

ETHNICITY AND ATTITUDES TO BODY SHAPE

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The candidate confirms that the work submitted is her own work and that appropriate credit has been given where reference has been made to the work of others.

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ABSTRACT

Research evidence has consistently shown that western society is one that values thinness and holds a negative attitude towards overweight individuals. The role of ethnicity is an under researched area in attitudes to body shape, particularly views of obesity in different cultures. The primary aims of this study were to compare British-born South Asian and Caucasian pre-adolescents *and* their views of their parents in their attitudes to obesity and importance of thinness. Secondary aims were to investigate the role of the family in terms of levels of conflict between girls and their parents and also the role of 'traditional' family background in Asian girls. 169 Asian and 147 Caucasian children from eleven primary schools in Northern England completed assessments investigating body shape stereotypes, body dissatisfaction, dieting and weight control behaviours, parental concern with thinness and levels of conflict in the family. The Asian children completed a short measure of cultural orientation. The study revealed that stereotyped negative attitudes to obesity were shared by all children and their perception of parental attitudes regardless of ethnicity or gender. However, the perception of the 'importance of thinness' to parents was significantly higher in Asian children than Caucasian children. Furthermore, despite the finding that no significant difference was found between the mean body weights of the Asian and Caucasian girls, Asian girls reported significantly higher priority and drive for thinness than Caucasian girls. Unexpectedly, similar results emerged for the Asian boys. No support was found for the 'culture-clash' hypothesis (conflict between traditional and western values) in Asian girls, as family conflict was positively associated with higher priority for thinness in Caucasian girls but not Asian girls. Furthermore only a weak association was found between traditional family background in Asian girls and priority for thinness. The results are discussed in terms of parental place of birth, religious and cultural factors, age of participants and the role of the Asian media. It is suggested that 'culture-clash' in Asian families is an over-simplistic formulation. It may be that it is the lack of tolerance of conflict in Asian families that contributes to the higher levels of attitudes and behaviours associated with a priority for thinness in British Asian girls.

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INTRODUCTION

Research evidence has shown that body shape, weight and eating concerns are at the heart of the psychopathology of eating disorders. Western society is fuelled by a media that promotes the value of the thin ideal through magazines, videos, television and the music industry. However often overlooked is the way that obesity's negative representation serves to further idealise a thin body. The role of ethnicity is a very under researched area in respect of attitudes to body shape, particularly views of obesity in different cultures. This literature review begins with a brief overview of the prevalence rates of overweight and obesity amongst ethnic minority groups in the UK. This is followed by a review of the literature on attitudes to obesity in children and an examination of the literature investigating these views in different ethnic groups with a particular focus on British South Asians¹.

This review will go on to describe the literature looking at the role of ethnicity on the importance of being thin, body image concerns and eating disorders. This will be discussed with a focus on British Asians and British Asian children. The review concludes with a discussion of the research investigating how children may develop shape and weight concerns, with a particular focus on ethnic identity and the role of the family. Parental attitudes to body shape and weight will be examined both in terms of the idealisation of thinness and the stigmatisation of fatness. Family dynamics concentrating on the role of conflict between children and parents will then be explored with a focus on the role of 'cultural-clash' in families of British Asian children. .

Prevalence of overweight and obesity in the United Kingdom

Since the 1980s, the prevalence of obesity has nearly trebled in the UK and is continuing to increase (Bourn, 2001). Obesity is an excess of body fat and has been described as the result of chronic excess energy intake relative to energy expenditure

¹ In this study the term 'British Asian' and 'South Asian' refers to individuals who have immigrated or whose families have immigrated to Britain from the Indian subcontinent (e.g. Pakistan, India, Sri Lanka and Bangladesh).

(McCardle, Katch & Katch, 1996). The prevalence of obesity² amongst children is also increasing and now almost one in three children is obese (Latner & Stunkard, 2003). Obesity in children is associated with physical health problems such as type I and type II diabetes, cardiovascular complications, respiratory difficulties and gastrointestinal problems (Sabin, Crown & Sheild, 2003).

In the UK, the obesity epidemic has disproportionately affected those from non-white ethnic groups, particularly migrant groups of African-Caribbean and South Asian women (Cruickshank et al, 1985; 1989). Cross-sectional surveys in London, have also found that obesity levels in middle-aged men of the same origins are too high (McKeigue et al, 1991). However, it appears that little research has been carried out to investigate the prevalence of obesity or underweight amongst British-born adolescents from ethnic minority groups. Research carried out to date appears to produce conflicting findings. Saxena, Ambler, Cole and Majid (2004) conducted a cross sectional survey of ethnic differences in overweight and obese children in England. The authors carried out a secondary analysis of 5689 children and young people aged 2-20 years from the 1999 Health Survey for England. The study found that Afro-Caribbean and Pakistani girls were more likely to be obese than girls in the general population. Indian and Pakistani boys were also more likely to be overweight. No significant differences in obesity and overweight were found between children from different social classes.

Taylor, Viner, Booy, Head, Tate, Brentnall, Haines, Bhui, Hillier and Stansfeld (2005) conducted a school-based survey of 2,482 adolescents aged 11-14 years. High levels of overweight were seen in all ethnic groups. It was found that Indian males were at higher risk of being overweight than British white males. White British males and Bangladeshi males had a similar prevalence of obesity and overweight. In contrast to Saxena et al (2004) it was found that South Asian groups particularly males, had the highest prevalence of underweight compared with other groups.

Some research studies that have investigated body shape and weight concerns in South Asian populations have found that the South Asian participants weighed

² There is no universally agreed definition of childhood obesity; however usual indicators are based on percentiles of UK reference curves: 85th centile for overweight and 95th centile for obesity.

significantly less than the Caucasian participants. For example, in a meta-analysis of body dissatisfaction in white and non-white populations, it was found that women of South Asian origin weighed significantly less than their white counterparts (Wildes & Emery, 2001). Also, in a study of body shape perception and dieting in pre-adolescent girls it was found that the South Asian girls had significantly lower body weight than the Caucasian girls (Hill & Bhatti, 1995). However, generalisations cannot be made from these latter studies due to potential sampling biases, as people who are significantly overweight may choose not to take part in such research. Although it is difficult to conclude from the limited research carried out, it appears that there is a high prevalence of obesity in first generation migrants of South Asian origin, however the prevalence of obesity and overweight in children and adolescents from South Asian origin is less clear.

Attitudes to obesity

Research evidence has consistently shown that western society is one that values thinness and holds a negative attitude towards overweight individuals. Obesity is a highly stigmatised condition with severe pressures of prejudice and discrimination. Although now almost one in three children is obese, the stigmatization of obese children has also increased dramatically (Latner & Stunkard, 2003). Overweight children are often victimised in school settings and have been shown to exhibit low self-esteem (Davison & Birch, 2002).

Attitudes to obesity and overweight have been extensively researched in children and adolescents. Negative attitudes to overweight individuals have been found in children as young as three (Cramer & Steinwert, 1998). There is evidence that children learn from family, teachers, friends and the media that 'thin is good' and 'fat is bad' and this lesson is learnt even before adolescence (Flannery-Schroeder & Chrisler, 1996).

A landmark study was carried out by Richardson, Harstorf, Goodman and Dornbusch (1961) in which 10 and 11 year old children rank-ordered six line drawings depicting the same child as normal and with five physical disabilities, one of which was being

overweight. By asking which child he or she liked best, the majority of children placed the overweight child at the bottom. In a replication of Richardson et al's study some 40 years later, Latner & Stunkard (2003) found that again the obese child was liked the least but was now placed bottom by even more children than in 1961. Staffieri (1967) asked 6-10 year old children to assign 39 adjectives to three silhouettes depicting a thin, muscular and fat body shape. Negative attributes were more likely to be given to the obese shape. The overweight stereotype is that of being lazy, lower intelligence and socially isolated (DeJong & Kleck, 1986).

Hill & Silver (1995) investigated 9-year old children's attributions of social functioning and health of thin and overweight body shapes. 188 participants were asked to look at four silhouette figures depicting a thin and heavy boy and girl and asked to give a series of ratings on a number of attributes. It was found that the silhouettes were dominated by the size of the figure being judged. The obese figures were rated as less liked by their parents, doing less well at school, having fewer friends and less content with appearance. Furthermore the obese figures were also rated as extremely unhealthy, unfit and unlikely to eat healthily. The ratings did not differ according to the participant's own weight status. This study confirms children's negative perception of overweight and the assimilation of societal values concerned with thinness and obesity. The study also supports the idea that the stereotyping process appears to be uninfluenced by an individual's own personal attributes.

Recent evidence has demonstrated that very young children have developed anti-fat attitudes. Musher-Eizenman, Holub, Edwards-Leeper, Persson & Goldstein (2003) investigated perceptions of ideal, aversive and acceptable body shapes in pre-school children and their mothers. Using a figure rating scale 80% of the 4-6 year olds named the two heaviest figures as the figure they would not like to look like. Therefore only 20% of children felt that it would be "ok" for children to look like the heaviest figure. Negative attitudes to obesity at such an early age may have consequences for future self-perceptions and behaviour.

Cramer & Steinwert (1998) also demonstrated negative attitudes towards overweight in children aged 3 to 5 years. A storyline procedure was used in which one child was

“mean” and the other “nice”. It was found that the children were more likely to choose a drawing of a fat figure as mean than an average or thin figure. The authors found that body stigmatizing was clearly present in the three year olds. Although the study showed that very young children had developed negative attitudes towards overweight, the degree to which this is internalised, understood and acted upon is more uncertain.

In summary, it can be concluded that negative attitudes to overweight individuals are prevalent in Caucasian children as young as three. This discrimination and stigma can have consequences for the health and psychological well-being of overweight individuals.

Ethnicity and attitudes to obesity

In rich economically developed countries, not being fat is considered attractive. On the other hand early cross cultural research has shown that people from cultures where poverty is relatively common, fatness is envied as a status symbol of power, happiness and wealth. There has been relatively limited research carried out investigating cultural views on body shape and weight. Some years ago it was noted that in Arabic culture, fatness was seen as desirable and a symbol of female fertility (Hamadi, 1960). And in many non-western cultures near clinical obesity may be seen as a mark of beauty (Furnham & Alibhai, 1983, Nasser, 1988). Other research also demonstrated that a period of exposure to western society increased the probability of being obese and that the change in culture also changed attitudes towards body shape and weight (Goldblatt, Moore, & Stinkard, 1965). However, although no documentary or research evidence has been accumulated, it has been suggested that there has been a changing dimension of the ideal female body towards thinness in South Asian countries driven by the Asian media. It appears that ‘Bollywood’ (Indian) film actresses are much slimmer than the more voluptuous figures that appeared in such roles up to the early 1980s (Hill & Bhatti, 1995). Therefore modern South Asian culture may also value thinness as the ideal.

Ethnically diverse groups living in western cultures are unique, as their attitudes may be a reflection of their ethnic culture, the majority culture or a combination of the two. Little is known about the weight control behaviours or attitudes to overweight in children and adolescents from minority ethnic groups living in the UK. The UK Health Development Agency (Mulvihill & Quiqley, 2003) has drawn attention to the 'complete lack of evidence regarding the effectiveness of obesity-related interventions targeting specific ethnic or vulnerable groups'. Such research is important so that future obesity related interventions can be informed and health promotion services developed for ethnic minority groups. The majority of the research that has been carried out has compared the attitudes of black (African American) and white individuals.

Obesity is most common in the United States amongst ethnic minority groups (black and Hispanic). Researchers have suggested that these ethnic groups are more accepting of overweight figures. Rucker and Cash (1992) found that black college women had body size ideals that were less thin and more congruent with their current perceived size than white women. Kemper, Sargent, Drane, Valois & Hussey (1994) also reported that black adolescent girls were more likely to be satisfied with their body size than white girls.

Viner, Haines, Taylor, Head, Booy and Stansfeld (2006) investigated weight perception, dieting, and emotional well being in a sample of adolescents (with a range of BMI's) from multi-ethnic backgrounds in the UK. It was found that dieting to lose weight was common across boys and girls and across all ethnic groups. Current dieting was more common among overweight young people in all ethnic groups. However, lifetime history of dieting showed differences between ethnic groups. Bangladeshi, Indian and mixed ethnicity boys were more likely to have ever dieted than white British boys. Pakistani girls were less likely to have ever dieted than white British girls. High psychological distress was found in all ethnic groups apart from black African adolescents. Furthermore the lowest prevalence of psychological distress was actually found in the overweight and obese Bangladeshi adolescents of both sexes. The authors suggested that this may reflect how shape and weight is culturally evaluated in Bangladeshi culture and that cultural valuation of shape and weight may differ between ethnic groups. The authors also found that birth outside

the UK was associated with reduced risk of obesity in girls, regardless of socioeconomic status. The findings suggested that the impact of obesity on weight control behaviours and psychological functioning are mediated by cultural factors and that there are cultural differences in attitudes towards overweight and obesity. The authors also suggested that interventions targeting obesity in black or minority ethnic groups must take into consideration these cultural and ethnic differences.

An interesting study by Tareen, Hodes and Rangel (2005) investigated the clinical features of British South Asian adolescents presenting to psychiatric clinics in London with low weight (in the absence of organic disease). Using a retrospective case note study design it was found that South Asian patients presented less frequently with “fat phobia” and weight preoccupation. This finding suggests that the characteristic fear of fatness in eating disorders was absent. The authors suggested that negative attitudes to body fat may be less common in Asian communities. This study is at odds with the study by Ratan, Gandhi & Palmer (1998) who found that Asian and white (adult) patients with eating disorders had similar symptom profiles. Tareen et al suggested that there may have been a sampling bias in the study by Ratan et al (1998), as their study only included patients who were regarded by referrers as having an eating disorder and so without fat phobia may be less likely to be referred. A limitation of Tareen et al’s study was the assignment of ethnicity. The sample consisted of a wide range of ethnic backgrounds (Indian, Pakistani and Bangladeshi) and religions and was based on the assumption that the sample was culturally homogenous which is not always the case.

An early study by Furnham & Alibhai (1983) looked at the ideal weights of adult Caucasian British, Kenyan British and Asian British individuals who had immigrated to Britain from Kenya. Using a figure rating task it was found that the Caucasians attributed more positive characteristics to the thin figures, whereas the non-Caucasians had more positive things to say about the heavy figures. In support of Tareen et al (2005) it was also suggested that negative attitudes to body fat might be less common in Asian communities. It is difficult to generalise from this study as the sample used in this study were firstly not born in the UK and secondly were from an entirely different generation to Asian children and their families residing in Britain today.

In summary, despite the fact that obesity and overweight have been found to be highly prevalent among non-white migrant groups (particularly African-Caribbean and South Asian women), little is known about the prevalence of obesity and overweight in children and adolescents from these ethnic groups, nor the attitudes to obesity and weight control behaviours in these groups. Although early research and some up to date research has demonstrated that there are some ethnic differences in the cultural valuation of shape and weight (Furnham & Alibhai, 1983; Taylor et al, 2005) evidence is very limited. Therefore it is hypothesised that these differences may disappear in younger children from ethnic minorities living in Britain today and that British Asian and Caucasian children will be similar in their negative attitudes to obesity.

Ethnicity, body image and eating disorders

Pre-morbid obesity has been reported to be more common in people who later go on to develop eating disorders (Cooper, 1995). Being overweight commonly leads to dieting (Viner et al., 2006); however the link with eating disorders is extremely complex. As discussed in the previous section, obesity can have severe psychological consequences and one of the key areas of psychological well-being that can be affected is body image. This is important as body image disturbance and body shape dissatisfaction have been found to be one of the key predictors of abnormal eating attitudes and eating disorders (Patton et al., 1990; Stice, 2001).

It is a commonly held belief that eating disorders arise with greatest frequency in western, Caucasian female populations. These beliefs are reflected in body image and eating disorder research as the majority looks at white, female, middle-class populations living in western societies. Therefore very little is known about their true prevalence in male, non-white and non-western populations. Recent years have seen an increase in research investigating the relationship between ethnic and cultural factors in the psychopathology of eating disorders. However the role of non-white ethnic group membership remains unclear. Early research suggested that non-Caucasian ethnic groups showed less body image and eating disturbance than

Caucasians whereas recent studies have suggested that non-Caucasians have as much or more body image and eating disturbance as Caucasians.

One of the reasons why there is lack of agreement among researchers investigating the relationship between ethnic and cultural factors and eating disorders may be the confusion over appropriate terminology. Researchers have used the terms race, culture and ethnicity interchangeably assuming that the terms have more or less the same meaning. For the purposes of this study the term 'ethnicity' has been used as this term allows us to distinguish between groups of people by their ancestry, language, customs, culture or nationality (Atkinson et al., 1998).

It is evident that exploring cultural factors in relation to eating disorders is important. The two general types of cross-cultural comparisons are: Caucasians compared with non-Caucasians living in western countries and Caucasians compared with native inhabitants of non-western countries. The claim that eating disorders are a 'culture-bound syndrome' i.e. only exist in western cultures, has been challenged by several studies showing eating pathology in young women in several non-western countries such as Japan, Egypt and India (Pate, Pumariega, Hester & Garner, 1992; Nasser, 1997; Shroff & Thompson, 2003). Furthermore research in non-western countries extends to children of school age. In a survey of English-medium schools in Lahore, Pakistan it was found that cases of bulimia nervosa did exist in an upper social class sample of schoolgirls (Mumford, Whitehouse & Choudry, 1992).

The development of eating disorders in non-western cultures has been attributed to international globalisation and the increase of western media around the world spreading its standard of thinness and beauty. 'Acculturation' is defined as the process whereby minority groups integrate beliefs and behaviours of the majority (Western) culture into their own cultural views and practices. A test of this hypothesis requires comparing individuals of similar ethnic background with varying degrees of exposure to westernisation. Abdollahi and Mann (2001) compared rates of eating disorder symptoms between Iranian women in Iran and Iranian women living in America. Women in Iran cover their bodies by law and have little exposure to western media. It was found that participants in Iran reported as much disordered eating as participants who had emigrated to America. It appears that eating

disturbance and body image concern is not simply to do with exposure to western culture. An alternative hypothesis that is rarely considered is that non-western cultures also share an ideology that values thinness.

Despite over 15 years of research, researchers still disagree about the importance of ethnic membership in the development of eating disorders. Wildes & Emery (2001) carried out a meta-analysis of 35 studies of eating disturbance and body dissatisfaction in white and non-white populations (mainly carried out in the USA, Canada and the UK). Participants were coded as white or Caucasian, black or African, Asian or other ethnic groups. Analysis of the mean effect sizes indicated that whites reported more eating disturbances than non-whites. This difference was largest when the studies compared black and white samples. However, the opposite effect was found for Asian women. Asian samples reported more eating disturbance and body dissatisfaction than white samples in the majority of studies. It was found that Asians, who weigh significantly less than their white counterparts, have higher rates of body dissatisfaction, greater dietary restraint, more weight and dieting concerns and more eating disorder pathology. These findings suggest that both Asian and Caucasian women are a high-risk group for eating disorders. A criticism of this finding is that women of eight different ethnic backgrounds were included in the 'Asian' group therefore the analysis fails to distinguish between women of different Asian backgrounds (e.g. assumes that Indian and Chinese women will respond in the same way).

A more recent meta-analysis of 98 studies investigating body dissatisfaction among women in the United States was conducted by Grabe & Hyde (2006). Only a small difference in body dissatisfaction was found between Black and White samples. Further analyses were based on comparisons between White and Asian American women and White and Hispanic women, Black and Asian women and Black and Hispanic women. The differences in body dissatisfaction were even smaller with main effect sizes close to zero. The results directly challenged the belief that there are large differences in levels of body dissatisfaction between white and non-white women as it depends on which ethnic group White women are compared with. It appears that White women differ from Black women but not Asian American and Hispanic women in levels of body dissatisfaction. It should be noted that in the USA

‘Asian American’ women usually refers to women from the East Asian subcontinent (e.g. Japan, China, and Hawaii). It was unclear from this study whether the Asian sample consisted only of East Asian women or also included South Asian women.

Reddy & Crowther (2007) carried out only the second study of the sociocultural correlates of body image and eating attitudes of South Asian women in the United States. Using an online questionnaire method, results indicated that teasing and ‘cultural conflict’ (rather than acculturation) were significantly associated with body dissatisfaction and disturbed eating attitudes. This was specifically related to their roles as women with both Eastern and Western ties. Conflict between both cultures may lead some women to reject their ethnic identity and they may become exposed to a greater risk of psychological problems in general. In contrast to previous research, the authors found that the ‘thin-ideal’ internalisation was not significantly related to body dissatisfaction or maladaptive eating attitudes. This suggested that endorsement of the thin-ideal is not a salient risk factor among South Asian women.

In summary, eating disorders were previously described as a ‘culture-bound syndrome’ with its roots in Western cultural values. However eating disorders have been found to more prevalent among non-western ethnic groups than previously recognised. It appears that the role of non-white ethnic group membership for people living in western cultures remains very unclear. Ethnicity can serve as a protective factor in some ethnic groups but can increase the risk of eating disorders in other groups.

Attitudes to body shape and weight in British Asians

In an early study by Dolan, Lacey and Evans (1990), more disordered eating was found in Asian women than Caucasian or Afro-Caribbean women living in London. Although there are fewer studies suggesting there are no differences between ethnic groups, this may reflect the tendency to publish findings showing significant differences. Button, Reveley and Palmer (1996) carried out an ethnic comparison of eating attitudes in young British women. The authors were particularly interested in

the Asian population and sent out questionnaires to examine eating attitudes in the city of Leicester. It was found that although the Asian women were significantly shorter and lighter than Caucasian and Black women, there was little difference in eating attitudes and behaviour. In contrast to previous studies mentioned in this review, Asian women did not have more disordered eating than other ethnic groups. It is interesting to note that the majority of Asians in this sample were from India and forty-three percent were Sikh. It is important that one does not generalise across Asian populations, as differences in findings may be a reflection of religious background.

Although there appears to be evidence that Asian women are a high-risk group for developing eating disorders, this is not reflected in service use. Ratan, Gandhi and Palmer (1998) looked at the characteristics of British Asian women presenting to the Leicestershire Eating Disorder Service. Despite the city having a high proportion of people with a background in the Indian subcontinent it was found that only twenty-one Asians with an eating disorder were seen in 10 years. The rate of presentation of Asian people was about one fourth of that of white people. It is possible that Asian women with eating disorders are referred less often due to a lower prevalence in this population. However, it is also possible that there are obstacles to referral pathways that make it less likely that Asians are referred to specialist services. It may also be the case that people of Asian background are less likely to want and are less likely to seek out help from specialist services. It should be noted that the literature on eating disorder prevalence and presentation among Asian people in Britain is limited.

In summary, from the small amount of research that has been carried out, it appears that British Asian women display the same amount (if not more) disordered eating as British white women. However this is not reflected in presentation to eating disorder services.

Attitudes to body shape and weight in British Asian children

Adolescence has traditionally been seen as the most threatening peak for concerns about body shape and weight. However evidence is increasing that children as young

as seven already advocate the views and values about the importance of thinness. In a study of children aged 7-10 years, it was found that 45% of girls and 38% of boys thought that it was important for women to be thin (Shapiro, Newcomb and Leob, 1997). Since such an importance is placed on being thin, it is not surprising that many pre-adolescent children report body dissatisfaction, weight concern and engage in weight loss behaviours (Hill & Bhatti, 1995). Gender differences for body image concerns have also been found for children as young as 8 years of age. It has been found that girls generally desire a thinner body shape and report greater body image concerns than boys (Lawrence & Thelen, 1995, Mendelson, White & Mendelson, 1996). Although less research has been carried out with boys it has been found that adolescent boys can also engage in harmful body change strategies such as bodybuilding and excessive exercise. It has been estimated that about one third of boys desire a thinner body whilst another third desire a more muscular body (McCabe & Ricciardelli, 2001).

Limited research has been carried out investigating attitudes to body shape and weight in children of different ethnic backgrounds living in Britain, particularly males. One of the first studies focusing on South Asian children was carried out by Mumford, Whitehouse & Platts (1991). In a comparison of 559 Asian and Caucasian schoolgirls in Bradford, it was found that 3.4% of Asian girls and 0.6% of Caucasian girls met the diagnostic criteria of Bulimia nervosa. It appeared that Muslim girls of Pakistani origin had greater concerns about food intake and weight than the Caucasian girls and were at increased risk of eating disorders. This study generated much interest and prompted a number of studies investigating eating disorder symptoms in British South Asian girls.

Hill & Bhatti (1995) found that both Asian and Caucasian pre-teenage girls displayed a high priority for thinness despite the fact that the Asian girls weighed significantly less than the Caucasian girls. Both groups of high restraint girls expressed more body shape dissatisfaction and lower body esteem. It was suggested that there might be greater emphasis to conform to dominant social norms that emphasise thinness in Asian groups compared to other ethnic groups. The changing dimension of the ideal female body towards thinness in the Asian media was suggested to account for the findings.

In a pilot study by Furnham & Patel (1994) the eating attitudes and behaviours of 12-16 year old British Asian and Caucasian schoolgirls were examined. In contrast to previous research findings, no significant difference was found between the mean scores on the Eating Attitudes Test (EAT) in Asian and Caucasian girls (an indication of unhealthy eating attitudes and behaviours). A correlation was found between the EAT scores and 'resentment' in the Asian girls. The higher the EAT score, the more the girls resented not being able to pick their own husband, not being allowed out, being different etc. It was also found that the more self-conscious and less integrated the girls were into western society, the higher the pathological eating score. This study directly challenges the idea that it is exposure to western society that leads to increased shape and weight concerns. Further discussion of the role of South Asian culture and role of the family will be presented later in this review.

A study by Thomas, James and Bachmann (2000) examined the effects of ethnicity, gender, mood and social class on eating attitudes in adolescents aged 11-16 years. It was found that Asian girls were more than twice as likely to have higher scores of disturbed eating on the Eating Attitudes Test (EAT) than Caucasian or African Caribbean subjects. These scores were highest for the Asian girls who were Muslim. When cultural and socio-economic factors were accounted for, gender was not found to be an important influence. It has been argued that EAT questions can be interpreted differently in different cultures. However the authors found a correlation between the EAT score and body mass index (BMI) which supports the validity of the EAT score.

Ahmed, Waller & Verduyn (1994) took the exploration of ethnic differences a step further, by investigating the effect of religious affiliation on bulimic symptoms. It was found that the Muslim girls and boys had the most maladaptive eating attitudes in a sample of Muslim, Hindu and Caucasian adolescents. It was suggested that eating disturbance may be partly associated with the Islamic religion, due to increased over protectiveness in Muslim parents. Other researchers have suggested that some dietary practices observed in Islam, for example fasting during the month of Ramadan, may present as a risk factor for eating pathology (Bhadrinath, 1990).

In order to investigate any differences between British-born children from different areas in the Indian Subcontinent, Furnham & Adam-Saib (2001) investigated eating attitudes and behaviours in Indian, Pakistani, Bengali and White schoolgirls. The study found that the British Asian sample had higher EAT scores than their white counterparts. The authors hypothesised that the Bengali and Pakistani sample would have higher EAT scores than the Indian sample due to previous research findings demonstrating that both these populations are more disadvantaged in terms of level of education and occupation. It was found that this was true for the Bengali sample only and no social class differences were found between the four groups. In conflict with the evidence provided by Ahmad et al (1994) although both the Bengali and Pakistani sample were 100% Muslim the Pakistani sample did not show higher abnormal eating attitudes than the Indian sample (the majority who were affiliated with the Hindu religion). Therefore attributing eating disturbance to membership of a particular religion may not be justified. It should be noted that research investigating the relationship between eating disorders and religious beliefs is very limited.

Duncan, Al-Nakeeb and Nevill (2004) examined body esteem and body fat in British school children from different ethnic groups using the body esteem scale for children (Mendelson & White, 1982). No significant differences in body fat were evident according to ethnicity. Despite Asian children having similar levels of body fatness to the white and black children, they had significantly lower levels of body esteem (positive image of one's own body) in comparison to Black children. With regards to gender differences it was found that boys were significantly leaner and had higher body esteem than girls. It was suggested that individuals from different ethnic groups may have different points of reference with regards to body image. A limitation of this study is that the sample sizes of the Black and Asian children were substantially smaller than the white sample. Therefore differing results may be found in more evenly distributed groups.

In summary, it can be concluded that British Asian pre-adolescents and adolescents show at least similar or higher levels of body shape and weight concerns as Caucasian children. The majority of studies have also demonstrated that British Asian samples show higher rates of other eating disorder symptoms (using the EAT) when compared to Caucasian samples. Therefore it is hypothesised that British Asian pre-adolescent

children will demonstrate higher levels of shape and weight concerns and priority for thinness than Caucasian pre-adolescent children. Research in this area is still limited and there is a lack of consistency in differences. There is a need for future investigations to clarify whether there are differences in specific symptom areas.

The development of shape and weight concerns

Many studies have sought to identify the driving forces behind children's idealisation of thinness and the stigmatisation of fatness. Firstly this section will explore the role of ethnic identity in British Asian children. Secondly the role of the family will be explored as along with the role of peers and the media, the role of parents has been identified as one of the main socialisation agents for children (Hill, 2007).

Ethnic identity in British Asian children

An important challenge for young South Asians living in Britain is the issue of identity formation. Ethnic or cultural identity refers to a set of complex attitudes and beliefs that an individual has about themselves in relation to their ethnic group membership (Berry, 2001). It has been suggested by Berry (2001) that dimensions of identity have similarities to the process of 'acculturation' which involves using one of four strategies. When individuals do not want to maintain their cultural heritage identity and seek interaction with the dominant culture, this is defined as the 'assimilation' strategy. On the other hand when individuals hold onto their heritage culture identity and avoid interaction with the dominant culture, the 'separation' strategy is defined. The 'integration' strategy involves an assertion of both identities. Here some degree of cultural integrity and identity is maintained whilst at the same time participating and identifying with the larger society. Finally, when an individual cannot identify with either group (due to cultural loss or discrimination) then the 'marginalization' strategy is defined. This model however, has been criticised as although it is useful for explaining identity formation in adults it has less application

in young people who are in the process of forming their opinions and are largely dependent on family and peers.

Phinney (1989) put forward a model of ethnic identity formation for minority group adolescents. The model consists of four stages consisting of 'identity diffusion', where there is a lack of interest in ethnicity, 'foreclosure' where ethnicity is based upon the unexamined views of parents or peers, 'moratorium' where there are attempts to explore the meanings of one's ethnicity and finally the 'achievement' stage where there is a clear sense of one's own ethnicity. However, it has been suggested that ethnic identity is not singular and fixed but may consist of multiple identities that are affiliated with both their ethnic group and the majority group (Hutnik, 1991). There are also increased challenges for British South Asian children in developing an ethnic identity due to dual socialisation and racial prejudice in society. South Asian girls may be further disadvantaged by gender inequality in families and parental restrictions.

Timimi & Adams (1996) put forward the notion of 'colonizer/colonized' dynamics within British society which impacts upon British Asian communities, families and individuals. At one end families may internalise the white/superior/colonizer and black/inferior/colonized relationship leading to a type of self-racism. At the other end, families may react to this dynamic by applying rigid boundaries in order to prevent infiltration by western culture and preserve an intact identity. In such families moral values and traditional beliefs may be applied more strictly, putting pressure on children particularly girls to be 'morally pure'. Finally, both ends of the pole may exist within the family, particularly between generations. For example, first generation Asians may deny the reality of racism and push their children into being successful 'whites'. If the children then do experience racism they may develop ideas about the impossibility of belonging to Britain as a British person and develop an identity that opposes their parent's wishes.

It is suggested by Timimi & Adams (1996) that the struggle in forming an ethnic identity in British South Asian girls is useful when thinking about the development of eating disorders. If families project immoral and unacceptable behaviour onto western culture, the adolescent female may become the bearer of moral purity.

However if the daughter does not share this belief, conflict in her identity may occur. Gaining an identity within a peer group may also cause similar problems. In order to identify with the white/superior culture, girls may feel the need to reject their family's culture as inferior and oppressive. When such beliefs cannot be maintained, this may also result in conflict.

In day-to day situations the identity of an Asian girl may oscillate according to where she is. When at home in order to avoid conflict she may become Asian, pure, moral and compliant. Alternatively with her peers she may become British, liberated and rebellious. The girl is now oscillating between two contradictory identities which are accepted and rejected in turn. It is suggested that food may become a symbolic target of such conflicts in identity. One solution is to strongly identify with one identity over the other. For example, identification with the 'good Muslim' self may take the extreme form of self-starvation as a culturally appropriate way of purifying oneself to become closer to God and subsequently may lead to maladaptive eating attitudes and behaviours (Timimi & Adams 1996).

The development of an ethnic identity in British Asian children, particularly girls can be a conflicting and confusing process. This in turn may lead to anxiety, low self-esteem and potentially the development of disturbed eating attitudes (Timimi & Adams, 1996).

The role of the family

Parental attitudes towards body shape and weight

One viewpoint on family influence is the importance given by parents on issues concerning weight, body shape and eating behaviour. Parents can make direct contributions to children's eating problems by creating an environment that emphasises thinness and has a negative view of being overweight.

Musher-Eizenman, Holub, Edwards-Leeper, Persson and Goldstein (2003) investigated perceptions of ideal, aversive and acceptable body shapes in mothers of

pre-school children. Results showed that 75% of the mothers named the heaviest figure as the figure they would least like their child to look like. This finding may reflect mother's health concerns for their child however when forced to choose, it appears that mothers would prefer their child to be significantly underweight rather than obese. Mothers also rated fewer bodies as acceptable for their children than the children did themselves. On the other hand, none of the mothers were dissatisfied with their child's current body size and none expressed a desire for their child to be thinner. A limitation of this research is that mothers may have provided what they believed to be socially acceptable answers; therefore mothers may have felt that it is unacceptable to express a desire for their child to be thinner.

Parents may contribute to the development of 'fat stereotypes' in children as a result of their own stereotypes about fatness. Davison & Birch (2004) assessed familial links in fat stereotypes and predictors of fat stereotypes between 9-year old girls and their parents using a longitudinal study. The 'Fat Stereotypes questionnaire' was developed for the study. Girls and their parents responded to nine statements about thin and fat people using a four-point scale. Characteristics assessed included intelligence, attractiveness, laziness and friendships and also the belief that it is good to be fat/thin and bad to be fat/thin. Amongst other information collected, the girl's perceptions of parental concern about weight were also assessed using a questionnaire developed for the study. Results indicated that both girls and parents endorsed fat stereotypes i.e. positive characteristics were attributed to thin people and negative characteristics to overweight people. No relationship was found between girls' and their parents' stereotypes. However girls whose parents encouraged them to lose weight were more likely to endorse fat stereotypes. This suggests that girls may adopt negative attitudes towards obesity as a result of interactions with parents. Most importantly, characteristics that have been previously linked with endorsement of the thin ideal were associated with stronger fat stereotypes in girls and parents in this study.

As well as creating an environment that has a negative view of being overweight, parents may also contribute to the development of shape and weight concerns in children by creating an environment that emphasises thinness. Endorsement of the thin-ideal may be passed on to and adopted by children by parent's over concern with weight, dieting or excessive exercise. Clinical case reports also suggest that parents

may influence their children's eating behaviour through the process of modelling particular attitudes and behaviours surrounding weight and eating.

Pike & Rodin (1991) compared 77 mothers of adolescent daughters with disordered eating to mothers whose daughters were not eating disordered. Mothers whose daughters scored highly on eating disorder symptomatology, themselves scored significantly higher than mothers in the comparison group on three sub-scales of the Eating Disorder Inventory. These mothers were also less satisfied with the general functioning of the family system, reported dieting at a younger age and thought that their daughters should lose more weight than the comparison group. In addition to wanting their daughters to be thinner, these mothers also rated their daughters as significantly less attractive than the daughters rated themselves. This study provides evidence consistent with the idea that the mother-daughter relationship may contribute significantly and pose a significant risk in the development of eating disorders. However care should be taken when generalising to eating disorders, as longitudinal research is needed to test causal pathways.

Alternatively, research aimed at younger children can provide greater insight into causal pathways and create greater understanding of the development of eating disordered attitudes and behaviours. One such study was carried out by Hill & Franklin (1998). The study examined maternal influences on weight and dieting concerns in 11-year old girls with abnormal eating attitudes but not yet clinical cases. The girls were divided into two groups based on their dietary restraint score (selected from a cohort previously investigated by Hill et al., 1994). It was found that mothers of high restraint girls showed differences in their eating style (more between meal snacking and fasting). They also rated their daughter's attractiveness as significantly lower than the comparison group. The results were consistent with the view that mothers play a substantial role in the transmission of cultural values involving weight, shape and appearance.

Research on parental attitudes to body shape and weight concern rarely looks beyond maternal attitudes and behaviour. This may be due to the presumed central role of mothers in promoting the importance of thinness and also the gender-stereotyped nature of dieting. Hill & Pallin (1998) investigated eight-year-olds awareness of dieting. It was found that the perceived likelihood of their mother dieting in response

to feeling fat was a significant predictor of their own reported dieting. However the same correlation was not found with fathers. This appears to confirm that maternal dieting is more influential than paternal dieting. It may be that mothers are more likely role-models with regards to weight and shape than fathers may be. However it is important that mothers are not the only focus of attention in research looking at family attitudes as there is a risk of blame being placed solely on the mothers. Comments from male family members are commonly cited as reasons for trying to lose weight. Interestingly in the study by Hill & Franklin (1998) the high restraint girls were twice as likely to have brothers than the low restraint group.

Smolak, Levine & Schermer (1999) investigated the contributions of mother's and father's direct comments about their child's weight and modelling of weight concerns on the child's body esteem and weight related behaviour. The study looked at parents of elementary (Primary) school children. It was found that direct parental comments, were a more powerful influence than parental modelling of weight and shape concerns. Parental comments were moderately correlated with the children's weight loss attempts and body esteem. The study found that mothers had a greater effect on their child's attitudes and behaviours than fathers did. Girls appeared to be more affected than boys. A criticism of this study is that a correlational design was used however only a prospective design could establish parental comments as a risk factor for disordered eating attitudes and behaviour.

When looking at gender differences it appears that for young boys, the desire to be thinner is not related to perceived or actual encouragement to lose weight from either mother or father (Thelen & Cormier, 1995; Smolak et al., 1999). It has been suggested that parents are less likely to encourage boys to lose weight as this goes against the male societal ideal. Alternatively boys may perceive that their parents impact their body image concerns in encouraging them to gain weight and increase muscle tone (Ricciardelli & McCabe, 2001). A later study by Ricciardelli & McCabe (2003) found that parent and peer encouragement and negative affect were primary predictors of body dissatisfaction, body image importance and strategies to decrease weight in both girls and boys and also strategies to increase muscles in boys.

A limitation of all the above research is that all the children and families involved were Caucasian and the majority middle class. Very little research has been carried

out in other cultural groups to investigate the role that parents may play in the development of shape and weight concerns in children.

From the small amount of research that has been carried out the evidence appears to be mixed. Hodes, Jones and Davies (1996) investigated cross-cultural differences in maternal evaluation of children's body shapes. Mothers from five cultural groups rated drawings of children for attractiveness and health. Results showed that British white mothers found slimmer girls more attractive compared to mothers from South Asia, the Mediterranean, Caribbean and Africa. Furthermore the British Asian mothers expressed more positive attitudes about the need for children to gain weight rather than lose weight. No differences in weight or eating attitudes were found between mothers of the different ethnic groups therefore it was suggested that the results were due to cultural differences in attitudes to body shape. It is possible that negative attitudes to body fat may be less common in Asian parents, particularly in first generation parents who have held on to their societal norms from their native country which does not embrace the thin ideal. The study is supported by Tareen et al (2005) who also suggested that negative attitudes to body fat may be less common in Asian communities. A limitation of the study by Hodes et al. (1996) is that mothers were selected from those attending a paediatric clinic. This may have introduced a sampling bias, as mothers of healthy children may have different attitudes to mothers whose children have an illness.

It has been suggested that first generation South Asian parents are not under the same cultural pressure to conform to a thin body shape due to the values of their original culture (Hsu, 1987). Therefore Asian parents may impose their standards of a larger body shape ideal onto their children and encourage them to gain weight. On the other hand the British-born second generation may have adopted a much thinner body shape ideal as their cultural norm and therefore perceive their parents as pressuring them to gain weight (Furnham & Adam-Saib, 2001).

Ogden & Chanana (1998) investigated the impact of ethnicity on aspects of weight concern and attempted to assess the role of family values in explaining this association. The study compared 20 Asian and 20 white university students and their families. In order to explain the link between ethnicity and weight concern, the

authors examined the link between ethnicity and a range of beliefs and values which were considered to relate to aspects of weight concern and were developed following discussions with Asian women. The results showed that Asian family members placed more importance on achievement, competitiveness, child/parent relationship and the 'traditional' role for women than white families. Consistent with previous research the results also showed that restrained eating was related to the mother's rating of physical appearance and that body dissatisfaction was related to having a father who preferred a thinner female body. Although the families were matched in their ratings of the perfect female body, Asian fathers rated physical appearance as significantly more important than white fathers. The authors argued that the relationship between ethnicity and weight concern is not straight forward. Ethnicity does not predict weight concern. However if ethnicity is construed as a set of values and beliefs which are closely but not completely allied to ethnic groups then the complexities of weight concern can be better understood.

In summary, it can be concluded that parents (particularly mothers) play a substantial role in the transmission of cultural values involving weight, shape and appearance to their children. Parents may contribute to the development of eating problems in children by creating an environment that holds a negative view of being overweight and it has been found that parents and children can endorse similar negative stereotypes about being overweight. When looking at the importance of thinness, parental comments about weight appear to be a more powerful influence than parental modelling; and girls appear to more affected boys. Limited research has been carried out to examine parent's attitudes to body shape and weight in other ethnic groups. Early research has suggested that there are differences in maternal evaluation of children's body shapes and that negative attitudes to body fat may be less common in Asian communities. More recent evidence has shown that Asian and Caucasian families are more matched in their evaluation of body shapes. Therefore it is hypothesised that Asian and Caucasian parents living in Britain today will have similar attitudes to body shape and weight.

The role of family conflict

Family factors have long been hypothesised as contributing to eating disorders. There is a large literature base supporting the hypothesis that eating disorder symptoms can be developed and maintained by dysfunctional family interactions. Family systems theory supports this hypothesis as it suggests that childhood eating disorders can only be understood within the family context. It has generally been found that families of patients with anorexia nervosa are characterised by enmeshment, avoidance, rigidity, over protectiveness and lack of conflict resolution (Minuchin, Rosman & Baker, 1978). Families of bulimic patients have been described as enmeshed with high levels of conflict and low emphasis on expression (Johnson, 1985).

Blok (2002) carried out a qualitative study investigating (Caucasian) eating disordered women's descriptions of issues leading to conflict and strategies used to manage conflict in their families. Consistent with previous research, results of interviews revealed that the majority of women with anorexia reported very little conflict expressed in the family whilst growing up. The majority of women with bulimia reported more expressed and chaotic conflict in the family however with little resolution. Although subsequent research has produced conflicting findings, an overall picture has emerged that supports the view of 'unhealthy' interactions in eating disordered families (Hedlund, Fichter, Quadflieg & Brandl, 2003).

The role of family conflict has been important in trying to understand the role of ethnicity in attitudes to body shape and eating in the South Asian population living in Britain. There are two key early studies carried out on this population that have attempted to investigate this issue. Mumford et al (1991) compared Asian and Caucasian schoolgirls in Bradford. It was found that the Asian girls had greater concerns about food intake and weight than Caucasian girls. In an attempt to measure the 'western' and 'traditional' orientation of the Asian girls, they were asked four questions concerning language, dress and food at home. Higher scores of eating disturbance and body dissatisfaction were associated with more traditional orientation in the family and not with greater westernisation.

It was suggested by Mumford et al (1991) that these findings may be a result of the more 'traditional' girls experiencing the greatest internal conflict, growing up between two sets of cultural values. It is possible that the greater the difference between the two cultures, the greater the internal conflicts and anxieties. More traditional families may also be more rigid and apply stricter boundaries and rules upon their children, leading to increased conflictual relationships between generations in a family. It is likely that the second and third generation of Asian children have different and opposing views to their first generation Asian parents who now live in the UK but grew up in their native country. However, it is important to remember that it is conflict in attitudes rather than degree of traditional attitudes in families that is likely to be associated with psychiatric symptoms. For example, an Asian girl may come from a very traditional family however there may be no difference in attitudes or values between the child and her parents.

Bryant-Waugh and Lask (1991) examined four of the first reported cases of anorexia nervosa in Asian children living in Britain. They also suggested that children of immigrants from South Asian countries may be exposed to a different and conflicting set of sociocultural norms and ideals. It was clear that cultural and intra-familial conflicts were present in all four cases. For example in case 1, the father insisted that the children participate in the activities of the local Bangladeshi centre, whereas the children preferred to spend their free time with school friends and engage in activities not considered part of a traditional Asian upbringing. Issues of autonomy, control and sexuality may present particular difficulties in Asian children as they are faced with opposing norms and social rules (eastern and western) regarding such issues. These additional sources of stress may contribute to the development of eating disorders in Asian children.

Consistent with previous findings, Hill & Bhatti (1995) investigated body shape perception and dieting in pre-adolescent Asian girls. The study found that both Asian and Caucasian girls displayed a high priority for thinness despite the fact that the Asian girls had significantly lower body weight than the Caucasian girls. The majority of the Asian girls in this study were born in Britain and had English as their first language. Therefore the primary difference between the Asian and Caucasian girls

was their cultural orientation. An association was found between dieting and traditional orientation in the family and not western orientation.

In summary it has been suggested that eating disorders in young British Asians represent a 'culture-clash' which is amplified by more 'traditional' families as it leads to a more over-restrictive and over-protective attitude by parents. The culture-clash hypothesis may also add to the notion that conflict between two competing cultures may give rise to difficulties over control between parent and child, resulting in the parent exerting even more control (Furnham & Adam-Saib, 2001). In order to cope with this conflict over control, young Asian children and adolescents may turn to food restriction and controlling body weight, which may ultimately contribute to the development of an eating disorder (Timimi & Adams, 1996).

A study by Furnham & Hussain (1999) attempted to investigate the role of this conflict with parents in relation to disordered eating in an older sample of Asian girls aged 18-21 years. A parental conflict questionnaire was devised to measure the amount of conflict participants had with their parents over issues such as role of women, marriage and socialising etc. The authors found higher parental over-protection scores in the Asian sample compared to the White sample. As hypothesised all conflict scores were higher in the Asian girls. For both groups of girls 'the role of women' caused the most conflict with parents. The results showed correlations between EAT scores and conflict scores (over going out, choice of friends) but no correlations with parental overprotection scores in Asian females. The authors suggested that British Asian females may be made more vulnerable to eating disorders due to parental restrictions on aspects of social life. These restrictions were seen as personally important to the participants for their particular stage of life. A limitation of this study is that all participants were students at a university therefore the Asian females may have different experiences and cultural pressures than a less educated group.

A further study investigating whether conflict between parents and children is related to the development of eating disorders was carried out by Mujtaba & Furnham (2001). This cross-cultural study of late adolescent females compared British Caucasians, British Asians (Pakistani origin) and a matched group of Pakistani Asians in Pakistan.

All participants were recruited from universities. The study explored the relationship between parental conflict, parental over-protection and EAT scores. A 22-item conflict questionnaire adapted from Furnham & Hussain (1999) was constructed, centring on marriage, social life, gender roles and independence. As predicted it was found that the British Asians had higher EAT, parental protection and conflict scores than the other two groups. EAT scores were highly correlated with conflict scores. An unexpected finding was that British Pakistanis and the native Pakistanis differed very little on most of the measures. This may reflect cultural similarities in the pressures experienced by Asian females or may reflect how Pakistani culture may have also moved towards 'thinness' as the ideal.

In summary, family factors have long been hypothesised as contributing to eating disorders. High levels of conflict between children and parents have been present in families of children with eating disorders. Many studies have looked at the role of family conflict in trying to understand attitudes to body shape and the development of eating disorder symptoms in the South Asian population. In contrast to the 'acculturation hypothesis' it has been found that body dissatisfaction, dieting and eating disturbance is associated with more 'traditional orientation' of the family and not with greater westernisation. It has been suggested that eating disorders in young British Asians represent a 'culture-clash' syndrome which occur due to intra-familial factors that stem from control issues as young females attempt to accept the demands of two very different inconsistent cultures (Furnham & Hussain, 1999). This is amplified by more 'traditional' families as it leads to a more over-restrictive and over-protective attitudes by parents. In accordance with this research evidence it is predicted that conflict in attitudes in more traditional British Asian families will lead to increased concerns about shape and weight and higher priority for thinness in Asian girls.

The role of 'culture-clash' is difficult to formulate and the relationship to body shape dissatisfaction and eating disturbance is not straightforward. There is a risk of taking an ethnocentric view and construing the difficulties of Asian children as 'cultural' and therefore having a different aetiology of eating disorders to their white counterparts. An alternative viewpoint may be that along with western culture, Asian culture also promotes thinness as the ideal.

Rationale for the current study

This literature review has covered a number of different areas in attitudes to body shape. There is an overwhelming lack of research looking at the role of ethnicity and cultural factors in all areas. Attitudes to the thin ideal have received much attention from researchers. However, often overlooked is the way that obesity's negative representation further serves to idealise a thin body. Negative attitudes to obesity and overweight have been found in Caucasian children as young as three, but to date no study has been carried out looking at attitudes to obesity and overweight in South Asian children. This study aimed to investigate whether British-born Asian and Caucasian children are similar in their stereotypical views of fatness.

This study will focus on attitudes to body shape in pre-adolescents rather than adolescents. This is because research has suggested that boys and girls become critical of their bodies before adolescence. Many pre-adolescent children report body dissatisfaction, weight concern and engage in weight loss behaviours (Hill & Bhatti, 1995). However, very few studies have been carried out looking at the role of ethnicity in this age group. Identifying attitudes to body shape in pre-adolescents may also identify risk factors such as body image concerns which have been shown to be predictive of eating disorders. Such research is important in order to inform prevention and early intervention programmes for eating disorders.

Gender differences for body image concerns have also been found in pre-adolescent children. It has been found that girls generally desire a thinner body shape and report greater body image concerns than boys (Lawrence & Thelen, 1995, Mendelson, White & Mendelson, 1996). There is subsequently a much higher prevalence of eating disorders in girls, although concerns about eating problems in boys are increasing. A slightly different study would need to be designed in order to fully investigate attitudes to body shape in boys, as the extent and direction of body dissatisfaction may be different, for example some boys may want to be broader and more muscular (McCabe & Ricciardelli, 2001). Therefore the focus of this study will be on pre-adolescent girls, using data from boys as a comparison group.

Ethnicity is a complex construct and the role of ethnicity in relation to body image disturbance, body dissatisfaction and eating disorders remains unclear. The literature that is available has challenged the view that eating disorders only exist in western cultures. Research looking at ethnic groups living in the UK has found similar levels of shape and weight concerns among South Asian and Caucasian women and children. In fact, the majority of studies have demonstrated that South Asian girls display higher levels of disturbed eating than Caucasian girls (Duncan et al., 2004; Mumford et al., 1991). However due to inconsistent findings there is a need for further research in this area.

The role of parents has been identified as one of the main socialisation agents for children in the development of shape and weight concerns both in terms of the idealisation of thinness and the stigmatisation of fatness (Hill, 2007). Research on family influence suggests that parent's over concern with weight, body shape and dieting may be passed on to children through the process of modelling or via direct parental comments. The role of conflict between children and parents has also been important in trying to understand attitudes to body shape in South Asian populations. It has been found that dieting concerns and eating disturbance are associated with more a 'traditional orientation' of the family and not with greater westernisation (Hill & Bhatti, 1995). The interpretation has been one of 'culture-clash' as young females attempt to accept the demands of two very different cultures (Furnham & Hussain, 1999). This is amplified by more 'traditional' families as it leads to more over-restrictive and over-protective attitudes by parents. The current study aims to test both of these hypotheses regarding the role of the family looking firstly at the importance of body shape and weight to South Asian parents and secondly the role of conflict in attitudes between children and parents regarding traditional and western values.

Aims and hypotheses

The primary aims of the current research are to compare British-born Asian and Caucasian pre-adolescent girls and boys *and* their views of their parents in their attitudes to obesity and to thinness.

Secondary aims of this study are as follows: the Asian and Caucasian pre-adolescent girls will be compared on the importance of being thin by measuring their '*attitudes and behaviours associated with thinness*'. This broad concept encompasses attitudes associated with a priority for thinness, which will include body dissatisfaction, importance of thinness and over concern with shape and weight. It also encompasses some of the behaviours associated with a priority for thinness, which will include dieting and weight control behaviours. The study will analyse the data from boys as a comparison group. Finally, focusing on the female participants only, the study then aims to look at any relationships between these attributes and the role of the family, concentrating on levels of conflict between girls and their parents and also the role of traditional orientation in Asian families.

The hypotheses tested were:

1. There will be no significant difference between Asian and Caucasian children in their negative attitudes to obesity.
2. There will be no significant difference between Asian and Caucasian children in their perceptions of their mother's negative attitudes to obesity.
3. There will be no significant difference between the Asian and Caucasian children in their perceptions of the importance of thinness to their parents.
4. Asian girls will have higher levels of '*attitudes/behaviours associated with thinness*' than Caucasian girls.
5. There will be a significant positive association between levels of conflict in the family (between parents and girls) and '*attitudes/behaviours associated with thinness*' in both Asian and Caucasian girls.
6. There will be a significant positive association between '*traditional orientation*' in Asian girls and levels of '*attitudes/behaviours associated with thinness*'.

METHOD

Design

A cross sectional design was utilised in this study. Variables of interest were assayed once and the relationships between them were determined. The children were divided into four groups based on their ethnic background (Caucasian and Asian) and gender (male and female).

Participants

Eleven primary schools in West Yorkshire took part in the study. All children for whom parental consent (See Appendix 6 for parental consent form) was received and attended school on the data collection day took part in the study. This consisted of a total of 353 participants, 186 females and 167 males. From the eleven schools invited to take part, a total of 1048 children were eligible to take part in the study, giving an overall participation rate of 33.7%. No information is available on the non-participants. The average age of both male and female participants was 10 years and 3 months (mean = 10.3, standard error = 0.39). All participants were either in Year 5 or Year 6 of the national curriculum. Ethical approval for this study was obtained from Leeds (East) Research Ethics Committee (please see appendix 9 for a copy of ethical approval letter).

Participants were asked to state their ethnic background. The female participants consisted of Caucasian ($n = 76$), Asian Pakistani ($n = 87$), Asian Bangladeshi ($n = 1$), Asian Indian ($n = 5$), Asian - other ($n = 5$), Black Caribbean ($n = 1$), Black African ($n = 1$), mixed race - white and Asian ($n = 2$), and mixed race - white and black African ($n = 2$) children. The male participants consisted of Caucasian ($n = 87$), Asian Pakistani ($n = 64$), Asian Bangladeshi ($n = 1$), Asian Indian ($n = 2$), Asian - other ($n = 4$), Black Caribbean ($n = 2$), Black African ($n = 2$), and mixed race - white and black African ($n = 4$) children. Twenty-one participants were excluded from the analysis as they did not meet the criteria of being from either a Caucasian or Asian background. Therefore 332 participants (169 Asian and 147 Caucasian) were included in the final analysis.

The majority of participants were British born with 98.8% of the Caucasian participants and 90.3% of the Asian participants born the UK. The majority of the British Asian participants were from Muslim families, mostly originating from Pakistan. Those Asian participants born outside the UK were mainly born in Pakistan (6.1%). Out of the Asian participants, 11.4% had parents who were both born in the UK, 40.7% had at least one parent born in the UK and the other parent being born in Pakistan and 40.1% of Asian participants had parents who were both born in Pakistan. The remainder of the Asian participants (7.8%) had parents who were born in a variety of South Asian countries. 96.2% of the Asian participants reported their religion to be Islam. Just under half (48.8%) of the Caucasian participants stated their religion as Christianity, with the remainder being categorised as ‘other’ or ‘none stated’.

Measures

Two booklets of questionnaires were used, each adapted for use by either girls or boys. Booklet one consisted of items from the Silhouette rating scale (Hill & Silver, 1995) as well as some slightly adapted versions of the scale for this study (see appendix 1 for girl’s version and appendix 2 for boy’s version). Booklet two consisted of the Cultural orientation scale (Mumford et al., 1991), three scales taken from the McKnight risk factor survey for pre-adolescents (Shisslak et al, 1999) and the Body figure rating scale (Stunkard, Sorenson & Schulsinger, 1983). Finally, some newly written items were included to attempt to investigate the degree of ‘conflicting attitudes’ in the family (adapted from Walker et al, 2003). Questions directed at demographic information were also included (see appendix 3 for girl’s version and appendix 4 for boy’s version).

Description of the questionnaires

Booklet one (See Appendix 1 and 2)

This questionnaire explored body shape stereotypes, with a focus on attitudes towards obesity. The questionnaire was adapted from the Silhouette rating scale designed by Hill & Silver (1995). The participants were presented with a series of printed sheets

with a body figure silhouette depicting a thin or fat girl (or boy). These figures were presented simultaneously from two perspectives, face-on and profile. Participants were asked to give a series of ratings from one to ten on a number of attributes to describe the thin or fat girl/boy. For example “She has no friends” to the other extreme of “She has many friends”. The attributes were a mixture of health issues and social functioning. A cover sheet with instructions was also designed for use with girls and boys (see appendix 1 and 2). Reliability and validity data were not available for this measure, however the authors found that nine year old participants had no difficulties understanding or filling in the questionnaire. In the original rating scale, visual analogue scales were used. In this study however the scale was adapted to include a ten point scale so that it was consistent with the type of responses required in booklet two.

The measure was adapted to illicit the participant’s perceptions of their mother’s attitude to the thin and fat body shapes. Following the participant’s own responses to the thin and fat silhouettes, participants were asked to make ratings about their perceptions of how their mother would rate the thin and fat body shapes on the given attributes. The scale was adapted to investigate the participant’s perceptions of the attitudes of their mother only (or someone they regarded as their ‘mother’).

Booklet two (See Appendix 3 and 4)

This booklet consisted of the following five sections:

Part A consisted of demographic information about the child. This included the child’s name, school class, age, country of birth, mother’s country of birth, father’s country of birth, religion and ethnic background. The child’s name was required for reference only and was removed at the data analysis stage.

Part B consisted of a short measure of cultural orientation for the South Asian children only. The measure was adapted from the scale developed by Mumford et al (1991). Four questions concerned with language, dress and food were piloted in Mumford et al’s (1991) study. The response to each item was given on a 6-point likert scale (1 = never to 6 = always). The questions were shown to have face validity, concurrent validity with the friendship network and showed a consistent correlation with each other. The internal reliability for this measure for the sample in

the current study was computed ($r = 0.58$). This measure allowed the South Asian participants to give an appraisal of how 'western' or 'traditional' their family environment was. In the present study the first two (traditional) questions on Mumford et al's (1991) scale were slightly adapted. The first question 'Do you read newspapers or magazines in an Asian language?' was changed to 'Do you watch Asian TV (e.g. Bollywood movies) or listen to Asian music?' The second question, 'Do you wear a sari or shalwar-kameez?' was changed to 'Do you wear Asian clothes (e.g. shalwar-kameez)?' This was in order to make the questions more relevant to South Asian pre-adolescents living in Britain today.

In order to measure the levels of "conflicting attitudes" in the family a series of eleven questions were developed in Part C. Participants were asked to rate on a scale of one to ten, in the past year how often they had disagreed or argued with their parents on a number of issues. The questions consisted of appearance-related issues such as 'weight' and 'what you look like' and also non-appearance related issues such as 'school work' and 'peer relationships'. The response format and some of the content was adapted from a scale designed to evaluate teenage worries (Walker et al, 2003). The 'conflicting attitudes' measure attempted to illicit whether there was any conflict between parents and children with regards to weight, eating and other issues such as peer relationships. The internal reliability (cronbach alpha) for this measure for the sample in the current study was computed and was found to be high for both appearance related items ($r = 0.74$) and non-appearance related items ($r = 0.75$).

Part D explored the degree of dieting and weight control. The first question explored the current dieting status of the child. The following questions in this section were adapted from the McKnight risk factor survey for pre-adolescents (Shisslak et al., 1999). This instrument assesses risk or protective factors for disordered eating. The subscales that were used in this section were the 'Weight control behaviours scale' which consisted of six items and the 'Over concern with shape and weight scale' which consisted of five items. The authors found test-retest reliabilities ($r = 0.79$) and internal consistency ($r = 0.86$) to be very high for the Weight control behaviours scale. Test-retest reliability ($r = 0.79$) and internal consistency ($r = 0.82$) for the Over concern with shape and weight scale were also good (Shisslak et al., 1999). The internal reliabilities (cronbach alphas) for the sample in the current study were

computed and were also found to be very high for both the weight control behaviour scale ($r = 0.83$) and the over concern with shape and weight scale ($r = 0.85$) The original three-point response format was changed to a four-point response format (so that it was consistent with the type of responses required in the remainder of the booklet).

The final two questions in this section explored parental concern with thinness. These were taken from the ‘Concern with thinness scale’ (McKnight Risk Factor Survey, Shisslak et al., 1999). This subscale consisted of two questions: ‘In the past year how important has it been to your mother that you be thin?’ and ‘In the past year how important has it been to your father that you be thin?’ The internal reliability (cronbach alpha) was computed for the sample in the current study and was also found to be high ($r = 0.76$).

Part E explored body shape perception and degree of body dissatisfaction. This was adapted from the Body figure rating scale (Stunkard, Sorenson & Schulsinger, 1983). Body figure preferences are one of the most commonly used methods for investigating body dissatisfaction, as the scale is simple, quick and child-friendly. The scale consisted of a series of seven line drawings of a female or male figure that ranged in size from very thin to very obese (see appendix 3 for female version and appendix 4 for male version). Participants were presented with this scale and asked to pick one letter to describe:

- 1) Which figure you feel is most like you now?
- 2) Which figure you would most like to look like?
- 3) Which figure you feel *your mum* would most like *you* to look like?

The first two figures chosen correspond to their current perceived body shape and their ideal body shape. An index of body dissatisfaction is obtained by subtracting the ideal body shape from their perceived current body shape. A difference of zero indicates body satisfaction whereas a negative value indicates a desire to be thinner. Participants were also asked to indicate what they thought their mother’s ideal body shape for them would be.

It has been noted that as body dissatisfaction rises, Body Mass Index (BMI) also rises, which is an indication of face validity (Truby & Paxton, 2002). Test-retest reliability

for figure preference tasks for children as young as nine years have also shown to be high. Wood, Becker and Thompson (1996) found reliability coefficients for ratings of 'current body shape' to be .78 and ratings for 'ideal body shape' to be as high as .89 in nine year girls and boys. The scale has also been previously used with nine year old Asian girls, which demonstrates that the scale is not culturally specific (Hill & Bhatti, 1995).

Height and weight measurements

Body weight and height was measured during school time using standard apparatus. This was done without shoes. The information was used to calculate the body mass index ($BMI = kg/m^2$) for each child. The participant's BMIs were then calculated as standard deviation scores using data from UK norms (Child Growth Foundation, 1990).

Procedure

A letter was written to Primary Schools across West Yorkshire to enquire whether they would be interested in taking part in the study (see Appendix 5). The letter included details of what the study involved and what would be expected of participants. Schools with a high proportion of ethnic minority pupils (of South Asian origin) were targeted as well as schools with a more mixed ethnic population and schools with a high proportion of pupils of Caucasian background. A meeting was arranged with the Head Teacher of the schools that were interested in taking part. Further details of the study and copies of the questionnaires were given to the Head Teacher at this stage.

Following agreement from schools, consent was then obtained from parents or guardians of the children via a parental consent letter. The letter was sent to all parents (or carers) of children in Years 5 and 6 in English (see appendix 6) and Urdu (see appendix 7). This was done via the children taking the letters home to parents. In the letter to parents the research was described as '*a study looking at cultural differences in attitudes to body shape and weight*'. It was explained to parents that the

children would be asked about their perception of different sized body shapes and also how important they thought shape and weight was to their families. Parents were informed that the study required their child's height and weight to be measured. Parents were then asked to return a reply slip if they consented to their child taking part in the study. A child information sheet was also included with the parental consent letter (see appendix 8). This sheet was designed for children of the target age group and provided a brief outline of the study. It also explained that the researcher would like to measure the child's height and weight. In all schools, the reply slips were returned by the children handing in the signed slip to their class teacher.

All children for whom parental consent had been received and attended school on the data collection day were included in the study. Depending on the number of children taking part, the questionnaires were administered to one school class or a combined year group at a time. However the questionnaires were administered to no more than thirty children at one time. The researcher introduced herself and introduced the research as '*A study of how children and their families feel about body shape*'. It was explained to the participants that they would be asked questions about what they feel and what they think their family might feel about thin and fat body shapes. Booklet one was administered first, followed by booklet two. The researcher was present to explain how to fill in each of the questionnaires and to answer any questions, along with the class teacher. It was emphasised that participants must complete the assessments independently, honestly and as accurately as they could. The researcher also stressed that the questionnaires were not a test and that there were no right or wrong answers. It was also emphasised that their answers would remain confidential and that their names would be removed from the questionnaires at the data analysis stage. The questionnaires were checked at the time of completion in order to minimise the number of incomplete assessments. All participants were free to decline filling in any of the questionnaires throughout the process.

Body height and weight of all participants was then measured individually by the researcher in a private room away from other children. This was usually done on the same day or the researcher came back at a later date to measure height and weight.

Data Analysis

Data were analysed using SPSS for windows (version 14.0). Descriptive statistics were used to describe the demographic information. Mixed design analysis of variance (ANOVAs), with figure size as the repeated measure and ethnicity and gender as the between subject factors, were conducted to analyse the attitudes of the participants towards the thin and obese figures in the silhouette rating scale. This was repeated to analyse the participant's perceptions of their mother's attitudes.

Paired t-tests were conducted to analyse any differences between body shape preferences (body figure rating scale) within each ethnic group. Independent samples t-tests were conducted to investigate any differences between ethnic groups. Two way ANOVAs were conducted to investigate the effects of ethnicity and gender on body dissatisfaction.

The relationship between ethnicity and dieting status was investigated by a Pearson's chi-square test. A series of two way ANOVAs were conducted to investigate the effects of ethnicity and gender on the McKnight risk factor survey subscales.

Multivariate analysis of variance (MANOVA) was conducted to investigate the relationship between ethnicity and family conflict in girls. In order to investigate whether there was an association between family conflict in Caucasian and Asian girls and the variables under study, a median split was applied to the total score on the 'Conflicting attitudes in the family' scale. This allowed comparisons to be made between the participants with a 'high family conflict score' and 'low family conflict score'. ANOVAs were then conducted to investigate associations between family conflict and body dissatisfaction and also with the McKnight risk factor subscales.

To investigate what effects cultural orientation in Asian girls may have, a median split allowed comparisons to be made between Asian girls with a 'low traditional family background score' and Asian girls with a 'high traditional family background score'. A Pearson's chi-square test allowed any relationship between traditional orientation and family conflict score to be investigated. The same test was applied to investigate any association between traditional orientation and dieting status in Asian girls. A

series of t-tests were conducted to investigate any relationship between traditional orientation and body dissatisfaction and also any relationship between traditional orientation and the McKnight risk factor survey subscales in Asian girls.

Finally mixed design ANOVAs were conducted to investigate any significant associations between traditional orientation in Asian girls and attitudes towards the thin and obese figures on the silhouette rating scale.

RESULTS

Characteristics of the sample

The age and physical characteristics of the participants are described in Table 1, categorised by gender and ethnic group.

Table 1: Characteristics (mean, standard error) of the Caucasian and Asian participants

	Females		Males	
	Caucasian (n = 76)	Asian (n = 98)	Caucasian (n = 87)	Asian (n = 71)
Age (years, months)	10.5 (0.8)	10.2 (0.7)	10.5 (0.7)	10.2 (0.9)
Height (cm)	142.8 (0.9)	140.4 (0.8)	142.6 (0.7)	140.4 (0.8)
Weight (kg)	37.6 (1.0)	38.8 (1.1)	37.7 (1.0)	36.8 (1.3)
BMI (kg/m ²)	18.30 (0.34)	19.39 (0.39)	18.35 (0.35)	18.45 (0.47)
BMI sds	0.27 (0.12)	0.68 (0.13)	0.53 (0.12)	0.50 (0.18)

There was a significant difference between the Asian and Caucasian participants in terms of age ($F(1,328) = 24.50, p < 0.001$), with the Asian participants being slightly younger. There was a significant difference between the Asian and Caucasian participants in terms of height ($F(1,322) = 7.70, p < 0.01$), with the Caucasian participants being slightly taller. There was no significant difference between the two ethnic groups in terms of weight, BMI, BMI sds or any other condition by ethnic group interaction. There were also no significant differences between boys and girls in terms of age, height, weight, BMI, BMI sds or any other condition by sex interaction.

Attitudes to obesity: Figure attributes

The ratings of the two silhouette variations were dominated by the size of the figure being judged (Table 2). It can be seen that the obese figures were rated by all

Table 2: Mean (standard error) ratings of the thin and obese silhouette figures

	Thin figure		Obese figure		
	Caucasian	Asian	Caucasian	Asian	
<i>Many friends</i>					
Females:	6.79 (0.18)	6.41 (0.24)	3.05 (0.18)	3.47 (0.22)	FS***
Males	6.38 (0.23)	6.58 (0.31)	3.46 (0.27)	3.94 (0.34)	
<i>Liked by parents</i>					
Females	7.95 (0.25)	8.10 (0.24)	4.86 (0.28)	5.28 (0.26)	FS***
Males	8.66 (0.21)	7.69 (0.35)	5.74 (0.31)	5.75 (0.35)	
<i>Academic Success:</i>					
Females:	6.88 (0.20)	7.26 (0.23)	4.55 (0.23)	4.76 (0.24)	FS***
Males:	6.77 (0.23)	6.70 (0.33)	4.25 (0.27)	4.55 (0.26)	
<i>Fitness</i>					
Females:	7.62 (0.23)	7.44 (0.20)	1.86 (0.18)	2.47 (0.24)	FS*** G**
Males	7.01 (0.22)	7.13 (0.28)	1.75 (0.17)	1.83 (0.18)	
<i>Health</i>					
Females:	7.28 (0.19)	6.88 (0.22)	2.09 (0.18)	2.64 (0.25)	FS***
Males	7.16 (0.20)	7.38 (0.28)	1.77 (0.13)	2.30 (0.28)	
<i>Healthy Eating</i>					
Females:	7.67 (0.21)	7.51 (0.23)	2.58 (0.21)	3.10 (0.27)	FS*** G** FSxE*
Males:	6.99 (0.22)	6.79 (0.33)	2.14 (0.18)	2.85 (0.30)	
<i>Contentment with appearance</i>					
Females:	6.87 (0.26)	7.38 (0.23)	2.34 (0.19)	3.16 (0.26)	FS*** E*
Males:	6.34 (0.26)	6.68 (0.33)	2.34 (0.21)	3.03 (0.31)	
<i>Desire to be thinner</i>					
Females:	5.20 (0.20)	5.26 (0.25)	2.38 (0.30)	2.45 (0.26)	FS***
Males:	4.83 (0.23)	5.01 (0.32)	2.61 (0.30)	2.99 (0.36)	

FS - Main effect of Figure size, *E* - Main effect of Ethnicity, *G* - Main effect of Gender
 * p < 0.05, ** p < 0.01, *** p < 0.001

participants as having significantly fewer friends ($F(1,328) = 322.14, p < 0.001$), less liked by parents ($F(1,327) = 219.27, p < 0.001$), doing less well at school ($F(1,328) = 176.99, p < 0.001$), less content with appearance ($F(1,328) = 496.20, p < 0.001$) and as wanting to be thinner ($F(1,328) = 185.66, p < 0.001$). The participant's judgements of health and fitness were also dominated by the size of the figure being judged. The obese figure was rated as being less fit ($F(1,327) = 1066.71, p < 0.001$), less healthy ($F(1,328) = 894.54, p < 0.001$) and eating less healthy foods ($F(1,328) = 693.41, p < 0.001$). The size of the F-ratios gives an indication of how uniform these attitudes were.

Despite the ratings being dominated by the size of the figure being judged, there were some ethnic differences in the ratings. It was found that there was a significant ethnicity by figure size interaction for the ratings of healthy eating ($F(1,328) = 5.24, p < 0.05$). The Asian children rated the obese figure as eating more healthy foods and the thin figure as eating less healthy foods when compared to the Caucasian children's ratings of the same figures. A main effect of ethnicity was found in the participant's ratings of the figure's contentment with appearance ($F(1,328) = 10.56, p < 0.05$). The Asian participants viewed both the thin and obese figures as happier with the way they looked than the Caucasian participants. It can be seen in Table 2 that for all ratings (apart from desire to be thinner) the Asian girls and boys gave higher ratings for the obese figure than the Caucasian children (i.e. the obese figure was described as having more friends, having more academic success etc). However none of these differences in ratings were found to be statistically significant. There was no other significant ethnicity by figure size interaction or main effects of ethnicity.

A main effect of gender was found for the ratings of fitness ($F(1,327) = 7.95, p < 0.01$) and the ratings of healthy eating ($F(1,328) = 9.03, p < 0.01$). The males rated both figures as being less fit and eating less healthy foods than the female's ratings of the same figures. There was no other significant gender by figure size interaction or a significant figure by gender by ethnicity interaction for any of the ratings.

Table 3 shows the mean (SE) ratings that the participants felt that their mum would use to describe the thin and obese figures. A very similar picture emerged

Table 3: Mean (\pm S.E) ratings that participants felt their mum would use to describe the thin and obese silhouette figure.

	Thin figure		Obese figure		
	Caucasian	Asian	Caucasian	Asian	
<i>Many friends</i>					
Females:	8.43 (0.16)	7.65 (0.25)	3.53 (0.24)	3.54 (0.27)	FS*** FSxG*
Males	7.62 (0.21)	7.83 (0.26)	3.77 (0.26)	4.28 (0.33)	ExG*
<i>Liked by parents</i>					
Females	8.49 (0.23)	8.42 (0.23)	5.70 (0.34)	5.84 (0.30)	FS***
Males	8.59 (0.24)	8.20 (0.29)	6.44 (0.33)	5.87 (0.37)	
<i>Academic Success:</i>					
Females:	7.21 (0.22)	7.87 (0.20)	4.88 (0.26)	5.00 (0.27)	FS***
Males:	7.56 (0.24)	7.59 (0.26)	4.40 (0.26)	4.97 (0.30)	
<i>Fitness</i>					
Females:	7.84 (0.24)	7.93 (0.23)	2.38 (0.22)	2.85 (0.27)	FS*** E*
Males	7.76 (0.25)	7.28 (0.31)	2.10 (0.18)	3.45 (0.34)	FSxE**
<i>Health</i>					
Females:	7.89 (0.26)	7.38 (0.24)	2.58 (0.25)	2.60 (0.24)	FS***
Males	8.10 (0.19)	7.42 (0.30)	2.47 (0.23)	3.04 (0.33)	
<i>Healthy Eating</i>					
Females:	7.71 (0.25)	8.26 (0.19)	2.67 (0.23)	3.36 (0.27)	FS*** E**
Males:	7.95 (0.19)	7.52 (0.31)	2.56 (0.21)	3.65 (0.35)	FSxE*
<i>Contentment with appearance</i>					
Females:	7.86 (0.26)	7.85 (0.27)	2.86 (0.28)	3.30 (0.28)	FS*** FSxE**
Males:	8.08 (0.19)	7.55 (0.31)	2.78 (0.25)	3.94 (0.34)	
<i>Desire to be thinner</i>					
Females:	5.37 (0.24)	5.06 (0.25)	2.62 (0.27)	2.29 (0.22)	FS*** ExG*
Males:	5.17 (0.24)	5.14 (0.31)	2.62 (0.27)	3.24 (0.35)	

FS - Main effect of Figure size, *E* - Main effect of Ethnicity, *G* - Main effect of Gender
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

for the child's perceptions of their mum's ratings as their own ratings for the figures. The participants thought that their mums would rate the obese figure as being significantly less liked by parents ($F(1,326) = 166.59, p < 0.001$), doing less well at school ($F(1,327) = 233.77, p < 0.001$), being less healthy ($F(1,324) = 785.52, p < 0.001$), wanting to be thinner ($F(1,327) = 183.73, p < 0.001$) and having fewer friends ($F(1,327) = 571.64, p < 0.001$). The participants also thought their mums would rate the obese figure as being less fit ($F(1,327) = 696.36, p < 0.001$), eating less healthy foods ($F(1,327) = 691.28, p < 0.001$) and as less content with their appearance ($F(1,327) = 605.31, p < 0.001$).

When looking at the effects of ethnicity, both a main effect of ethnicity ($F(1,327) = 4.10, p < 0.05$) and a significant ethnicity by figure size ($F(1,327) = 8.51, p < 0.01$) interaction was found for the ratings of fitness. The Asian participants thought that their mums would rate the thin figure as being less fit and the obese figure as being more fit. Consistent with the participant's own ratings of the figures, ethnic differences were also found in ratings of healthy eating and contentment with appearance. A main effect of ethnicity ($F(1,327) = 7.28, p < 0.01$) and ethnicity by figure size interaction ($F(1,327) = 5.31, p < 0.05$) was found for the ratings of healthy eating. The Asian participants rated both the obese figure and the thin figure as eating more healthy foods. A significant ethnicity by figure size interaction was found for the ratings of contentment with appearance ($F(1,327) = 8.37, p < 0.01$). The Asian participants thought that their mums would rate the obese figure as more content with appearance and the thin figure as less content with appearance.

When looking at the effects of gender, a significant gender by figure size interaction was found for the ratings of 'many friends' ($F(1,327) = 5.45, p < 0.05$). It was found that the females thought that their mums would rate the thin figure as having more friends and the obese figures as having less friends than the boy's ratings of the same figures. There was also a significant gender by ethnic group interaction ($F(1,327) = 4.09, p < 0.05$) for this rating. Finally a gender by ethnic group interaction was found in the ratings of desire to be thinner ($F(1,327) = 5.02, p < 0.05$).

Attitudes to thinness

Body dissatisfaction

Table 4: Mean (\pm S.E) of body shape ratings

	Females		Males	
	Caucasian	Asian	Caucasian	Asian
1. Current shape	3.54 (0.14)	3.23 (0.12)	3.75 (0.12)	3.48 (0.18)
2. Ideal shape	2.91 (0.09)	2.59 (0.11)	3.60 (0.10)	3.21 (0.15)
3. Body dissatisfaction	-0.63 (0.15)	-0.64 (0.15)	-0.15 (0.15)	-.0.27 (0.21)
4. Mum's ideal shape for the child	3.19 (0.70)	2.90 (0.10)	3.82 (0.09)	3.56 (0.16)

Table 4 displays the mean (and standard error) body shape ratings categorised by gender and ethnicity. Paired t-tests³ were carried out to investigate differences between the body shape ratings within each ethnic group. It was found that there was a significant difference between the ratings of current shape and ideal shape in the Caucasian girls ($t(75) = 4.16, p < 0.001$) and the Asian girls ($t(97) = 4.26, p < 0.001$), with both groups of girls ideally wanting to have a thinner figure. There was a significant difference in ratings made for current shape and mums ideal shape for the child in Caucasian girls ($t(74) = 2.54, p < 0.05$) and Asian girls ($t(97) = 2.18, p < 0.05$), with both groups of girls rating their mums as ideally wanting them to have a thinner figure. Finally there was also a significant difference in ratings made for the ideal shape and mums ideal shape for Caucasian girls ($t(74) = -2.91, p < 0.01$) and Asian girls ($t(97) = -2.97, p < 0.005$), with both groups of girls rating their mums as wanting them to look like a larger ideal figure than their own ideal figure.

For the boy's data, no significant differences were found between ratings of current shape and ideal shape, or current shape and mums ideal shape for both Caucasian and

³ It was not possible to carry out ANOVA tests on any of the body shape ratings apart from body dissatisfaction. This is because the Body figure rating scale (Stunkard et al., 1983) was not designed so that the scales for boys and girls could be compared, as the interval differences between each line drawing on the scale are not exactly equal.

Asian boys. However, a significant difference was found between the boys ratings of ideal shape and their ratings of their mums ideal shape for both Caucasian boys ($t(86) = -2.70, p < 0.01$) and Asian boys ($t(70) = -3.31, p < 0.005$). Both groups of boys rated their mums as wanting them to look like a larger ideal figure than their own ideal figure.

Independent t-tests were carried out to investigate differences between the two ethnic groups. No significant difference was found between the Caucasian and Asian girls for the ratings for current shape. However a significant difference was found for the ratings of ideal shape, with the Asian girls ideally wanting to look like a thinner figure ($t(172) = 2.24, p < 0.05$). No overall difference in body dissatisfaction was found between the Caucasian and Asian girls. However a significant difference was found between the two groups for the ratings of mum's ideal shape ($t(167) = 2.45, p < 0.05$), with the ratings for the Asian mums revealing that they wanted their daughter to have a thinner figure than the Caucasian mums.

No significant difference was found between the Caucasian and Asian boys in ratings of current shape, body dissatisfaction or mum's ideal shape. Finally, a significant difference was found between the ethnic groups on ratings of ideal shape ($t(127) = 2.10, p < 0.05$), with the Asian boys ideally wanting to look like a thinner figure than the Caucasian boys.

ANOVA revealed that there were main effects of ethnicity and gender on body dissatisfaction. A main effect of gender was found ($F(1, 328) = 6.80, p < 0.05$), reflecting the finding that the girls displayed significantly higher rates of body dissatisfaction than the boys. No main effect of ethnicity was found nor an ethnic group by gender interaction.

Dieting and Weight control behaviours

Figure 1: Dieting status of Caucasian and Asian girls

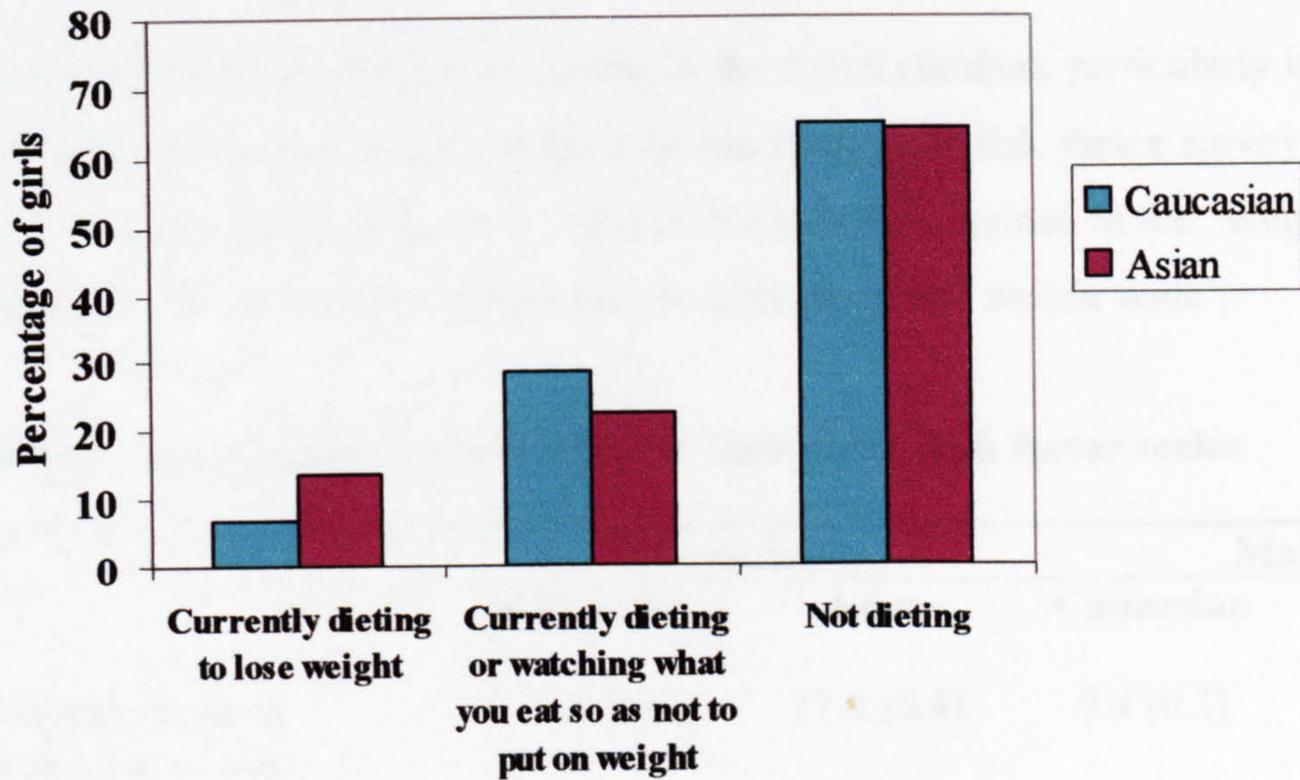


Figure 2: Dieting status of Caucasian and Asian boys

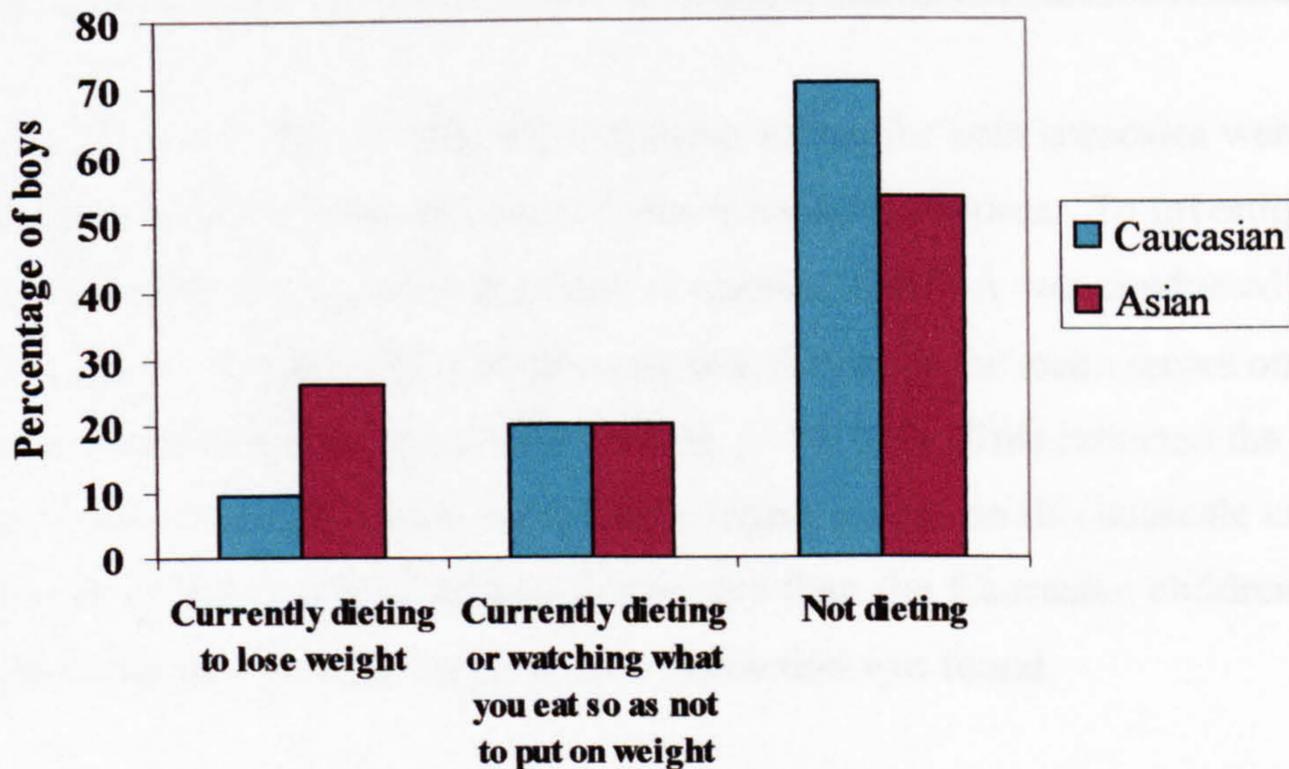


Figure 1 displays the reported dieting status of Caucasian and Asian girls in terms of percentages. Figure 2 displays the same data for boys. A Pearson's chi-square test was conducted in order to investigate whether there was a relationship between ethnicity and dieting status. It was found that there was no significant association between ethnicity and dieting status in girls. However a significant association was found between ethnicity and dieting status in boys ($\chi^2(2) = 8.01, p < 0.05$). This

reflects the finding that the Asian boys were more likely to report dieting than Caucasian boys.

The increased level of reported dieting in the Asian children, particularly in boys was also reflected in the scores obtained in the McKnight risk factor survey subscales. Table 5 below displays the total mean (\pm S.E) scores obtained in the 'Weight Control Behaviours Scale' and the 'Over concern with shape and weight scale'.

Table 5: Total mean scores (\pm S.E) for McKnight Risk factor scales

	Females		Males	
	Caucasian	Asian	Caucasian	Asian
Weight Control Behaviour Scale	10.1 (0.4)	11.6 (0.4)	9.4 (0.3)	11.6 (0.5)
Over concern with shape and weight scale	9.8 (0.5)	10.0 (0.4)	7.9 (0.4)	10.0 (0.5)

It can be seen in Table 5 that all total mean scores for both subscales were higher for the Asian children when compared to the Caucasian children. To investigate whether this difference was significant or due to chance, ANOVA was conducted on the total mean scores. A main effect of ethnicity was found for the mean scores on the Weight control behaviour scale ($F(1,326) = 18.76, p < 0.001$). This reflected the finding that the Asian children obtained significantly higher scores on this subscale and therefore engaged in more weight control behaviours than the Caucasian children. No main effect of gender or ethnicity by gender interaction was found.

A main effect of ethnicity was also found for the mean total scores on the Over concern with shape and weight scale ($F(1,326) = 7.07, p < 0.01$). This reflected the finding that again the Asian children obtained significantly higher scores on this subscale than the Caucasian children. A main effect of gender ($F(1,326) = 4.69, p < 0.05$) and an ethnicity by gender interaction ($F(1,326) = 4.43, p < 0.05$) was found. This reflected the finding that the Caucasian boys scored lower than the other three groups of participants.

Table 6: Mean scores (\pm S.E) for importance of thinness to the child and the importance to parents that the child is thin

	Females		Males	
	Caucasian	Asian	Caucasian	Asian
1. <i>Importance of thinness to the child</i>	1.92 (0.12)	2.35 (0.12)	1.71 (0.10)	2.08 (0.13)
2. <i>Importance to mother that child be thin</i>	1.61 (0.12)	1.89 (0.11)	1.59 (0.10)	2.06 (0.14)
3. <i>Importance to father that child be thin</i>	1.57 (0.12)	1.76 (0.10)	1.68 (0.14)	2.06 (0.14)

Table 6 displays the mean scores obtained on questions investigating the importance of thinness to the child and also importance to his or her parents that their child is thin. ANOVA revealed that there was a main effect of ethnicity for importance of thinness to the child ($F(1, 328) = 11.37, p < 0.01$), importance to the mother that the child be thin ($F(1,327) = 10.19, p < 0.01$) and finally importance to the father that the child be thin ($F(1,327) = 5.07, p < 0.05$). This reflects the finding that not only is it more important to the Asian children that they are thin, it also appears that it is more important to both the Asian mothers and Asian fathers that their child is thin. A main effect of gender was found in the importance of thinness to the child ($F(1,328) = 3.96, p < 0.05$). It appeared that being thin was more important to girls than it was to boys. No other main effects of gender or ethnicity by gender interactions were found.

Conflict in the family

Table 7 overleaf displays the mean scores obtained on the 'conflicting attitudes between children and parents scale'. These have been divided into 'conflict about the child's appearance' and 'conflict about other issues' such as school work and peer relationships.

Table 7: Mean (\pm S.E) on the 'Conflicting attitudes between children and parents scale'

<u>Conflict about appearance</u>	Females		Males		
	Caucasian	Asian	Caucasian	Asian	
<i>Your weight</i>	2.61 (0.30)	2.15 (0.21)	2.31 (0.27)	2.39 (0.26)	
<i>What you eat</i>	4.14 (0.33)	2.73 (0.21)	2.82 (0.37)	3.63 (0.37)	E*
<i>What you look like</i>	2.50 (0.27)	2.19 (0.23)	2.73 (0.30)	2.20 (0.26)	
<i>Your hair</i>	3.25 (0.34)	2.37 (0.21)	3.72 (0.38)	3.19 (0.36)	E*
<i>What you wear at home</i>	4.29 (0.34)	2.48 (0.21)	3.63 (0.33)	3.03 (0.31)	E***
<i>What you wear at school</i>	2.30 (0.24)	2.14 (0.23)	2.34 (0.28)	1.92 (0.24)	
Overall mean score	3.18 (0.30)	2.34 (0.22)	2.93 (0.32)	2.73 (0.30)	
<u>Conflict (other issues)</u>					
<i>Money</i>	4.22 (0.38)	2.11 (0.21)	4.40 (0.38)	3.52 (0.37)	E*** G*
<i>Your friends (same sex)</i>	3.42 (0.32)	2.37 (0.23)	2.93 (0.34)	1.73 (0.25)	E***
<i>Your friends (opposite sex)</i>	2.95 (0.33)	1.60 (0.17)	3.91 (0.35)	3.42 (0.40)	E** G***
<i>What you do after school</i>	3.53 (0.32)	2.23 (0.20)	4.02 (0.33)	2.77 (0.31)	E***
<i>Your school work</i>	3.62 (0.34)	2.49 (0.25)	4.40 (0.34)	3.62 (0.37)	E** G**
Overall mean score	3.56 (0.34)	2.16 (0.21)	3.93 (1.74)	3.01 (0.34)	

E – Main effect of Ethnicity

G – Main effect of Gender

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

MANOVAs were carried out separately on the conflict related to appearance and conflict related to non-appearance issues. The tests revealed that ethnicity had a significant effect on the amount of conflict there was about appearance related issues ($F(6, 314) = 3.40, p < 0.01$). Univariate ANOVAs revealed that there was a main

effect of ethnicity on conflict about what you eat ($F(1, 319) = 6.56, p < 0.05$), your hair ($F(1, 319) = 5.20, p < 0.05$) and finally what you wear at home ($F(1,319) = 17.03, p < 0.001$). Thus the Caucasian children had significantly more conflict (arguments or disagreements) about appearance related issues than Asian children.

MANOVA carried out on conflict about other issues also revealed that ethnicity had a significant effect on the amount of conflict there was between children and their parents ($F(5, 323) = 6.57, p < 0.001$). Univariate ANOVAs revealed there was a main effect of ethnicity on all the questions; which included conflict about money ($F(1, 327) = 19.79, p < 0.001$), friends of the same sex ($F = 15.30$), friends of the opposite sex ($F = 8.55$), what you do after school ($F = 19.27$) and school work ($F = 9.26$). This again reflected the finding that the Caucasian children had significantly more conflict about these issues than the Asian children.

Gender also had a significant effect on the amount of conflict about other issues ($F(5,323) = 8.09, p < 0.001$). Univariate ANOVAs revealed that these were found in the conflict about money ($F(1,327) = 5.71, p < 0.05$), friends of the opposite sex ($F(1,327) = 19.73, p < 0.001$) and school work ($F(1, 327) = 8.32, p < 0.01$). It appears that the boys had significantly higher conflict scores about these issues than the girls.

Further associations with family conflict were carried out on the female participants only. A median split allowed comparisons to be made between the female participants with 'high total family conflict scores' and 'low total family conflict scores'. No significant association was found between family conflict and dieting status in girls ($\chi^2(2) = 1.05, p > 0.05$). ANOVA showed no main effects of conflict and ethnic group on body dissatisfaction. However a significant conflict score by ethnicity effect was found ($F(1,167) = 6.04, p < 0.05$). There were higher levels of body dissatisfaction in Caucasian girls with *high* conflict scores. However greater body dissatisfaction was found in the Asian girls with *low* conflict scores.

Table 8: Total mean scores (\pm S.E) for McKnight Risk factor scales categorised by family conflict score and ethnicity in girls

	Low conflict score		High conflict score	
	Caucasian	Asian	Caucasian	Asian
Weight Control Behaviour Scale	9.24 (0.73)	10.82 (0.46)	10.56 (0.52)	13.09 (0.63)
Over concern with shape and weight scale	8.25 (0.84)	9.73 (0.52)	10.64 (0.58)	10.76 (0.71)

Table 8 displays the total mean scores obtained on two subscales of the McKnight Risk factor survey categorised by family conflict scores and ethnicity. A main effect of family conflict was found for both the weight control behaviour scale ($F(1, 166) = 9.13, p < 0.01$) and the over concern with shape and weight scale ($F(1,166) = 6.46, p < 0.05$). This demonstrates that the girls with high family conflict obtained higher scores on these subscales.

Table 9: Mean scores (\pm S.E) for importance of thinness to the child and the parents categorised by family conflict score and ethnicity in girls

	Low conflict score		High conflict score	
	Caucasian	Asian	Caucasian	Asian
1. Importance of thinness to the child	1.76 (0.22)	2.25 (0.14)	2.00 (0.16)	2.58 (0.19)
2. Importance to mother that child be thin	1.36 (0.21)	1.78 (0.13)	1.74 (0.15)	2.15 (0.18)
3. Importance to father that child be thin	1.16 (0.20)	1.70 (0.20)	1.78 (0.14)	1.91 (0.18)

The mean scores obtained in the questions relating to importance of thinness are summarised in Table-9. The scores are categorised by family conflict score and ethnicity. No main effect of family conflict was found on importance of thinness to the child. A significant main effect of family conflict was found on the importance to the mother that the child be thin ($F(1,167) = 4.79, p < 0.05$) and importance to the father that the child be thin ($F(1, 167) = 6.39, p < 0.05$). This reflects the finding that in the families where there was more conflict between the girls and their parents, there was a greater perceived importance to both the mother and father that their child be thin.

Cultural Orientation in Asian girls

Statistical analyses were carried out to investigate the effect of the degree of traditional orientation in the families of the Asian girls. A median split allowed comparisons to be carried out on the Asian girls with a 'low traditional score' and 'high traditional score'.

Pearson's chi-square revealed that there was no significant association between traditional orientation score and family conflict score in Asian girls ($\chi^2(1) = 0.03, p > 0.05$). Furthermore, no significant difference was found in body dissatisfaction between the Asian girls with a low traditional orientation score and high traditional score ($t(95) = -0.14, p > 0.05$).

Table 10: Dieting status of the Asian girls categorised by traditional orientation

	Low traditional score		High traditional score	
	N	%	N	%
<i>Currently dieting to lose weight</i>	4	6.9	8	22.9
<i>Currently dieting or watching what you eat so as not to put on weight</i>	9	15.5	12	34.3
<i>Not dieting</i>	45	77.6	15	42.9

Table 10 displays the frequencies and percentages of dieting status for each participant categorised by the degree of traditional orientation. Pearson's chi-square revealed that there was a significant association between the degree of traditional orientation and dieting status in the Asian girls ($\chi^2(2) = 11.80, p < 0.01$). This reflects the finding that the Asian girls with high traditional scores were more likely to report dieting than Asian girls with low traditional scores.

The association of reported dieting with traditional orientation in Asian girls was not reflected in the scores on the McKnight Risk factor Survey. No significant difference was found between traditional orientation in Asian girls and the total mean scores for the Weight Control behaviour Scale or the Over concern with shape and weight scale. Furthermore no significant difference was found in the questions relating to importance of thinness to the child, or parental concern with thinness.

Finally, no significant effects of cultural orientation in Asian girls were found on the attribute ratings of thin and fat body figures (silhouette rating scale).

DISCUSSION

The primary aims of the current research were to compare British-born Asian and Caucasian pre-adolescents *and* their perceptions of their parents in their attitudes to obesity and to thinness. This allowed the study to investigate whether Asian and Caucasian children are similar in their stereotyped views about fatness and the importance of thinness. The secondary aims of this study were to investigate the role of the family in the way that pre-adolescent girls may develop shape and weight concerns. This was looked at in terms of the levels of conflict between the girls and their parents and also the role of 'culture clash' between the Asian girls and their parents.

The following sections provide a summary of the findings in relation to the initial aims and hypotheses of the study. In addition, the findings will be discussed in relation to previous research studies. Following this the clinical implications of the current study will be presented. Finally, the methodological strengths and limitations will be identified followed by recommendations for future research and final conclusions.

Attitudes to obesity

Attitudes to obesity in Asian and Caucasian children

The present findings provided support for hypothesis 1. The results demonstrated that the Asian and Caucasian pre-adolescents were similar in their negative attitudes to obesity. The stereotyped negative attitudes to the obese figure were shared by Asian and Caucasian children and both girls and boys.

It was found that the body size of the figure being judged had an overwhelming influence on the children's judgements. Both ethnicity and gender had relatively little impact on the ratings. Consistent with stereotypes about body size, negative attributes were assigned to the obese figure and positive attributes were assigned to the thin figure. The obese figure was rated by all participants as having significantly fewer

friends, less liked by parents, having less academic success, being less content with appearance and as wanting to be thinner. The participant's judgements of health and fitness were also dominated by the size of the figure being judged. The obese figure was rated as being significantly less fit, less healthy and eating less healthy foods. These overall ratings demonstrated that both Asian and Caucasian children endorse negative stereotypes about fatness.

Despite the ratings being dominated by the size of the figure being judged, there were some subtle ethnic differences in the ratings between the Asian and Caucasian children. The Asian children rated the obese figure as eating more healthy foods and the thin figure as eating less healthy foods when compared to the Caucasian children's ratings of the same figures. The Asian participants also viewed both the thin and obese figures as happier with the way that they looked than the Caucasian participants. This would suggest that the Asian participants did not adhere to all the attributes considered to be part of the 'fat stereotype' namely in the areas of healthy eating and contentment with appearance.

There has been a large amount of research confirming the presence of negative attitudes to overweight and obesity in Caucasian children (Latner & Stunkard, 2003; Musher-Eizenman et al., 2003). The results of the present study are consistent with this research and those of Hill and Silver (1995) who used a very similar methodology to assess attitudes to obesity in 9-year old girls and boys. It was found by Hill and Silver (1995) that the ratings of the body figures were also dominated by the size of the figure being judged. The authors found negative attitudes to the obese figure in the areas of social functioning, academic success and the health domain. The body shape of the stimulus figures had a huge influence on the children's judgements on what could be considered to be important life issues. Consistent with the present study, Hill & Silver (1995) also found that gender had only a minor effect on the judgements made.

It can be concluded that Asian and Caucasian pre-adolescents are very similar in their stereotyped attitudes towards body shape. Both groups of children were primarily UK born (98.8% of Caucasian participants and 90.3% of the Asian participants). Therefore it can reasonably be assumed that both groups of children would have been

subjected to similar societal values that are projected by British culture and the media. These values involve a negative representation of overweight and obesity and a positive view of thinness. It appears that Asian and Caucasian are similar in the way that they reflect these contemporary social values associated with body shape and weight.

Early cross-cultural research suggested that negative attitudes to obesity may be less common in cultures where poverty is relatively common and fatness is envied as a status symbol of power and wealth (Nasser, 1988). It has been hypothesised that negative attitudes to obesity may also be less common in ethnically diverse groups living in Britain due to the values of their original culture. The findings of the current study do not support this hypothesis as Asian and Caucasian children were similar in their attitudes towards body shape. As discussed in the introduction, it has been suggested by Hill & Bhatti (1995) that modern South Asian culture also shares ideals regarding body shape that values thinness, which is driven by the Asian media. There is now even more widespread availability of Asian channels in Britain, via satellite and digital television than there was 10 years ago. Such channels portray 'thin-ideal' body shapes through Asian films, dramas and music videos. These are frequently watched in Asian communities regardless of ethnic origin and age. It may be that British Asian children are not only responding to this appeal of thinness but also responding to a corresponding negative representation of fatness which is originating from within Asian culture (Hill & Bhatti, 1995).

The present findings are in conflict with Tareen et al (2005), who suggested that negative attitudes to body fat may be less common in Asian communities. The findings are also in conflict with Viner et al (2006) who concluded that there may be ethnic differences in the valuation of body shape and weight in adolescents.

To the author's knowledge, this is the first study carried out looking at the attitudes to obesity in South Asian boys in the UK. It was found that Caucasian and Asian boys were very similar in their endorsement of stereotypes about fatness, as were Caucasian and Asian girls. Of the few effects of gender observed females rated all figures as eating more healthily and being more fit than the boys. These findings are consistent with those of Hill & Silver (1995), as the authors also found that the girls

rated all figures as eating more healthily than boys. It can be concluded that girls may have a more positive attitude to overweight body shapes in the areas of healthy eating and fitness.

Attitudes to obesity in Asian and Caucasian parents

The findings from the present study provide support for hypothesis two. No significant difference was found in the participant's perceptions of their mother's attitudes towards obesity. Asian and Caucasian participants reported their mothers as having similar negative attitudes. It was again found that the ratings of the figures were dominated by the size of the figure being judged and both ethnicity and gender had very little impact on the ratings. The ratings were consistent with the stereotypes about body shape and mirrored the participant's own ratings. The participants felt that their mums would rate the obese figure as having significantly fewer friends, less liked by parents, having less academic success, being less content with appearance and as wanting to be thinner. More extreme judgements were made in the health domain; the obese figure was rated as being significantly less fit, less healthy and eating less healthy foods.

The results of the present study are consistent with Davison & Birch (2004) who as discussed earlier demonstrated that both 9-year old girls and their parents endorsed 'fat stereotypes'. Very limited research has been carried out investigating the attitudes to obesity in parents in different ethnic groups. The present results are inconsistent with the findings of Hodes et al (1996), who found that mothers from South Asia found slimmer girls less attractive compared to British white mothers. However, the present results are consistent with a later study carried out by Ogden and Chanana (1998). This study found that both Asian and Caucasian parents of university students were similar in their ratings of the perfect female body.

The findings in the present study may not support those of early research in this area because the majority of earlier studies involved first generation South Asians who had migrated to Britain (Hodes et al., 1996). However, in the present study 52% of participants had at least one or two parents who were born and brought up the UK.

Therefore the parents in this study are more likely to have adopted Western ideals regarding the negative representation of obesity and developed negative attitudes towards obesity and overweight.

There were some effects of ethnicity in participant's perceptions of their mother's attitudes to the figures. Consistent with the participant's own ratings there were some subtle differences in the areas of healthy eating and contentment with appearance. The Asian participants perceived that their mums would rate both the thin and obese figures as eating more healthy foods than the Caucasian participants. The Asian participants also thought that their mums would rate the obese figure as happier with the way they looked and the thin figure as being less happy with the way they looked compared to the Caucasian participants. Furthermore, the Asian participants perceived that their mums would rate the obese figure as being slightly more fit and the thin figure as being less fit.

It is interesting that the only areas where a difference was found between the ethnic groups were in the areas of healthy eating, fitness and contentment with appearance. This applied to both the attitudes of the participants and their perceptions of their mother's attitudes. Although, data have been somewhat inconsistent, some diet and nutrition surveys have found household dietary fat-energy supply to be higher in first generation migrant South Asian women than the general population (e.g. Anderson, Lean, Bush, Bradby & Williams, 1995). In the present study, 40% of the Asian participants had two parents who were born in Pakistan and had migrated to Britain. It is possible that being overweight and eating foods that are high in fat is associated with being 'healthy' in this sub-sample of South Asian mothers.

Due to the consumption of fried foods and snacks in South Asian families, it has been suggested that the South Asian diet may be unhealthy compared to the general population. However, depending on the particular subcontinent from which people originated, methods of cooking, income and other social factors, people of South Asian origin eat meals that vary markedly in the amount of fat (Smith, Knight, Sahota, Kernohan & Baker, 1993). In fact, it was found by Anderson and Lean (1995) that after a decade, the dietary fat intake of migrant South Asian women in Glasgow had become similar to that of the general population. It is also likely that

second generation Asian children may adopt British dietary patterns, rather than the diets of their parents.

Differences in the Asian participant's perceptions of their mum's attitudes to fitness are also interesting (the obese figure was rated as being slightly fitter than the thin figure), as there is less reported physical activity among migrant minority ethnic groups, including South Asians (Acheson, 1998). However, it is important that the higher prevalence of obesity in South Asian groups is not assumed to be the result of poor diet and lack of awareness of the importance of physical exercise. There is considerable evidence that social inequality and social exclusion can contribute not only to lower physical activity but also to poorer health outcomes in general. This creates a cycle of disadvantage, which can be transmitted to the next generation (Landman & Cruickshank, 2001).

Attitudes to thinness

Attitudes to thinness in Asian and Caucasian children

Following an investigation into attitudes towards obesity, this study also compared the Asian and Caucasian pre-adolescents in their attitudes and behaviours associated with thinness. This concept encompassed attitudes associated with a priority for thinness, which included body dissatisfaction, importance of thinness and over concern with shape and weight. It also encompassed associated behaviours such as dieting and weight control.

The present study provided support for hypothesis 4. As predicted, the Asian pre-adolescent girls displayed significantly higher levels of 'attitudes and behaviours associated with thinness' than the Caucasian pre-adolescent girls. This occurred despite there being no significant differences in body weight between the two ethnic groups. An unexpected finding in this study was that the Asian boys also displayed significantly higher levels of attitudes and behaviours associated with thinness than Caucasian boys. Again this occurred despite a similarity in body weight.

Focusing firstly on the girls data, it was found that Asian and Caucasian girls ideally wanted a thinner figure and showed similar levels of body dissatisfaction. However significant differences between the groups were found in the ratings of ideal shape, with the Asian girls ideally wanting to have a thinner figure than the Caucasian girls. Consistent with previous research in this area, it was found that overall girls displayed significantly higher rates of body dissatisfaction than boys (Mendelson et al., 1996). Rates of reported dieting were found to be similar in Asian and Caucasian girls.

No significant difference was found in overall body dissatisfaction between Asian and Caucasian boys. However, a surprising finding was that the Asian boys had a thinner ideal figure than the Caucasian boys. Furthermore, an unexpectedly high level of dieting was reported in Asian boys with 46% of the Asian boys reporting that they were currently dieting to lose weight or watching what they ate so as not to put on weight, compared to only 29% of the Caucasian boys.

The increased levels of reported dieting were also reflected in the scores obtained on the McKnight risk factor survey scales. Both the Asian girls and boys engaged in significantly more weight control behaviours and had higher over concern with shape and weight than the Caucasian children. The lowest scores were obtained by the Caucasian boys. Significant effects of ethnicity were also found in the ratings of importance of thinness to the child, as it was found that it was significantly more important to the Asian children that they were thin. In line with previous research, being thin was significantly more important to girls than it was to boys (Lawrence & Thelen, 1995).

In summary, the results indicated that the Asian girls displayed significantly higher levels of attitudes and behaviours associated with a priority for thinness than Caucasian girls. It was more important to Asian girls that they were thin, they wanted a thinner figure, they engaged in more weight control behaviours and had higher over concern with shape and weight. These findings have several clinical implications (that will be discussed later in this section) and are consistent with a number of studies investigating attitudes to body shape and weight in South Asian girls.

The majority of research in this area has focused on the presence of eating disorder symptoms in non-clinical populations. Mumford et al (1991) found a higher percentage of Asian girls (3.4%) meeting the diagnostic criteria for Bulimia nervosa than Caucasian girls (0.6%). The authors suggested that Asian girls, particularly those who are Muslim and of Pakistani origin, have higher concerns about food intake and weight and are at increased risk of eating disorders. More recent studies have also found higher scores of disturbed eating in adolescent Asian girls (Thomas et al., 2000; Furnham & Adam-Saib, 2001). In support of the present findings, Hill & Bhatti (1995) found that both Asian and Caucasian pre-adolescent girls displayed a high priority for thinness despite the fact that the Asian girls weighed significantly less than their white counterparts.

An unexpected finding in this study was that a very similar picture emerged for the Asian boys. In summary, the results demonstrated that it was also more important to the Asian boys that they are thin, they wanted a thinner figure, were more likely to report dieting, be engaged in more weight control behaviours and had higher over concern with shape and weight than the Caucasian boys.

There has been a very limited amount of research carried out investigating the attitudes towards thinness in Asian boys. The research that is available however does appear to support the finding that there may be high levels of attitudes and behaviours associated with a priority for thinness. In support of the present findings, the study by Viner et al (2006) found that Bangladeshi, Indian and mixed ethnicity boys were more likely to have ever dieted than Caucasian boys. Taylor et al (2005) carried out a school-based survey of obesity and overweight in which it was found that South Asian males (Bangladeshi, Indian, Pakistani) had the highest prevalence of underweight than other groups. It appears that Asian boys show some of the attitudes and behaviours which in girls are associated with eating pathology. However, it is unclear whether they are at increased risk of eating disorders compared to girls or their white counterparts.

In order to try and explain the findings from the present study it is important to understand the sample investigated. A high percentage of the Asian children in this study reported themselves to be affiliated with Islam (96.2%) and a high majority

reported their ethnic background as British Asian of Pakistani origin. It is interesting to note that the majority of studies that have found greater levels of eating disorder symptoms or attitudes associated with a priority for thinness have involved South Asian girls who are Muslim (Mumford et al., 1991; Hill & Bhatti, 1995; Thomas et al, 2000).

Food, fasting and eating customs are central to many world religions. In Islam the Quran forbids certain foods such as pork and Muslims are only permitted to eat meat that has been slaughtered using 'halal' methods. Some researchers have suggested that dietary practices observed in Islam, such as fasting during the month of Ramadan may present as a risk factor for disturbed eating attitudes (Bhadrinath, 1990). During Ramadan, Muslims must refrain from eating, drinking and sexual activity during daylight hours. Followers can be fasting for long periods of time, particularly when Ramadan falls during the British summer time. The period of fasting during the day usually begins and ends with a large family meal. It can be imagined how such patterns of 'starving' and then 'bingeing' could develop into disturbed eating attitudes and behaviours in order to lose weight and binge-eating disorders such as bulimia nervosa. Fasting requires large amounts of self-discipline and self-control, which are also central to 'restrictive' type eating disorders such as anorexia nervosa. It should be noted that fasting is not unique to Islam, with many other religions having a role for fasting e.g. orthodox Hinduism (Dell, 2007).

It has also been suggested that factors based around control may increase the likelihood of young Muslim girls developing eating disorders. In Islam, the Quran sees men and women as equal and complementary. However in many cases it is the socio-political interpretations of the Quran that have distorted its writings to suit patriarchal cultures leading to the oppression of women. The problem therefore lies in the cultural interpretations of religious writings rather than the religion itself (Hussain, 1984). Within this cultural view, women are seen as symbolic guardians of the family honour and any change to this position (due to the influence of Western society) is seen as a serious threat. It has been suggested that maladaptive eating attitudes and behaviours may be due to increased over-protectiveness in Muslim parents in order to deal with this threat (Ahmed et al., 1994). The role of parents in Muslim families will be explored later in this discussion.

There has been very little research focusing on Asian girls from different religious groups, therefore it cannot be assumed that there is a higher prevalence of body image concerns and disturbed eating attitudes in Asian girls simply due to the fact that they are Muslim. As discussed earlier, Furnham & Adam-Saib (2001) did not find higher levels of abnormal eating attitudes in the Muslim participants compared to the Hindu participants. Abnormal eating attitudes may not be related to particular religions but rather to the patriarchal subcultures that have religions such as Islam as its core feature. It is this combination of religious and cultural factors that may contribute to high levels of abnormal eating attitudes in young Asian children.

As discussed in the introduction, the formation of an ethnic identity in British Asian children can pose significant challenges. There may be conflict and contradictions between a 'British' identity and an 'Asian' identity, particularly in Asian girls as they may be further disadvantaged by gender inequalities in families and parental restrictions. British Asian children may also struggle in identifying with being 'British' particularly if discrimination and racism is experienced, which may leave the child unable to identify with either cultural group. This inability to form an ethnic identity may lead to anxiety, low-self esteem and the development of maladaptive coping strategies such as disturbed eating attitudes and behaviours (Timimi & Adams, 1996). Therefore this may also be a contributing factor towards the high levels of attitudes and behaviours associated with thinness found in the Asian girls and boys.

Attitudes and importance of thinness to Asian and Caucasian parents

As well as the participant's own perceptions, their perceptions of the importance of shape and weight to their parents were also investigated. Hypothesis 3 predicted that there would be no significant difference in the participant's perceptions of the importance of thinness to Asian and Caucasian parents. In fact, this hypothesis was not supported as significant differences were found in the reported importance of thinness to Asian and Caucasian parents.

Both Asian and Caucasian girls wanted to have a thinner figure than the figure that their mum would like them to have. However there was a significant ethnic difference in the ratings of the figure that the participants perceived their mums as wanting them to have. The Asian girls rated their mums as wanting their child to have a thinner figure than the Caucasian girl's perceptions of their mums. This difference was not apparent in the Asian boys. Further evidence for uniformity of this difference in attitudes came from items in the McKnight risk factor survey. Participants reported that it was significantly more important to both Asian mothers and Asian fathers that their child is thin, compared to the Caucasian mothers and fathers.

These findings do not appear to support early research, which suggested that people from South Asian countries hold a positive view of fatness and overweight (Furnham & Alibhai, 1983; Nasser, 1988). It was suggested that South Asian migrant parents are not under the same cultural pressure to conform to a thin body shape due to the values of their original culture (Hsu, 1987). Therefore they are less likely to view thinness in their child as important. The findings are also in conflict with Hodes et al (1996) who found that British white mothers found slimmer girls more attractive than South Asian mothers. However, the current results are consistent with more recent evidence that suggests that Asian and Caucasian parents are similar in their ratings of the perfect female body and that in fact Asian fathers rated physical appearance as significantly more important than white fathers (Ogden & Chanana, 1998).

The results of the present study demonstrated that the Asian children reported that not only was shape and weight important to Asian parents, it appeared that it was significantly more important to both Asian mothers and fathers that their child was thin compared to the Caucasian parents. This applied to both Asian girls and boys. One explanation for the high priority for thinness in Asian parents may be that physical appearance in general is more important. This may be because thinness is seen as a measure of attractiveness which is important for future matrimonial purposes. Alternatively the results could again be interpreted as the result of a changing ideal of body shape towards thinness in Eastern culture and the Asian media (Hill & Bhatti, 1995). Therefore Asian parents may be responding to a more pervasive culture that emphasises thinness compared to other ethnic groups.

Previous research has demonstrated that parents play a substantial role in the transmission of cultural values involving weight, shape and appearance in children (Hill & Franklin, 1998; Hill & Pallin, 1998). Parents may contribute to the development of abnormal eating attitudes in children through direct parental comments (Smolak et al., 1999) or by creating an environment that emphasises thinness and holds a negative attitude towards being overweight (Davison & Birch, 2004). This study demonstrated that both the Asian girls and boys reported a greater importance for thinness in their parents compared to the Caucasian girls and boys. The Asian girls also reported that they felt that their mothers would like them to have a thinner figure than the Caucasian girls. These findings suggest that Asian children perceive themselves to be under increased pressures to be thin, at least some of which is transmitted by Asian parents.

The role of family conflict and ‘culture-clash’

In order to investigate the role of the family in how children may development weight and shape concerns, this study focused on how conflict between children and parents may contribute to the development of shape and weight concerns in both Asian and Caucasian girls.

The results demonstrated that the Caucasian children had significantly more conflict with their parents than the Asian children. In particular, they had more conflict about appearance related issues such as what they ate, their hair, and what they wore at home. The Caucasian children also had more conflict about non-appearance related issues such as money, friends, what they did after school and their school work. The least amount of conflict with parents was reported by the Asian girls. These findings are in accord with those of early literature on adolescent-parent conflicts in Caucasian families. Kelly (1972) found that parents and adolescents were in basic agreement about moral issues, however had disagreements over more trivial issues such as dress styles, hair length and hours of sleep.

Gender appeared to have an effect on the amount of conflict between children and parents about non-appearance related issues. It was found that the boys had

significantly more conflict about these issues. However, no significant gender differences were found regarding conflict about appearance related issues. These findings also support those of previous research. Boys may have been less likely to have conflict with their parents over issues such as weight and what they eat, as boys generally report less concerns about eating and body image than girls (Lawrence & Thelen, 1995).

Based on evidence from previous research, it was hypothesised that there would be a significant positive association between levels of conflict in the family (between parents and girls) and attitudes and behaviours associated with thinness in both Asian and Caucasian girls (Hypothesis 5). This hypothesis was supported for the Caucasian girls but not fully supported for the Asian girls. The associations of family conflict with attitudes and behaviours associated with a priority for thinness produced mixed findings. Higher reported family conflict scores were associated with higher rates of body dissatisfaction in Caucasian girls but not Asian girls. In fact, in Asian girls higher rates of family conflict scores were associated with lower rates of body dissatisfaction. Despite these differences in body dissatisfaction between the two ethnic groups, it was found that greater reported family conflict was associated with more weight control behaviours and over concern with shape and weight in both Caucasian and Asian girls. Greater reported family conflict in Asian and Caucasian girls was also associated with a greater importance to both parents that their child is thin. This suggests that both Asian and Caucasian girls may have conflict with their parents about their weight and body shape.

These findings support research that has been carried out investigating conflict in Caucasian families. Research has suggested that eating disorder symptoms can be developed and maintained by dysfunctional family interactions. The findings support those of Blok (2002) who found that the majority of women with bulimia nervosa reported more expressed and chaotic conflict in the family.

In studies of eating disorder psychopathology in British Asian girls, much attention has focused on the role of cultural conflicts and a more traditional orientation in the family as important factors that may increase the risk of eating disorders in Asian girls and women (Mumford et al., 1991; Hill & Bhatti, 1995; Furnham & Hussain, 1999;

Mujtaba & Furnham, 2001). As discussed earlier in the introduction, the interpretation has been one of 'culture-clash' where second-generation Asian girls attempt to accept the demands of two very different and opposing cultures. This is amplified by families with a more traditional orientation as it leads to a more restrictive and over-protective attitudes by the parents. In order to cope with this conflict over control, Asian girls may turn to food restriction and controlling body weight as an internal control mechanism.

In order to investigate the role of cultural conflicts in Asian families and based on previous research evidence, this study hypothesised that there would be a positive association between traditional orientation in Asian girls and levels of attitudes and behaviours associated with thinness (Hypothesis 6). This hypothesis was not fully supported as the study produced mixed findings. A very weak positive association was found between traditional orientation in Asian families and attitudes/behaviours associated with thinness. No significant associations were found between traditional orientation in girls and body dissatisfaction, weight control behaviours and over concern with weight. However, it was found that the Asian girls with more traditional backgrounds were more likely to report dieting. This final observation is consistent with Hill & Bhatti (1995) who also found an association between reported dieting concerns and traditional orientation in the family.

The results in the present study do not support the culture-clash hypothesis. Firstly, the hypothesis predicts that the Asian girls with more traditional family backgrounds would experience the greatest conflicts in the family due to greater difference in values between the traditional culture in the family and the opposing Western culture. However, no association was found between traditional orientation in Asian girls and family conflict. It is suggested that the measure of cultural orientation used in this study was a too simple and factual representation of what is a very complex construct. Traditional and Western orientations do not lie on a single continuum as families may incorporate both sets of values strongly. There is a need for a cultural orientation measure that will take into account such complexities.

The lack of associations between traditional orientation in Asian girls and attitudes and behaviours associated with thinness could be explained by the fact that it is not

simply traditional orientation, but rather it is conflict in attitudes that is the mediating factor in the culture clash hypothesis (El-Islam, Malasi, Abu-Dagga, 1988). This is because it is possible for second-generation children to grow up in very traditional families but there may be no conflict in attitudes, due to the fact that the parents and offspring share the same values. However, further evidence against the culture-clash hypothesis came from the finding that very limited associations were found between conflict in Asian families and attitudes and behaviours associated with thinness. In fact it was found that higher rates of family conflict scores were associated with lower rates of body dissatisfaction in Asian girls.

These findings may be explained by a number of factors. This study only measured the levels of conflicting attitudes that were explicitly 'expressed' in the family through disagreements or arguments with parents. It did not measure conflict in attitudes that were not expressed. The study by Furnham & Hussain (1999) investigated the role of conflict between parents and Asian girls. A parent conflict questionnaire was devised that measured how far the girls disagreed with their parents over a number of issues. In this study it was disagreement over values rather than conflict itself that was measured, as disagreements may or may not lead to actual conflicts or arguments. The study found that all conflict scores were higher in the Asian girls. Therefore it is possible that in the present study there may have been conflict in attitudes between Asian girls and their parents however these were not openly expressed in the family. It may be that within Asian culture, particularly families with a more traditional background, there is less tolerance of children openly expressing their views, especially if the views are in conflict with their parents. For this reason, children in Asian families may have less disagreements and arguments with their parents. Furthermore, showing respect for one's parents and elders in the family is a core feature of Asian culture, particularly in Islam. This suggestion is consistent with the findings of the current study as it was found that the Asian children, particular the girls obtained significantly lower conflict scores than the Caucasian children on most of the items.

The children that took part in this research were aged 9-11 years old and were coming up to the start of adolescence. Adolescence in western societies has been described as a time when children are caught between two worlds, one of dependence on parents

and the other as an increasing desire for independence from parents (Cole & Cole, 1996). In the light of this contradiction, adolescents tend to adopt many of their parent's values and beliefs but at the same time may argue with their parents about their values and how they spend their time. It may be that open expression of views in British Caucasian families is more acceptable and in some families is actively encouraged. For this reason, Caucasian children may be more likely to report having disagreements and arguments with their parents as it is seen as part of growing up and moving towards adulthood.

The majority of studies that have investigated attitudes to body shape and eating in South Asian children have also focused on adolescents (Mumford et al., 1991; Furnham & Patel, 1994; Thomas et al, 2000;), and especially later in adolescence (Ogden & Chanana, 1998; Furnham & Hussain, 1999; Mujtaba & Furnham, 2001). This study is one of the few that has focused on the attitudes and behaviours of younger Asian children in pre-adolescence. It could be argued that there may have been less family conflicts in the Asian families, due to the fact that the Asian pre-adolescent girls had not yet reached the stage in childhood where cultural and social issues such as peer relationships and what they did after school were as important as they might become later in adolescence. According to the culture-clash hypothesis, adolescence is also a time when parents in Asian families may become more protective and attempt to exert more control over their children. It has been suggested that it is the more real and active restraints and those that are most relevant to Asian girls at the time, rather than conflict over values or distant issues that make Asian girls more vulnerable to disordered eating (Furnham & Husain, 1999).

An alternative explanation for the lack of reported conflict in the Asian families could be explained by the place of birth of the Asian parents. Much of the previous research in this area has focused on second generation children whose parents had migrated to Britain from South Asian countries (Mumford et al., 1991; Hill & Bhatti, 1995). However, in the present study over half of participants had at least one or both parents who were born the UK. Therefore the Asian participants were part of the second and third generation. For this reason, there may have been less 'culture-clash' related conflicts due to the fact that the Asian parents may have adopted a more Western culture and values, therefore inter-generational conflict is less likely.

Clinical implications

This study has demonstrated that Asian and Caucasian pre-adolescents are similar in their attitudes to body shape. Asian and Caucasian children displayed negative attitudes to obesity and displayed a wide appeal for thinness. In fact, both Asian girls and boys displayed significantly higher levels of attitudes and behaviours associated with a priority for thinness. These attitudes were reflected in the participant's perceptions of their parent's attitudes. The role of family conflict is important in understanding attitudes to body shape in both Caucasian girls and Asian girls.

These findings have several clinical implications. Stereotyped negative attitudes to obesity were shared by both Asian and Caucasian children. Stereotypes are important as they represent a way in which people gather information about others in an extreme form (Zebrowitz, 1990). The 'obese' stereotype can be damaging and lead to discrimination and victimisation of overweight children (Davison & Birch, 2002). Psychosocial problems as a result of obesity related victimisation in childhood and adolescence include poor self-image, suicide, drug and alcohol problems and eating disorders (Britz et al., 2000; Kiess et al., 2001).

It has been suggested that the widespread appeal of thinness is partly inspired by a rejection of what being obese represents (Hill & Silver, 1995). Therefore the drive for thinness in pre-adolescent girls may derive from worries about 'becoming fat' (Striegel-Moore, 1993). Pre-adolescent girls experience natural increases in adiposity during puberty. Girls may experience these changes as becoming fat which leads to an intensified attempt at weight control regardless of whether they are actually overweight (Hill & Silver, 1995). The present study demonstrates that both Caucasian and Asian girls are at risk of such attitudes and behaviours.

In the media and public domains, obesity is associated with poor health and thinness with good health. This has produced a 'health halo' effect associated with thinness. Given the current epidemic of obesity it is important for children to be aware of the associated health risks. However, it is suggested that health promotion should make an important distinction between healthy eating in order to maintain a healthy weight and dieting in order to lose weight (Hill & Silver, 1995). It is also suggested that the

health implications of being overweight are presented taking these issues into consideration and ensuring that individuals who are overweight are not portrayed negatively. There has been a dearth of research into the effectiveness of obesity related interventions in ethnic minority groups (UK Health Development Agency, Mulvihill & Quiqley, 2003). The findings of the present study are important as it suggests that second (and third) generation children from ethnic minority backgrounds share similar attitudes and beliefs towards obesity as their white counterparts and would benefit from similar obesity related interventions.

This study also demonstrated that both Asian and Caucasian participants perceived their mother's as endorsing similar negative stereotypes about fatness. Mothers have shown to be particularly important in the transmission of cultural values involving weight, body shape and appearance in children (Hill & Franklin, 1998; Hill & Pallin, 1998). Although this study did not investigate the participant's perceptions of their father's attitudes towards obesity, research has demonstrated that mothers have a greater effect on children's eating attitudes and behaviours than fathers do (Smolak et al., 1999). Parent-focused interventions are needed to target both Asian and Caucasian mothers. It is important that parents (particularly mothers) do not create environments that portray individuals who are overweight, negatively. Parents need to make clear to children that body size impacts on an individual's health and not their personal qualities. Labels such as "fat is bad" should not be used, as children may interpret this as "fat people are bad" (Davison & Birch, 2004).

A significantly higher level of attitudes and behaviours associated with thinness were found in the Asian girls compared to the Caucasian girls. These findings are important as attitudes such as body shape dissatisfaction and behaviours such as dieting are some of the key predictors of eating disorders (Stice, 2001). This study demonstrated that Asian girls appear to be at increased risk for developing abnormal eating attitudes and eating disorders. The existence of such concerns prior to adolescence and the onset of puberty are of great concern. There is a need for eating disorder-related interventions to target these vulnerable groups. Such early interventions will increase awareness in South Asian communities of the potential risks and early warning signs of disturbed eating attitudes and behaviours in Asian girls.

Although an unexpectedly high level of attitudes and behaviours associated with a priority for thinness was also found in Asian boys compared to Caucasian boys. Due to lack of research into developmental pathways, it is unclear whether Asian boys may also be at increased risk of eating disorders.

Presentation of South Asians to eating disorder services has been found to be low (Ratan et al., 1998) and there is generally a low uptake of mental health services by ethnic minorities. However this may be a result of obstacles to referral pathways that make it less likely that Asians are referred to specialist services. In light of the current findings it is important that steps are taken in order to improve the equality and access of mental health services for ethnic minority populations.

The role of family conflict appears to be relevant to understanding the development of shape and weight concerns in Caucasian pre-adolescents. However, the concept of 'culture clash' in understanding conflict in attitudes in Asian families may be too simple, as the reality of how conflicts may or may not be expressed in families is much more complex. It appears that non-overt conflict may be more important in understanding shape and weight concerns in Asian pre-adolescents. These findings are clinically important as it appears that family factors involving culture-clash (and traditional orientation) may not be as straightforward in understanding the aetiology of eating disorders in British Asians as once thought. Furthermore, the relevance of such factors has the potential to become less important in the future. Many South Asian children living in Britain today also have British-born parents. Construing the difficulties of Asian children as 'cultural' maybe taking an ethnocentric view, and it may be important to view the aetiology of eating disorders in British-born ethnic minority groups as becoming more similar to that of their white counterparts in the future.

Strengths and Limitations

The findings of the present study may have been impacted upon by a number of limitations. Firstly the overall participation rate was low. From the eleven schools

that participated in the study, a total of 1048 children were invited to take part in the study. From this sample a total of 353 participants actually took part in the study giving an overall participation rate of 33.7%. No data are available on the non-participants. Participation in the study was dependent upon consent from parents. It is possible that this led to a sampling bias as parents who declined to allow their child to take part in the study may have had children who had different attitudes to body shape to the participants who did take part. For example, some teachers involved in the study suggested that parents who had an overweight child may have been less likely to give consent for their child to take part in the study. This could be attributed to the fact that the study required the child's weight and height to be measured. The study was also dependent upon the children to return the reply slips to their form teacher, which may also have impacted on the response rate due to lost or misplaced reply slips.

A strength of the study was that the parental consent letter was sent to parents in both English and Urdu. Urdu is the most common written language of Pakistani Asians, therefore this ensured that parents who could not read English were not excluded. A further strength of the study is that a relatively large number of participants were included in the final analysis. There were also no great discrepancies in the number of participants in each ethnic group.

Due to the overall participation rate it is likely that the sample was not truly representative of all Caucasian and South Asian pre-adolescent children in Britain. Furthermore, the Asian sample that took part in the study cannot be generalised to all South Asian children. A very specific subgroup of Asian children took part in this study, the majority of who were Muslim and of Pakistani origin. However, huge differences and variations in culture exist within the subgroup of Asian Pakistanis. The majority of the Asian sample in this study came from a city with a high population of Pakistani Asians living in a close-knit Asian community. Many of the participating schools also had a high percentage of Asian children attending them. Differing results may have been obtained if the majority of the Asian sample had come from pre-dominantly white schools and communities. The majority of studies investigating attitudes to body shape in Asian children have focused on areas where there are large Asian communities (Mumford et al., 1991; Hill & Bhatti, 1995;

Furnham & Adam-Saib, 2001). This is obviously for practical reasons and further research is necessary to investigate the experiences of Asian children who do not grow up in Asian communities and who don't have peers who share their ethnic background and culture.

This study relied on the participants to report their perceptions of their parent's attitudes to body shape. Therefore it could be argued that this may not have been an accurate description of their parent's attitudes. Obtaining parents' views directly may have been a more valid way of investigating their views. Other studies looking at the role of parents in how children develop shape and weight concerns have sometimes involved both parents and children filling in self-report measures (Hill & Franklin, 1998; Davison & Birch, 2004). On the other hand, asking parents to self-report their own attitudes also presents difficulties as responses can be coloured by social desirability. For example, parents may feel that it is unacceptable to express a desire for their child to be thinner. Furthermore, it is argued that what the children actually perceive their parents' attitudes to body shape to be is the key issue.

Although demographic data regarding ethnic background, religion and place of birth was collected on all participants, data were not collected on socio-economic background. Socio-economic status is usually assessed by collecting data on parental employment and household crowding (Viner et al., 2006). Ethnicity in Britain is confounded by social class, therefore it is possible that socio-economic status may have been a confounding variable in this study. Pakistani migrants in Britain are mainly from the impoverished areas of the Punjab and Kashmir. Therefore Pakistani Asian families may be more disadvantaged in terms of level of education and occupation than Caucasian families. It has been found that young people from higher socio-economic groups have a greater awareness of social ideals of body thinness and have more negative attitudes towards obesity (Wardle, Robb, Johnson, Griffith, Brunner, & Power, 2004). Therefore it cannot be certain as to whether differences between ethnic groups are primarily due to educational and socio-economic circumstances or other ethnic factors.

Methodological issues may also have had an impact on the findings. Data were collected in classrooms involving up to 30 children, and this may have led to

distractions such as noise. At the time of data collection, the children were reassured that the questions were not a test, and that they must try and answer the questions independently. Although an effort was made to separate the children as much as possible to ensure privacy, it is possible that children may have attempted to discuss their answers and may have been influenced by their peers. However, previous studies in this area have adopted similar methodologies in order to collect data (Hill & Bhatti, 1995). A possible way of overcoming this problem would be to arrange for participants to complete the booklets on their own rather than in a class.

A strength of this study is that the majority of questionnaire items chosen had previously been used and validated on populations similar to those in the present study. The majority of the scales used also demonstrated good levels of internal reliability for the current sample. The internal reliability (Cronbach alpha) for the items that were developed for use in this study, for example the assessment of conflicting attitudes in the family, were also found to be high ($r > 0.7$).

Recommendations for future research

Research investigating attitudes to body shape in ethnic minority groups living in Britain, particularly South Asians, is very limited. There is a need for further research investigating both attitudes to obesity and attitudes to thinness in Asian girls in order to gain further understanding of the high levels of reported attitudes and behaviours associated with a priority for thinness. To the author's knowledge this is the first study looking at attitudes to obesity in Asian boys as well as Asian girls. There is a need for further investigation into the particularly high reported levels of dieting in Asian boys as well as high levels of attitudes and behaviours associated with a priority for thinness compared to Caucasian boys. This is particularly important as such attitudes and behaviours are associated in girls with an increased risk of eating disorders (Stice, 2001).

This study focused primarily on Muslim South Asian children of Pakistani origin. There is need for further research looking at potential differences between ethnic groups from different countries in the South Asian subcontinent and also the role of

religion in attitudes to body shape. The relationship between religion and eating disorders is extremely complex and there is a need for further understanding of how the combination of religious and cultural factors may contribute to the development of abnormal eating attitudes and eating disorders. Further research is also necessary to investigate attitudes to body shape in Asian children who do not live in large Asian communities.

This study investigated the participant's perceptions of their parent's attitudes to obesity and the importance of thinness. However, when looking at attitudes to obesity, this study only investigated the participant's perceptions of their mother's attitudes. Further research looking at the participant's perceptions of their father's attitudes is important, as comments from male family members are commonly cited as reasons for trying to lose weight (Hill & Franklin, 1998). Further research is also recommended that would directly investigate the attitudes of parents in different ethnic groups and compare this to the children's perceptions of their attitudes. This would allow a more direct investigation of parental attitudes and would also demonstrate whether parents are mindful about expressing stereotypical or negative attitudes in the presence of their children (Davison & Birch, 2004). The Asian participants in this study reported a higher level of importance for thinness in their parents compared to the Caucasian parents. Further research is required investigating this high priority for thinness in Asian families and how such values about thinness may be transmitted to Asian children, for example through parental comments or modelling of behaviours.

Higher reported family conflict was associated with higher rates of attitudes and behaviours associated with thinness in Caucasian girls but not Asian girls. It was hypothesised that this may have been due to the fact that this study only measured expressed conflict in the family through open disagreements or arguments. Due to the possibility that expressed conflicts in attitudes may be less tolerated in Asian families, there is a need for further study into disagreements and conflicts that are not openly expressed in the family. This is because avoidance and lack of conflict resolution may also be significant predictors of eating disorders (Minuchin et al., 1978). Further research investigating attitudes to body shape in South Asian adolescents rather than

pre-adolescents is also important as adolescence may be a time when 'culture-clash' and conflict with parents are more relevant (Furnham & Patel, 1994).

Conclusions

Research evidence has consistently shown that western society values thinness and holds a negative attitude towards overweight individuals. This study has demonstrated that ethnic minority groups living in western societies hold similar attitudes to body shape that reflect the current societal view. This study has focused on British South Asian children. It appears that this group not only hold similar negative attitudes to obesity as Caucasian children, but there appears to be an increased priority and drive for thinness in Asian children. What is most concerning is that these attitudes appear to be held by increasingly younger generations and in this study were clearly present in children who had not yet reached adolescence.

Adolescence is a time when such attitudes and risks may converge and is seen as the most threatening peak for the development of eating disorders. These findings are important as South Asian girls appear to be a high-risk group for developing eating disorders. There are increased challenges for interventions aimed at preventing eating disorders in this group. This is because there appears to be a greater emphasis to conform to dominant social norms that emphasises thinness and rejects obesity in Asian groups compared to other ethnic groups. Some of this emphasis may be transmitted by Asian parents and consequently Asian children may be encouraged to act to reduce their obesity. This study highlights the need for systemic-based early interventions that do not focus solely on the child but focuses on the wider cultural, community, and familial system that the child may part of.

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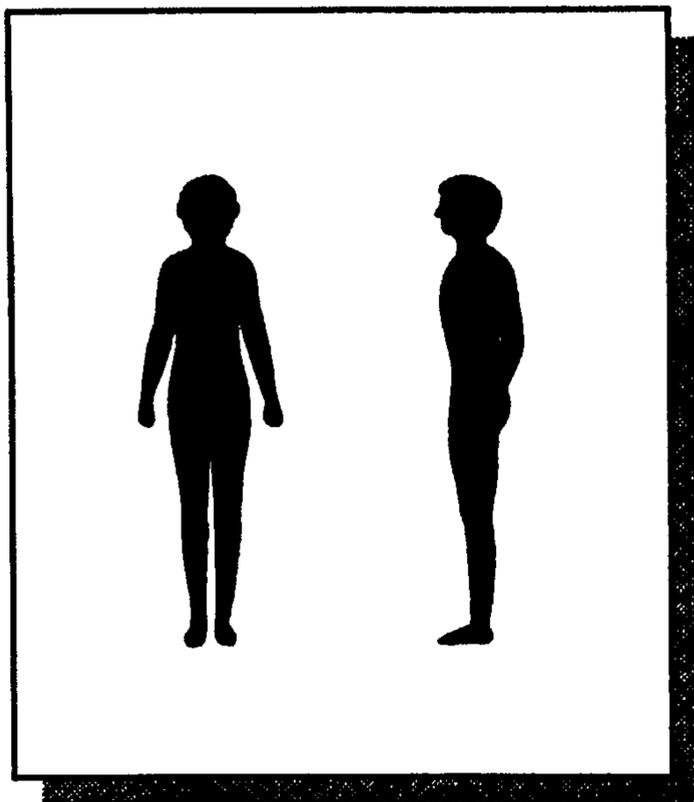
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APPENDICES

Appendix 1 – Booklet 1 Girl's version

Name:

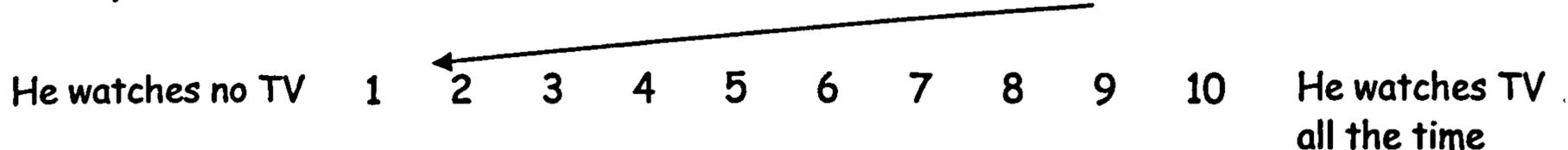
Class:



INSTRUCTIONS

Please circle a number that best describes THIS BOY...

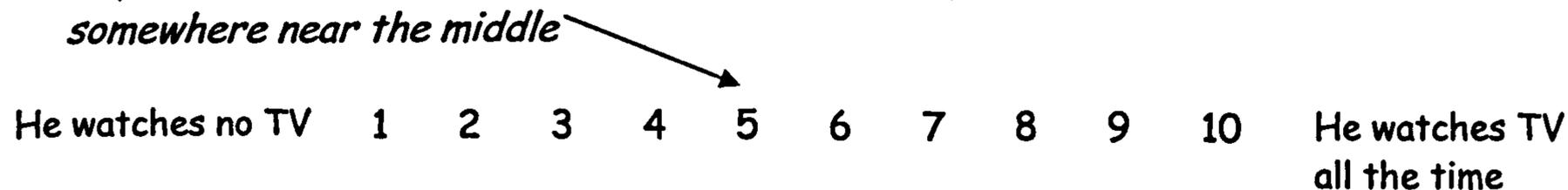
If you think that he watches a little bit of TV then you circle 1 or 2

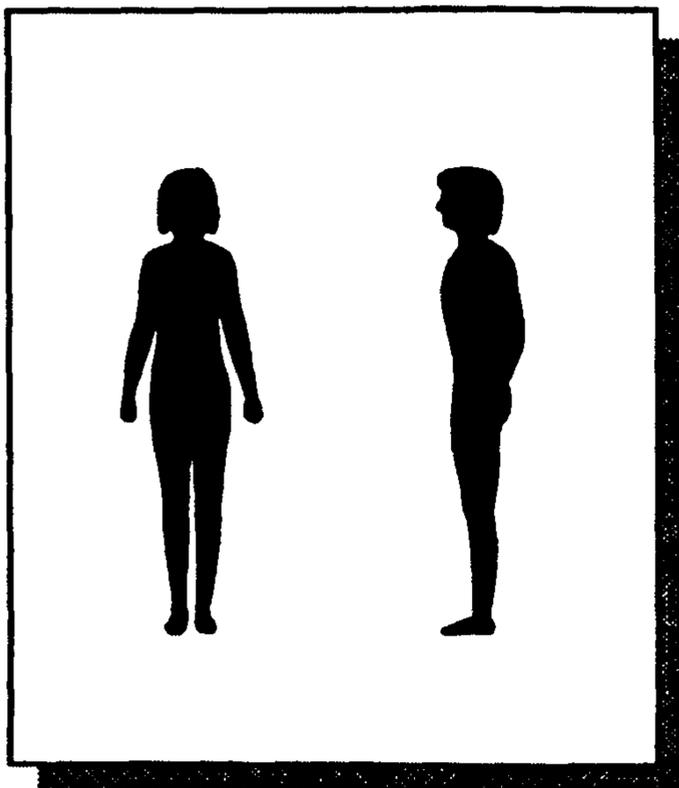


If you think that he watches TV all the time then you circle 9 or 10



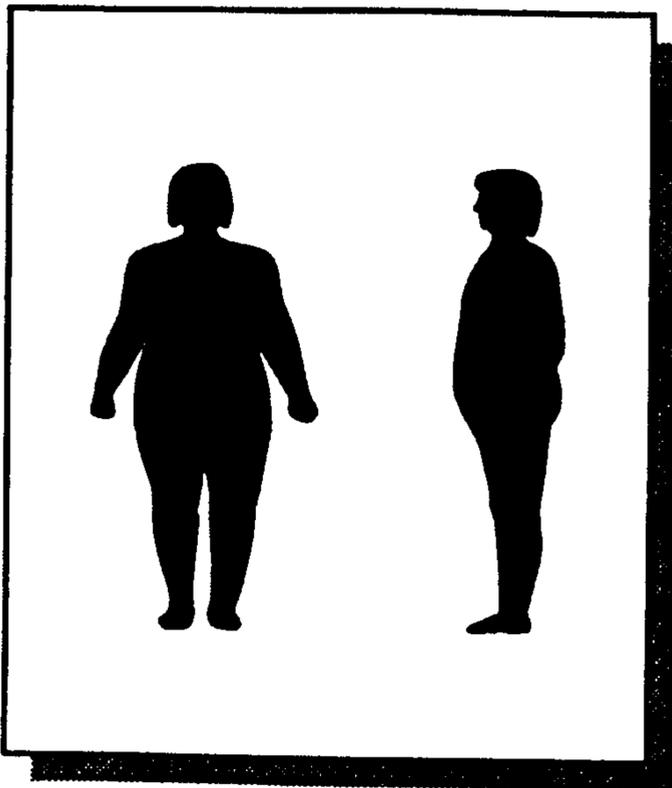
If you think that he watches TV sometimes than you circle a number somewhere near the middle





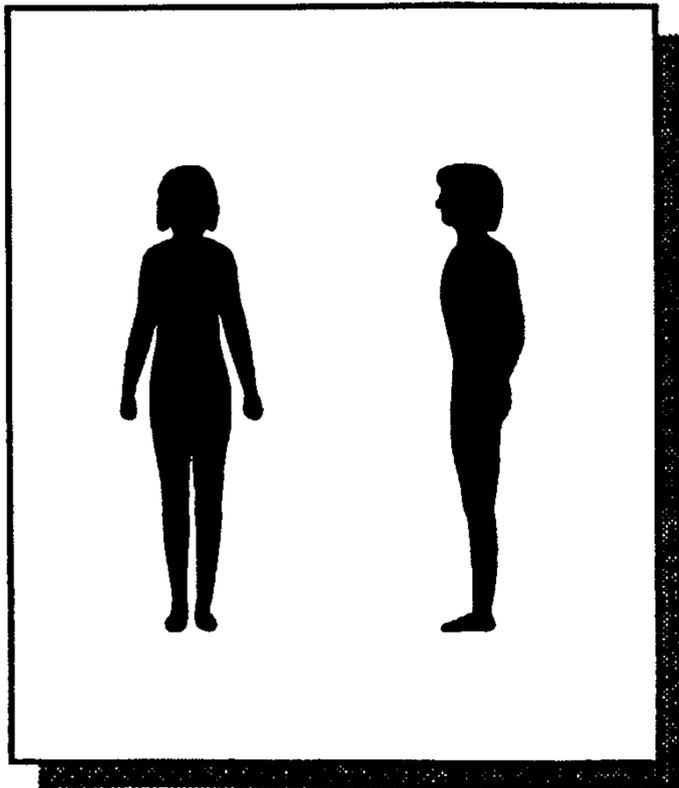
Please circle a number that best describes **THIS GIRL...**

She has no friends	1	2	3	4	5	6	7	8	9	10	She has many friends
She is not healthy at all	1	2	3	4	5	6	7	8	9	10	She is extremely healthy
She is not at all liked by her parents	1	2	3	4	5	6	7	8	9	10	She is liked by her parents
She is not at all happy with the way she looks	1	2	3	4	5	6	7	8	9	10	She is happy with the way she looks
She is not fit at all	1	2	3	4	5	6	7	8	9	10	She is extremely fit
She does extremely badly at school	1	2	3	4	5	6	7	8	9	10	She does extremely well at school
She never eats healthy foods	1	2	3	4	5	6	7	8	9	10	She often eats healthy foods
She would like to be much thinner	1	2	3	4	5	6	7	8	9	10	She would like to be much fatter



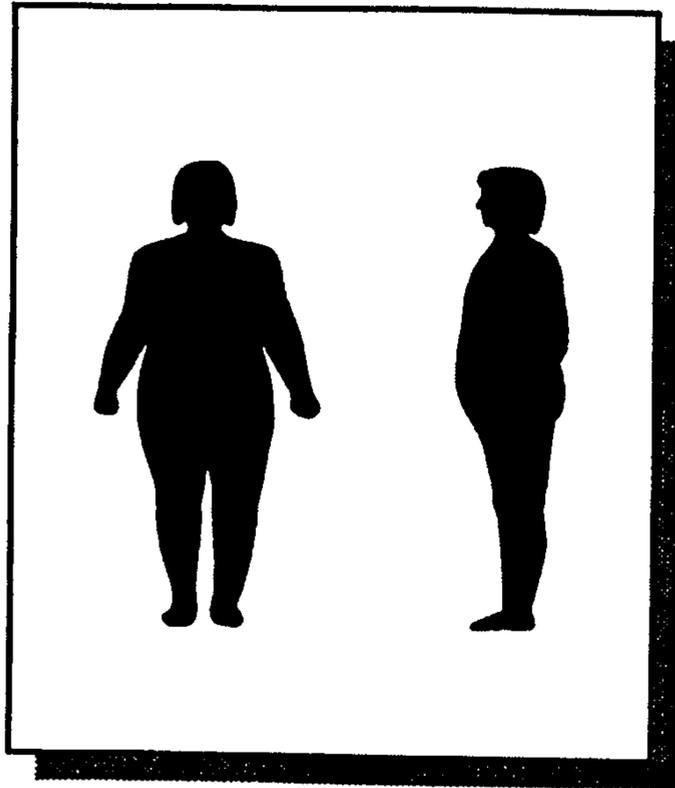
Please circle a number that best describes **THIS GIRL**....

She has no friends	1	2	3	4	5	6	7	8	9	10	She has many friends
She is not healthy at all	1	2	3	4	5	6	7	8	9	10	She is extremely healthy
She is not at all liked by her parents	1	2	3	4	5	6	7	8	9	10	She is liked by her parents
She is not at all happy with the way she looks	1	2	3	4	5	6	7	8	9	10	She is happy with the way she looks
She is not fit at all	1	2	3	4	5	6	7	8	9	10	She is extremely fit
She does extremely badly at school	1	2	3	4	5	6	7	8	9	10	She does extremely well at school
She never eats healthy foods	1	2	3	4	5	6	7	8	9	10	She often eats healthy foods
She would like to be much thinner	1	2	3	4	5	6	7	8	9	10	She would like to be much fatter



Please circle the number that you think YOUR MUM would use to describe **THIS GIRL**.....

She has no friends	1	2	3	4	5	6	7	8	9	10	She has many friends
She is not healthy at all	1	2	3	4	5	6	7	8	9	10	She is extremely healthy
She is not at all liked by her parents	1	2	3	4	5	6	7	8	9	10	She is liked by her parents
She is not at all happy with the way she looks	1	2	3	4	5	6	7	8	9	10	She is happy with the way she looks
She is not fit at all	1	2	3	4	5	6	7	8	9	10	She is extremely fit
She does extremely badly at school	1	2	3	4	5	6	7	8	9	10	She does extremely well at school
She never eats healthy foods	1	2	3	4	5	6	7	8	9	10	She often eats healthy foods
She would like to be much thinner	1	2	3	4	5	6	7	8	9	10	She would like to be much fatter



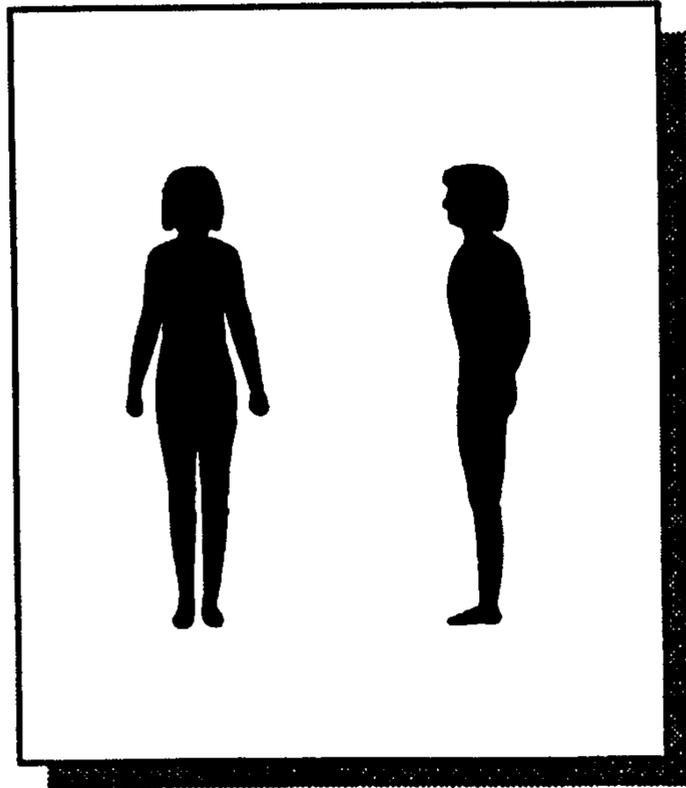
Please circle the number that you think YOUR MUM would use to describe **THIS GIRL**.....

She has no friends	1	2	3	4	5	6	7	8	9	10	She has many friends
She is not healthy at all	1	2	3	4	5	6	7	8	9	10	She is extremely healthy
She is not at all liked by her parents	1	2	3	4	5	6	7	8	9	10	She is liked by her parents
She is not at all happy with the way she looks	1	2	3	4	5	6	7	8	9	10	She is happy with the way she looks
She is not fit at all	1	2	3	4	5	6	7	8	9	10	She is extremely fit
She does extremely badly at school	1	2	3	4	5	6	7	8	9	10	She does extremely well at school
She never eats healthy foods	1	2	3	4	5	6	7	8	9	10	She often eats healthy foods
She would like to be much thinner	1	2	3	4	5	6	7	8	9	10	She would like to be much fatter

Appendix 2 – Booklet 1 Boy's version

Name:

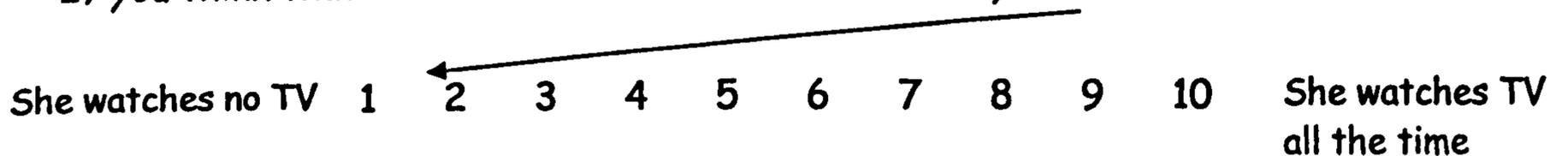
Class:



INSTRUCTIONS

Please circle a number that best describes **THIS GIRL....**

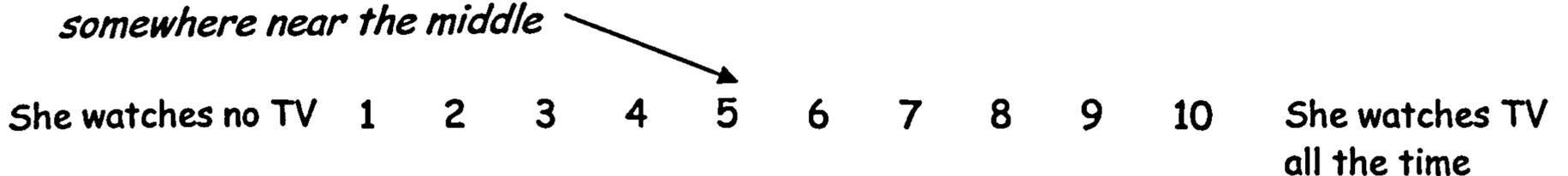
If you think that she watches a little bit of TV then you circle 1 or 2

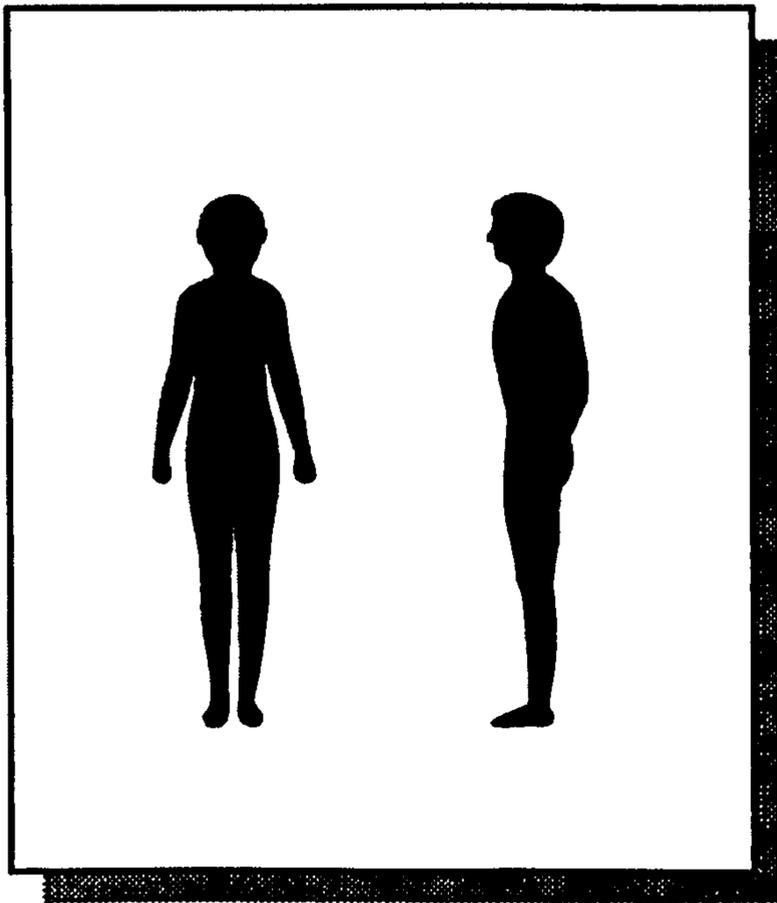


If you think that she watches TV all the time then you circle 9 or 10



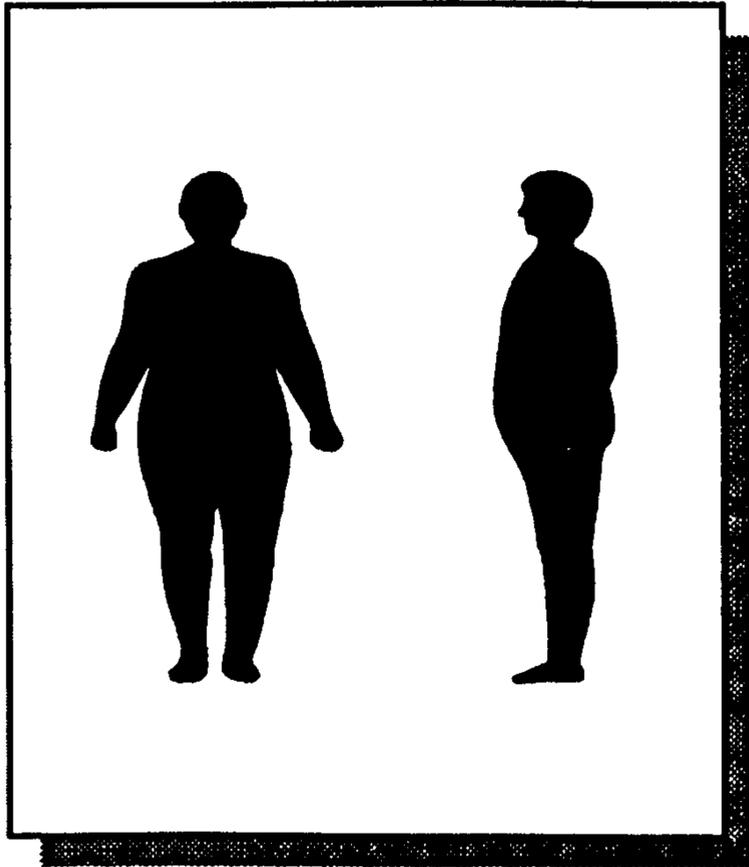
If you think that she watches TV sometimes then you circle a number somewhere near the middle





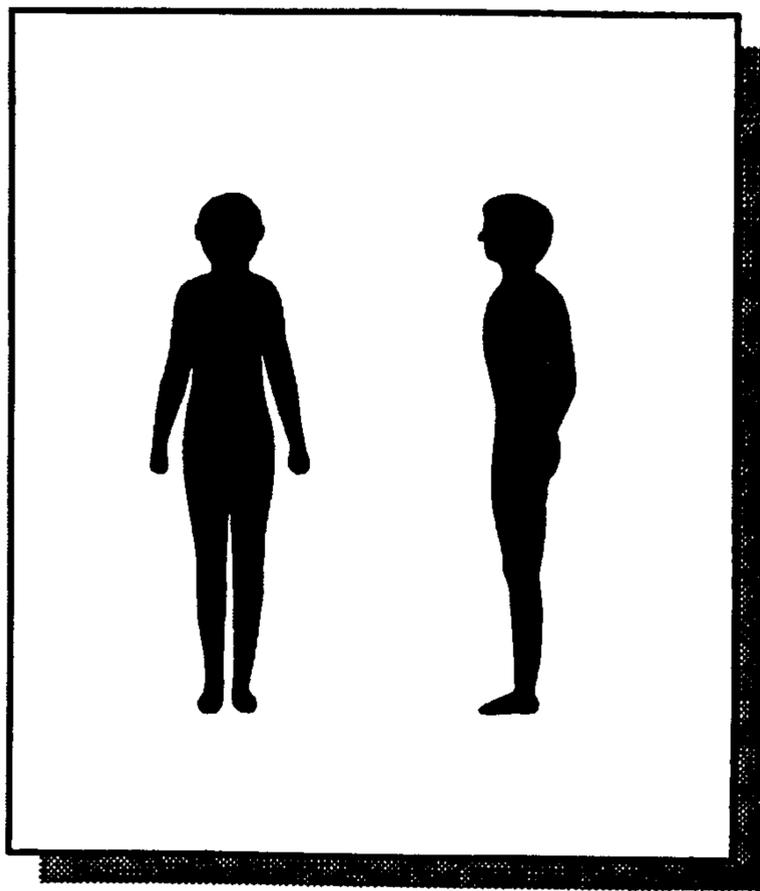
Please circle a number that best describes **THIS BOY**...

He has no friends	1	2	3	4	5	6	7	8	9	10	He has many friends
He is not healthy at all	1	2	3	4	5	6	7	8	9	10	He is extremely healthy
He is not at all liked by his parents	1	2	3	4	5	6	7	8	9	10	He is liked by his parents
He is not at all happy with the way he looks	1	2	3	4	5	6	7	8	9	10	He is happy with the way he looks
He is not fit at all	1	2	3	4	5	6	7	8	9	10	He is extremely fit
He does extremely badly at school	1	2	3	4	5	6	7	8	9	10	He does extremely well at school
He never eats healthy foods	1	2	3	4	5	6	7	8	9	10	He often eats healthy foods
He would like to be much thinner	1	2	3	4	5	6	7	8	9	10	He would like to be much fatter



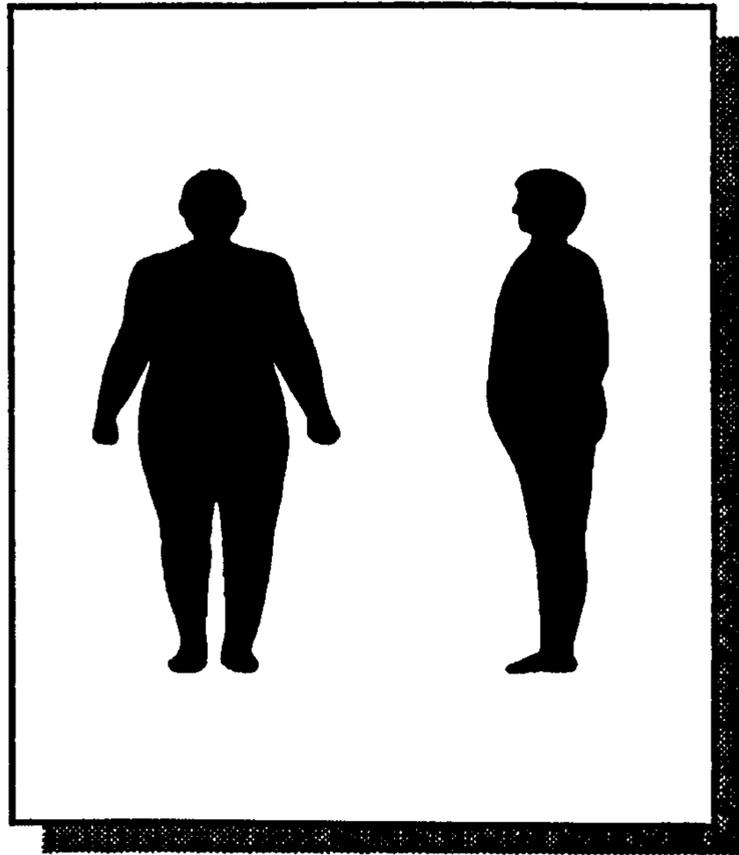
Please circle a number that best describes **THIS BOY...**

He has no friends	1	2	3	4	5	6	7	8	9	10	He has many friends
He is not healthy at all	1	2	3	4	5	6	7	8	9	10	He is extremely healthy
He is not at all liked by his parents	1	2	3	4	5	6	7	8	9	10	He is liked by his parents
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He is not fit at all	1	2	3	4	5	6	7	8	9	10	He is extremely fit
He does extremely badly at school	1	2	3	4	5	6	7	8	9	10	He does extremely well at school
He never eats healthy foods	1	2	3	4	5	6	7	8	9	10	He often eats healthy foods
He would like to be much thinner	1	2	3	4	5	6	7	8	9	10	He would like to be much fatter



Please circle the number that you think YOUR MUM would use to describe **THIS BOY**.....

He has no friends	1	2	3	4	5	6	7	8	9	10	He has many friends
He is not healthy at all	1	2	3	4	5	6	7	8	9	10	He is extremely healthy
He is not at all liked by his parents	1	2	3	4	5	6	7	8	9	10	He is liked by his parents
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He never eats healthy foods	1	2	3	4	5	6	7	8	9	10	He often eats healthy foods
He would like to be much thinner	1	2	3	4	5	6	7	8	9	10	He would like to be much fatter



Please circle the number that you think YOUR MUM would use to describe **THIS BOY**.....

He has no friends	1	2	3	4	5	6	7	8	9	10	He has many friends
He is not healthy at all	1	2	3	4	5	6	7	8	9	10	He is extremely healthy
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He is not at all happy with the way he looks	1	2	3	4	5	6	7	8	9	10	He is happy with the way he looks
He is not fit at all	1	2	3	4	5	6	7	8	9	10	He is extremely fit
He does extremely badly at school	1	2	3	4	5	6	7	8	9	10	He does extremely well at school
He never eats healthy foods	1	2	3	4	5	6	7	8	9	10	He often eats healthy foods
He would like to be much thinner	1	2	3	4	5	6	7	8	9	10	He would like to be much fatter

Appendix 3 – Booklet 2 Girl’s version

Name:

Class:

Please answer the following questions as honestly as possible. Try to answer all the questions. If there is anything you don’t understand just ask.

PART A ABOUT YOU

1. How old are you? _____
2. Where were you born? _____
3. Where was your mum born? _____ (country)
4. Where was your dad born? _____ (country)

5. What is your religion? Please circle one:

- Christianity* *Islam* *Sikhism* *Hinduism* *Buddhism*
Other *Judaism* *None stated*

6. What is your ethnic background? Please circle one:

- White* *Chinese* *Asian (Pakistani)* *Asian (Bangladeshi)*
Asian (Indian) *Asian (Other)* *Black (Caribbean)* *Black (African)*
Mixed (White & Asian) *Mixed (White & Black Caribbean)*
Mixed (White & Black African)

PART B ABOUT YOUR CULTURE

If you are of any ASIAN background please answer questions 1 to 4 below otherwise please go to PART C.

	Never	Rarely	Some -times	Often	Very often	Always
1. Do you watch Asian TV (e.g. Bollywood movies) or listen to Asian music?	1	2	3	4	5	6
2. Do you wear Asian clothes (e.g. shalwar-kameez)	1	2	3	4	5	6
3. Is English spoken in your home?	1	2	3	4	5	6
4. Do you eat Western/English meals at home?	1	2	3	4	5	6

PART C ABOUT YOU AND YOUR FAMILY

During the past year, how often have you disagreed or argued with your parents about... (circle one number for each question)

What you wear (at home)	Never 1	2	3	4	5	6	7	8	9	All the time 10
What you wear (at school)	Never 1	2	3	4	5	6	7	8	9	All the time 10
Money	Never 1	2	3	4	5	6	7	8	9	All the time 10
Your weight	Never 1	2	3	4	5	6	7	8	9	All the time 10
Your friends (other girls)	Never 1	2	3	4	5	6	7	8	9	All the time 10
Your friends (boys)	Never 1	2	3	4	5	6	7	8	9	All the time 10
What you eat	Never 1	2	3	4	5	6	7	8	9	All the time 10
Your school work	Never 1	2	3	4	5	6	7	8	9	All the time 10
Your hair	Never 1	2	3	4	5	6	7	8	9	All the time 10
What you do after school	Never 1	2	3	4	5	6	7	8	9	All the time 10
What you look like	Never 1	2	3	4	5	6	7	8	9	All the time 10

PART D ABOUT EATING

1. Which of the following would you describe yourself as? (circle one)

Currently dieting to lose weight

OR

Currently dieting or watching what you eat so as to not put on weight

OR

Not dieting

2. In the past year, how often have you tried TO LOSE WEIGHT?

Never

A little

Quite a lot

A lot

3. In the past year, how often have you starved (not eaten) for a day or more TO LOSE WEIGHT?

Never

A little

Quite a lot

A lot

4. In the past year, how often have you cut back on what you ate TO LOSE WEIGHT?

Never

A little

Quite a lot

A lot

5. In the past year, how often have you skipped meals TO LOSE WEIGHT?

Never

A little

Quite a lot

A lot

6. In the past year, how often have you exercised TO LOSE WEIGHT?

Never

A little

Quite a lot

A lot

7. In the past year, how often have you eaten less sweets or fatty foods TO LOSE WEIGHT?

Never

A little

Quite a lot

A lot

8. In the past year, how often have you worried about having fat on your body?

Never

A little

Quite a lot

A lot

9. In the past year, how often have you felt fat?

Never

A little

Quite a lot

A lot

10. In the past year how often have you thought about wanting to be thinner?

Never

A little

Quite a lot

A lot

11. In the past year how often have you worried about gaining two pounds?

Never A little Quite a lot A lot

12. In the past year how much has your weight made a difference in how you feel about yourself?

Never A little Quite a lot A lot

13. In the past year, how important has it been to you that you should be thin?

Never A little Quite a lot A lot

14. In the past year, how important has it been to your mother that you be thin?

Not at all A little Quite a lot A lot I do not have contact with anyone that I think of as a 'mother'

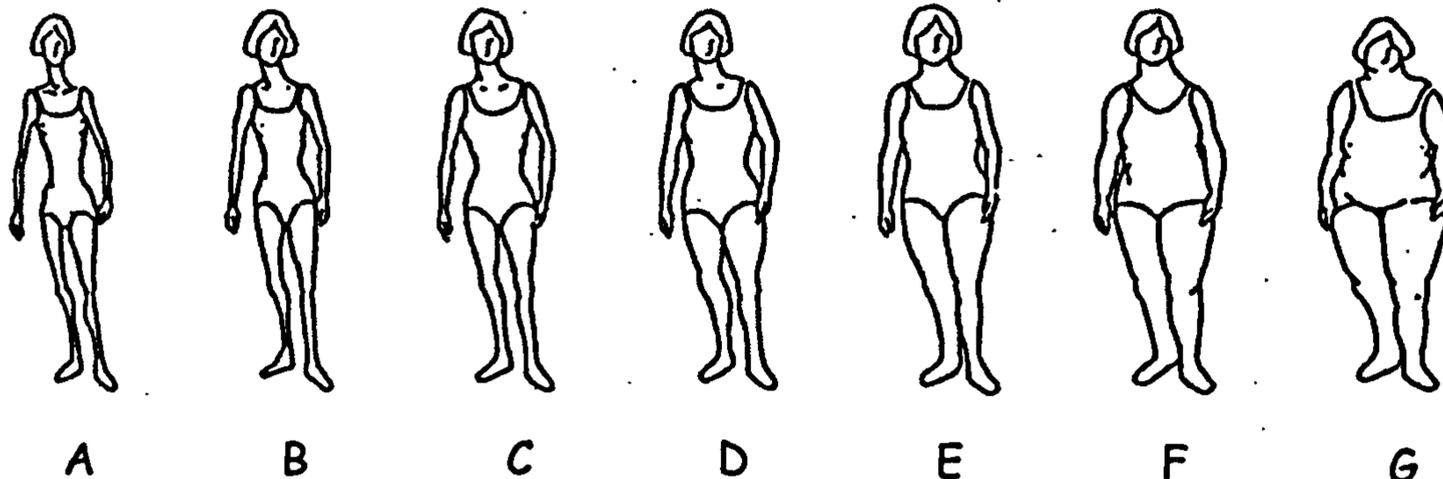
15. In the past year, how important has it been to your father that you be thin?

Not at all A little Quite a lot A lot I do not have contact with anyone that I think of as a 'father'

PART E ABOUT BODY SHAPE

Here are a number of body shapes ranging from very thin to very large. Please pick one letter to describe.....

- 1. Which figure you feel is most like you now _____
- 2. Which figure you would most like to look like _____
- 3. Which figure you feel your mum would most like you to look like _____



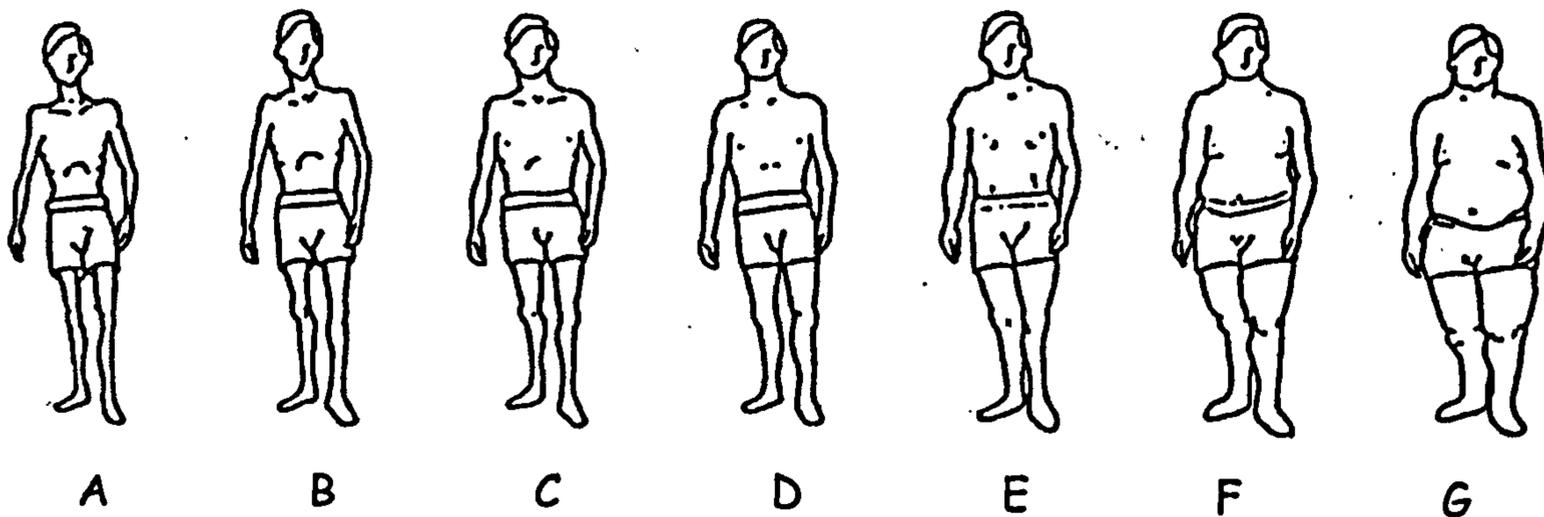
Appendix 4 – Booklet 2 Boy's version

The boy's version of booklet 2 consisted of exactly the same questions as the girl's version (appendix 3) apart from the body figure rating scale in Part E as shown below:

PART E ABOUT BODY SHAPE

Here are a number of body shapes ranging from very thin to very large. Please pick one letter to describe.....

1. Which figure you feel is most like you now _____
2. Which figure you would most like to look like _____
3. Which figure you feel your mum would most like you to look like _____



Appendix 5 – Letter to schools

Programmes in Clinical Psychology
15 Hyde Terrace
The University of Leeds
Leeds
LS2 9LT

Direct Line:
Email:

Head teacher
Address

October 2006

Dear

I am a graduate psychologist currently working towards a doctorate in Clinical Psychology at the University of Leeds. To this end I am completing a research project investigating **cultural differences in attitudes to body shape and weight**. The research project has been given ethical approval by the Leeds East Research Ethics Committee.

There has been very little research carried out investigating the role of cultural factors in the area of attitudes to body shape and weight. We would like to look at attitudes to thinness and obesity in primary school children and the importance of body shape to families of different cultures. Please find enclosed a research paper by Hill & Silver (1995) which demonstrates the area under investigation. This paper also provides examples of the type of assessment measures that will be used in my project. I would like to take the opportunity to discuss with you **the possibility of undertaking this project in your school**.

I plan to conduct my research with both male and female pupils from year 5 and 6. This would involve me spending some time with participating classes. During this time participants will be asked to work through two booklets containing a number of questions. The children will be asked about their perception of different sized body shapes and their attitudes to eating. They will also be asked about how important they think shape and weight are to their families. A few questions about the child's family, cultural environment and basic demographic information are included. It is estimated it will take approximately 20 minutes to complete the booklets. On this or a separate occasion the participants would also need to be weighed and measured.

All information will be treated as strictly confidential. The parents of the children in participating year groups will be sent a letter explaining the study and asking for their consent for their child to participate.

I am looking to include pupils from around 10-15 primary schools. If you feel your school is in a position to help with this study then in return we will be able to provide a summary of the final report.

I will be ringing you shortly to discuss the study further and ask whether your school would be interested in helping with the study. Alternatively, you can contact me on ***** (mobile), or my supervisor Professor Andrew Hill on the above telephone number or address. If you are interested in finding out more about the study I would hope to arrange to meet with yourself, or a representative, so that I can provide more details and answer any questions, without obligation.

Can I thank you in advance for your help.

Yours faithfully,

Sira Arshad
Psychologist in Clinical Training

Andrew J Hill, PhD., C.Psychol.
Professor of Medical Psychology

Appendix 6 – Parental consent letter (English version)

Dear parent / guardian of Year 5 and 6 children

Re: Research Project: Ethnicity and attitudes to body shape

We are conducting a research project involving Year 5 and 6 children in West Yorkshire. We would like to explain a little about the project, what it entails and ask for your consent for your child to take part.

We are looking at cultural differences in attitudes to body shape and weight. In particular we are looking at attitudes to thinness and obesity in different cultures. This is because there has been very little research carried out investigating the role of ethnic and cultural factors in this area.

The children will be asked about their perception of different sized body shapes and their attitudes to eating. They will also be asked about how important they think shape and weight are to their families. A few questions about your child's family and cultural environment are included. The children will be asked to complete questionnaires measuring these issues. The questions asked are straightforward and take only a short time to complete. While we need your child's name to be on the questionnaires, this would be for reference only and will be removed after the questionnaires have been examined. The research also requires your child's height and weight to be measured. This will be done in a room away from other children. All information will be treated as strictly confidential.

The head teacher has kindly given permission for the school to be involved in this study and for us to approach the parents of Year 5 and 6. If you are willing to consent to your child's participation, please complete the slip at the bottom of this letter. I would be very grateful if your child could then return the slip to his or her class teacher in the envelope provided. Thank you for considering allowing your child to take part in this research project.

With many thanks for your help.

Yours sincerely

Sira Arshad, B.Sc.
Psychologist in Clinical Training

Andrew J. Hill, Ph.D., C.Psychol.
Senior Lecturer in Behavioural Sciences



Ethnicity and attitudes to body shape

Please return this slip if you are WILLING to allow your child to take part.

I give my approval for my child (name) to take part in a study investigating cultural differences in attitudes to body shape and weight.

Signed

Appendix 7 – Parental consent letter (Urdu version⁴)

سال 5 اور سال 6 کے بچوں کے والدین/سرپرستوں کے نام

خزاں 2006

محترم والدین/سرپرست،

موضوع: تحقیقی پروجیکٹ: جسم کی ساخت سے متعلق نسلیت اور رویہ

ہم ایک ایسے تحقیقی پروجیکٹ کا اہتمام کر رہے ہیں جس میں یارک شائر کے 5 سال اور 6 سال کے بچے شامل ہیں۔ ہم مختصراً اس پروجیکٹ اور اس کی شرائط کے بارے میں بتانا چاہیں گے، اور اس میں آپ کے بچے کو حصہ لینے کے لئے آپ کی منظوری چاہیں گے۔

ہم جسم کی ساخت اور وزن کے تئیں رویے کے معاملے میں میں ثقافتی اختلافات پر نگاہ ڈال رہے ہیں۔ خاص طور سے ہم مختلف ثقافتوں میں دہلے پن اور موٹاپے کے تئیں خیالات پر نگاہ ڈال رہے ہیں۔ اس کی وجہ یہ ہے کہ اس علاقے میں نسلی اور ثقافتی عوامل کے کردار کا پتہ لگاتے کے لئے بہت معمولی سی تحقیق کی گئی ہے۔

بچوں سے جسم کی مختلف سائز کی ساختوں کے بارے میں ان کا مطمح نظر اور کہتے پینے کے بارے میں ان کے خیالات کے بابت پوچھا جائے گا۔ ان سے اس بابت بھی پوچھا جائے گا کہ ان کے خیال میں ساخت اور وزن ان کے خاندان کے لئے کتنی اہمیت رکھتے ہیں۔ اس میں آپ کے بچے کے خاندان اور ثقافتی ماحول کے بارے میں بھی کچھ سوالات شامل ہیں۔ بچوں سے ان امور کی پیمائش کرنے والا سوالنامہ بھرنے کو کہا جائے گا۔ پوچھے گئے سوالات بالکل سیدھے سادے ہیں اور انہیں مکمل کرنے میں بہت کم وقت لگے گا۔ اگرچہ ہمیں سوالنامے کے اوپر آپ کے بچے کا نام درکار ہوگا، مگر یہ صرف حوالے کے لئے ہوگا اور سوالناموں کا تجزیہ کرنے کے بعد اسے حذف کر دیا جائے گا۔ یہ سوالنامہ آپ کے بچے کے قد اور وزن کی پیمائش کا بھی متقاضی ہے۔ یہ کام دیگر بچوں سے الگ کمرے میں کیا جائے گا۔ تمام معلومات کو پوری طرح راز میں رکھا جائے گا۔

صدر مدرس نے اسکول کو اس مطالعے میں شامل ہونے اور ہمیں 5 سال اور 6 سال کے بچوں کے والدین تک رسائی حاصل کرنے کی اجازت دیدی ہے۔ اگر آپ اپنے بچے کی شرکت کے خواہاں ہیں تو، اس خط کے نیچے دیے گئے پرچے کو بھریں اور اسے اپنے بچے کے فارم کے ساتھ استاد کے پاس بھیج دیں۔ اس تحقیقی پروجیکٹ میں اپنے بچے کو حصہ لینے کی اجازت دینے کے لئے شکریہ۔

آپ کے تعاون کے لئے بہت بہت شکریے کے ساتھ

آپ کا مخلص

انڈریو جے۔ ہل، پی ایچ ڈی، سی۔ مائیکالوجی (Andrew J. Hill)

سیرا ارشد، بی ایس سی (Sira Arshad, B.Sc)

Ph.D., C.Psychol)

بیہیوریل سائنسز میں سینئر لیکچرر

کلینکل ٹریننگ میں ماہر نفسیات

✂

جسم کی ساخت سے متعلق نسلیت اور خیالات

اگر آپ اپنے بچے کو شرکت کی اجازت دینے کے خواہاں ہیں تو براہ کرم اس سلب کو واپس لوٹا دیں۔

میں اپنے بچے (نام) کو جسم کی ساخت اور وزن کے تئیں رویے میں ثقافتی اختلافات کی

تحقیق کرنے والے مطالعے میں حصہ لینے کی منظوری دیتا ہوں۔

..... دستخط۔

⁴ This letter is displayed in font 'Nafees web naskh' which is supported by MS Word. However the original letter sent to parents was displayed in 'Noori nastalique' which is the standard font for Urdu.

Appendix 8 – Child information sheet

Research Project: Ethnicity and attitudes to body shape

My name is Sira Arshad. I am writing to your parent/guardian to ask whether they would be happy for you to take part in a small research project that I am carrying out with children in your year group.

The project is about children's views about body shape and weight in different cultures. If you decide to take part in the project, I will be asking you to complete some questionnaires. You will be asked about what you feel and what you think your family might feel about thin and fat body shapes. You will also be asked some questions about your eating and diet. The questionnaires don't take very long to fill in and there are no right or wrong answers.

As part of the project and if it is ok with you, I would like to measure your height and weight. This will be done in private in a separate room away from everyone. If at any point you no longer want to take part in the project you can say so at any time.

Thank you for thinking about taking part in this project.

Sira Arshad
Psychologist in Clinical Training

Appendix 9 – Ethical approval letter



Leeds (East) Research Ethics Committee

Room 5.2, Clinical Sciences Building
St James's University Hospital
Beckett Street
Leeds
LS9 7TF

Telephone: 0113 2065652
Facsimile: 0113 2066772

5 July 2006

Miss Sira Arshad
Psychologist in Clinical Training
University of Leeds
Academic Unit of Psychiatry and Behavioural Sciences
15 Hyde Terrace
LS2 9LT

Dear Miss Arshad

Full title of study: Ethnicity and attitudes to body shape
REC reference number: 06/Q1206/57

Thank you for your letter of 30 June 2006, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Vice-Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The Committee has designated this study as exempt from site-specific assessment (SSA). There is no requirement for other Local Research Ethics Committees to be informed or for site-specific assessment to be carried out at each site.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
Application	Revised	04 May 2006
Investigator CV		16 February 2006
Protocol	2	03 May 2006
Letter from Sponsor		06 February 2006
Peer Review		11 October 2005

An advisory committee to West Yorkshire Strategic Health Authority

Compensation Arrangements		10 October 2005
Participant Information Sheet: for children	2	24 June 2006
Response to Request for Further Information		30 June 2006
Response to Request for Further Information		03 May 2006
Information sheet for clinical psychology research.		
Supervisor's CV		16 February 2006
Booklet 1-Girls version		
Booklet 2-Girls version		
Booklet 1-Boys version		
Booklet 2-Boys version		
Information regarding peer review		17 February 2006
Consent/invitation letter to parents	3	24 June 2006

Research governance approval

You should arrange for the R&D department at all relevant NHS care organisations to be notified that the research will be taking place, and provide a copy of the REC application, the protocol and this letter.

All researchers and research collaborators who will be participating in the research must obtain final research governance approval before commencing any research procedures. Where a substantive contract is not held with the care organisation, it may be necessary for an honorary contract to be issued before approval for the research can be given.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

06/Q1206/57	Please quote this number on all correspondence
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With the Committee's best wishes for the success of this project

Yours sincerely

Ann Prothero

Dr Molra O'Meara
Vice Chair

Email: ann.prothero@leedsth.nhs.uk

Enclosures: Standard approval conditions

Copy to: Clare Skinner
Research Grants Manager
University of Leeds
Faculty of Medicine and Health
Room 7.11 Worsley Building