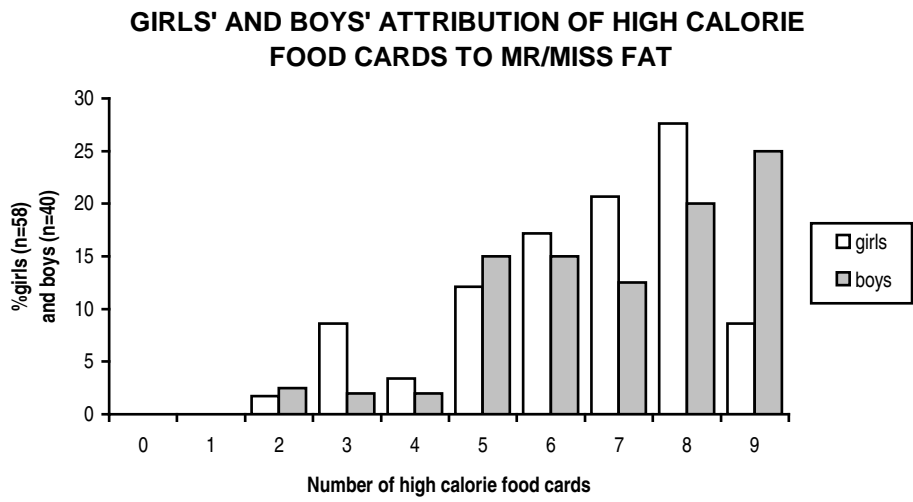


FIGURE 3.7

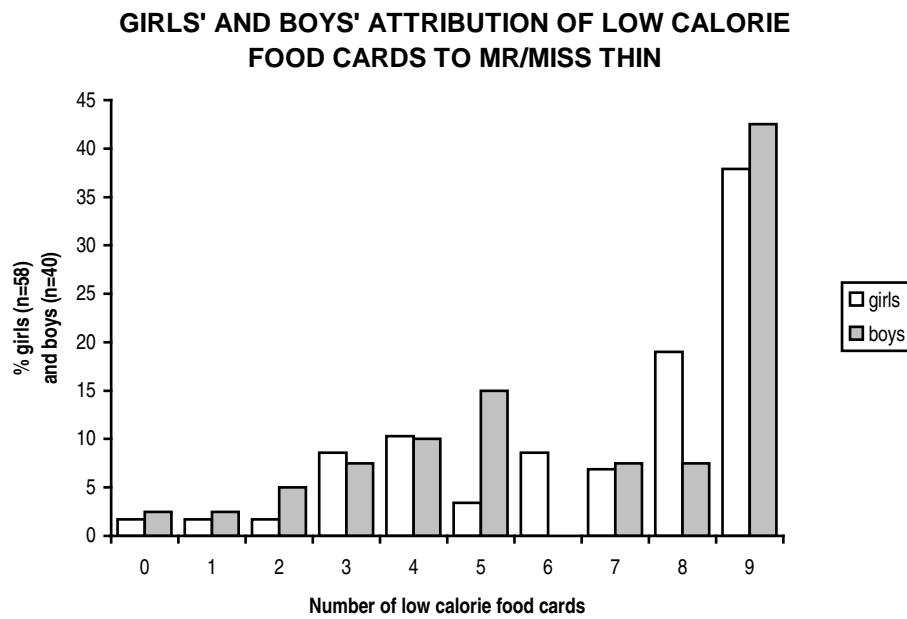


FIGURE 3.8

**GIRLS' AND BOYS' ATTRIBUTION OF HIGH CALORIE
FOOD CARDS TO MR/MISS THIN**

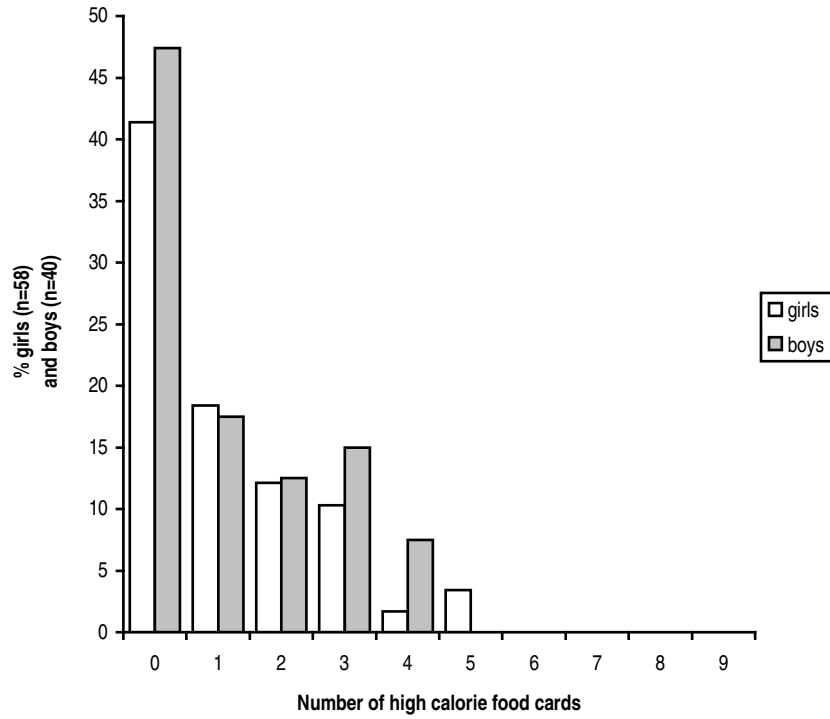


TABLE 3.21

**COMPARISON OF GIRLS' AND BOYS' ATTRIBUTIONS
OF HIGH AND LOW CALORIE FOOD CARDS TO
MR/MISS THIN AND MR/MISS FAT**

	Mr/Miss Fat <i>(No. of children)</i>	Mr/Miss Thin <i>(No. of children)</i>	<i>chi-square</i>	statistical significance $p < .05$ <i>(df=1)</i>
	<i>Five or less low calorie food cards</i>			
<i>Girls (n=58)</i>	57	16	59.127	significant
<i>Boys (n=40)</i>	39	17	15.225	significant
	<i>Six or more low calorie food cards</i>			
<i>Girls (n=58)</i>	1	42	59.127	significant
<i>Boys (n=40)</i>	1	23	88.570	significant
	<i>Five or less high calorie food cards</i>			
<i>Girls (n=58)</i>	15	58	65.188	significant
<i>Boys (n=40)</i>	11	40	29.429	significant
	<i>Six or more high calorie food cards</i>			
<i>Girls (n=58)</i>	43	0	65.188	significant
<i>Boys (n=40)</i>	29	0	36.046	significant

The pattern of results shown in Figures 3.5, 3.6, 3.7 and 3.8, and the details shown in Table 3.21 show clearly that both boys and girls tended to attribute more high calorie food cards to Mr/Miss Fat and more low calorie food cards to Mr/Miss Thin to a statistically significant level ($p < 0.05$). Conversely they also attributed significantly few low calorie food cards to Mr/Miss Fat and few high calorie ones to Mr/Miss Thin ($p < 0.05$).

Therefore, when we consider these results along with the previous ones relating to the calories in the food items for lunch, we can suggest that the children's belief that a fat person would eat more calories than a thin person was reliable.

TABLE 3.22**THE QUALITY OF FOOD ASSOCIATED WITH MR/MISS FAT AND MR/MISS THIN**

<i>Mr/Miss Fat</i>	<i>Mr/Miss Thin</i>
chips*, burgers, chocolate and sausages/hot dogs (food items)	vegetables and fruit (food items)
chips, sugar, sausages, crisps and trifle (food cards)	fruit and vegetables (except chips) (food cards)
vegetables & salad, and meat & meat products (food groups)	vegetables and salad, fruit and bread based foods (food groups)
more inedible, unrealistic or vague food items than Mr/Miss Thin	
more calories more calorie dense food	less calories less calorie dense food

**In the context of food items for lunch, it should be recalled that it was only possible to say that chips were attributed to the fat person more than to the thin person, to a statistically significant level ($p < 0.05$), as they were the only food item common to both.*

We have now reviewed the findings which relate to **objective (vii)** of this study: **to analyse the differences in the quality of food attributed by girls and boys to thin and fat people**, and Table 3.22 provides a summary of the pattern of results. It strongly suggests that the children perceived that the quality of a thin and fat person's choice of food would be markedly different in terms of the types of food eaten and their calorie content.

Children's reasons for food choice

We have considered how the food attributed to Mr/Miss Thin and Mr/Miss Fat differed in terms of quantity and quality. In this section we will analyse the reasons which the children gave for their attributions of food to Mr/Miss Fat and Mr/Miss Thin. This aims to meet **objective (ix): to understand girls' and boys' perceptions of the reasons for thin and fat people's choice of food.**

The children gave reasons for their attributions in the context of the lunch scenario and in the context of distributing the food cards. We may recall that the children's reasons were categorised into themes which emerged from their answers. Details of the children's answers are shown in appendix 29.

Reasons for lunch

Firstly we will consider why the children thought Mr/Miss Fat might eat certain foods for lunch. After answering the question:

“What do you think Mr/Miss Fat eats for his/her lunch?” the children were asked:

“Why?”

A quarter of the children (27%) thought that fat people ate certain food because it was fattening. For example:

“Because they are fattening.”

(girl)

“Because they are fattening and he’s fat.”

(boy)

Almost as many children answered “because he is fat” (21%), and slightly fewer, about a fifth of the sample (20%), cited eating the food because of a liking for it (or dislike of other food) as a key reason.

Amongst the girls the main reason for the chosen diet for Miss Fat was because it was fattening (33%). A fifth of the girls thought that the food would be chosen because of a liking for it (or disliking of alternatives), and 19% answered “because she is fat.” This girl was typical:

“Because she enjoys eating them.”

(girl)

TABLE 3.23

**CHILDREN'S PERCEPTIONS OF WHY MR/MISS THIN
AND MR/MISS FAT EAT THEIR FOOD**

Reasons (lunch)	Mr/Miss Fat		Mr/Miss Thin	
	<i>Children</i>			
	because food is fattening (27%) because s/he is fat (21%) because s/he likes it/doesn't like other (20%)		because s/he wants to stay thin/not get fat (28%) because s/he is thin (22%)	
	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>
		because he wants to stay fat/not get thin * (13%)		
Reasons (food cards)	Mr/Miss Fat		Mr/Miss Thin	
	<i>Children</i>			
	because food is fattening (41%) because food is fatty/high fat (26%) because s/he likes it/ doesn't like other (20%)		because food is healthy/ good for them (48%) because food is slimming (21%)	
	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>
	because food is fattening * (50%)			
	Girls		Boys	
	<i>Miss Fat</i>	<i>Miss Thin</i>	<i>Mr Fat</i>	<i>Mr Thin</i>
Reasons (lunch)	because food is fattening * (33%)	because she wants to stay thin/not get fat * (22%) because food is healthy/ good for her * (16%)	because he likes it/ doesn't like other * (20%)	because he wants to stay thin/not get fat * (35%)
Reasons (food cards)	because food is fattening * (50%)	because food is healthy/ good for her * (47%)		because food is healthy/good for him * (50%)

* indicates the findings which were found to be greater than their counterpart to a statistically significant level ($p < 0.05$).

A quarter of the boys (25%) felt that Mr Fat ate his lunch because 'he was fat' whilst a fifth (20%) cited a liking of the food, or a dislike of alternative food, as his reason for eating it. For example one boy said:

“Because he likes them.”

(boy)

18% of the sample noted that the food was fattening. This boy said:

“Otherwise he wouldn’t be fat if he didn’t eat a lot of food. It makes you fat.”

(boy)

A comparison of the children’s answers shows that the boys said that the fat person ate lunch “because he wanted to stay fat/not get thin” (13%) more frequently than the girls (0%) to a statistically significant level ($\chi^2 = 5.276$, $df=1$, $p<0.05$). The key findings from this part of the research are summarised in Table 3.23.

Next, the children were asked:

“What do you think Mr/Miss Thin eats for his/her lunch?” followed by:

“Why?”

28% of the children (appendix 29) thought that thin people would eat certain foods for lunch because they wanted to stay thin and not get fat. For example:

“He wants to stay slim.”

(boy)

“Because she is worried that she might be getting fat.”

(girl)

Just over a fifth (22%) of the sample answered “s/he is thin”. In contrast to the fat person, fewer children focused on inherent properties of the food for the thin person such as it being slimming (11%) or its ability to keep the person thin (2%). In terms of nutrients, the most important property of food for thin people was that it was low in fat.

30% of the girls answered “because she is thin”, whilst just over a fifth of the girls (22%) said that thin people ate certain foods because they wanted to stay thin, and/or not get fat. For example:

“Because she wants to stay thin.”

(girl)

The selected food was thought to be healthy by 16% of the girls, and almost as many thought the food was slimming (14%). For example:

“Because it doesn’t make her put on a lot of weight and they are very healthy food.”

(girl)

Amongst the boys although 18% answered because “he is thin”, 35% felt that Mr Thin ate certain food because he wanted to stay thin, and/or not get fat. For example:

“Because he wants to stay thin and he doesn’t want to be fat.”

(boy)

Table 3.23 summarises the key findings and shows that the children’s perceptions about the fat person’s choice of lunch seemed to be about the food being fattening, the person choosing food just because they are fat and because they like it. The children’s perceptions of the thin person’s lunch seemed to be about choosing food because they wanted to stay slim or not get fat, or just because they were thin.

If we compare the girls’ and boys’ answers clear differences of perception emerge. Amongst the girls we find that Miss Thin eating lunch “because she wants to stay thin/not get fat” was more frequently mentioned (22%) than Miss Fat wanting “to stay fat/not get thin” (0%) to a statistically significant level (*chi-square* = 12.475, *df*=1, *p*<0.05). Therefore wanting to stay thin was a much more important reason to eat the lunch than a wish to stay fat. Secondly, Miss Thin was perceived as eating food which was “healthy for her/good for her” (16%) much more than Miss Fat (2%) to a statistically significant degree (*chi-square* = 5.362, *df*=1, *p*<0.05). Therefore there was a stronger association between healthy food and Miss Thin than Miss Fat. Thirdly, the reason that Miss Fat would eat food because “food is fattening” (33%) was attributed significantly more frequently than Miss Thin eating food which “is slimming” (14%) (*chi-square* = 4.287, *df*=1, *p*<0.05). These findings are shown in Table 3.23.

A similar comparison of the boys’ answers reveals that boys attributed the reason “because he wants to stay thin/not get fat” to Mr Thin (35%) more frequently than the equivalent reason “because he wants to stay fat/not get thin” to Mr Fat (13%) to a

statistically significant level ($\chi^2 = 11.182$, $df=1$, $p<0.05$). Therefore there was a perception that wishing to stay thin was significantly more important to the thin person than wanting to stay fat to the fat one. Secondly, the boys attributed the reason “because he likes it/doesn’t like other” to Mr Fat (20%) more frequently than to Mr Thin (3%) to a statistically significant degree ($\chi^2 = 4.507$, $df=1$, $p<0.05$). Therefore liking the food was perceived as being of more importance to the fat person than the thin. Again these findings are shown in Table 3.23.

Reasons for food cards

Having considered the reasons given for the attribution of food items in the context of lunch, we will turn our attention to the attribution of food cards. These are shown in detail in appendix 30. We will recall that after the children had placed the food cards on their pictures of Mr/Miss Fat and Mr/Miss Thin, they were asked:

“Why did you choose these foods for Mr/Miss Fat?”

The most frequent reason given, by children (41%), for the attribution of certain food cards to Mr/Miss Fat was that the food was fattening. Typical comments included:

“Because they are greasy and they’ll make her plump.”
(girl)

“Because they are all bad things for you to eat like fattening things.”
(girl)

A quarter of the children (26%) cited the high fat content of the food as a reason, and a fifth (20%) because s/he liked the food. For example:

“They are very fatty and I think she would eat them because she enjoys them more and they have more taste as well.”
(girl)

“They have a got a lot of fat in them and she likes them.”
(girl)

11% of the answers were categorised as “other”. These included:

“Green foods give you energy.”
(girl)

".....because she is naughty because she doesn't eat any vegetables except apples and pears."

(girl)

".....and he eats the vegetables because he wants to be strong."

(boy)

"Because he eats any food."

(boy)

The results show that the most frequent reason given by girls for the attribution of certain food cards to Miss Fat was that the food was thought to be fattening (50%). A quarter of the girls (28%) cited the high fat content of the food, and nearly as many Miss Fat's liking of the food (21%). Among the boys there were three main reasons given for choosing the food for Mr Fat. Mostly, these were because the food was fattening (28%), high in fat (23%) and liked (20%). Significantly more girls (50%) than boys (28%) said that the fat person ate food because it was "fattening" (*chi-square* = 4.073, *df*=1, *p*<0.05). These findings are summarised in Table 3.23.

After this part of the research, the children were asked:

"Why did you choose these foods for Mr/Miss Thin?"

The most frequent reason given by children for the attribution of certain food cards to Mr/Miss Thin was that the food was thought to be healthy or good for them (48%) (appendix 30). For example:

"Because they are good for you and they have got vitamins in them."

(girl)

"Cheese is quite good for you and all these fruits are quite good for you and vegetables are quite good for you."

(girl)

"Because they are healthy and don't make you fat."

(boy)

"Because they have all got iron in and they are healthy."

(boy)

"Because they are good for your body and they don't make your teeth rot."

(girl)

In terms of the properties of Mr/Miss Thin's food, its slimming properties were cited by a fifth of the sample (21%), with low fat (11%) and low sugar (4%) being mentioned more rarely. Typical answers were:

"Because they are nice and slimming."

(girl)

"I don't think she would eat very many of them at a time, but I think she would probably have them because they are not very fatty and they are all vegetable type things that haven't got sugar in and so wouldn't make her fat."

(girl)

Both girls and boys were in broad agreement about the main reasons for choosing food for the thin person. These were, primarily, that the food was healthy, and secondly, that the food was slimming. There was one answer which differed between the sexes to a statistically significant degree. This was the category of "other" (*chi-square* = 4.859, *df*=1, *p*<0.05) which 30% of boys' answers fell into as opposed to 10% of the girls. Some of these reasons included:

".....eats these things because he is greedy."

(boy)

"Some of them are round and he's quite large....."

(boy)

"Don't know."

(boy)

"Because he eats all the sugar in one gulp and all the other stuff he just puts them all in his mouth."

(boy)

Amongst the girls, a comparison of their comments about Miss Fat and Miss Thin reveals that 47% of the girls said that Miss Thin's food was "healthy/good for her" as opposed to no girl saying this for Miss Fat. This difference was statistically significant (*chi-square* = 32.633, *df*=1, *p*<0.05). Also significantly more girls (50%) said that Miss Fat's food would be eaten "because it is fattening" than those that said that Miss Thin's would be eaten because it was "slimming" (22%) (*chi-square* = 8.398, *df*=1, *p*<0.05). Amongst the boys 50% of boys said that Mr Thin would eat the food "because it is healthy/good for him" as compared to 8% who said Mr Fat would eat it for this reason. This difference was statistically significant (*chi-square* = 15.622 *df*=1, *p*<0.05). These findings are summarised in Table 3.23.

We will now consider the reasons given by the children for attributing some food cards to both Mr/Miss Fat and Mr/Miss Thin. The details of these findings are shown in appendix 30. The children were asked:

“Why did you choose these foods as ones which both would eat?”

A third of the children (34%) did not place any food cards on the ‘both’ pile, saying that there were no foods which they felt both Mr/Miss Thin and Mr/Miss Fat would eat. A fifth of children (22%) cited reasons grouped as ‘other’. These included:

“Because some of the food in there are good.”
(boy)

“Milk, and sometimes cheese, is made from a bit of milk - so milk is good for anyone really. So I thought cheese would be good for Mrs Thin and also because Mrs Fat might want it and because she could have it and the peanut butter spread because it’s just for anyone. A digestive biscuits because they say they’re digestive and so it wouldn’t give any harm to Mrs Thin and also Mrs Fat likes eating stuff like that.”

prompt: “So, generally, why do you think they would both eat these?”

“They fit with both of them really because both of them could eat them by helping Mrs Fat get a bit fatter and Mrs Thin just getting the same - really the same - may be a little bit more fatter.”
(girl)

Some of the reasons which were categorised as other did not appear to address the question fully. A typical example of this was:

“Because Miss Fat likes dipping pears in the peanut butter and she likes having it for breakfast and dinner.”
(girl)

The girls’ and boys’ answers did not differ to a statistically significant level ($p < 0.05$).

The aim of this analysis has been to meet **objective (ix): to understand girls’ and boys’ perceptions of the reasons for thin and fat people’s choice of food**. Table 3.23 summarises the key findings. The children tended to think that the fat person would eat food because it was fattening, because they liked it or because the food was high in fat. They thought that the thin person’s food choices revolved around

them wanting to stay thin or because the food was healthy or slimming. The children also tended to think that the fat person ate food because they were fat and the thin person because they were thin. In particular the girls thought that the fat person would eat food because it was fattening, while the boys emphasised that the fat person would eat it because they liked it or because they wanted to stay fat. In the context of the thin person, the girls and boys were in agreement in that their choice was based primarily on wanting to stay thin and on health.

The children's reasons for attributing certain food to both people were very mixed.

Food and a changing body size

Having considered children's perceptions of the quantity and quality of Mr/Miss Fat and Mr/Miss Thin's food, we will turn to perceptions about the ways in which these people eat. This analysis will attempt to meet ***objective (viii): to discover if girls and boys understand that differing food can affect body size and shape in terms of thinness and fatness.*** We will recall that the children were asked to consider the piles of food cards which they had placed on Mr/Miss Thin and Mr/Miss Fat, and asked:

“What would happen to Mr/Miss Fat if s/he ate the food you have put on Mr/Miss Thin?”

The children's answers were grouped into themes as discussed earlier, and if a child's answer fulfilled more than one category it was recorded into each.

TABLE 3.24

**CHILDREN'S PERCEPTIONS OF THE RELATIONSHIP
BETWEEN FOOD AND BODY SIZE**

<i>Perceptions</i>	<i>“What would happen to Mr/Miss Fat if s/he ate the food you have put on Mr/Miss Thin?”</i>			<i>“What would happen to Mr/Miss Thin if s/he ate the food you have put on Mr/Miss Fat?”</i>		
	<i>% childre n (n=98)</i>	<i>% girls (n=58)</i>	<i>% boys (n=40)</i>	<i>% childre n (n=98)</i>	<i>% girls (n=58)</i>	<i>% boys (n=40)</i>
become thinner	93%	91%	95%	0%	0%	0%
become fatter	0%	0%	0%	97%	97%	95%
other	7%	5%	10%	3%	3%	3%
lose weight	4%	3%	0%	0%	0%	0%
become more healthy	2%	3%	0%	0%	0%	0%
stay the same	1%	2%	0%	0%	0%	0%
don't know	1%	2%	0%	1%	2%	0%
grow more	0%	0%	0%	2%	0%	5%
put on weight	0%	0%	0%	2%	3%	0%

As many of the answers differed in small but important ways, it is useful to illustrate some of the themes.

“What would happen to Miss Fat if she ate the food you have put on Miss Thin?”

“She would get healthier and thinner.”

(girl)

In this case the girl's answer was categorised as “become more healthy,” and “become thinner”.

Answers such as:

“She'd get a bit thinner.”

(girl)

“She would get slimmer.”

(girl)

“Mr Fat would go thin.”

(boy)

were all categorised as “become thinner”. Answers which were categorised as “other” included:

“It would be like going on a diet ... ”

(boy)

“He’d feel ill.....because he doesn’t like them stuff.”

(boy)

“If he’d done some exercise he’d get thinner.”

(boy)

After this, the children were asked:

“What would happen to Mr/Miss Thin if s/he ate the food you have put on Mr/Miss Fat?”

Answers such as:

“Mr Thin would get fat.”

(boy)

“She’d get fat.”

(girl)

were categorised as “become fatter”. Answers which were categorised as “other” included:

“She’d have to go to weight watchers again.”

(girl)

In answer to ***objective (viii): to discover if girls and boys understand that differing food can effect body size and shape in terms of thinness and fatness***, Table 3.24 shows that the vast majority of girls and boys thought that Mr/Miss Fat would become thinner if they ate the food attributed to Mr/Miss Thin, and that Mr/Miss Thin would become fatter if they ate the food attributed to Mr/Miss Fat. Only one child indicated that the person might stay the same. There were no statistically significant ($p < 0.05$) differences between the girls’ and boys’ answers.

The research method and children’s perceptions of food and eating

We have reviewed the foods which the children thought Mr/Miss Fat and Mr/Miss Thin would eat in the context of a lunch scenario and a food card exercise. We have

also reviewed their reasoning behind those food choices. In this section, we will compare the answers given within the two research methods. This will provide a measure of the reliability of the children's answers thus meeting **objective (x): to analyse the reliability of girls' and boys' perceptions of what and why foods are eaten by fat and thin people.**

Food items and food cards

Firstly we will consider the food choices which were made for Mr/Miss Fat. There were only three foods: chips, sausages and crisps which were common to Mr/Miss Fat's lunch and the food cards. A comparison was made between the food items which the girls and boys cited for lunch and the food cards which they placed on Mr/Miss Fat (only). These are shown in appendix 31. This comparison revealed that the frequencies of the children's answers differed to a statistically significant degree ($p < 0.05$) with respect to the sausages and crisps. This suggests that these answers were not very reliable. The exception was the comparison of the number of boys who attributed chips to Mr Fat's lunch with the number who attributed the food card showing chips to Mr Fat (only). This answer was more reliable, thus boys more clearly associated chips with Mr Fat.

In the context of the Mr/Miss Thin, there were six foods which were common to the food items analysed for lunch and the food cards. These were: carrots, sprouts, apples, tomatoes, peas and chips. Again, comparisons were made between the food items which the girls and boys cited for lunch and the food cards which they placed on Mr/Miss Thin (only) (appendix 31). The attribution of the foods differed to a statistically significant level ($p < 0.05$) in all cases except chips. This suggests that the answers were not very reliable.

Therefore it seems that, within the context of a small range of foods, the research method seemed to make an important difference to the how both the girls and boys answered. They were far more likely to associate a food with Mr/Miss Fat or Mr/Miss Thin if they were shown a picture of it as opposed to being asked to 'pluck a food from the air'. The exception to this was chips. Few children thought that Mr/Miss Thin would eat chips regardless of the research method used. A high percentage of the boys thought that chips would be eaten by Mr Fat regardless of the research method.

Reasons for choice of lunch and food cards

We will now consider whether the reasoning behind the food choices made for Mr/Miss Fat and Mr/Miss Thin differed in the context of the two different research methods. It was notable, and perhaps predictable in light of the questions asked, that there was a tendency to give a 'person centred' answer to the question about lunch and a 'food centred' answer in response to the food card exercise.

A comparison was made between the reasons given by the boys and girls choosing Mr/Miss Thin's lunch and those given for attributing the food cards to Mr/Miss Thin (only). These details are shown in appendix 31. Amongst both the girls' and boys' answers there were only two reasons which differed in their frequency to a statistically significant degree ($p < 0.05$). A similar comparison, in the context of the fat person's food, showed only three differences of statistical significance ($p < 0.05$). These findings suggest that both boys and girls, as a group, demonstrated quite a high degree of reliability in the reasons they gave for thin and fat person's diet in the context of different research methods.

Therefore in answer to ***objective (x): to analyse the reliability of girls' and boys' perceptions of what and why foods are eaten by fat and thin people***, we can say that the research method seemed to affect the children's answers. In particular, the research method affected the attribution of individual foods for a Mr/Miss Thin and Mr/Miss Fat more than the reasons given for their diets.

Having carried out this analysis, it is interesting to look at these findings in the context of those shown in Table 3.23.

We may recall that more girls than boys thought that the fat person would eat "because the food is fattening" to a statistically significant level. We have also seen that significantly more girls thought that this was a reason for Miss Fat's diet as opposed to Miss Thin's (Table 3.23). This section of the analysis has showed that this reason remained reliable despite the research method used, and therefore it strengthens the suggestion that the girls thought Miss Fat ate "because the food is fattening".

In contrast we have noted that significantly more girls thought that Miss Thin would eat food because “it is healthy /good for her” than attributed this reason to Miss Fat (Table 3.23). However the findings here indicate that the number of girls who gave this reason in the context of the lunch exercise was significantly different from the number who gave it in the context of the food card exercise. Therefore the suggestion that the girls thought Miss Thin ate because “it is healthy/good for her” is made weaker.

We have noted that significantly more boys thought that Mr Thin would eat “because he wants to stay thin/not get fat” compared to Mr Fat (Table 3.23). However the findings here suggest that this reason was mentioned significantly less when the food card exercise was used. This diminishes the suggestion that the boys thought Mr Thin ate because “he wants to stay thin/not get fat”.

Eating behaviour and body image

Now we will consider the last objective within this section of the study: ***objective (xi): to understand girls’ and boys’ perceptions of thin and fat people’s eating behaviour.*** We may recall that after asking the children to relate which foods Mr/Miss Fat and Mr/Miss Thin would eat and why, they were asked:

“Do you think that they would eat them in the same way?”

TABLE 3.25

VIEWS ABOUT HOW MR/MISS THIN AND MR/MISS FAT EAT

<i>“Do you think that they would eat them in the same way?”</i>	<i>% children (n=98)</i>	<i>% girls (n=58)</i>	<i>% boys (n=40)</i>
No	43%	41%	45%
Mr/Miss Fat would eat more quickly, Mr/Miss Thin more slowly	29%	24%	35%
Mr/Miss Thin has better table manners	21%	19%	25%
Mr/Miss Fat would eat more	18%	17%	20%
Yes	15%	9%	13%
Mr/Miss Fat eats a lot at a time, Mr/Miss Thin eats a little at a time	14%	16%	13%
Mr/Miss Fat gobbles food, Mr/Miss Thin doesn’t gobble food	13%	19%	5%
Don’t know	13%	16%	10%

Other	6%	7%	5%
Mr/Miss Fat chews food less,	5%	2%	10%
Mr/Miss Thin chews food more			
Food would be cooked differently	2%	3%	0%

The children's comments were analysed and categories emerged from them. Sometimes the children were prompted to expand on a one word answer. As before, many children said things which came into more than one category.

Table 3.25 shows that the majority of the children thought that Mr/Miss Thin and Mr/Miss Fat would eat their food in different ways. After the answer, "No," (43%) which was usually qualified with further explanation, the most popular explanation was that Mr/Miss Fat would eat more quickly than Mr/Miss Thin (29%). Typical answers were:

"No. Mr Fat would probably gobble it up fast, and Mr Thin would eat it slowly."

(boy)

"No.... I think Mrs Thin eats regularly just her food um..... she doesn't scoff it down her like she doesn't have a lot of it, she just has it in between probably.... she just eats it slowly. She has like some cabbage and tomatoes and has a rest."

(girl)

A fifth of the children (21%) thought that Mr/Miss Thin would have better table manners, as illustrated in these three examples:

"No, because Mr Fat might go.... (scoffing noise) like that, and not eat with a knife and fork"

(boy)

"No way. He probably keeps his elbows off the table."

prompt: "Mr Thin?"

"Yeh... and Mr Fat probably would go... (puts his elbows on table) .. and Mr Fat wouldn't use a knife and fork, Mr Thin would; and Mr Fat wouldn't have a napkin, Mr Thin would have a napkin. Mr Thin would sit at a table, Mr Fat would sit in the playroom - well sit somewhere and watch TV all the time..... eating.... um...um... quite a few things."

(boy)

"Um..... no."

prompt: "How do you think they eat differently?"

"I think he eats like a pig."

prompt: "When you say Miss Fat eats like a pig what do you mean exactly?"

"Well he eats with his fingers." (child confuses gender)

prompt: "She eats with her fingers."

"Yes..... she....um..... she eats too many stuff."

prompt: "She eats...."

"Too much."

prompt: "Uh huh.... and what about Miss Thin?"

"Um..... I think she eats with a knife and fork and spoon."

prompt: "She eats with a knife and fork and spoon."

"Yes..... and she's not very greedy."

(girl)

Further analysis of the children's comments also show that if the children described what the person ate with, the thin person was usually perceived as eating with a knife and fork - and in one instance a spoon. The fat person was never associated with eating with these utensils. More often than not, what Mr/Miss Fat ate with was not specified, but when it was it was a shovel (boy), hands (boy) or fingers (girl). Some children explained in more detail other characteristics of table manners. For example Mr/Miss Fat was usually described as eating with their mouth open, and Mr/Miss Thin with their mouth closed.

"Mr Thin sits at a table and eats with his mouth shut."

(boy)

"Miss Fat eats with her mouth open."

(girl)

Of interest was where children placed the eating. Mr/Miss Fat was frequently placed in front of the television, whilst Mr/Miss Thin was sitting at a table:

"Mr Thin would eat at a table."

(boy)

“Mr Fat sits in front of the television and eats with his mouth open.”

(boy)

“Mr Fat would sit down in front of the telly and eat it on the settee.”

(boy)

There were no differences, to a statistically significant level ($p < 0.05$), between the girls' and boys' answers in the context of Mr/Miss Fat or Thin. This means that fat and thin females were perceived no differently by the girls than fat and thin males were by the boys.

TABLE 3.26

THE DIFFERENCES BETWEEN MR/MISS THIN AND MR/MISS FAT'S FOOD AND EATING

	<i>Mr/Miss Fat</i>	<i>Mr/Miss Thin</i>
Quantity of food	eats greater number of food items eats larger portion sizes than Mr/Miss Thin if portion size stipulated	eats smaller number of food items eats smaller portion sizes than Mr/Miss Fat if portion size stipulated
Quality of food	chips, burgers, chocolate and sausages/hot dogs (food items) chips, sugar, sausages, crisps, trifle (food cards) vegetables & salad and meat & meat products (food groups) more immeasurable food items than Mr/Miss Thin more calories more calorie dense food	vegetables and fruit for lunch (food items) fruit and vegetables (except chips) (food cards) vegetables and salad, fruit and bread based foods (food groups) less calories less calorie dense food
Food and changing body size	becomes thin if eats thin person's food	becomes fat if eats fat person's food
Eating behaviour	eats more, eats quicker, puts a lot in their mouth at a time, poor table manners	eats less, eats slowly, chews food more, good table manners
Reasons for eating food (lunch)	because food is fattening because s/he is fat because s/he likes it/doesn't like other	because s/he wants to stay thin/not get fat because s/he is thin
Reasons for eating food (food cards)	because food is fattening because food is fatty/high fat because s/he likes it/doesn't like other	because food is healthy/good for them because food is slimming

TABLE 3.27

**MR/MISS THIN AND MR/MISS FAT'S FOOD AND
EATING: GENDER DIFFERENCES**

	Mr/Miss Fat		Mr/Miss Thin	
	<i>Girls</i>	<i>Boys</i>	<i>Girls</i>	<i>Boys</i>
Quantity of food		increase portion size		
Quality of food	chocolate, sweets, bacon and baked beans mentioned more frequently than boys chocolate (food item) cauliflower (inc.both) (food card)	burgers, sandwiches, cakes and pizza mentioned more frequently than girls lettuce (inc.both) (food card)	fruit, apples, sandwiches, peas mentioned more frequently than boys cheese (inc.both) (food card)	carrots and Slimfast mentioned more frequently than girls
Reasons for eating food (lunch)		because he wants to stay fat/not get thin		
Reasons for eating food (food cards)	because food is fattening			
	<i>Girls</i>		<i>Boys</i>	
	Mr/Miss Fat	Mr/Miss Thin	Mr/Miss Fat	Mr/Miss Thin
Quality of food	chips (food item) meat and meat products (food group) sweet snacks (food group)	fruit (food group)	chips (food item) meat and meat products (food group)	fruit (food group)
Reasons for eating food (lunch)	because food is fattening	because she wants to stay thin/not get fat because food is healthy/good for her	because he likes it/doesn't like other	because he wants to stay thin/not get fat
Reasons for eating food (food cards)	because food is fattening	because food is healthy/good for her		because food is healthy/good for him

In summary, and in response to ***objective (xi): to understand girls' and boys' perceptions of thin and fat people's eating behaviour***, children seemed to perceive clear differences in the way that thin and fat people ate. The fat person was likely to eat more by eating quickly and putting a lot into their mouths at a time without the constraints of good table manners such as using cutlery, eating at a table and eating with their mouth shut. The thin person was perceived by the children as more likely to eat less, by eating it more slowly, chewing the food more and by using better table manners.

Summary of children's perceptions of the link between body size and food

Tables 3.26 and 3.27 illustrate the key differences in the children's perceptions of a thin and fat person's eating which have been discussed here.

- Most of the children perceived differences in the quantity and quality of the thin and fat person's food. In particular they tended to associate larger amounts and higher calorie foods with the fat person and smaller amounts and lower calorie foods with the thin person.
- The vast majority of the children understood that eating differing food could alter body size.
- Many children seemed to think that the fat person would choose food because they 'were fat', they liked it and it was fattening; while the thin person would choose food because it was healthy, slimming or because they wanted to stay thin.
- Most of the children described clear differences between the way in which a fat and thin person eats. The fat person tended to be perceived as eating quickly, eating more and eating with poor table manners. The thin person tended to be perceived as eating slowly, eating less and eating with better table manners.
- Both girls and boys tended to associate fruit more strongly with the thin person, and meat and meat products more strongly with the fat one.

- Both girls and boys tended to think that the thin person ate food because they wanted to stay thin and because it was healthy.
- The girls tended to associate sweet snacks, for example chocolate, with the fat person more than the thin person.
- Chips were strongly associated with the fat person by many of the girls and boys.

Table 3.27 also shows the key differences between girls' and boys' perceptions of a thin and fat person's eating.

- The boys were more likely to describe the fat male as eating larger portion sizes compared to the girls' descriptions of fat females.
- The boys tended to think that the fat male ate food because he liked it or because he wanted to stay fat, whilst the girls thought the fat female ate food because the food was fattening.

CHILDREN'S PERCEPTIONS OF THE CONTROL OF CHILDREN'S EATING

Having considered the results pertaining to children's perceptions of body image and the link between body size and food, we will turn to the third aim of the study: **to analyse children's perceptions of who controls children's eating**. This part of the research was carried out at the end of the interview.

To recap on the method, the children were shown a picture of a supermarket (appendix 7) and asked what they would buy to eat if they had all the money they wanted. The children drew their purchases onto a picture of a shopping trolley. An example is shown in appendix 32. Although these purchases were noted, the resulting data was not analysed. This was a 'fun' precursor to asking the children why they made their choices, and subsequently asking them who normally made food choices for them in the context of specific meals. The children were also asked about who decided how much they should eat.

As with previous results, the answers were categorised into groups which emerged from their answers. If a child answered in such a way as to fulfil more than one category, their answers were recorded in more than one category. This section of the interview required more prompting on the part of the researcher than the two previous sections. Although this was in order to ensure that the author had accurately understood what the children were inferring in terms of who took control, it is recognised that the potential for inadvertently influencing the children's answers and thereby distorting the results was increased. An example of a randomly chosen interview is given in appendix 33 as an illustration.

The results below are analysed in two sections. The first concerns control and the quality of food, and the second control and the quantity of food.

Controlling the quality of food

Food shopping

Having drawn their purchases onto the picture of a shopping trolley (appendix 32), the children were asked why they had made these choices. This was in order to meet *objective (xii): to analyse girls' and boys' reasons for their food choices*. The children were asked:

“Why did you choose those?”

TABLE 3.28

REASONS FOR CHOICE OF FOOD FROM THE SUPERMARKET

“Why did you choose those?”	% <i>children</i> <small>(n=98)</small>	% <i>girls</i> <small>(n=58)</small>	% <i>boys</i> <small>(n=40)</small>
because I like it	74%	72%	75%
because someone else likes it	1%	2%	0%
because I don’t usually have this	1%	0%	3%
because it is healthy/good for you	9%	9%	10%
because it is not healthy/good for you	1%	2%	0%
because some are healthy and some are not/balance	3%	2%	5%
because foods have certain functions	5%	3%	8%
because these are my usual foods	1%	2%	5%
because of thin/fat reasons	3%	3%	3%
don’t know	6%	5%	8%
other	12%	12%	13%

Table 3.28 shows that the main reason that children chose certain food from the supermarket was because they liked it (74%). A typical answer was:

"P.... what did you choose in the supermarket?"

"Biscuits, bread, oxo gravy, weetabix, fruit, hot chocolate, eggs, milk, orange, chicken, butter, vegetables."

"...and why did you choose those?"

"because I like them best."

(girl)

Others said:

"... because I like them."

(girl)

"... because they are the foods I like."

(boy)

Most of both the girls and boys chose the food because they liked it (girls 72%, boys 75%), and there were no differences of statistical significance ($p < 0.05$) between them.

9% chose it because the food was healthy for example:

"...because they have got quite a bit of healthy stuff in them and vitamins and ... um.... the orange juice has got a tiny bit of sugar in, but not that much so it's good for you."

(girl)

12% gave a variety of answers which were categorised as 'other'. These included:

"Because I did."

(girl)

"... because most of them are not sweet and the water is not sweet, but some of them are and I haven't got a lot of sweet things."

(girl)

"..... and things that I thought of and saw in the picture."

(girl)

5% of the children cited reasons to do with specific functions of the foods such as:

"... cocoa pops because it makes the milk turn brown, eggs because you can put them in sandwiches, bacon because it has got the rind on it, tea bags so I can make the tea, strawberries because they are nice and red and juicy, ice cream for milkshake, sugar to put in my tea and kit kats because they have nice chocolate on them."

(girl)

Therefore in answer to **objective (xii): to analyse girls' and boys' reasons for their food choices**, it seems that the overwhelming reason for the girls' and boys' choice was because they liked the food. Reasons concerning health or body image were relatively rare by comparison.

Children's perceptions of who chooses their food

By asking the children who normally chose the food shopping within the family and who normally decided what was eaten at mealtimes during the week it was hoped that their perceptions of who controlled their food would become clear, and **objective (xiii): to analyse girls' and boys' perceptions of who chooses their breakfast, lunch,**

TABLE 3.29

CHILDREN'S PERCEPTIONS OF WHO CHOOSES THEIR FOOD

	Shopping			Breakfast			Lunch			Evening Meal			Snacks*		
Perception of control	% children (n=98)	% girls (n=58)	% boys (n=40)	% children (n=98)	% girls (n=58)	% boys (n=40)	% children (n=98)	% girls (n=58)	% boys (n=40)	% children (n=98)	% girls (n=58)	% boys (n=40)	% children (n=98)	% girls (n=58)	% boys (n=40)
i) Child total control	0%	0%	0	11%	10%	13%	3%	5%	0%	16%	16%	18%	14%	10%	20%
ii) Joint control	11%	17%	3%	3%	0%	8%	6%	9%	3%	8%	10%	5%	1%	2%	0%
iii) From choice by adult	35%	28%	45%	76%	78%	73%	59%	59%	60%	14%	10%	20%	50%	52%	48%
iv) Adult chooses	54%	55%	53%	10%	12%	8%	32%	28%	38%	62%	66%	58%	52%	55%	48%

* 8% of the children did not have snacks at all. Many of the children's answers about snacks fulfilled more than one category.

TABLE 3.30

CHILDREN'S PERCEPTIONS OF THE CONTROL OF FOOD

	i) Child has total control			ii) Joint control			iii) From choice by adult			iv) Adult chooses		
	% children (n=98)	% girls (n=58)	% boys (n=40)	% children (n=98)	% girls (n=58)	% boys (n=40)	% children (n=98)	% girls (n=58)	% boys (n=40)	% children (n=98)	% girls (n=58)	% boys (n=40)
Food												
Shopping	0%	0%	0%	11%	17%	3%	35%	28%	45%	54%	55%	53%
Breakfast	11%	10%	13%	3%	0%	8%	76%	78%	73%	10%	12%	8%
Lunch	3%	5%	0%	6%	9%	3%	59%	59%	60%	32%	28%	38%
Evening meal	16%	16%	18%	8%	10%	5%	14%	10%	20%	62%	66%	58%
Snacks*	14%	10%	20%	1%	2%	0%	50%	52%	48%	52%	55%	48%
Average rating	9%	8%	10%	6%	8%	4%	47%	45%	49%	42%	43%	205%

evening meal and snacks, would be met. This data is shown in Table 3.29.

The children's answers were categorised into four categories according to whether:

- i) the child reported that they were free to choose anything they liked (child total control);
- ii) the child reported that they jointly chose with an adult. Therefore they both agreed on what to buy/eat and/or sometimes the adult chose and sometimes the child chose - the child wasn't able to say clearly that one had more control than the other (joint control);
- iii) the child reported that they were allowed to choose freely from a predefined choice decided by the adult. For example a child was allowed to choose the cereal only (from choice by adult);
- iv) the child reported that they were not allowed to choose at all, the adult chose the food (adult chooses).

These categories can be seen as representing decreasing levels of child control.

Food shopping

The children were asked:

“Who normally goes food shopping in your home? Who chooses what goes into the shopping trolley?”

Table 3.29 shows that just over half the children (54%) said that an adult chose (iv) the food in the supermarket. For example:

"Who normally goes food shopping in your home?"

"Mum."

"Does she normally go on her own?"

"Sometimes with us, but sometimes she goes on her own."

"What's more usual?"

"She goes on her own."

"On her own."

(girl)

35% of the children said that they were allowed to choose food from a predefined choice provided by the adult (iii). For example:

"Who normally goes food shopping in your home?"

"Mum. Well, we sometimes go with Mum but Mum usually goes on her own."

"Is it more usual for Mum to go on her own or is it more usual for you to go with her?"

"No. We normally go with her."

"You normally go with her, ...and when you go with her are you allowed to choose what goes into the shopping trolley?"

"Well, if Mum lets us have it - yes."

"Could you choose anything in the shop, and Mum would say, "Yes," or, "No," or is it certain things that Mum says..."You can choose that"...."

(Interrupts) "Yes."

"Yes."

(boy)

Table 3.29 shows that as 54% of the children said that an adult chose (iv) the shopping, and 35% said that they were allowed some choice from a selection given by an adult (iii), a total of 89% of the children perceived that their food choice was under a fairly high degree of adult control. The distribution of the girls' and boys' answers were found to differ to a statistically significant degree using a 'goodness of fit' test across the four types of control (girls: $\chi^2 = 37.241$, $df=3$, $p<0.05$, boys: $\chi^2 = 36.70$, $df=3$, $p<0.05$). This means that the pattern of their answers was different than may be expected by chance. The 'goodness of fit' test is explained in appendix 34. In particular they said that an adult chose the shopping more frequently than may be expected (boys 53%, girls 55%), and that the child themselves chose less (0%). The pattern of answering was similar between the girls and boys, and no statistically significant differences were found ($p<0.05$).

Having found that children tend to think that adults have a large say in choosing the food shopping, we will look at children's perceptions of who controls the food which they eat. This incorporates the children's answers concerning their weekday meals and snacks. Each will be

described separately, and then we will look at the findings of statistical significance in order to highlight key patterns of perceptions.

Breakfast

After the shopping question, the children were asked:

“Who normally decides/chooses what you have for breakfast?”

Table 3.29 shows that the majority of children (76%) said that they were allowed to choose their own breakfast from a choice given to them by an adult (iii). For example:

".....and who normally decides what you eat for breakfast?"

"Um...well...I usually have a yoghurt in the morning...um.."

"Who *decides* what you have for breakfast though?"

"Um....I do." (laughs)

"Could you have anything that's in the kitchen at all?"

"No."

"No. Does Mum say you can either have this, or this, or that?"

"Yes."

"Yeh ...and then....."

"Usually I get...coz we've got these big yoghurts - sort of fruit corner things....and I have those..."

(girl)

11% said that they were allowed to choose what they liked for breakfast (i), and 10% said that an adult chose for them (iv). None of the children said that they did not eat breakfast. The majority of girls (78%) and boys (73%) said that they were allowed to choose their own breakfast from a predefined choice decided by an adult (iii), most frequently.

Lunch

The children were asked:

“Who normally decides/chooses what you have for lunch?”

Table 3.29 shows results which pertain to lunch eaten at school. This was either a school lunch or a packed lunch. School lunches, in all the schools, included a choice of foods, and therefore these answers were always categorised as (iii) 'from choice by adult'. Answers concerning packed lunches were categorised into all four groups, but predominantly went into the (i) 'child total control', (ii) 'joint control' and (iv) 'adult chooses' groups. Sometimes, information obtained during the shopping questions, provided important information in helping to categorise the control of packed lunch.

Overall 59% of children reported that they chose lunch from a given choice provided by an adult (iii). For example:

"Do you have a school lunch or pack lunch?"

"Pack lunch."

".... and who decides what goes into your pack lunch?"

"Me."

"You. Can you have anything at all or are there certain things you choose from?"

"Certain things I choose from."

"OK."

(boy)

About a third (32%) said that they ate lunch which had been chosen by an adult (iv). For example:

"Do you have school lunch or pack lunch?"

"Pack lunch."

"....and who decides what goes in your pack lunch?"

"My Nan."

(girl)

Similar results were obtained from both the girls and the boys where over half the girls (59%) and boys (60%) said that they chose lunch from a given choice by an adult (iii).

Evening meal

The children were asked:

“Who normally decides/chooses what you have in the evening?”

Table 3.29 shows that according to the children an adult chose the evening meal for 62% of the children (iv). For example:

“..... and when you get home, do you have something to eat then?”

“Dinner.”

“You have dinner..... and who decides what you’re going to eat then?”

“My Mum.”

“Does she make it for you, and she decides what it’s going to be?”

(Child nods)

“OK.”

(boy)

16% of children said that they could choose what they liked for their evening meal (i). For example:

"Who chooses what you eat for dinner?"

"We do."

"You do. You tell your Mum what you'd like to eat, and she gives it to you?"

"Yes. Sometimes we have to make our own."

"Sometimes you make your own. So you can choose ,really, anything?"

"Yes."

(boy)

14% reported choosing a meal from a choice given by an adult (iii), and 8% indicated that the choice was a joint one (ii) for example:

“..... and then do you have a meal?”

"Yeah. It's usually it's usually always chips coz Mum can't really cook."

"OK."

".... coz she's got not time."

"OK... She.... So does she usually decide what you're going to have then?"

"Mum usually asks us, "What do you want Dad?" and he says and then I say...."

"So you have a joint decision is it?" (Child nods)

"OK."

(boy)

Most of the girls (66%) said that their evening meal was chosen for them by an adult (iv) as did most of the boys (58%). However a fifth of the boys (20%) said that they were allowed to choose their meal from a given choice by an adult (iii) as opposed to 10% of the girls.

Snacks

As explained earlier, the children's perceptions about who controlled their snacks was integrated into the interview between discussions about meals. The children were asked if they ate anything during the morning, during the afternoon, when they got home from school and in the evening. Often the children's answers fitted into more than one category. This was usually because certain snacks, for example, those taken to school, were chosen in a different way from snacks eaten in the home. As stated previously, all the children's answers were recorded. Sometimes the answer concerning who chose the shopping influenced the category into which the snacks were placed. For example the child may have reported that an adult had total control over the shopping, and the child may have previously stated that the snack was chosen by the adult at the time.

Table 3.29 shows that 52% of the children thought that their snacks were chosen for them by an adult (iv). This girl's answers fulfilled this category:

"What about in the morning?"

"Um..."

"Do you have anything here, when you're at school, in the morning, or not?"

"What do you mean?"

"Like a snack, in the morning for break."

"I have some crisps."

"You bring crisps from home, do you, or do you buy them here?"

"Bring them from home, and at break time we have crisps, and then at dinner time we..."

"So who chooses them for you?" Does your Mum say you can have crisps, and, "Here you are." ?"

"Yes. She buys crisps for us, and she puts them in our bag."

later

"...and then in the afternoon?"

"We don't have nothing."

later

"...and before you go to bed?"

"I have some toast and hot chocolate."

"...and who decides you can have that?"

"Mum. She just makes it."

(girl)

50% of the children thought that their snacks were made from a choice which was decided by an adult (iii). Both the girls and boys reflected this pattern of answers.

Differences in the children's perceptions of control over food

Table 3.30 shows that the most frequently mentioned scenario was one where the child chose their food from a choice given to them by an adult (iii) (average rating 47%). This particularly applied to breakfast and, to a lesser extent, lunches. The second most popular category was the adult choosing (iv) (42%) notably in the context of the evening meal and, less so, shopping and snacks. This overall pattern was true for both girls (iii 45%; iv 43%) and boys (iii 49%; iv 41%). Indeed the overall pattern of answers among the girls and boys was very similar. This suggests that the children thought that adults had a high degree of control over their food.

The girls' and boys' answers, in the context of shopping, breakfast, lunch, the evening meal and snacks differed to a statistically significant degree using a 'goodness of fit' test across the

four types of control. This means that the pattern of their answers differed to what may be expected by chance. These findings are shown in appendix 34. In addition to this there were three other statistically significant answers. With reference to breakfast, the girls indicated that they made a choice from a selection given by an adult (iii) (78%) significantly more than any of the other three types of control (*chi-square* = 17.672, *df*=1, *p*<0.05). Similarly the boys indicated that they also chose breakfast from a choice given by an adult (iii) (73%) significantly more than they indicated any other type of control (*chi-square* = 8.125, *df*=1, *p*<0.05). In the context of the evening meal, the girls said that an adult chose (iv) (66%) the meal more than they said any other type of control (*chi-square* = 4.983, *df*=1, *p*<0.05). This suggests that the perception that breakfast was chosen by children, from a selection given by an adult, was strong, as was the girls' perceptions that the evening meal was chosen by an adult.

None of the girls' and boys' answers differed to a statistically significant degree (*p*<0.05) in this part of the study.

Adult control of children's food

Finally the results were analysed to find out whether the children's mother, father or another person were mentioned by the children during their accounts. This was done by analysis of the transcripts.

TABLE 3.31
CHILDREN'S PERCEPTIONS OF WHICH ADULT CONTROLS THEIR FOOD

<i>Adults</i>	<i>% children (n=98)</i>
Mother only	59%
Mother and Father	34%
Mother and other person	4%
Other	1%

Table 3.31 shows that over half the children (59%) cited their mother only. Further analysis of the transcripts revealed that out of the 34% who mentioned both their mother and father, 18% mentioned fathers in the context of the evening meal only and 39% in the context of shopping only.

These findings have tried to meet ***objective (xiii): to analyse girls' and boys' perceptions of who chooses their breakfast, lunch, evening meal and snacks.*** What seems clear is that the children perceived that adults had a great deal of control over their food. The children

perceived their mother to be the person who most frequently controlled their food. Where the father was mentioned, this tended to be in the context of the evening meal and shopping.

Controlling the quantity of food

Having considered the findings concerning children’s perceptions of control over the quality of food which they eat, we will turn to consider the children’s perceptions about the quantity of food which they eat. This will allow us to investigate **objective (xiv): to analyse girls’ and boys’ perceptions of who controls how much they eat.** The children were asked:

“Who normally decides how much you eat?”

TABLE 3.32
WHO DECIDES HOW MUCH FOOD IS EATEN?

<i>“Who normally decides how much you eat?”</i>	<i>% children (n=98)</i>	<i>% girls (n=58)</i>	<i>% boys (n=40)</i>
Adult	60%	64%	55%
Child	32%	33%	30%
Adult and child	6%	3%	10%
Don’t know	2%	0%	5%

Table 3.32 shows that approximately two thirds of the children (60%) reported that an adult decided how much food they ate. For example one girl said

“Well.....I really ask for how much I eat and if I leave it, I can leave it, but it doesn’t mean I have um.... afters really.....if I don’t ea... if I don’t eat all my tea.....depends how much is left, but if I don’t really eat it sometimes I don’t have afters.”

prompt: “Who decides..... you decide you don’t have afters or Mum says you can’t have afters?”

“My Mum says I can’t.”

“So.....so does Mum really encourage you to eat up?”

“Yes, I don’t eat a lotof the time.”

(girl)

Another example of the adult deciding is illustrated by this boy:

“Well, we ask Mum if we can have a certain amount, and if that’s too much.....(inaudible)....Mum decides.”

(boy)

Approximately one third (32%) of the children said that they decided for themselves how much to eat. For example:

"Me..... not very much."

(boy)

Both the girls (64%) and boys (55%) said that an adult decided how much was eaten more than anyone else. The difference between the four answers differed to a statistically significant degree in the context of both girls (*chi-square* = 61.655, *df*=3, *p*<0.05) and boys (*chi-square* = 24.90, *df*=3, *p*<0.05) using a 'goodness of fit' test across the four types of people who may control. Therefore the pattern of their answers was different than that which would be expected by chance. The girls' (64%) mentioned an 'adult' alone more frequently the other types of control together, to a statistically significant level (*chi-square* = 4.431, *df*=1, *p*<0.05). They also mentioned this more than the boys (55%) but not to a degree of statistical significance (*p*<0.05).

After answering this question, the children were asked:

"What happens if you leave food on your plate?"

TABLE 3.33

WHAT HAPPENS IF FOOD IS LEFT?

<i>"What happens if you leave food on your plate?"</i>	% <i>children</i> <small>(n=98)</small>	% <i>girls</i> <small>(n=58)</small>	% <i>boys</i> <small>(n=40)</small>
Adult encourages child to eat up food	59%	64%	53%
Nothing - allowed to leave food	26%	30%	25%
Both of the above	10%	5%	18%
Other	5%	5%	5%

Table 3.33 shows that most of the children (60%) reported that an adult encouraged them to eat up their food. This is illustrated by these comments:

"Who normally decides how *much* you eat?"

"My Mum."

"Your Mum.....and what does your Mum say if you leave food on your plate?"

"She says that I've got to eat it all up."

(girl)

One boy's answer was as follows:

"Who decides how *much* you eat?"

"My Mum."

"If you leave food on your plate, what does Mum say?"

"Well, I don't usually, but if I do, she said, "Do you feel well?" and I'd say, "No," and then I wouldn't get a pudding if I didn't have the rest of my...."

"So normally you don't leave it anyway, but if you did leave it, what does Mum do?"

"She encourages me to eat it or if I don't want to eat it still....um....I don't have any dessert."

(boy)

A quarter (26%) of the children said that they were allowed to leave food on their plate. For example:

".... and if you want to leave some food on your plate, do Mum and Dad let you do that?"

"Yes."

"They do."

(girl)

Over half of both the girls (64%) and boys (53%) said that an adult encouraged them to eat up food. The difference between the four categories of answers differed to a statistically significant degree in the context of both girls (*chi-square* = 53.241, *df*=3, *p*<0.05) and boys (*chi-square* = 19.50, *df*=3, *p*<0.05) using a 'goodness of fit' test. Therefore the pattern of these answers was different than what may be expected by chance. The girls (64%) mentioned that the 'adult encourages the child' more than the other three scenarios together to a statistically significant degree (*chi-square* = 4.406, *df*=1, *p*<0.05).

Therefore in answer to ***objective (xiv): to analyse girls' and boys' perceptions of who controls how much they eat*** it seems that the children thought that this was predominantly adults. About a third of the children could choose how much they ate and were allowed to leave food on their plate. It is interesting to note that the girls mentioned that the adult controlled how much they ate much more than they gave other scenarios.

Summary of children's perceptions of the control of children's eating

- Given a free choice, the majority of the children indicated that the main reason for choosing their own food, when shopping, would be because they liked it.
- Most children perceived that adults have a great deal of control over the food which they eat.
- Most children described the mother as the person most likely to be the one controlling their food.
- Most children, especially the girls, perceived that adults decided how much they were to eat. About a third reported that they could decide this for themselves.

Summary of the study's key findings: children's perceptions of eating and body image

Table 3.34 summarises most of the key findings which have emerged out of the results from this study.

TABLE 3.34

CHILDREN'S PERCEPTIONS OF EATING AND BODY IMAGE: SUMMARY OF KEY FINDINGS

<u>Children's perceptions of body image</u>	<u>Children's perceptions of the link between body size and food</u>	<u>Children's perceptions of the control of children's eating</u>
<ul style="list-style-type: none"> • Most of the children of all weights rejected fatness for their ideal body image. • Most of the girls seemed to want a thin to medium body image, whilst most of the boys seemed to want a medium to muscley one. • The boys tended not only to want muscley arms and legs, but many thought that they had them already. • Most of the children thought that an ordinary child had a predominantly medium body image although the girls tended to describe them in thin terms more than the boys. • The children tended to associate thin and muscley descriptions with their ideal body image more than either themselves or the body image of an ordinary child. • The desire for thinness seemed to be more important to heavier children, and muscularity to lighter ones. • Having muscularity seemed to be important to most boys of all weights. • 'Underweight' girls were more likely to describe an ordinary girl as fat and 'underweight' boys were more likely to describe an ordinary boy as thin. • Most of the children's descriptions of themselves were broadly accurate, however some children described themselves as thinner than they probably were. <p style="text-align: right;"><i>continued</i></p>	<ul style="list-style-type: none"> • Most of the children perceived differences in the quantity and quality of the fat and thin person's food. In particular they tended to associate larger amounts and higher calorie foods with the fat person and smaller amounts and lower calorie foods with the thin person. • The vast majority of the children understood that eating differing food could alter body size. • Many children seemed to think that the fat person would choose food because they 'were fat', they liked it and it was fattening; while the thin person would choose food because it was healthy, slimming or because they wanted to stay thin. • Most of the children described clear differences between the way in which a fat and thin person eats. The fat person tended to be perceived as eating quickly, eating more and eating with poor table manners. The thin person tended to be perceived as eating slowly, eating less and eating with better table manners. • Both girls and boys tended to associate fruit more strongly with the thin person, and meat and meat products more strongly with the fat one. • Both girls and boys tended to think that the thin person ate food because they wanted to stay thin and because it was healthy. • The girls tended to associate sweet snacks, for example chocolate, with the fat person more than the thin person. <p style="text-align: right;"><i>continued</i></p>	<ul style="list-style-type: none"> • Given a free choice, the majority of the children indicated that the main reason for choosing their own food, when shopping, would be because they liked it. • Most children perceived that adults have a great deal of control over the food which they eat. • Most children described the mother as the person most likely to be the one controlling their food. • Most children, especially the girls, perceived that adults decided how much they were to eat. About a third reported that they could decide this for themselves.

Children's perceptions of body image

(continued)

- Children who were not 'normal weight' were more likely to perceive themselves as having a body image which differed from ordinary children.
- The research method affected many of the children's answers to questions about body image satisfaction to a statistically significant level ($p < 0.05$).
- About half the children thought that their own body image differed to that of an ordinary child.
- About half the children wanted a body image which was different to that of an ordinary child, and many boys wanted more muscularity in particular.
- About half the children were satisfied with their body image, boys more than girls, but not reliably so.
- 'Normal weight' girls and 'overweight' boys were most satisfied with their body image, and 'overweight' girls were the most dissatisfied.
- 'Overweight' and 'underweight' girls described themselves as different to their perceptions of an ordinary child most frequently.
- 'Normal weight' girls and 'overweight' boys tended to aspire towards a body image like that of an ordinary child. The 'underweight' girls and, to a lesser extent, 'normal weight' boys seemed to have the least realistic ideal body images.

Children's perceptions of the link between body size and food *(continued)*

- Chips were strongly associated with the fat person by many of the girls and boys.
- The boys were more likely to describe the fat male as eating larger portion sizes compared to the girls' descriptions of fat females.
- The boys tended to think that the fat male ate food because he liked it or because he wanted to stay fat, whilst the girls thought the fat female ate food because the food was fattening.

CHAPTER FOUR

DISCUSSION

We will recall that the aim of this study was **to investigate nine year old children's perceptions of eating and body image**. In particular it sought to explore: **children's perceptions of body image, children's perceptions of the link between body size and food, and children's perceptions of the control of children's eating**.

CHILDREN'S PERCEPTIONS OF BODY IMAGE

We will firstly address children's perceptions of body image and begin by considering the first two objectives of the study. *Objective (i) was: to analyse children's perceptions of their ideal body image, an ordinary body image and their own body image*, and *objective (ii) was: to discover how children's perceptions of their ideal body image, an ordinary child's body image and their own body image differs according to their own body mass index*.

Children's perceptions of their ideal body image

The children in this study cited 'medium' descriptions for their ideal body image most frequently (half of all the descriptions) and fat descriptions the least (a twentieth of all descriptions). We have seen that in previous studies (Hill, 1993; Hill et al, 1994; Hill and Silver, 1995) children have indicated that they did not want to be fat, and this seems to have been repeated here. In looking for explanations we may recall that a medium body image has been associated with being healthy (Blissett et al, 1996) and a fat one with poor health (Williams et al, 1989a; Hill and Silver, 1995) by children elsewhere. Therefore it is possible that the children were considering healthy attributes when answering. However in view of the literature which suggests that nine year old children are probably self conscious about their appearance (Williams et al, 1989a, 1990; Koff and Rierden, 1991; Hill et al, 1992,1992a) and that which has suggested that health is not a meaningful influence on what children eat (Mauthner et al, 1993; Ross, 1995), it seems unlikely that they simply rejected fatness in order to be healthy. Perhaps if health was a significant consideration, it could be explained in terms of the children wanting to look healthy rather than be healthy. Furthermore we must also consider the rejection of fatness per se as the epitome of unattractiveness by both children (Wooley et al, 1979; Edelman, 1982; White, 1983; Wardle et al, 1995) and adults (Bruch, 1974; Rand and Stunkard, 1978; Cline, 1990) alike. Putting these factors together, we may propose that the children did not want a fat body image for reasons to do with looking healthy and attractive.

Having established that the children did not want to be fat, it is interesting to note that they did not want to be thin either. The children described their ideal body image as medium almost twice as frequently as thin. The girls gave more medium than thin descriptions also. These findings support Hill and Silver's (1995) suggestion that nine year old children may be more concerned with avoiding fatness than they are aiming for thinness. They also imply that nine year old girls differ from older females for whom thinness seems to be very important (Woolf, 1994; Kilbourne, 1994; Henderson and Vickers, 1995).

The findings seem to contradict Hill et al's (1992) research which indicated that nine year old girls wanted a body image which was thin to the point of being underweight. Certainly the girls, in this study, wanted to be thin more than the boys, in that a third of the girls' descriptions were thin and only a fifth of the boys' were. However the girls' overall ideal body image was 'thin to medium' not thin. This is more in line with the body images which are promoted by health professionals (Allan, 1988; Hess-Biber, 1989; Henderson and Vickers, 1995). It suggests that girls may be influenced by cultural and media images which strongly associate thinness with femininity (Kearney-Cooke and Steichen-Asch, 1990; Kilbourne, 1994; Cooke, 1995), but to a much lesser degree than has been thought (Hill, 1996).

In this study the boys not only rejected fatness, but they also rejected thinness. In not wanting to be thin, the boys concurred with those in Hill et al's (1994) study. Teenage boys do not want to be thin either (Wardle, 1991) and this suggests that older males may influence younger ones. This is further supported by the finding that a third of the boys wanted muscularity, and we will recall that adult males have been reported as wanting this also (Kearney-Cooke and Steichen-Asch, 1990; Hope, 1993; Watson, 1993; Bruckenwell et al, 1995). The study has confirmed the opinions of authors who had thought that boys wanted muscularity, but had not shown it empirically (Hill et al, 1992a, 1994; Williams et al, 1989; Freedman, 1984), and it supports the suggestion that boys are socialised into valuing strength from a young age (Grabrucker, 1988; Mickalide, 1990). Muscularity and masculinity do indeed go together.

We will now look at the children's perceptions of body shape. The girls did not embrace muscularity as much as the boys. This may reflect the perception amongst adults that muscularity is not considered to be feminine (Mansfield and McGinn, 1993). However if the girls wanted any muscularity or fatness at all, it tended to be most frequently located on their arms, whilst they wanted their tummies, legs and bottoms to be 'thin to medium'. It is

interesting to ponder the significance of this when we recall that historically women's power in society has paralleled increased shoulder and upper arm breadth, either through the structure of clothes (Oakley, 1982; Rothstein, 1984) or the effects of exercise (Mitchel, 1987). Certainly females have more power, in the public arena, than they have ever had in modern society. They are also being encouraged to exercise (Whitehead, 1995) and have been taking up body building since the 1980s (Mitchel, 1987). Perhaps girls are looking for an ideal body image which reflects female power and health without foregoing their feminine image. Meanwhile, the boys' desire for extra muscle on their arms and legs relative to 'thin to medium' tummies and bottoms suggests that they aspired to the classic 'V' shape which has been described as the epitome of male attractiveness (Hope, 1993) and copied in numerous super hero toys such as Action Man and Power Rangers.

We may conclude that the children's gender identity seems to have played a significant part in their perceptions of their ideal body images.

The influence of actual weight on perceptions of ideal body image

The next thing to consider is whether the children's actual weight made any difference to their perceptions of their ideal body image. It appeared to make little difference to three things which were their rejection of fatness, the high value which they placed on being medium and the high value which boys placed on muscularity. However the children's desire for thinness increased in line with increased actual weight. Thin descriptions made up a quarter of all the 'overweight' boys' descriptions and over half of the 'overweight' girls'. This supports previous studies which have suggested that overweight children want to be thinner than their weight suggests that they are themselves (Blissett et al, 1996; Hill et al, 1992a). Conversely the desire for muscley and medium body parts increased in frequency among children of decreasing weight. A quarter of the 'underweight' children's descriptions indicated wanting muscularity, and over a half wanted a medium body image. This supports Hill et al's (1992a, 1994) suggestion that lighter children are the ones who tend to want a broader body image. This finding also clarifies that the extra breadth is made up of both muscle and fat, as opposed to fat alone as Blissett et al (1996) thought.

These findings suggest that the children valued that which would bring their own body image into line with their ideal one. In particular it seems that the 'underweight' children were not only rejecting fatness, but were wanting a body image which was stronger, both metaphorically and physically, than perhaps a vulnerable and 'powerless' thin one. The 'overweight' children

similarly rejected fatness but, in contrast, positively valued thinness. In this way children's perceptions of their ideal body image seem to be influenced by their actual weight.

Furthermore it seems that actual weight and gender may work together in an interesting way. We have noted that thinness was more highly valued by both girls and boys of heavier weights. We may also recall that, keeping in mind that there were only two 'underweight' boys in this study, the desire for a muscular body image seemed to be important to boys of all weights whereas it was of more importance to the lighter girls. If we accept that there is a cultural association between masculinity and muscularity, and between thinness and femininity, it seems that these associations were challenged by the perceptions of wanting muscularity by girls of lesser weight, and of wanting thinness by boys of greater weight.

Children's perceptions of an ordinary child's body image

The children in this study described an ordinary child most frequently in 'medium' terms. Recent surveys of British children's height and weight indicate that about half of all children fall within a range which could be termed 'normal weight' (Peckham et al, 1985; Freeman et al, 1995; Cole et al, 1995). If, as Blissett et al (1996) do, we associate the description of 'medium' with 'normal weight', this finding suggests that the children had broadly accurate perceptions of the body image of ordinary children.

Recent studies suggest that there are slightly more 'overweight' children than 'underweight' children in Britain, and that the 'overweight' comprise of more girls than boys (Peckham et al, 1985; Freeman et al, 1995; Cole et al, 1995). Therefore we may have expected the girls in this study to have described ordinary girls in predominantly medium followed by fat terms. However, they did not. Half of the girls' descriptions of an ordinary girl were medium, a third were thin and less than a sixth were fat. This suggests that they thought that ordinary girls were thinner than they are in reality. The girls also described an ordinary girl as relatively thinner than the boys described an ordinary boy, when in fact the reverse is more likely. Therefore the findings in this study indicate that the girls demonstrated less accuracy than the boys in their perceptions of an ordinary child. If we accept that thinness in females signifies cultural attractiveness, then this may suggest that the girls perceived other girls to be more attractive than they are in reality, whilst the boys may have had more realistic perceptions of other boys.

The overall pattern of the children's descriptions showed that both girls and boys described an ordinary child as having a relatively fatter tummy compared to their limbs. Anthropometric studies have indicated that nine year old girls and boys tend to have more fat on their tummies than limbs (Malina and Bouchard, 1991). So in this way, the children's perceptions were accurate. Furthermore a comparison of the girls' and boys' perceptions suggested that some of the girls perceived that an ordinary girl would not only have a relatively fatter tummy compared to her limbs, but a relatively fatter bottom also. This was not the case for the boys. The girls' perception may be explained by the fact that girls, in reality, have a greater hip to shoulder breadth compared to boys (Malina and Bouchard, 1991). These findings suggest that the children's perceptions of body shape were reasonably accurate.

The influence of actual weight on perceptions of an ordinary child's body image

Taking the children's weight into account it was notable that just over a quarter of the 'underweight' girls' descriptions of an ordinary girl were fat. This was more than the other girls. We have noted that girls do not want to be fat (Garner, 1997; Hill, 1991, 1996). Also, about two thirds of the two 'underweight' boys' descriptions of an ordinary boy were thin. Similarly, we have noted that boys do not want to be thin (Wardle, 1991; Hill et al, 1994). Therefore, keeping in mind the small sample size, these findings suggest the children of lower weights tended to perceive ordinary children in terms of unattractive body images.

Children's perceptions of their own body image

In two respects the children, in this study, indicated that they perceived their own body image with some accuracy. Firstly, over half the children gave primarily medium descriptions, and as most children were 'normal weight' this suggests some accuracy. Also the 'overweight' children tended to describe themselves more frequently in fat terms and the 'underweight' in thin terms. This suggests that the children, in this study, like those in Blissett et al's (1996) research, had reasonably accurate perceptions.

However, when we analysed the children's answers more closely against their actual weight, we found that there were some interesting inaccuracies in their perceptions. The 'overweight' and 'underweight' children had less accurate perceptions than those of 'normal weight'. Also we found that, as a group, the children tended to describe themselves in thinner terms than their weight would suggest they were. On further analysis it became clear that it was largely the 'overweight' children who described themselves as thinner than they were. These findings concur with both Blissett et al (1996) and Hill et al (1994) who found that the 'overweight'

children in their samples did this also. Certainly, in this study the researcher was aware of two children who were clearly 'overweight' describing themselves in medium terms during the research. In one case the teacher had told the researcher that a child had suffered teasing about her weight during the previous academic year. In the light of children's hostility towards fatness, and overweight children's poor self esteem and poor satisfaction with their bodies (Banis et al, 1988; Hill et al, 1992a, 1994), it is plausible that some 'overweight' children found it difficult to admit to the researcher something which they had come to understand as socially unacceptable. Indeed we have noted that children may knowingly answer a research question in a way which may serve to maintain their own self esteem (Powney and Watts, 1987).

As Blissett et al (1996) found, some 'underweight' children in this study described themselves as fatter than their actual weight suggested they were. This trend was not as strong as the tendency for some of the 'overweight' children to describe themselves as thinner, and we need to remember that there were only two 'underweight' boys in the sample. However, amongst the girls, it does suggest that some of the 'underweight' girls seemed to believe themselves to be fatter than they probably were. This could be interpreted as worrying because people with eating disorders tend to perceive their own body images as fatter than they are (Bruch, 1974; Selby, 1987; Slade and Brodie, 1994). Alternatively, bearing in mind that most girls wanted to be 'thin to medium', it may be that the 'underweight' girls felt too thin, and their perceptions may be interpreted as wishful thinking.

We turn now to the children's perceptions of their own body shape, and compare their perceived shape to the norm for nine year olds based on anthropometric data (Malina and Bouchard, 1991). The girls described their legs and bottoms as relatively fatter than their arms and tummies. The perception of having extra fatness on their legs suggests that their perceptions were inaccurate. This is because although the fatter legs may be explained by the deposition of fat on the thighs of 'early maturing' girls, these are only likely to have been very small in number. Moreover, the perception of their tummies as being relatively thinner compared to their legs and bottoms is contrary to the expected body shape of a nine year old girl. In addition, the boys' descriptions of having muscley arms and legs contradicts the anthropometric evidence which suggests that muscularity in boys of nine is not significant enough to affect appearance. Therefore some children demonstrated inaccuracy in their perceptions of their body shape as well as in their body image.

These findings certainly raise questions about validity. It is difficult to know whether the children's perceptions of having relatively thinner tummies and the boys' perceptions of having muscley arms and legs were based on honest perceptions or whether this was a case of wishful thinking.

Therefore we may conclude in answer to ***objective (i): to analyse girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image*** that being medium, and not being fat was important to the children. Thinness was relatively more important to girls than boys, and muscularity was important to boys. Their ideal body images may be influenced by their perceptions of health and attractiveness, and by their gender. Many girls thought that ordinary girls were thinner than they are in reality. Most children seemed to have reasonably accurate perceptions of their own body image although not always their body shape, for example some of the boys perceived that they had muscley arms and legs.

In answer to ***objective (ii): to discover how girls' and boys' perceptions of their ideal body image, an ordinary child's body image and their own body image differ according to their own body mass index*** we have seen that the children's perceptions of body image were affected by their actual weight. For example thinness was particularly highly valued by the 'overweight' for their ideal body image. The 'underweight' children had less accurate perceptions of ordinary children than the others. Many 'overweight' children described themselves as thinner, and many 'underweight' girls described themselves as fatter, than they probably were in reality. However the small numbers in each sample did not allow for tests of statistical significance.

Children's satisfaction with their own body image

Having looked at children's perceptions of body image, we will now turn our attention to how satisfied the children were with their own body image and how they seemed to want it to change. In particular we will address the findings relating to ***objective (iii): to analyse how satisfied girls' and boys' are with their own body image and how they want it to change***, and ***objective (v): to discover how girls' and boys' satisfaction with their own body image differs according to their own body mass index***.

Children's perceptions of satisfaction and dissatisfaction with their own body image

Several studies have noted children's dissatisfaction with their own body image (Koff and Rierden, 1991; Hill et al, 1992, 1992a, 1994). The children, in this study, were asked about their satisfaction with their own body image in two different ways. In response to **objective (iv): to analyse the reliability of girls' and boys' answers concerning body image satisfaction** we saw that the method of asking clearly affected reliability, as each made a difference to the specific answers. However about half the children indicated dissatisfaction with their own body image, and this approximate figure was reliable. This suggests that the children in this study were more dissatisfied than those in Blissett et al's (1996) where only a third were dissatisfied. However if we look at this dissatisfaction in more detail we find that the findings closely reflected those of Hill et al's (1992a). Hill et al suggested that 41% of the nine year old girls in their sample were dissatisfied, and we found 40% to be so when they were asked directly. Also, like Hill et al, we found that the dissatisfied girls tended to want to be thinner while the boys wanted to be more muscular than their perceptions of themselves. In this study body image dissatisfaction seemed more prevalent amongst the girls than boys, as Hill et al (1992a) found, but it was not a reliable finding in the context of the two research methods.

These findings suggest two points of interest. Firstly, in the light of the vast amount of literature which points to female body image dissatisfaction (Franzoi and Herzog, 1987; Cline, 1990; Mickalide, 1990, Hill et al, 1992a), it is noteworthy that half of these nine year old girls were satisfied with their body image. This is not to diminish the problem for the dissatisfied, but to put it into perspective. Secondly if we recall that nine year old girls are physiologically set to become fatter whilst boys are set to become thinner and more muscular, the girls' dissatisfaction with their body image is perhaps destined to rise and the boys' to fall.

Perceptions of satisfaction with body shape

Turning to consider the children's satisfaction with their body shape, the girls seemed to be happier with their bottoms than women are, although like women (Franzoi and Herzog, 1987; McKee, 1995) they indicated that they were unhappy with their tummies and legs, wanting them to be thinner. Many girls wanted their arms to be fatter, and to a lesser extent more muscular. Therefore, in view of the imminent deposition of fat around the thighs and arms at puberty (Malina and Bouchard, 1991) it would seem that although some of the girls are perhaps destined to become happier with their arms, they are also destined to become less happy with their legs.

Some of the boys wanted thinner tummies and legs than their perceptions of their own. Their desire for thinner tummies may be explained by remembering that boys have more fat on their tummies than limbs at nine (*ibid*). It was interesting to note that their desire for muscley arms and legs only became apparent when the idea was put to them, that is in response to one research method rather than another. This may suggest that without being prompted with the idea of muscularity the boys were more inclined to focus on fatness and thinness as more realistic potential changes in a nine year old body. Furthermore, whereas men seem to be least contented with their stomachs and chests (McKee, 1995), the boys were least satisfied with their legs. This suggests that the boys' body image dissatisfaction was not strongly influenced by older males. As the boys are set to become thinner and gain muscularity, it seems that their arms, legs and tummies are destined to give them greater satisfaction in the future.

The influence of actual weight on perceptions of satisfaction

If we add the children's weight to this picture of children's body image satisfaction we will recall that the 'underweight' and 'overweight' were the least satisfied with their body images. Looking at the girls first, we may recall that Hill et al (1994) suggested that the slightly underweight girls were the most satisfied in their study. The sample of girls was divided up differently here, but certainly the 'underweight' and 'normal weight' girls, who had average satisfaction ratings of 53% and 60% respectively, were more satisfied than the 'overweight' girls who had a 39% average satisfaction rating. This suggests that 'thin to medium' girls are more satisfied than other girls.

The 'underweight' girls, in this study, largely wanted to stay the same contrary to what Hill et al (*ibid*) found. Also, whereas Hill et al suggested that 'overweight' and 'normal weight' girls wanted to be thinner than their perceptions of themselves, only some of the 'overweight' girls indicated this in this study. Together, these findings indicate that girls may not want to be quite as thin as has been suggested by others.

Some of the 'normal weight' girls, in this study, wanted to be fatter and some thinner than their perceptions of themselves. Hill et al (1994), Hill and Silver (1995) and Blissett et al (1996) note that children who perceive themselves to be fat want to be thinner, and studies (Davies and Furnham, 1986; Wardle and Beales, 1986; Wardle, 1991) have suggested that feeling fat is potentially the key to why some people want to be thinner. Therefore the, seemingly contradictory findings here suggest that some 'normal weight' girls may have felt fat and some

may not despite having broadly similar height:weight ratios (BMI). These findings support the proposal that girls' perceptions of fatness may be more important than weight per se in determining body image satisfaction (Davies and Furnham, 1986; Wardle and Beales, 1986; Wardle, 1991).

The relationship between the boys' body image satisfaction and their weight paints a different picture which largely supports the research carried out by Hill et al (1994). We found that the 'overweight' boys were the ones who were most satisfied with their body image. They had a 57% average satisfaction rating. Again this suggests that the boys want size, muscle, and reject thinness.

So we can see that the boys, in this study, were more satisfied with their own body image at a higher weight, that is body mass index, than the girls. This reflects what has been observed amongst other nine year old children and teenagers (Hill et al, 1994). It also suggests that fat is relatively more acceptable amongst boys than girls, as has been found in adults (Watson, 1993). This in turn supports the argument that amongst males, fatness might 'pass' for muscularity (Macintyre and West, 1991). Indeed we may recall that 'strong' was the only complementary adjective applied to a fat person in Wardle et al's (1995) research with children. As muscularity is strongly associated with maleness, as we have seen, it would seem that this interpretation of fatness can not apply to females. If it did, it would give fatness masculine connotations, and this would go against the feminine aspirations of young girls. In this way the 'overweight' girls may be dissatisfied more than the boys because there is no positive perception that can be attached to their fat.

Children's perceptions of feeling 'ordinary'

We compared the children's perceptions of an ordinary child's body image to their own in order to see whether they felt different from other children or whether they felt like an 'ordinary' child - perhaps 'normal'. We found that over half the children wanted to be thinner or fatter than their perceptions of other children. Therefore we may conclude that over half felt 'different'. Mayall (1994) suggests that children tend not to want to feel 'different', preferring instead to 'fit in'. The study indicated that the 'normal weight' boys were the ones who felt most like other boys, and the 'overweight' and 'underweight' girls were the ones who felt most 'different' compared to other girls. Recalling the importance of female support to females of all ages (Holdsworth, 1988; Rakusen, 1989; Webb, 1989), it seems likely that this perception of difference could cause these girls to be dissatisfied with their body image.

Children's perceptions of wanting to be 'different'

The study sought to explore how realistic the ideal body images of children were, and found that slightly more than half the children's answers indicated that they perceived their ideal body image to be different from that of an ordinary child. By definition this indicates that they wanted to look 'abnormal' for a child of their age. It would therefore seem possible that these unrealistic expectations contributed to the amount of body image dissatisfaction which has been noted.

The study found that the boys wanted to look 'abnormal' more than the girls. This was primarily to do with half of the boys wanting more muscles on their arms and a third wanting more muscles on their legs than an ordinary boy. In this context, we should remember that the boys had fairly accurate perceptions of an ordinary boy's body image, so they seemed to express genuinely more unrealistic expectations for themselves.

When we looked at the children's perceptions of realistic body images in the context of the children's weights, we found that 'normal weight' girls wanted to look like their perceptions of an ordinary child most frequently. They had an average satisfaction rating of 48%. This was followed by 'overweight' boys with an average satisfaction rating of 39%. Therefore we may argue that their goal was to 'fit in' with other children rather than look different from them. In contrast the 'underweight' girls, with an average satisfaction rating of 30%, followed by the 'normal weight' boys, with an average satisfaction rating of 33%, were the groups which indicated that they wanted to look different from their perceptions of an ordinary child the most frequently. These deviations, away from their perceptions of an ordinary child's body image, were about thinness for girls and muscularity for boys.

This suggests that, to a greater or lesser degree, children's perceptions of body image are a mixture of wanting to be like other children and wanting culturally sanctioned attractive features. The perceived relative importance of each of these may be dependent upon sex and weight.

Therefore in answer to **objective (iii): to analyse how satisfied girls and boys are with their own body image and how they want it to change**, we have seen that about half the children were dissatisfied with their body image. Girls tended to want to be thinner and boys more muscular. About half the children wanted to be thinner or fatter than an ordinary child, and

slightly more than half the children wanted a body image which was different to that of an ordinary child - especially the boys.

In answer to ***objective (v): to discover how girls' and boys' satisfaction with their own body image differs according to their own body mass index***, we have seen that the 'overweight' girls were the least satisfied with their body image, and the 'overweight' boys were the most satisfied. The 'underweight' and 'overweight' girls felt most 'different' from ordinary children, and the 'normal weight' boys felt most like them. It was the 'underweight' girls and the 'normal weight' boys who wanted the least realistic body images, wanting to look different from ordinary children.

An emerging view of a nine year old's body image

We will illustrate the key characteristics of these findings concerning body image by outlining pen portraits of hypothetical girls and boys. The intention is to clarify the inter-relationships between the data in a pragmatic way, and to make some tentative suggestions about children's perceptions.

Girls' perceptions of body image

It would appear that a 'normal weight' girl feels ordinary and wants to look ordinary. This would explain why she feels quite satisfied with her body image. If she feels different to an ordinary girl at all, it is likely to be a feeling of fatness due to gaining fat over the last couple of years. She thinks that ordinary girls are thinner than they are in reality. Therefore she wants to be a little thinner in order to feel 'thin to medium' and to feel that she looked like her perceptions of an ordinary girl. She does not have an accurate perception of her own body shape. The only place where she may be likely to want a little extra fat is on her arms.

The 'overweight' girl feels fat and feels uncomfortable talking about this. She also has an inaccurate perception of her body shape. She values 'thinness' very highly, and thinks that ordinary girls are thinner than they are in reality. For these reasons she feels dissatisfied with her body image, and wants to be thinner partly so that she can 'fit in' with other girls.

The 'underweight' girl is satisfied with her body image because she looks similar to how she wants to look. However she still feels fatter than she is in reality. This may be because she

has inaccurate perceptions of her own body shape, and is aware of having gained some extra fat in the last couple of years. She does not want to look like an ordinary girl because she thinks they look fatter than they are in reality. Therefore she wants to look different, usually thinner, than them. She probably thinks she does. She also likes the idea of having more breadth, sometimes muscle, on her arms.

Boys' perceptions of body image

On the basis of only two 'underweight' boys there is insufficient empirical data from which to suggest an 'underweight' boy's perceptions of body image.

It appears that the 'normal weight' boy feels that he looks like an ordinary boy. He can describe his own body image fairly accurately, but thinks that his arms and legs are well muscled. These are the epitome of what he wants, and so he is satisfied with his own body image. As boys of nine do not have muscled arms and legs, his perception is probably based on wishful thinking. From a basis of feeling satisfied with his own body image, and feeling similar to other boys, the boy has no negative perceptions to deal with. He is therefore free not only to project his perceptions of his own body image into a positive world of fantasy, but his ideal body image also.

The 'overweight' boy feels fairly ordinary and wants to look ordinary. He appears to be very satisfied with his body image though he does have some inaccurate perceptions about its shape. He feels fat and perhaps because he feels uncomfortable talking about this, he describes himself as thinner than he is. He is probably less satisfied than he is prepared to admit. He values thinness, and knows that if he was thinner he would feel even more like his perception of an ordinary boy which is what he wants. He does not want thinness per se. Ideally he wants muscular arms and legs to replace the fat.

Understanding girls' and boys' perceptions of body image

The body and body image

At the beginning of this study we suggested that not only were there physical differences in the body composition and body shape of nine year old girls and boys (Malina and Bouchard, 1991), but that these differences were likely to affect their perceptions of body images. The results from this study suggest that the actual body weight of each sex does affect their perceptions. There is some evidence that the body shape of each sex also affects perceptions. In this way the study has shown that the physical body influences the body images of girls and boys.

Health

Although the literature suggests that perceptions of health are not a meaningful influence on children's eating behaviour (Baranowski et al, 1993; Ross, 1995; Watt and Sheiham, 1997), many of the children's perceptions about body image in this study embraced healthy ideas. For example the children's desire for a medium body image seems to be in keeping with healthy biological norms (Malina and Bouchard, 1991). Their rejection of fatness might suggest a rejection of the unhealthy consequences of fatness (Nutritional and Physical Activity Task Forces, 1995; Prescott-Clarke and Primatesta, 1997). The girls' rejection of thinness *per se* suggests that critics who have argued that thin female body images are unhealthy may be getting their message across (Henderson and Vickers, 1995; Hill, 1996). The boys' desire for muscularity might suggest a desire for fitness which has many health benefits (Whitehead, 1995). So these findings suggest that health might play a part in children's perceptions of body image.

Gender and body image

Psychological, social and cultural factors, mediated by the process of socialisation, seem to produce gendered perceptions of body images (Grabrucker, 1988; Giddens, 1989; Kearney-Cooke and Steichen-Asch 1990). The results from this study have indicated that many of the girls placed a higher value on thinness than the boys. Thinness has been promoted as being central to the ideal body image of the female (Chernin, 1981, 1986; Kilbourne, 1994; Cooke, 1995). Many boys in this study placed a higher value on muscularity than the girls. Muscularity is strongly associated with masculinity (Kearney-Cooke and Steichen-Asch, *ibid*; Mansfield and McGinn, 1993). In this way the study has indicated that gender affects the body images of boys and girls.

Adult male culture and action

The findings from the study provide some clues as to where these gendered perceptions may have come from. It seems possible that the boys in this study were influenced by adult male culture in terms of wanting muscularity, rejecting thinness, possibly wanting to look healthy, wanting a 'V' shaped torso, having relatively less body image dissatisfaction compared to females and in the relatively greater acceptability of fatness compared to females. In all these ways there seem to be commonalities between the boys and what has been reported about men (Pugliese et al, 1983; Kearney-Cooke and Steichen-Asch, 1990; Strong, 1990; Hope, 1993; Watson, 1993).

The boys in this study differed to men in that they seemed to reject fatness more strongly than them (*ibid*). This may be explained by remembering that a 'normal weight' boy carries proportionately more fat than a 'normal weight' man (Malina and Bouchard, 1991). The boys also differed from men in that the focus of their body image dissatisfaction was located, to a greater degree, on their limbs than men's (McKee, 1995). Grabrucker (1988) and Mickalide (1990) suggest that boys are socialised into valuing the active qualities of their bodies, such as athleticism and strength. Boys' attention to action may explain their strong rejection of fatness. A fat person rarely runs fast. It may also explain their focus on limbs, the moveable, active parts of the body, rather than the torso. An excessively thin body may be perceived by boys as one which does not have the power, or the substance, to carry out action. A skinny weight lifter has yet to be seen. Therefore it may be that boys' perceptions of body image are influenced by adult male culture, but that they differ in that boys place greater emphasis on action.

Media

Watson (1993) and Bruckenwell et al (1995) note that men talk about their bodies in functional, mechanistic terms. The males who embody functional perfectionism, action, muscularity, a 'V' shaped torso, health and adulthood are those found in fictional super hero toys and media images such as Superman, Action Man and Power Rangers. In this study, many of the boys' perceptions of their ideal body images reflected the muscular 'V' shape. This finding might be explained, in part, by images which they have seen in the media.

In these ways it seems that adult male culture, along with some help from the media's portrayal of adult males, might influence boys' perceptions of body image.

Anti-fat discrimination

In this study, the desire to look like an ordinary boy only emerged in the presence of the dreaded fat, that is by the 'overweight' boys. This suggests that although boys' perceptions may be responsive to adult male culture and the media, anti-fat discrimination (Wooley et al, 1979; Edelman, 1982; White, 1983; Wardle et al, 1995) may influence boys who are fat themselves. It may reduce their aspirations from being a highly muscled action hero, to being ordinary and accepted by peers.

Adult female culture and appearance

The girls in this study seemed to be influenced by adult female culture in terms of having a preference towards thinness (Chernin, 1981, 1986; Wolf, 1994; Kilbourne, 1994), in terms of wanting a medium to thin body image as recommended by health professionals for women (Allan, 1988; Hesse-Biber, 1989; Henderson and Vickers, 1995), by being unhappy with their tummies and legs (Franzoi and Herzog, 1987; McKee, 1995), in having greater body image dissatisfaction than their male counterparts (Hoover, 1984; Franzoi and Herzog *ibid*; Mickalide, 1990) and in rejecting fat more vehemently than their male counterparts (Barker and Cooke, 1992).

The girls in this study differed from adult females (Kearney-Cooke and Steichen Asch, 1990; Kilbourne, 1994; Wolf, 1994) in terms of their rejection of thinness per se. We have noted that girls are socialised into placing a particularly high value on their appearance (Garner et al, 1983; Freedman, 1984; Grabrucker, 1988; Kilbourne, 1994; Turner-Bowker, 1996). It may be that the popularity of Barbie and Cindy dolls lies not so much in their slim figures as the opportunity that they give to girls to spend hours altering their appearance with clothes and accessories which open up imaginary doors to wonderful, adult, lifestyles. Culturally attractive appearance, thinness and femininity are clearly inter-related (Garner and Garfinkel, 1980; Hesse-Biber, 1989; Seid, 1994), whilst fatness is neither feminine nor attractive (Rand and Stunkard, 1978; Cline, 1990; Orbach, 1978; Chernin, 1981, 1986; Gilbert, 1989). So adult female culture may be influencing girls to want an attractive, feminine appearance, but not thinness per se.

Another reason why the girls in this study did not embrace thinness as much as adult women, may be because girls are not seeking masculine approval in the same way as older females. Therefore thinness may not have the same function as it is thought to have in adult culture (Chernin, 1981; Kearney-Cooke and Steichen-Asch, 1990; Wolf, 1994).

Media

Many of the 'underweight' girls, in this study, wanted to look different from other girls. 'Underweight' girls have two key characteristics of attractive media images of females, such as models, which the other girls do not. These are thinness and immaturity (Fursland, 1987; Chernin, 1981; Cooke, 1995). In this way perhaps 'underweight' girls can identify with the media images of females in a way which other girls can not. This may account for their wanting a thinner body image than an ordinary girls'. Similarly, this may account for the greater body image satisfaction found amongst some of the 'underweight' girls compared to some of the

others. Chernin (1981) argues that media images of females are both thin and childlike in response to masculine tastes, and so 'underweight' girls may feel the pressure of being associated with images of sexual attraction. Too young to be able to cope with this, it seems reasonable that 'underweight' girls may experience simultaneously wanting and not wanting their body image. This type of conflict has been noted as part of the constellation of psychosocial factors which contribute to eating disorders (Bruch, 1974; Dana, 1987; Rust, 1987). The implications of this are that very thin media images of females may be a detrimental influence on 'underweight' girls.

The influence of ordinary children

Many of the girls, in this study, felt different from other girls, and yet many wanted to look like ordinary girls. This need to 'fit in' was greater amongst the girls than the boys. So it seems reasonable to think that girls may influence each others' perceptions of body image.

A gender sensitive approach

McCrea (1986) defined body image as meaning a psychological experience of the body based on subjective feelings and attitudes about the body. It seems that these feelings and attitudes are influenced by both physical and psychosocial factors which affect each sex differently. These findings indicate that that children's perceptions of body image needs to be understood, and addressed, in a gender sensitive way.

CHILDREN'S PERCEPTIONS OF THE LINK BETWEEN BODY SIZE AND FOOD

Having considered children's perceptions of body image we will now discuss **children's perceptions of the link between body size and food**. Children's body size shape and their perceptions of body image may be influenced by their perceptions of food.

The relationship between body size and the quantity of food

Firstly we will discuss *objective (vi)* of this study: **to discover if girls and boys attribute different quantities of food to thin and fat people**. If we assume that energy output is the same, then fat people must eat more than thin people over a period of time (Garrow, 1988; Nutrition and Physical Activity Task Forces, 1995; Ottley, 1997). Most of the children in this study believed that the fat person ate more than the thin one. This concurs with other research which has asked children about this issue (Edelman, 1982; Wardle et al, 1995). Whilst many

of the girls, in this study, increased the quantity of food by increasing the number and range of food items, many of the boys tended to increase the quantity by increasing the portion sizes. Male eating styles have been characterised by eating greater portions, and female eating styles by eating smaller ones (Chaiken and Pliner, 1987; Rolls et al, 1991). This implies that females who wish to maintain their gender identity would have to eat more items in order to increase the quantity, and males would increase portion size. Therefore the findings suggest, in answer to **objective (vi)**, that not only did the girls and boys associate different quantities of food with the thin and fat person, but their perceptions about the nature of this difference were influenced by gendered ideas about eating.

The relationship between body size and the quality of food

Objective (vii) of the study was: *to analyse the differences in the quality of food attributed by girls and boys to thin and fat people.*

Perceptions of a fat person's food

When the children, in this study, were asked about what a fat person would eat they frequently cited chips, burgers, chocolate, sausages, hot dogs, sugar and trifle. These are foods which have been found to constitute a significant part of children's own diets (Department of Health, 1989a; Dibb, 1993), and which could be described as being mostly junk food (Pender, 1994). Many are finger foods which are easy to eat and do not require special utensils or preparation skills. Furthermore they are prevalent in advertising which is aimed at children (Dibb, 1993), and are sometimes used as rewards for children (Charles and Kerr, 1988). Chapman and Maclean (1993) and Watt and Shieham (1997) suggest that these foods are associated with independence, personal control and pleasure. A trip to a local take-away or Macdonalds epitomises this. In summary the type of food which the children thought a fat person would eat was that which is popular with children.

The children's perceptions of the fat person's food reflected that which health education is advising the population to reduce as it is associated with many health problems, obesity being only one (HEA, 1995). Children know that this is unhealthy food (Lund et al, 1990, 1990a; Tilston et al, 1993; Turner, 1993). This study suggests that children also know that this food has the potential to make them fat.

It seems that children know that some of the food which they eat is unhealthy, and can make them fat. Perhaps children think that fat people eat the same as themselves, but eat more.

Perceptions of meat

The children's answers, in this study, showed that many children associated meat strongly with the fat person's diet. This would seem to reflect the fact that meat has been noted as being an important contributor to obesity in the UK due to its fat content (Department of Health, 1994). However the implications to arise from this perception differ for boys and girls. It has been suggested that there is a historical relationship between meat, masculinity and muscularity (Charles and Kerr, 1988; Waterhouse, 1995; Hardyment, 1995). Therefore, for the boys, eating meat may not only be associated with fatness, a negative characteristic, but also with maleness and muscularity which are positive characteristics. Moreover boys have been found to associate meat with health more strongly than girls (Lund et al, 1991), and meat eating adult men may provide influential role models for boys (Charles and Kerr, 1988). It may be that males of all ages eat more meat than females (*ibid*; Rolls et al, 1991) because they have four positive reasons to do so as opposed to only one negative one.

Girls are not only less likely to associate meat with health than boys (Lund et al, 1991), but they are more likely to be vegetarian also (Pender, 1994; National Dairy Council, 1995; Hardyment, 1995). Adult women eat less meat than men (Rolls et al, 1991), and women diet more than men (Gregory et al, 1990). Ryan et al (1997) found that teenage girls ate less meat if they wanted to be slimmer or were dieting. This study has suggested that nine year old girls may associate meat with fatness. Perhaps nine year old girls are influenced both by other females, and their perceptions of their own body image, to reject meat. So, unlike nine year old boys, girls do not seem to have a positive reason to eat meat. Yet they need to be encouraged to do so because of the prevalence of iron deficiency in menstruating girls (Scrimshaw, 1991; Dibb, 1993; Pender, 1994).

Perceptions of sweet snacks

Sweet snacks, in particular chocolate, seem to have stronger associations with females compared to males (Conner et al, 1991; Charles and Kerr, 1988). In this study the girls not only associated sweet snacks with the fat person more than the thin, but they cited chocolate more than boys for the fat person's diet. Firstly this suggests that girls are more aware than boys of the relationship between sweet snacks and fatness. As many sweet snacks tend to be calorie dense foods, we may also conclude that the girls demonstrated better nutritional knowledge in this context. Furthermore we have also noted that while nine year old girls eat no more chocolate than boys (Kortzinger, 1996), there are arguments to suggest that older

females have a physiological and psychological need for chocolate (Steer, 1994; Waterhouse, 1995; Wild, 1995). Indeed as mothers' perceptions of eating (Charles and Kerr, 1988) and mothers' dieting behaviour (Hill et al, 1990; Ruther and Richman, 1993) have both been found to influence daughters' perceptions of eating, it seems reasonable to suggest that children may have understood this chocolate-female-fatness relationship from their mothers.

Perceptions of vegetables

Very few children thought that the fat person would eat vegetables, excluding chips. The girls, in this study, attributed cauliflower to the fat person more than the boys, and the boys attributed lettuce more than the girls. Both these foods are generally of low calorie density (MAFF, 1995), and therefore we would have expected both to be attributed to the thin person. So the girls and boys demonstrated inaccurate perceptions in this context.

These inaccurate perceptions may have evolved from the children's previous experiences of these foods. For example some of the girls' experiences of cauliflower may have only been in the form of cauliflower cheese. This would make it a much higher calorie food. It is doubtful that the children had misinterpreted the pictures on the food cards because when these were read out loud by the researcher, no child commented that they had interpreted them differently. Nor did any children ask the researcher to explain any pictures during the study. These inaccurate perceptions relating to cauliflower and lettuce may suggest deficiencies in the children's nutritional knowledge.

Poor quality food

In this study the children attributed inedible, unrealistic or vague food items to the fat person more than the thin. This seemed to be related to the children wishing to ascribe more food to the fat person than the thin, as a large quantity was implicit within many of the vague and unrealistic items such as 'sweet things' and an 'elephant'. This finding also suggests that the children thought that a fat person may be less fussy about their food, less concerned with its quality and more concerned with its quantity. The attribution of non edible items may be explained by the natural fantasy of children, but nevertheless it leaves the feeling that children may perceive the eating habits of fat people to be poorer, perhaps less civilised, than those of thin.

Perceptions of a thin person's food

The children in this study associated fruit and vegetables with thinness as Baranowski et al (1993) found. Generally, these are not popular children's foods (Department of Health, 1989a; Dibb, 1993), although children know that they are healthy foods (Turner, 1993; Baranowski et al, 1993). Perhaps the children in this study have also absorbed the 'grimness' of foods associated with thinness which Wills (1996) discusses. It was interesting to note that the most frequently cited food for the thin person, in this study, was fruit. This has the 'easy to eat' property which we have argued increases a food's popularity with children. Further analysis showed that the girls cited fruit for the thin person more frequently than the boys, though not to a statistically significant level. Fruit may be perceived as a sweet, relatively low calorie, alternative to high calorie sweet snacks by the girls. So perhaps their greater attribution of fruit has something to do with the association between females and sweet food. Girls may eat more fruit than boys (Department of Health, 1989a) because it is easy to eat and they strongly associate it with thinness.

Diet food and healthy food

The lines between healthy eating and dieting seem to blur not only in the presentation of official dietary advice (Robinson, 1990) but in adults' (Nichter et al, 1995) perceptions as well as those of nine year old girls (Hill and Silver, 1995). The children in this study strongly associated the thin person's diet with vegetables, excluding chips, and fruit. We know that girls and boys understand these foods to be healthy. Thus healthy food and a thin person's food seem to be closely linked in children's minds.

In this study the boys mentioned Slimfast more than the girls, but not to a statistically significant level. This seems odd at first if we accept the arguments that diet foods are more strongly associated with females than males on the basis that more females diet (Gregory et al, 1990) and diet foods tend to be advertised in magazines aimed at females (Dibb et al, 1996). It also seems odd when we recall that men consider dieting to be 'unmanly' (Watson, 1993), and there is little evidence that men eat diet foods like Slimfast. However Dibb (1993) suggests that children are influenced by food advertising, and girls seem to have better nutritional knowledge than boys (Lund et al, 1990; 1991a; Mauthner et al, 1993). Diet foods such as Slimfast are frequently advertised (Dibb et al, 1996), but not entirely endorsed by health educators as a healthy way to diet (Robinson, 1990; Dunkeld, 1995). If we accept that having knowledge helps people to be less vulnerable to advertising claims, then the boys may have cited Slimfast more than girls because of having less nutritional knowledge about Slimfast in particular, and alternative 'slimming' foods in general.

Cheese

The children, in this study, attributed cheese to both thin and fat people more than any other food. We have seen that they tended to ascribe healthy food to the thin person and unhealthy food to the fat one. Lund et al (1991a) found that children are unsure about whether cheese is healthy or not. Cheese is high in healthy protein and calcium as well being high in unhealthy fat (MAFF, 1995). Thus these health related conflicts may lie at the heart of the children's uncertainty about who would eat cheese. Furthermore the girls attributed cheese to the thin person more than the boys. As it is a high calorie food, the boys demonstrated better nutritional knowledge in this respect.

Calories

We will recall that the scientific evidence suggests that provided we assume that energy output is the same, fat people must be consuming more calories than thin (Garrow, 1988; Ottley, 1997). The children in this study attributed food containing more calories to the fat person than the thin. The difference was clear enough to dispel any doubts that it may have arisen from the crude method of dietary analysis. Also the average calorie density of the individual food items, attributed to the fat and thin person, was markedly different for each. Therefore the children believed that there was something qualitatively different about the food which they associated with the thin person compared to that which they associated with the fat. The boys polarised this difference to a much greater degree than the girls, the boys perceiving far more difference between thin and fat people's diets than similarities. So the girls were more realistic in their perception of the qualitative differences between the fat and thin person's diet.

Therefore in answer to **objective (vii): to analyse the differences in the quality of food attributed by girls and boys to thin and fat people**, children's perceptions of a fat and thin person's diet differed. The fat person was perceived as eating food in greater quantities and eating food which was more dense in calories. The type of food which they associated with the fat person has also been noted, by reference to other studies, as being that which is popular with children. Often it is not only finger food, but junk food which may be associated with independence, pleasure and personal control. It is food which both children and health educators recognise as being unhealthy. The thin person was perceived as eating less food, and less calorie dense food. According to other studies, the thin person's food was that which is understood by children, as well as health educators, to be healthy. It represents the staples of many slimming diets because of its low calorie density, and it tends to be relatively more

expensive food which requires preparation skills. Also, with the exception of fruit, it is generally unpopular with children. Some of the findings, in this study, indicate that the children perceived that the quality of food may matter more to the thin person than the fat one.

Food and a changing body size

Having considered the quantity and quality of foods associated with thin and fat people, we will now look at ***objective (viii): to discover if girls and boys understand that differing food can affect body size and shape in terms of thinness and fatness.*** In this study nearly all the children said that the thin person would become fatter, or gain weight, if they ate the food attributed to the fat one. As this food was much higher in calories than that associated with the thin person, the children were correct in their answers. Similarly, they correctly identified that the fat person would become thinner if they ate the food which they had attributed to the thin person. In reality the relationship between food intake and body size is influenced by energy expenditure (Ottley, 1997), but this was not included in this study. So on the premise that the energy expenditure of the thin and fat person were the same the children, accurately, believed that differing food can affect body size.

Children's reasons for food choice

We have noted that the children chose food for the thin and fat person, which had different nutritional and psycho-social characteristics. They also believed that the type of food eaten can affect body size. These next findings address ***objective (ix): to understand girls and boys perceptions of the reasons for thin and fat people's choice of food.***

Perceptions of why fat people eat certain food

Food, fatness and flavour

The children thought that the fat person would eat their food because it was fattening more than for any other reason. Between a quarter and a half of the children said this. As the fat person's food was high in calorie density, it was the type of food which would encourage fatness. The children also thought that the fat person ate the food because the person was fat. This is what Edelman (1982) calls an undifferentiated answer reflecting a very superficial level of understanding.

Less reliably, a quarter of the children thought that the fat person chose certain food because it was high in fat. The children thought that the fat person would eat a diet high in chips, burgers and sausages. These are high in fat (MAFF, 1995), and could be called 'fattening' because of

their high calorie density. Fat in food is known to provide flavour (Gilbert, 1989; Nutrition and Physical Activity Task Forces, 1995; Department of Health, 1996) which may explain why a fifth of the children thought that the fat person may eat certain food because they liked it. So, as well as being fattening, many children indicated that the fat person's food was a pleasure to eat.

Fat and health

In 1982, Edelman found that children thought that sweet and fatty foods make people fat. Most of the children, in this study, cited both sweet and fatty foods for the fat person. However, when giving their reasons, twice as many children mentioned the high fat content of the food than the high sugar content. This suggests that the increased education about the fat content of food since 1982 (Open University, 1985; Carter and Bell, 1988; HEA, 1995), because of its association with both obesity and coronary heart disease (Department of Health, 1994a; Nutrition and Physical Activity Task Forces, 1995), has been picked up by children.

Desirable food versus desirable body image

The study found that the girls were more likely to emphasise the fattening quality of the food whilst the boys were more likely to emphasise that the fat person would like the taste of the food. This suggests that the girls were more aware of the quality of the food, which may be due to having better nutritional knowledge than the boys. It also implies that the girls were more aware of the consequences of eating the food, in terms of body size, than the boys. This may also be due to the influence of mothers who diet (Hill et al, 1990; Ruther and Richman, 1993; Johnson and Birch, 1994). As the girls wanted a relatively thinner body image than the boys, this suggests that the conflict between desirable food and desirable body image may be greater for girls.

The boys thought that the fat person would eat certain food because he wanted to stay fat, or not get thin, more than the girls. The boys also thought that the fat person would eat food because he liked it. So the idea of wanting to eat to stay fat was more acceptable to the boys than the girls. It implies a greater acceptance of fatness, and a greater rejection of thinness, compared to the girls. This reflects what we have noted about boys' ideal body image.

Perceptions of why thin people eat certain food

Eating for an ideal body image

More than a quarter of the girls and boys thought that the thin person would eat certain food because they wanted to stay thin or not get fat. The food which the children cited for the thin

person was low in calorie density and could encourage weight loss. So the children were correct in thinking that the thin person's food would maintain thinness and deter fatness. That they thought this was a reason for the thin person to eat implies that to be thin, and not get fat, was desirable. Neither the girls nor boys, in this study, wanted to be fat, and many of the girls wanted to be 'thin to medium'. Therefore the girls and boys both understood which food may help them towards their ideal body images.

Healthy food and unhealthy consequences

When the children were asked about why they had attributed certain food to the thin person both girls and boys said that it was because it was healthy for them. We have seen the thin person's food was low in calories and contained many of the foods which would be associated with health. In this sense the children demonstrated sound nutritional knowledge. Whereas the Health Education Authority may welcome the perception that 'to eat healthily is a good way to control one's weight' (Robinson, 1990), it may not always welcome the perception that 'dieting is a healthy thing to do'. This research, like Hill and Silver's (1995), suggests that this perception may exist. As thinness was a relatively more desirable body image for the girls in this study, and girls tend to deal with their wish to be thinner by dieting (Wardle, 1991; Hill et al, 1992a; Blissett et al, 1996), this concern rests primarily with the girls.

We will note the foods which were mentioned frequently for the thin person's diet by the girls. Bread, in sandwiches, and peas were the only foods which contain any reasonable amount of protein. As this is in the form of vegetable protein it is of low biological value to the body, and needs to be complemented by other proteins (MAFF, 1995; BNF, 1992). The iron content of the food was similarly very low indeed, and again, being in a vegetable form, means that it is poorly absorbed by the body (MAFF 1995, Pender 1994). (Of interest is that chocolate, a high iron food associated with females, was associated with fatness in this study). Therefore it would seem that the girls may have two good reasons to eat food which is low in protein, low in iron and low in calories. This is an age when girls have a particular need for all three (Malina and Bouchard, 1991; Bee, 1995; Scrimshaw, 1991). Girls may perceive that they are eating healthily, and that they will become thinner.

According to children's own perceptions, healthy food is thought to include fruit and vegetables, but also foods rich in protein of high biological value and iron such as fish, chicken and eggs (Turner, 1993; Lund et al 1991; Tilston et al, 1993). Therefore, we may think that girls' health is perfectly safe until we recall that Mauthner et al (1993) observed that children do not care

about health in the context of their actual food choices. The notion of healthy eating could be used by girls to justify, and make acceptable, dieting behaviour both to themselves and others.

If health is not the real motivation behind girls' eating, perhaps wanting a 'thin to medium' body image is. They do not want to be fat, and they believe that the fat person's food, meat for example, is fattening. These factors may be important enough to encourage girls to overcome the unpopularity of the food associated with the thin person, such as cooked vegetables (Whiting and Lobstein, 1995; Baranowski et al, 1993). In this way they can miss out on important nutrients. This supports the argument that encouraging the general population to eat a high fibre, low fat, low sugar diet without specifically emphasising the importance of protein and iron for children (HEA, 1995), may be giving girls every encouragement to eat a diet which is potentially harmful.

Dieting is much more strongly associated with girls than boys (Hill et al, 1990, 1992a, 1994; Wardle, 1991). It is considered to go against notions of masculinity (Watson, 1993). Many boys do not want to be thin anyway, preferring muscle. Boys are at less risk of iron deficiency than girls, and as they do not begin their growth spurt until about 12 or 13 years old, they do not require 'extra' calories or protein. This implies that even if they were to diet, the health consequences are unlikely to be particularly worrying in the short term. In this respect, their association of thinness with healthy eating would seem to have less damaging repercussions for nine year old boys.

However, if boys are associating healthy eating with being thin, which they do not want to be, then they have a strong reason not to eat healthy food. This may partly explain why boys eat less fruit than girls (Department of Health, 1989a) and why boys resist cooked vegetables other than chips Baranowski et al, 1993; Dibb, 1993). This implies that population based nutrition advice needs to emphasise ways of making healthy food, particularly fruit and vegetables, appealing to boys.

Therefore in answer to ***objective (ix): to understand girls' and boys' perceptions of the reasons for thin and fat people's choice of food*** we have seen that the children, in this study, thought that the fat person would eat food because it was fattening food which was high in fat and likeable. The girls were more aware of the fattening consequences of eating this type of food than the boys. This suggests that girls may experience a conflict between their ideal body image, 'thin to medium', and eating likeable, popular food. The children thought that the

thin person would eat food to deter fatness, maintain thinness and because it was healthy. This means that girls may be motivated towards eating healthy food to help them achieve their ideal body image, but could confuse eating healthily with unhealthy dieting. It also means that boys may avoid eating healthy food because they do not want to be thin. So children's perceptions of body image and eating may have unhealthy consequences.

Objective (x) of the study was: **to analyse the reliability of girls' and boys' perceptions of what and why foods are eaten by fat and thin people.** We have seen that the research method did seem to affect the findings. Whilst this is important to keep in mind, it was interesting to note that the method had less effect on the reasons given for the fat and thin person's choice of diet than the specific foods. However, once account is taken of the fact that one research method was person centred and the other food centred, and thus prompting a different focus, the major differences both in the type of diet and in many of the reasons for eating it were similar in nature. Therefore the general conclusions to emerge from this part of the discussion are reliable.

Eating behaviour and body image

We will now look at the children's perceptions of eating behaviour in the context of body image, addressing **objective (xi): to understand girls' and boys' perceptions of thin and fat people's eating behaviour.** We have seen that children's literature (Hargreaves, 1971, 1978, 1978a, 1981, 1990, 1990a), adults (Wooley et al, 1979; Cline, 1990) and children (Wardle et al, 1995) have the common perception that fat people eat large quantities of food, in large units, and quickly while thin people eat small quantities, in small units, slowly despite there being little evidence to suggest that this, polarised, pattern of eating occurs in reality (Wooley et al, 1979; Gilbert, 1989; Andersson and Rossner, 1996). The findings from this study showed that the children shared these stereotypes. This suggests that the children may have been influenced by adults and the media.

The fat, uncivilised eater

Many of the children's descriptions of a fat person's eating were descriptions of an antisocial insatiable appetite which is 'out of control', the very descriptions of bingeing (Chernin, 1981, 1986; Orbach, 1978; Cline, 1990). There is no evidence that bingeing is common amongst overweight people (Andersson and Rossner, 1996). Perhaps the shame of bingeing, so clearly described by sufferers, is rooted in the perception that it is a behaviour associated with the socially ostracised fat person. Indeed we have noted that many dieters and people with eating

disorders both crave to get back 'control' over their eating and their body image as a way of achieving control over their lives (Edwards, 1987; Dana, 1987; Cline, 1990). Therefore it seems that many of the children perceived fat people as being 'out of control' in terms of their bodies and their eating.

The children, in this study, described the fat person as eating without cutlery. Certainly the type of food which a person eats may affect the way it is eaten, and much of the fat person's food was finger food. Moreover eating with fingers is necessary for eating with immense speed and for getting very large quantities of food into the mouth at once, as the children described. In addition to this, we noted earlier that the children thought that the fat person would eat some inedible, unrealistic or vague food. It was suggested that the children perceived the fat person to have less civilised eating habits. Here we see that some of the children described the fat person as eating, "like a pig", making animal like noises or eating off a shovel. The children's attribution of poor, unhealthy, junk food to the fat person would seem to reflect the children's poor opinion of the fat person's eating behaviour.

The thin, civilised eater

In contrast, many of the children's perceptions of a thin person's eating in this study reflected the very best table manners. The food which they associated with the thin person, such as vegetables, require preparation, more chewing, is frequently eaten with cutlery and may necessitate eating at a table. Many children believed that the thin person's eating behaviour reflected the epitome of refined eating. This is a model of absolute control in terms of speed, quantity, dexterity and social etiquette. It is the model which Cline (1990) found women employ in order to stay slim.

In this study, the children's perceptions of fat and thin people's eating seemed to be associated with social stereotypes, perceptions of control and the type of food which they believed fat and thin people ate. However it should be noted that fruit might have been an exception

Masculine and feminine eating

It was suggested, at the beginning of the study, that the masculine style of eating (Chaiken and Pliner, 1987; Rolls et al, 1991), had much in common with media and social portrayals of a fat person's eating. The findings from this study also suggest that many of the children's perceptions about the fat person's eating had more in common with the masculine eating style than with the feminine. So if boys eat the food associated with the fat person, in the way that

boys perceive a fat person to eat it, they may in fact reinforce their masculine identity. This means that they have good reasons to eat large quantities of popular, tasty food in an 'active' way.

It was suggested, at the beginning of the study, that the feminine style of eating (*ibid*) had much in common with media and social portrayals of a thin person's eating. The findings from this study also suggest that many of the children thought that the thin person's eating had more in common with the feminine eating style than the masculine. So if girls eat the food associated with the thin person, in a way which they perceive a thin person to eat it, they may in fact reinforce their feminine identity. This means that they have good reasons to demonstrate a very controlled approach to eating small quantities of healthy food.

Conversely, the relationship between gendered eating behaviour and food explains why boys may wish to avoid the thin person's food and the thin person's eating style, and girls may wish to avoid the fat person's food and the fat person's eating style.

Therefore in answer to ***objective (xi): to understand girls' and boys' perceptions of thin and fat people's eating behaviour***, the study has found that girls and boys believe that thin and fat people eat in different ways. These perceptions seem have different consequences for girls and boys because of the relationship between eating behaviour and gender role expectations.

Understanding the girls' and boys' perceptions of the link between body image and eating

At the beginning of the study we suggested that according to the ideas in published literature, there were associations between perceptions of unhealthy food, high calorie food, a fat person's food and that which is popular with children. The study has shown that children's perceptions of a fat person's food has these characteristics also. Similarly, before the study, we suggested that there were associations between healthy food, low calorie food, a thin person's food and food which is unpopular with children. The study has shown that children's perceptions of a thin person's food has these characteristics as well. The study has also highlighted that girls' and boys' perceptions about eating differ in some respects.

Boys' perceptions of the link between body image and eating

The study showed that many of the boys believed that eating high fat, unhealthy, junk food in large quantities will encourage fatness. The previous results showed that many boys do not wish to be fat and would like increased muscularity. Unless they are particularly fat, they seem to want the body image of their highly muscled, active, adult masculine heroes. By eating meat, in particular, such as burgers, boys may perceive that they are eating a food which is associated with masculinity (Hardyment, 1995), health (Lund et al, 1991), muscularity (Waterhouse, 1995) and adult men (Charles and Kerr, 1988). By eating junk food in general, and by eating it actively and in large quantities (Chaiken and Pliner, 1987), boys may experience feelings of independence, peer support, choice and being like adult men (Chapman and Maclean 1993; Watt and Sheiman, 1997). In the short term the resulting increased fatness may be welcomed as the earlier part of the study showed that boys are satisfied with a larger body image. It seems that both the content of the food and the way in which it is eaten confers upon the boys characteristics of adult masculinity.

The study showed that many boys believed that vegetables (excluding chips), salad and fruit are associated with thinness, and we have suggested that these foods are associated with dieting (Gullo, 1988; Schneider, 1990) and health (HEA, 1995; Wills, 1996). Thinness, as we saw earlier, is probably an undesirable body image for a boy, and dieting has been described as unmanly (Watson, 1993). Children are not thought to be interested in eating food for health reasons (Mauthner et al, 1993; Ross, 1995), and healthy food is not traditionally a particular concern of adult men (Coxon, 1983; Oakley, 1985; Charles and Kerr, 1988; Niclaas, 1995). These reasons may explain why boys have been found to eat little vegetables, salad and fruit (Department of Health, 1989a), and suggest that their desirable body image may not be an incentive to do so.

Some of the boys, in this study, inaccurately described their own body image as having the characteristics of their ideal body image. If they really believed this, then they would have no reason to want to change their body image, and even if they did, diet alteration will not bring about the increased muscularity in their limbs which is their overriding concern. This may explain why boys, like men (Watson, 1993), who wish to alter their body image, turn to exercise (Edelman, 1982; Maloney et al, 1989) and not dietary change.

Therefore the study suggests that boys may have good reasons to avoid healthy food and eat unhealthy food, and that boys' perceptions of their own body image is not an incentive to change their dietary behaviour.

Girls' perceptions of the link between body image and eating

The study found that many of the girls understood that fruit, vegetables and salad can encourage thinness. Many wanted a 'thin to medium' body image, and to be thinner because of either feeling fat or feeling fatter than other ordinary girls. Previous studies (Baranowski et al, 1993; Tilston et al, 1993) suggest that girls know that this type of food is healthy, and society provides lots of encouragement to eat healthy food (HEA, 1995; Department of Health, 1991). By eating this type of food it necessitates a controlled, feminine eating style (Chaiken and Pliner, 1987; Rolls et al, 1991). So by eating the food associated with the thin person girls may demonstrate femininity in terms of both their eating and body image.

Similarly, the study found that many of the girls, like the boys, understood that eating high fat, unhealthy food, in large quantities, would encourage fatness. They were more aware, than the boys, of the fattening consequences of eating this food. Many of the girls, in this study, did not want to be fat. The study suggested that the fat person's food, and their eating style, has more in common with masculinity than femininity. So girls may wish to avoid unhealthy, fattening food because neither is it perceived as feminine nor will it help girls to achieve their ideal body image.

We have noted that girls' perceptions of eating and body image may present two problems.

The first is that girls may confuse unhealthy dieting with healthy eating. This is because the study found that some healthy foods such as meat, were perceived by the girls to be associated with fatness whilst current healthy eating campaigns (HEA, 1995) do not specifically highlight the importance of protein and iron for girls.

The second problem is that girls may face a conflict between wanting to eat fattening, unhealthy food because of its association with independence, popularity and personal choice (Chapman and Maclean, 1993; Watt and Sheiham, 1997) and wanting their ideal body image. The study found that the girls understood that eating less was associated with thinness. So by eating less food and missing meals (Hill and Robinson, 1991), such as breakfast (Box and Landman, 1994), girls can eat the food which their friends like, avoid fatness, adopt a feminine eating style and move towards their ideal body image.

The influence of adult culture

We have suggested that the boys may be influenced by the association between adult masculine culture, meat (Charles and Kerr, 1988; Waterhouse, 1995; Hardymont, 1995) and

adult male eating styles (Chaiken and Pliner, 1987; Rolls et al, 1991). We have also suggested that girls may be influenced by the association between adult feminine culture and sweet food (Conner et al, 1991; Charles and Kerr, 1988), especially chocolate (Waterhouse, 1995), and feminine eating styles (Chaiken and Pliner, 1987; Rolls et al, 1991).

Knowledge and skills

Studies have suggested that girls demonstrate greater knowledge about food than boys (Lund et al, 1990,1991a; Mauthner et al,1993), and women have greater nutritional knowledge, cookery skills and involvement with food than men (Coxon, 1983; Oakley, 1985; McGuffin, 1986; Niclaas, 1995). The girls, in this study, demonstrated more knowledge than the boys in terms of their relatively greater association of low calorie lettuce and fruit with thinness rather than fatness. They were less ready to cite diet foods for the thin person than the boys. Also, the girls were more aware of the consequences of eating fattening food, and demonstrated more realism in that they were less inclined to polarise the differences between the quality of the fat and thin person's food. In these ways the girls demonstrated greater knowledge about food which supports the suggestion that the adult female culture influences girls' perceptions.

Compared to the boys, the girls in this study thought that meat was associated with fatness, and that high calorie cheese was more strongly associated with thinness. Vegetarianism is more popular among teenage girls than boys (Pender, 1994; National Dairy Council, 1995; Hardyment, 1995). Many girls in this study associated healthy food with thinness. So perhaps their apparent inaccurate knowledge about cheese is tied up with a perception of cheese as being an acceptable, and healthy, substitute for meat, which in terms of protein it is.

The boys in this study demonstrated more knowledge than girls by their relatively greater association of cauliflower with thinness rather than fatness. The boys were also more willing to associate high calorie cheese with fatness compared to the girls. In these ways the boys demonstrated greater knowledge than the girls.

So, with the important exceptions of girls' perceptions of cheese and cauliflower, the study supports the proposal that girls seem to have better nutritional knowledge than boys. This reflects the gender differences seen in adulthood.

A gender sensitive approach

The taste of the food seemed to matter more than its nutritional content to the boys in this study, and the eating of junk food requires little skill. So boys' attraction to junk food may be that it tastes nice, it requires no particular knowledge or skills in order to eat it and it does not threaten masculinity. Indeed it may encourage a masculine eating style. It is also associated with independence and it may help to increase their body size.

In contrast, the girls not only have more reason to eat fruit and vegetables than boys, because of their association with a thinner body image, but they have the knowledge and skills to make this food more accessible. This type of food requires preparation, and sometimes cooking skills. The necessity for chewing means that it cannot be eaten as quickly as junk food, nor can it be eaten in such large quantities because high fibre food is filling. So, the girls have the knowledge and skills to make their ideal body image accessible whilst eating in a way which endorses their femininity.

These findings indicate that children's perceptions of the link between body image and eating need to be understood, and addressed, in a gender sensitive way.

CHILDREN'S PERCEPTIONS OF THE CONTROL OF CHILDREN'S EATING

Having considered children's perceptions of body image and eating, this section of the study aims to discuss the findings about **children's perceptions of the control of children's eating**. The degree to which children may be able to change their body image partly depends upon them having control over their food.

Controlling the quality and quantity of food

Choosing the quality of food to be eaten

Choosing food for pleasure

This part of the study begins by addressing **objective (xii)** of the study: ***to analyse girls' and boys' reasons for their food choices***. We have suggested that factors such as, taste and texture (Charles and Kerr, 1988; Whiting and Lobstein, 1995), advertising (The Food Commission, 1990, 1992, 1994; Dibb, 1993), presentation (Crocket and Sims, 1995), personal control (Mayall, 1993), independence (Mauthner et al, 1993; Watt and Sheiman, 1997), sociability (Chapman and Maclean, 1993) and peer conformity (Ross, 1995) may influence children's choices. In this study, three quarters of the children reported that if they had all the

money they wanted, they would buy certain foods because they liked them. Many of the reasons listed above could contribute to the liking of food. The children in the study also associated the liking of food with the fat person more than the thin. Again this suggests that there is a stronger relationship between the food which is popular with children themselves and that which they associate with fatness. The study also revealed that the children's choices were not made for health related reasons which supports the argument that health does not feature in children's choices of food. Therefore in answer to **objective (xii)**, most of the children did not choose food for nutritional, health or even body image related reasons, but just because they liked it.

Shopping for food

Moving on to consider **objective (xiii): to analyse children's perceptions of who chooses their food**, we began by looking at shopping. Here, nine out of every ten children perceived that their food choice within supermarkets was under a fairly high degree of adult control. Over half the children said that they had no choice at all. This supports Charles and Kerr's (1988) study which found that adults frequently exert control over their children's eating.

Choosing meals

Turning to consider mealtimes, in the context of breakfast three quarters of the children said that they were allowed to choose from a choice of foods given to them by an adult. This suggests that they had more choice at breakfast time than in the supermarket. These findings concur with those of Box and Landman (1994) and Crocket and Sims (1995) who suggested that children had quite a lot of control over their breakfasts. This, along with their ease of preparation, may explain the popularity of breakfast cereals (Box and Landman, 1994; Whiting and Lobstein, 1995; Hardymont, 1995). In addition, it is encouraging to note that no child in this study reported that they missed breakfast.

At lunch time, the children reported that adults had quite a considerable influence over their choice of lunches. If children's lunches are as nutritionally inadequate as they are reported to be (HMI, 1990; White et al, 1992; O'Rourke et al, 1992) and yet remain heavily controlled by adults, attention must be paid to the choices which adults are making, and the resources with which they are made. Indeed this reflects the strategy of the School Meals Campaign (1992) and the Health Education Trust (1995).

When we looked at children's perceptions of the evening meal we found that almost two thirds of the children said that an adult chose the food. This emphasis on adult control may reflect the

importance of the evening meal in terms of its perceived social and nutritional significance within the family (Hardyment, 1995; Whitcroft-White et al, 1996).

Choosing snacks

Turning to children's perceptions of snacks, we found that four fifths of the children believed that adults had a fairly high degree of control over their snacks. Again, in the light of concern about the quantity of snacks eaten by children (Dibb, 1993; Hardyment, 1995) as part of their nutritionally poor diets, these findings suggest that attention needs to be focused on adult choices and resources.

Therefore in answer to ***objective (xiii): to analyse girls' and boys' perceptions of who chooses their breakfast, lunch, evening meal and snacks***, what is most clear is that they perceive adults to have quite a lot of influence. This is despite changes such as the rise in convenience foods, snacks, self service provision at schools and packed lunches (Mauthner et al 1993; Hardyment, 1995).

Choosing the quantity of food to be eaten

We will now consider the children's perceptions about the quantity of food which they ate. This relates to ***objective (xiv): to analyse girls' and boys' perceptions of who controls how much they eat***. Two thirds of the children in this study reported that adults usually decided how much they were going to eat, and over a half said that an adult encouraged them to eat up food if they left it on their plate. So the majority of children perceived that parents had a high degree of control over both the quantity and quality of their food. Parental encouragement of children to eat up food may be rooted in memories of historical food shortages (Hardyment, 1995), parental authoritarianism (Cline, 1990) or parents trying to avoid the feelings of rejection which leaving food may signify to them (Whiting and Lobstein, 1995).

Commercial influences on children's perceptions of control

It is interesting to note that almost nine out of ten children believed that they had some degree of control over choosing their breakfast, and two thirds over choosing their snacks. Breakfast cereals and snacks have several features in common. Both are easy to eat and require minimal preparation. Snacks, like breakfast cereals, are not only designed to appeal to children (Whiting and Lobstein, 1995), but are frequently positioned in shops at children's eye level (Crocket and Sims, 1995). Also, both comprise a significant portion of children's television advertising (The Food Commission, 1990, 1992, 1994), and we have noted that television may influence children's choices of snacks and breakfast foods particularly if the foods are

perceived as having other positive attributes (Young et al, 1996). It seems as if these factors together help to define these foods as 'children's' foods which directly address children as if they were in total control of their choices. In response, children may be persuaded by commerce that they can control what they eat for breakfast and snacks, and therefore they assert their control. Adults, in response, may feel pressurised to relax their control.

Furthermore, although the amount of perceived child control was greatest for breakfasts and snacks, it was notable that two thirds of the children, in this study, reported having some control over their lunches, and just over a third reported having control over their evening meals. Also approximately a third of the children reported having complete control over how much food they ate. Couple this with the quarter who were allowed to leave food on their plates, and this appears to represent considerably more control than children have had over their food choices than in previous generations (Hardyment, 1995).

Gendered perceptions the control of children's eating

We will now consider the control of children's food in terms of gender, looking at shopping first. Whilst both girls and boys, in the study, primarily chose food for their shopping trolleys because they liked it, we have noted that the boys, more than the girls, thought that the fat person would eat food because of this reason. To many of the boys, fat people seemed to eat food for the same reason that boys do. However, whilst most girls chose food because they liked it, to many, fat people ate food because it was fattening. This supports the argument that there is an association between perceptions of a fat person's eating and masculine eating, and a conflict with feminine eating.

Women take more responsibility for the day to day provision of food than men, and over children's food in particular (Charles and Kerr, 1988; Cline, 1990). However men are reported as taking overall control of family eating (Murcott, 1982, 1983; Charles and Kerr, 1986, 1988). In this study more than half the children said that their food choices were being guided by their mother alone. A third of the children referred to their mother and father. However further analysis showed that if the father was involved, this was in the contexts of either sharing shopping or in choosing the evening meal. It was rare for fathers to be involved in breakfast, lunch or snack choices during the week. This implies that fathers were perceived to be more involved when the decisions are likely to affect their own eating, and when the meal is more likely to be a 'family' affair. Therefore, if we take the children's points of view as being an accurate reflection of reality, the findings support the assertion that women tend to control

children's food, but that family eating may be more significantly controlled by men. The importance of these findings lies in the influence that adult role models may have on boys' and girls' perceptions of eating.

We have seen that in terms of children's perceptions of the control of their eating there were no significant differences between the boys and girls, in this study. This suggests that they thought they were treated in similar ways. However the findings also suggest that they were both likely to have their eating controlled by their mothers more than by anyone else.

Perceived control and dieting

In relation to body image, these findings suggest that if children want to alter their body image by altering the quality of the food in their diet they are more able to do so within the context of breakfasts or snacks. Between five and nine per cent, that is less than one in nine children (Box and Landman, 1994; Hardment, 1995), are reported as missing breakfast. One in ten of the girls in this study believed that parents exerted no control over their breakfast and snacks. So it seems possible that this small number of girls may exert their control over breakfast by missing it. A third of the girls, in this study, said that they were allowed to leave food on their plate, and a third of the girls said that they decided how much they ate. In the view of the findings which have indicated that adults have quite a lot of control over children's eating, it seems that the easiest way for girls to diet, perhaps against parents' wishes, is through missing breakfast and eating less. So Hill and Robinson's (1991) report that girls diet by missing meals and eating less may be explained in this way. This leaves them vulnerable to potentially disordered eating behaviour (Crisp, 1988; Herman and Polivy, 1991).

Independent decisions and activities, no matter how small, are thought to contribute to children's well being and to a sense of control over their lives (Mayall, 1993). Indeed, the pursuit of control seems to be a prominent characteristic of the symptoms associated with eating problems (Edwards, 1987; Dana, 1987; Buckroyd, 1989; Cline, 1990). In summary, the control of eating; dieting, weight control, starvation; is thought to be an answer to gaining control over the body. This is perceived as being synonymous with gaining control over one's self and one's life. This raises self esteem and provides the confidence to cope with life. However if dieting is arguably a rejection of parental authority and a striving for self determination (Edwards, 1987), we would expect the incidence of childhood dieting to have fallen over the last generation rather than to have risen as has been the case (Balding, 1991; Hill, 1991; Hill et al, 1992).

It is possible that the hypothesis which suggests that dieting is inversely related to perceived control is wrong (Edwards, 1987). However, we have noted that children's perceptions of eating and body image are, to some extent, influenced by adult culture. Children live in a world where the fashion and food industry now market their products directly at child consumers to a degree unseen before (Chernin, 1981; Cooke, 1995; Hardymont, 1995; Crocket and Sims, 1995). Children now have more rights, responsibilities and choices than ever (Castelle, 1989; Department of Health, 1991a; Hardymont, 1995). Perhaps the relaxing of parental control over food choices still feels restrictive to children, compared to the real or illusory control which society gives them.

Children's ability to alter their body image through changing their eating

At the beginning of the study we suggested that if a child wants to alter their own body image, one way in which they may do so is through changing their food intake. The chosen food may depend upon their desirable body image, their understanding of food and their control over their own eating. In this study, the girls, 'normal weight' and 'overweight' ones in particular, wanted to be thinner in order to look like their perceptions of ordinary girls and to avoid fatness. They believed that large quantities of food which is high in fat, such as chips, meat and chocolate, is likely to make someone fatter. They also believed that small quantities of fruit, vegetables - excluding chips, and salad would make someone thinner. So many girls understood which food may help them towards their ideal body images. A third of the girls believed that they could leave food at mealtimes if they wished. This means that many girls understood how to eat food in a way which would make them thinner, like their ideal body image.

In this study, most of the boys wanted to be more muscular and most wished to avoid fatness. Only if they were 'overweight' did they want to be thinner so as to be like their perceptions of ordinary boys. They believed that large portions of food, which is high in fat, such as chips and burgers, would make someone fatter and keep someone fat. They also believed that small portions of vegetables, excluding chips, and salad would make someone slimmer. So the boys understood which food would help them avoid fatness. A quarter of the boys could leave food at mealtimes if they wished. This means that boys understood how to eat food which could help them to avoid fatness, which would help 'overweight' boys to become thinner.

Therefore the study has shown that many of the children had the correct knowledge to manipulate their food in order to become thinner or fatter. If the children wanted to become

thinner, some could do so primarily through eating less, leaving food and opting to eat certain food rather than others. For many, certainly more than half the children, adults may have been perceived as an impediment to putting the knowledge into practice had they wanted to.

WHY GIRLS DIET

Having said it is possible for some children to alter their body image through dieting, we will address why girls do this more than boys (Hill et al, 1992a; Hill, 1994). This relates to the first of the three wider questions which were asked at the beginning of the study.

How do children's perceptions of eating and body image compare to what is known about adult perceptions of these issues?

Girls learning from women

Women's historical association with food has been cited as a reason for their accumulated knowledge (McGuffin, 1986; Niclaas, 1995), and their use of food to express their emotions (Orbach, 1978; Dana, 1987; Cline, 1990). Girls, like women, have better knowledge about healthy food than boys (Lund et al, 1990, 1991a; Mauthner et al, 1993). This was confirmed, in most respects, in this study. The girls, in this study, were more aware of the fattening consequences of food than the boys, and we will recall that women diet more than men (Gregory et al, 1990). We have also noted that there were some similarities between women's perceptions of body image and the perceptions of the girls in this study.

Charles and Kerr (1988) and Cline (1990) have noted that mealtimes are often opportunities for girls to observe their mothers in the context of food and eating. When we looked at children's perceptions of the control of their eating, in this study, the children believed that their eating was most frequently controlled by their mother. Mothers who are dieting have been found to 'restrain' their daughter's eating (Johnson and Birch, 1994), and girls are more likely to diet if their mothers do (Hill et al, 1990).

Together this evidence suggests that girls' perceptions of eating and body image are influenced, in some important ways, by the values and behaviours of women, in particular their mothers.

Female networks

Historically females have a strong tradition of using female networks to share their knowledge, support one another and achieve their goals (Holdsworth, 1988; Rakusen, 1989; Webb, 1989). Children also have a need to 'fit in' with others (Mayall, 1994). In this study we noted that many of the girls wanted a body image like that of other girls. This suggests that they wanted their body to 'fit in' with the other girls who are experiencing unwelcome changes in body shape, like themselves.

This study has shown that girls probably understand the principles of dieting, and believe that it can help to reduce fatness. It seems reasonable to suggest that girls may feel that through dieting they can control the ever increasing feeling of fatness which may occur regardless of actual weight. In this way they may believe that they can make themselves thinner and thereby look like their perceptions of other girls.

It is proposed that by dieting girls may feel part of a female network where girls can grapple with the conflicts of food and body image, share knowledge and give mutual support, just as women do (Gilbert, 1989; Cline, 1990). The girls' bodies are going to continue to develop in a way which takes them away from their ideal body image (Malina and Bouchard, 1991). The temptation of junk food, which is so attractive to young people, is all around (Dibb, 1993; The Food Commission, 1990, 1992, 1994). Girls may turn to their nutritional knowledge and skills, learnt from their mothers, in order to deal with this. By missing meals and eating less, girls may visibly demonstrate an eating style and a body image which affirms their femininity, both to themselves and to others, and receive social endorsement for that.

WHY BOYS DON'T DIET

Boys learning from men

Boys, like men, learn that the world of food is predominantly a female world. This study showed that boys may perceive that men control the more important strategic decisions around food, but that females deal with the day to day practicalities. Therefore food does not have the same significance for males as for females.

Boys may be influenced by men in terms of what they do rather than what they look like. The study has shown that boys, like men, aspire towards a well muscled body which will provide the power for action. Both men (Watson, 1993) and boys seem to value activity, athleticism and strength. Both men (*ibid*) and boys are more likely to turn to exercise (Edelman, 1982; Wardle, 1991), rather than food, to change their body image.

Furthermore, the boys, in this study, have indicated that they probably understood how to make themselves thinner through the medium of food. However boys are unlikely to turn to dieting as it has too many feminine connotations, and they may not have the knowledge, skills or network to help guide them through the dieting minefield.

This study, along with others (Wardle, 1991; Hill et al, 1994), has suggested that boys do not want to be thin, preferring a bigger, preferably muscley, body. However boys, as the study showed, may know which foods can encourage size in terms of fatness. Eating generous portions of popular, junk food, reflecting a masculine style of eating along with exercising would seem to present few conflicts for boys.

THE NATIONAL CONTEXT OF THE STUDY

Health

The purpose of this study is to make a contribution to our understandings about children's health. We will therefore specifically reflect on the findings in this wider context.

What role does health play in children's perceptions of eating and body image?

In this study, we suggested that the girls and boys may have been keen to have a medium ideal body image because this has been associated with being a healthy body image by children in Blissett et al's (1996) study. However we have also noted Mauthner et al's (1993) and Ross's (1995) warning that health is not a strong motivation for children in practice. With this in mind, a desirable body image may, in fact, may be a stronger motivation than health. Therefore the girls, in trying to become thinner and avoid fatness, may be encouraged to eat the food which they associate with thinness. The findings showed that a consequence of this may be that girls avoid foods, such as meat, which they associate with fatness. This has implications for general healthy eating information (HEA, 1995) which does not currently emphasise the importance of iron and protein in childhood.

The study highlighted the concern that boys do not seem to have an incentive to eat healthily. This is because many of the boys seemed to associate healthy food with thinness, dieting and females. There is much concern about children's unhealthy diets (Daly, 1990; NFCHDP,

1993; Seaman et al, 1997) because of their association with ill health. Therefore boys' needs and concerns need to be specifically addressed in the context of promoting healthy eating.

The study showed that fat boys may be satisfied with their large body, though they value thinness, and would like to look like other boys. We have suggested that action is important to boys. It is hypothesised that boys may become dissatisfied with their bodies when they are so fat as to impede action. For example they may be unable to adequately join in sporting events and exercise with others. Having suggested that boys do not diet for a range of reasons concerned with their perceptions of eating and body image, it seems that overweight boys may be in need of dietary advice and support.

It seems that the children's perceptions of eating and body images have potentially unhealthy consequences which health education needs to address.

Media

We have mentioned that the media may play a part in influencing children's perceptions of body image. We asked, at the beginning of the study:

Do wider social and cultural influences, such as the media, seem to be influencing children's perceptions of eating and body image?

The study found that children's perceptions of a hypothetical thin and fat person's eating behaviour seemed to reflect the polarised, stereotypes found in some children's books (Hargreaves, 1971, 1978, 1978a, 1981, 1990a). This supports Giddens' (1989) suggestion that the media can be a powerful influence on children in terms of transmitting social norms. This study, therefore, raises the concern that the media may be fuelling children's negative perceptions of fatness (Williams et al, 1989a; Wardle et al, 1995; Hill and Silver, 1995).

The study has not researched the effect of the media on children's perceptions of body image. However, in trying to understand why the 'underweight' girls in this study wanted to look different from, indeed thinner than, other girls, we suggested that they may wish to look like thin media images, such as models. If this is the case, and further research is needed to clarify this, then the media may be encouraging underweight girls' desire for unrealistic body images.

Also, the study has not researched the media's role in promoting junk food, and snacks directly to children (The Food Commission, 1990, 1992, 1994; Dibb, 1993; Crocket and Sims, 1995; Whiting and Lobstein, 1995). However it seems that certain foods such as chips, meat, diet foods, fruit, vegetables and salad have positive or negative connotations for children in terms of their body image. The media may have a role to play in changing these connotations.

A gender sensitive approach

Not only are boys' and girls' bodies different (Malina and Bouchard, 1991), but this study has shown that their experience of them differs. The study has suggested that this differing experience may have implications for the food which boys and girls eat. Furthermore the study has suggested that the relationship between food and body image might be perceived differently by girls and boys in the context of cultural understandings about masculinity and femininity. The study has noted that some issues, such as the negative perceptions of obesity, seem to be common to both girls and boys. However beyond this, it seems that many of children's perceptions of eating and body image are gender specific. For these reasons, health education around body image and eating needs to adopt a gender sensitive approach.

The national obesity campaign

At the beginning of the study we noted that the current campaign to address obesity in England (Nutrition and Physical Activity Task Forces, 1995) may result in unhealthy consequences for nine year old children. The findings from this study have confirmed others (Hill, 1993; Hill et al, 1994; Hill and Silver, 1995) and shown that children strongly dislike fatness. Like Hill and Silver (*ibid*) the study has indicated that children may be motivated by the avoidance of fatness towards relatively thinner body images. Therefore a campaign which promotes the unacceptability of fatness is likely to fuel children's negative feelings towards fat children and to encourage children towards a relatively thinner body. This is of concern because the levels of undesirable fatness in children is unknown (Nutrition and Physical Activity Task Forces, 1995; Cole et al, 1995; Prescott-Clarke and Primatesta, 1997), and wanting a thinner body image is thought to be an incentive for girls to diet (Wardle, 1991; Blissett et al, 1996; Regis, 1991; Hill et al, 1992a). This study has shown that many girls are likely have the knowledge to diet unhealthily, though probably fewer have the opportunity. Therefore this study supports Hill (1993a) and Garner's (1997) concerns that the current national obesity campaign could promote unhealthy dieting, which may lead to eating disorders, in some girls.

This campaign, by promoting anti-fat discrimination, may further reduce the self esteem of overweight children (Banis et al, 1988; Filkin, 1990; Hill et al, 1992a, 1994). The study has shown that overweight girls may be particularly vulnerable to this, and Hill et al (1994) have suggested that very overweight boys may be also. Therefore the study supports Wardle et al's (1995) concern that the campaign may deter overweight children from joining in activities which may help them to lose weight.

The campaign rests upon promoting healthy eating and exercise as a means to avoiding and reducing fatness. We have noted that healthy eating may be ignored by children (Mauthner et al, 1993; Ross, 1995), and, at best, may be misinterpreted by girls. This study has not addressed exercise, though we have suggested that this may present problems for overweight boys. Power et al (1997) recently called for adult obesity to be tackled separately from childhood obesity in view of research which suggests that one is not necessarily linked to the other. Certainly it seems that any campaign of this nature needs to meet the particular needs of children rather than being based upon the morbidity and mortality of adults.

A primary health education strategy

There is much to commend children's learning about healthy eating in order to prevent disease and promote life long health. However, if children are not motivated to act for reasons of health, then educators, in addition to teaching them about healthy eating, need to address the factors which do motivate their eating behaviour. This study, along with others (Blissett et al, 1996; Wardle, 1991; Regis, 1991; Hill et al, 1992a), has lent support to the proposal that children's perceptions of body image may influence their attitude to eating. Therefore education needs to address healthy eating in the context of issues which affect body image.

Eating for health

This study has shown that girls may avoid meat because of its association with fatness, and boys may avoid fruit, salad and vegetables because of their association with thinness. Moriarty and Chanko (1988) and Crisp (1988) suggest that basic nutrition education is important for the prevention of eating problems in teenagers. In order to avoid nutritional deficiencies and optimise health, we need to be beginning this education in childhood.

The national curriculum states that children, at around nine years old, should learn that,

“food is needed for activity and for growth and, that an adequate and varied diet is needed to keep healthy,”

(Department for Education, 1995a p.9)

“know that a diet is a combination of foods, each with a different nutrient content’

and

“know that different nutrients can have different effects on the body, and the amounts in the diet, and balance between them, can influence health, eg sugar and dental health.”

(National Curriculum Council, 1990 p.15)

Within these requirements teachers have the opportunity to highlight the importance of meat as a food for growth and iron repletion, and to discuss suitable vegetarian alternatives. They could also highlight the importance of the vitamins and minerals in salad, vegetables and fruit. Children may be encouraged to find ways of making these foods particularly attractive and appealing through their design and technology work.

This study, along with others (Mauthner et al, 1993; Lund et al, 1990; 1991a), has suggested that boys have less nutritional knowledge than girls. Therefore there is a need for basic nutrition to engage the interests of boys in particular. Linking nutrition to physical fitness may be a useful strategy.

Changes in the body

The study has shown that children’s physical bodies, particularly their weight and to a lesser degree their shape, influences their perceptions of body image. In turn this seems to contribute to body image dissatisfaction, and some unrealistic aspirations. Therefore children require education about what is normal physical development. Levine (1987) and Moriarty and Chanko (1988) suggest that this type of education is useful in preventing eating problems in teenagers. Moriarty and Chanko suggest that it is important for young people to feel at ease with their bodies. The national curriculum states that children should learn the,

“main stages of the human life cycle,”

(Department for Education, 1995a p.9)

and

“begin to know about and have some understanding of the physical, emotional and social changes which take place at puberty.”

(National Curriculum Council, 1990 p.14)

Therefore these requirements present opportunities for teachers to explain how the size and shape of girls' and boys' bodies develop. However they need to be broadened to include pre pubertal changes. In particular it would seem important to highlight the biological reasons for girls having more fat than boys, the distribution of fat around the body at different ages, and the development of muscularity.

Weight control

The study has shown that there are a number of reasons why girls may wish to diet in order to avoid fatness and become thinner. The study also found that 'overweight' girls were the most dissatisfied with their body image, and Hill et al (1994) suggests that very overweight boys are likely to be also. Therefore some overweight children may also wish become thinner. The study found that many of the boys did not want to be thin, and therefore thin boys may wish to put on weight. The biology of weight regulation (Moriarty and Chanko, 1988; Crisp, 1988) is thought to be an important part of education to prevent eating problems in teenagers. The national curriculum requires children to,

"know if energy intake is greater than expenditure of energy, the body stores excess fat."

(National Curriculum Council, 1990 p.14)

This requirement needs to be broadened to include the consequences of reduced energy intake. Then teachers could explain how the body gains energy and therefore weight, through food, and loses it through exercise and heat.

The study showed that many of the nine year olds thought that a fat person ate a high quantity of 'fattening' food which was frequently fatty and dominated by junk food. Many thought that a thin person ate a low quantity of 'slimming' and healthy food dominated by fruit and vegetables. This suggests that there is some accuracy in children's understanding of how the quality and quantity of food affects body size. This needs to be built upon, through the teaching of scientific principles which demonstrate that, in reality, this polarisation is false.

Similarly, the study has indicated that children may associate thinness with health. Children need to know that thinness is not necessarily healthy and some fatness is not necessarily unhealthy (Cole et al, 1995; Power et al, 1997).

The study has suggested that children probably know that some foods, eaten in small quantities, can make them thinner, and that missing meals seems to be a potential option for some. Education about unsafe and safe dieting (Moriarty and Chanko, 1988) is recommended for teenage prevention of eating problems. It seems that children, too, need to know that eating too much or too little, or eating a narrow range of food can be harmful to their growth and development. In particular the risk factors associated with missing meals should be explained, and that dieting is only appropriate for very overweight children under the supervision of an appropriate adult. The national curriculum states that children should know that,

“tobacco, alcohol and other drugs can have harmful effects.”
(Department for Education, 1995a p.9)

This requirement should be broadened to include food, perhaps substituting the word ‘drugs’ for ‘substances’.

Dissatisfaction with body image

This study, like others, found that children do not want to be fat, and suggested that this may be explained by childhood prejudice against fatness. The study also found that many of the girls, and some of the ‘overweight’ boys, wanted a body image like their perceptions of other ordinary children of the same sex. This seemed to indicate a need to ‘fit in’ with others.

Education about interpersonal relations, personal attitudes and behaviour (Crisp, 1988), and the meaning of abnormality (Levine, 1987) are thought to be useful for the prevention of eating problems in teenagers. The national curriculum states that at about nine, children should,

“know that within any environment there are people with different attitudes, values and beliefs and that these influence people’s relationships with each other and with the environment;

understand that individual responses to events will vary and respect other people’s emotions and feelings;

understand that actions have consequences for oneself and others;

and

understand the meaning of friendship and loyalty and begin to develop skills needed to form relationships.”

(National Curriculum Council, 1990 p.15)

These national curriculum requirements could apply to addressing prejudice and discriminatory behaviour in general, and on the basis of body shape or size in particular. Nine year olds could be encouraged to consider a range of body shapes and sizes, and to examine their attitudes towards them. Group work, as recommended by Moriarty and Chanko (1988), personal/experiential exploration and problem solving (Crisp, 1988) strategies may be usefully employed to raise children's awareness of how children can promote body image dissatisfaction in others, how they can accept each others' bodies and how they can support one another as their bodies change.

The sensitivity and sex specific nature of this work necessitates sex specific groups. For example, the study has shown that boys are concerned about being too thin as well as too fat. Shisslak and Crago (1994) report that 'girls only' groups have worked successfully with teenage girls.

Social images of food and body image

Although the study has not directly researched the media the study has suggested that some children's books, 'super hero' male, and 'thin' female media images may be promoting unrealistic stereotypes which influence children's perceptions of eating and body image. Similarly, the study has suggested that the marketing of unhealthy food directly to children seems to have negative consequences. In the context of preventing teenage eating problems, education about images of people, fashion and food (Moriarty and Chanko, 1988) are thought to be useful. It seems that this needs to be introduced in childhood.

The national curriculum states that children, at about nine, should,

"recognise some environmental hazards and identify some ways in which these may be reduced, eg passive smoking."

(National Curriculum Council, 1990 p.15)

This requirement should be broadened to include social as well as environmental hazards. In this way nine year old children could be encouraged to discuss critically what they see and read around them. The children could usefully create and manipulate media and commercial images through the design and technology curriculum, in order to analyse how they can be unhealthy influences.

Gender

The study has shown that many of children's perceptions about eating and body image are gendered. The evidence suggested that adults seem to be influential in this respect. Crisp (1988) suggests that teenagers need to be aware of the influence of gender as part of preventing eating problems, and the study indicates that this may be useful for nine year olds also.

The national curriculum states that, at around nine, children should,

“recognise that individuals belong to many groups in which they have different roles.”

(National Curriculum Council, 1990 p.15)

Within this requirement teachers could discuss gender roles, and the implications of these for children's expectations, attitudes and behaviour. For example they could think critically about expected masculine and feminine styles of eating behaviour.

Skills

The importance of using active learning methods, in primary health education, is well documented (HEA, 1991; 1991a; Gray and Hyde, 1992; Williams and Young, 1994). It is highly recommended in the context of preventing eating problems with teenagers also. Having assertiveness (Moriarty and Chanko, 1988), relaxation (*ibid*), stress management (*ibid*, Crisp, 1988) and coping (Levine, 1987; Crisp, 1988) skills are all thought to be important. It would seem that if the proposed education for nine year olds is to be effective, they also require the skills of being able to put their knowledge into practice. So active learning methods are recommended for this work.

Family and Community

Primary health education in schools aims to work along side families and communities (McWhirter et al, 1994; Wetton and McWhirter, 1995; HEBS et al, 1996). Shisslack et al (1987), Levine (1987) and Moriarty and Chanko (1988) emphasise the importance of family and community involvement if eating problems are to be prevented in teenagers. It seems that children, of nine, may benefit from these strategies and the national curriculum states that children should,

“know about helping agencies which can support families and individuals in different circumstances.”

(National Curriculum Council, 1990, p.14)

This requirement suggests that both children and teachers need to know that school nurses, counsellors, dieticians and doctors, for example, may be able to help them with concerns about eating and body image.

Communication may facilitate parent education. The findings from this study suggest that parents may be important role models. Levine (1987) suggests that role models may be an important influence in preventing teenage eating problems. In particular fathers need to be good role models for healthy eating for sons and mothers, particularly those who are dieting, need to be aware that they may be adversely influencing their daughters.

This completes the discussion about the findings from this study.

REFLECTIONS ABOUT THE METHODS OF THE STUDY

It is tempting to leave the study at this point, and in so doing leave the impression that the research process was without drawbacks and the researcher was the 'ideal universal knower' (Usher 1996). However, to do so would contradict the interpretive philosophy of the study and distort its true validity. So this final section aims to reflect critically upon the methods used for the study and the role of the researcher.

The methods

The methods seemed to be successful in three respects. Firstly they met the objectives of the study. Secondly, the concrete stimuli did seem to help the children to focus on the desired questions, and no child seemed unable to understand the questions asked. Perhaps most importantly, they were also successful in that the children clearly enjoyed the interview, and demonstrated this through laughter, enthusiasm and a willingness to participate.

With reference to the investigation into perceptions of body image, if the research were to be repeated it would benefit from having a larger stratified random sample of children. In this way perceptions from equal numbers of 'underweight', 'normal weight' and 'overweight' girls and boys could be analysed. This would increase the validity of the findings. Also, the children

could be grouped into weight categories based upon more recent data on the distribution of weight amongst children. These were not available at the time of the fieldwork in this study.

Some adjustments may have improved the part of the research which concerned Mr/Miss Thin and Fat's eating. If the research was carried out again, it would be better to categorise chips as a separate food group from vegetables. Including them appeared to distort the results at times, although efforts were made to make this clear during the discussion of findings. Also, it may be useful to analyse findings in terms of the food groups which are outlined in the National Food Guide (HEA, 1996). This would provide information about the balance of the diets attributed to Mr/Miss Thin and Fat in terms of health. The research could also include a wider range of food cards. In the event there were very few food cards which matched foods which the children spoke of in relation to lunch. This meant that comparisons between the findings from the two research methods were limited.

An obvious useful addition to the study would have been an investigation into children's perceptions of exercise. This would have provided a clearer context in which to analyse their perceptions of muscularity, and their understanding about the relationship about the link between food and body size.

The investigation into children's perceptions of the control of children's eating was the most problematic part of the interview. This was because it became clear that the children's perceptions of who had control over their food depended on the situation, and the situation could change on a daily basis. It was due to these complexities that the study did not include the children's perceptions about what happened at weekends. In depth interviews whereby children could fully explain the different situations in their lives may provide a vehicle through which this issue could be explored more fully.

Ethical considerations

Turning to consider the ethics of the study, it can not be argued that the children gave fully informed consent to participate because to have given this amount of information would have compromised the findings from the study. It is also questionable that children could fully understand the implications of their participation. However the process through which the parents, teachers and head teachers gave their consent on behalf of the child was felt to be enough to protect the child's rights. Only the children whose parents had signed the consent form participated. The researcher was told by school staff that this process had excluded some

children from the potential sample, but the numbers are unknown. All the children who came to the interview opted to stay for it after it was explained that their participation was entirely voluntary. The children's anonymity was, and continues to be, successfully protected. It is therefore concluded that the research was carried out in an ethical manner.

However, there was an aspect of the research over which the researcher had no control. Although the children were reminded not to discuss the interview with other children, it is impossible to be sure that they did not. This could have compromised the confidentiality of their pairs' answers. The researcher received no feedback from children or school staff that this had happened.

The ethics of carrying out research about people's appearance is a wider question. Having argued that it may be potentially harmful to judge others by their appearance, this research could be accused of promoting that very perspective. The answer, based on a utilitarian approach to ethics, is that by doing the research it is hoped that greater good will come of it than if the research had not been done. This puts an ethical responsibility on the researcher to ensure that the findings are disseminated and published.

The sensitivity of the research content

The research appeared to be successful in terms of addressing sensitive issues. Although the researcher instinctively sensed that some of the children did not feel entirely at ease about answering questions about their own body image, this was not obviously expressed verbally or non verbally. The researcher was very careful to maintain encouragement and a light hearted manner at this point of the research, and quickly move onto the next questions concerning the supermarket. The idea of having lots of money quickly lifted their spirits!

The validity of the methods and findings

Having considered the practical and ethical constraints on the research, we need to ask, at the end of the day, whether the methods and findings were valid. To answer this we need to revisit both the study design and the nature of children.

TABLE 4.1 **GIRLS' AND BOYS' SATISFACTION WITH THEIR BODY IMAGE**

	Satisfaction with body image		Dissatisfaction with body image	
	% girls	% boys	% girls	% boys

Pictorial scale of line drawings (Hill et al 1992a)	41% (n=213)	31% (n=166)	59% (n=213)	69% (n=213)
Direct questioning: "Is there anything which you don't like about the size and shape of your body?"	40% (n=58)	68% (n=40)	60% (n=58)	32% (n=40)
Direct questioning: "What do you like about the size and shape of your body?"	5% (n=58)	18% (n=40)	60% (n=58)	48% (n=40)
Indirect questioning: Apparent satisfaction and dissatisfaction comparing child's own body image to ideal body image	52% (n=58)	48% (n=40)	48% (n=58)	52% (n=40)

The validity of research methods may be judged by comparing the results from one method to that of another. Table 4.1 compares results concerning the girls' and boys' satisfaction with their body image. Hill et al (1992a) asked girls and boys to indicate both their own and their ideal body shapes from a range line drawings which depicted extremely thin to extremely obese same sex children. The table shows the results from Hill et al's study compared to those from the direct and indirect questioning in this study. If the methods used in this study produced similar results to those in Hill et al's study, this would suggest that the methods were valid. That is, they helped to illicit truthful results. Table 4.1 shows that the direct question, "Is there anything which you don't like about the size and shape of your body?" produced similar results (40% and 60%) from the girls as did Hill et al's method (41% and 60%). However the indirect questioning produced different results from the girls (52% and 48%). This suggests that this particular direct question seemed to produce valid results. However, the table also shows that when the girls were asked, "What do you like about the size and shape of your body?" only 5% reported that they liked everything or were satisfied with their bodies. Comparing the findings from boys, we can see that Hill et al's method, direct questioning and indirect questioning have produced very different results about body image satisfaction. Therefore there is insufficient evidence to conclude direct questioning provides more valid results than indirect questioning or vice versa, and more research is needed to test which methods produce the most valid results.

On reflection, it should be noted that in one case there was an inappropriate use of the *chi*-square test. This was when we compared how direct and indirect questioning influenced the children's body image satisfaction (appendix 21). Nonetheless the findings were sufficiently clear, in this comparison of individuals' responses to two related approaches, to counteract the limitations of having used *chi*-square. The overall conclusions were therefore not affected.

We noted that the 'say and see' method evolved from the pilot project, and as such has not been used in other studies. It is acknowledged that the validity, and the reliability, of the findings which it produces need to be evaluated more fully. For example the findings from this method could be compared to those obtained from an interview without drawing, from a series of 'draw and write' activities or from pictures of body parts which children could be asked to assemble.

In the context of children's perceptions of a fat and thin person's eating, it is not possible to check whether the attribution of food cards produced more valid findings than direct questioning about lunch. This is because no study has been uncovered which is sufficiently comparable. Again, more research is needed.

The validity of the findings are diminished if the children did not tell the truth. We have already noted that it was possible that children within the same school may have spoken to one another, and this could have affected validity. Within the first part of the interview, it is possible that one child might have been influenced by the other child's descriptions of lunch. This was a part of the interview where one child heard the other child's answers, and could have potentially changed their answers as a result. In fact the number of overlaps between the lunch items mentioned by each member of a pair were compared, and found to overlap very little. Therefore their answers were probably valid. Another part of the interview, where the children were describing who controlled their food, presented another opportunity for the second child to change their answer in the light of the first child's answers. There was no obvious indication that this occurred.

Evidently there were times when the children entered into their world of fantasy. Boys seemed to have a penchant for exaggeration more than the girls. This was particularly obvious when they were describing huge, and unrealistic portions of food, and non food items, for Mr Fat. It was less obvious, but clearly a strong possibility, when they described themselves as having muscular arms and legs. There were occasions when the researcher prompted the child with the question, "Really?" meaning, "Do you really think this?" In this way she tried to prompt the child to keep their thinking grounded in reality. Although tempting at times, no further prompts were given, and the researcher just accepted what the child said. Another time when the children appeared not to be telling the truth was when the overweight children sometimes described themselves as being thinner than they clearly were. We have argued that this may

have been a strategy to protect their self esteem. Therefore we know that in two key respects the children appeared not to tell the truth. This must raise doubts about the amount of truth telling in other areas of the research, and can appear to make the whole research invalid.

However, having said that the 'whole' truth may not have been told it should be recalled that all research is, to some extent, contaminated by people by virtue of their humanity. Personal bias may be introduced by funding agencies, technicians, subjects and participants. In this way obtaining the 'whole' truth, in reality, is almost impossible to achieve. Furthermore we ought to recall that many of the results in this research did agree with previously published research which increases the validity of the findings. Therefore the best we can do is to recognise these dimensions of the research, and take them into account when considering its validity.

In the context of validity it is also important to remember that for much of this research the children were asked to comment upon hypothetical people. Like other authors who have carried out similar research, we must note that there may be an important gap between their perceptions of hypothetical people and real people. Whilst the hypothetical people are one dimensional, such as thin and fat, real people are not. We noted that it was the children's attention to the details of clothes, faces and hair rather than solely body image that prompted the decision that the researcher would carry out the drawings for the body image interview. Perhaps more important is the fact that hypothetical people have no personality. In this way we should remember that the children's hypothetical perceptions may not translate into attitudes and behaviour in reality.

Another factor which needs to be taken into account when considering validity is where the truth lies along the continuum of the researcher's interpretation of the research and the reader's interpretation of what is written. The clearest example of this particular issue relates the last part of the interview where the children discussed who controlled their food choices. As previously stated the descriptions were often complex. This was dealt with by ordering the questions around a typical day and by the use of frequent prompts in order to clarify what was most usual, even if that meant that their answer was grouped in more than one category.

On listening to the tapes at this part of the interview, the researcher's prompts were usually either open questions or statements made by way of confirming if she had understood what the child was trying to say. It was interesting to note that when the interview was committed to print, the tone of the interview appeared to change. What was in fact a sympathetic question

looked like an impatient demand. A quietly spoken confirmation looked like a loudly expressed command. The absence of the tone of the voice, the silences and the intonation appeared to make a considerable difference, not to mention the absence of eye contact, smiles and body language. Indeed this finding has important implications for any research which is relying on transcripts from interviews, and any research which can only be presented in a written format. This is actually an example of what Scott (1996) called the double hermeneutic. It reflects the gaps between what the researcher writes and how it is interpreted by the reader. This is already on top of the children's interpretation of the question, how the researcher interpreted it in the interview situation, how she then interpreted and categorised it later, and then how she put it on paper.

Having said all of this, the researcher can not claim to have been the perfect, neutral interviewer, but defends this by arguing that there were times when the researcher, sometimes not consciously but on reflection, may have compromised complete neutrality for two reasons. As the second child was sitting waiting whilst the first was answering these questions, there was some pressure to obtain a correct understanding of the first child's perceptions within a reasonable time span. Secondly there was the overriding need to maintain the relationship with the child in order to facilitate good communication. At the end of the day, the child's trust and welfare was more important than the research.

There were times when the interviewer found herself rephrasing the child's words back to the child in order to check her understanding, and without doubt this was partly influenced by a strong instinct that this was in fact what the child was trying to say. The line between truly recapping the child's words, and recapping them in a way which allows interviewer bias to creep in is a fine one. Whilst the interviewer always sought to do the former, it is accepted that she may have adopted the latter at times. However at the core of a hermeneutic/interpretive paradigm is the acceptance that subjectivity matters. One of the reasons for doing an interview is so that communication between the respondent and interviewer can capitalise on the human contact. It is therefore a contradiction to seek the benefits of face to face human communication and then to require the interviewer to leave their instincts at home.

In the final analysis, the study succeeded in obtaining children's insights and perceptions about eating and body image. However it is acknowledged that these are only within the limitations of the objectives of the research, and the types of questions which were asked. Therefore the findings should be considered as a limited view of children's insights only.

THE RESEARCHER'S SELF REFLECTION

Usher (1996a) argues that the writing of an academic text, like this one, acts like a filter through which the reality of research becomes a piece of acceptable writing (and reading) according to the 'rules' of the academic community. In this way reality is distorted. The 'rules' may insist that the research appears to be objective and that the researcher appears to be authoritative. In this way 'I' the researcher, the writer, is tucked away from view. The power of this is quite revealing when comparisons are made between the text and reality.

The rationale for this study and its outcomes have been discussed in the text, but this was not the reality. Reality was made up of the text plus the researcher's personal rationale and personal outcomes. So here the researcher will acknowledge her personal perspectives on the study.

I carried out the research because:

I had done previous research about women and dieting, and I became interested in the wider field of eating problems and their relationship to gender.

I was interested in understanding what went on in children's heads at nine in view of my perception that dieting and eating disorders seemed to surface a little later.

I felt that the wealth of research which has investigated children's perceptions of healthy eating was 'missing the point' in that it seemed to assume that health was the only motivation to eat.

I liked the idea of working with children, and exploring their worlds. I thought it would be fun. I love children's drawings.

I wanted to do fieldwork which meant that I would come into contact with real people. I like working with people.

I wanted to understand the research process better. I needed to feel more confident about it because I supervise students' research as part of my job.

I had been told that I was capable of doing the research. Without this, I would have always assumed that I was not.

I remember how it felt to be insecure about one's body image as a child. This was for children like me.

I have gained a greater confidence and knowledge about the research process, along with a greater awareness of my own strengths and weaknesses in this context. My weaknesses frighten me less because I now know where to find help. I have also gained a wide range of academic skills and knowledge which has enriched my job, and benefited countless other students.

OPPORTUNITIES FOR FUTURE RESEARCH

This study has helped to clarify a need for further research in several areas. These are some examples:

- (i) to investigate children's perceptions of body image with a larger stratified sample;
- (ii) to explore children's perceptions of the factors which they think influence their body image;
- (iii) to investigate the relationship between children's perceptions of the inter-relationship between eating, body image and exercise;
- (iv) to carry out detailed qualitative research with children in order to understand their perceptions of the control of their food;
- (v) to investigate children's perceptions of particular foods such as meat, fruit and vegetables;
- (vi) to develop teaching materials for health educators on the subject of children, eating and body image;
- (vii) to explore the validity and the potential of the 'say and see' research method;
- (viii) to develop and evaluate a campaign which promotes healthy body images and healthy food for children.

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Appendices