BODY IMAGE AND ATTITUDES IN PREADOLESCENT CHILDREN

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ABSTRACT

Research into the area of body image and satisfaction is diverse, although several areas have not been adequately studied. The main aim of the current research was to study some of these areas. Areas of assessment included male body satisfaction, satisfaction with body parts and functioning, the effect of puberty on female body satisfaction, body size perceptions and attempts to change the muscularity or size of the body. Male and female participants, aged 10 to 13 years were given the Body Image and Attitudes Questionnaire which was devised for the current study. Participants were divided into three groups for the sake of analysing results: Males, Non-menstrual females and Menstrual females. The distinction between the female groups proved invaluable as the two groups responded in vastly different ways. Post-pubertal females appeared to be the least satisfied with their body, although males and pre-pubertal females also showed some degree of dissatisfaction. A large number of children had attempted to change their body, and there was no significant difference between weight loss attempts in males and females. Several areas for future research were recognised, including Maori body satisfaction, effects of puberty on male body satisfaction and further research into male satisfaction with their body and its' functioning.

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CHAPTER 1

INTRODUCTION

Physical appearance is the characteristic most obvious to others when meeting a person for the first time (Dion, Berscheid & Walster, 1972), and is often the first source of information about that person (Styczynski & Langlois, 1972). Personal characteristics are often assumed on the basis of appearance (Umberson & Hughes, 1987). For example, an attractive individual may be perceived to be socially competent and successful. Hence appearance is an important personal characteristic. The importance of physical attractiveness is thought to be learned at an early age, long before adolescence (Gordon & Tobias, 1988). Barthel (1988) believes that for females, the "beauty role", that is, being attractive and encouraging male attention, becomes a central preoccupation for females for most of their lives. However Barthel also believes males are judged by their appearance, whether they project power and authority. Such an image may be achieved physically, through a large and muscular body, or financially, through display of finances.

The appearance of the body forms a large part of overall attractiveness, and is an area of concern for many people. Cash, Winstead & Janda (1986) found that most adults dislike and would like to change at least one aspect of their body. In a population survey of adults, Harris (1987) found that 96% of men and women wished to change something about their body.

While body dissatisfaction and related eating problems were previously considered to be adult or adolescent problems, similar dissatisfaction is now appearing in preadolescent children. Children's attitudes and behaviours toward their own bodies, and attitudes towards others bodies will be investigated in the following thesis. Firstly however, body image will be defined and discussed. In addition, the eating disorders anorexia nervosa and bulimia will be examined.

1.1 DEFINITION OF BODY IMAGE

Body image has been defined in a number of different ways. The concept was first introduced by Shilder (1950), who defined body image, or body schema, as the picture we form in our mind of our own body. More recent meanings vary, as illustrated in the following definitions:

> "The perceptions, conscious or unconscious, of one's own body."
>
> Mayou (1983) pp 61

> "The idea that each individual has of what their body is like. Later...comes to reflect an evaluation of body characteristics."
>
> Stratton & Hayes (1993) pp 25

> "Internal evaluative representation of ones body determined largely by how one thinks it looks to others"
>
> Wolman (1989) pp 173

All definitions make reference to the perception of the body. While some refer to self-evaluation of ones body characteristics (Stratton & Hayes, 1993; Corey, 1984), others refer to an evaluation of how one's body is perceived by others (Chaplin, 1968; Reber, 1985). The definition of 'body' is not always clear, and while some definitions refer only to the physical appearance of the body, others refer to its functions (Reber, 1985; Chaplin, 1968). The central idea of all of these definitions is how an individual perceives their body. Myers & Biocca (1992) believe body image to be an unstable mental construction.

Body image is thought be a multifaceted construct. Slade, Dewey, Newton, Brodie & Kiemle (1990) believe there are at least two components to body image: body perception (e.g. perception of size) and body concept (e.g. dissatisfaction), while Salusso-Deonier & Schwarzkopf (1991) and Cash (1989) refer to perceptual and attitudinal components (body-related affects and cognitions). The current research examines both of these components.

1.2 DEVELOPMENT OF BODY IMAGE

The initial formation of the body image begins in infancy as the newborn baby discovers its own body. This is achieved through interaction with and separation from the caregiver as the infant learns it is a separate being, as well as through interaction with the physical environment (Brown, 1977). As motor control develops, the baby discovers its hands and mouth as well as other parts of its body.

Shilder (1950) believed pain and motor control to be important to the development of the body image, while Brown (1977) also believes body experiences such as hunger and the control of bowel and bladder functions to be important. By preschool age, the child has usually developed an understanding of its body and can differentiate between such body sensations (Brown, 1977). Damon & Hart (1988) believe at this stage action dominates the preschooler's self knowledge. In other words, the children think of themselves in terms of what they can do (eg "I can walk to school") rather than in terms of body parts (eg "I have blue eyes").

Bodily changes are slow during middle childhood until puberty, at which time body size, construction and functioning rapidly change. The changes often occur at such a speed that the individual may temporarily not recognize their body (Collins & Propert, 1983). The body image must then be restructured to fit the new body (Amann-Gainotti & Antenore, 1990; Collins & Propert, 1983). According to Berger (1988) this is one of the tasks of adolescence.

Berger (1988) believes that most people refer to the cultural ideal when developing a new body image. If an individual perceives a difference between their body and the ideal or norm, dissatisfaction may occur. Adolescents often become overly concerned about their appearance at this stage as they fear being or looking different from their peers and society. Berger does not see this as vanity but as a recognition of the role which attractiveness plays in society, especially in attracting the opposite sex. Females may be affected more than males, as beauty plays a larger role for females (Fallon, 1994; Pliner, Chaiken & Flett, 1990). Although desire for weight loss and a fear of fat may be considered the norm rather than the exception (Polivy & Herman, 1987), most

teenagers do not have excessive problems with their body image. In Section 1.3, anorexia nervosa, a disorder involving a grossly distorted body image is discussed. Another common eating disorder, bulimia nervòsa, is also outlined.

The exact timing of the change in body image in females is a source of disagreement for researchers. While Collins & Propert (1983) believe it develops gradually, others see it as changing suddenly at first menstruation. Koff, Rierdan & Silverstone (1978) believe that although most of the physical changes are over by menarche, it is at this time that the body image changes. A study carried out by Koff et al (1978) concluded that menarche is a pivotal event for the reorganization of the body image and sexual identity. The disagreement between researchers may be due to different assessments of body image.

1.3 DISORDERED BODY IMAGE

I. ANOREXIA NERVOSA

Definition and Diagnostic Criteria

The American Psychiatric Association (APA) diagnostic criteria for anorexia nervosa are as follows:

A. *Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected).*

B. *Intense fear of gaining weight or becoming fat, even though underweight.*

C. *Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.*

D. *In postmenarcheal females, amenorrhea, i.e, the absence of at least three*

menstrual cycles. (A women is considered to have amenorrhea if her periods occur only following hormone e.g., estrogen, administration.)

(APA, 1994, pp 544 - 545)

Prevalence

Anorexia nervosa usually begins during adolescence in females and before puberty in males (Anderson, 1985). The prevalence of anorexia nervosa is difficult to establish as one of the characteristics of the disorder is a denial of problems (Kalucy, 1983). As a result, prevalence estimates may not accurately reflect true prevalence. In females between the ages of 12 and 18, the prevalence is estimated at between 1 in 800 to 1 in 100 females (APA, 1994; Crisp, Palmer & Kalucy, 1976), and is believed to be increasing (Mitchell & Eckert, 1987; Shisslak, Crago, Neal & Swain, 1987). These figures only include those who fit the clinical diagnostic criteria and do not include the many individuals who partially fulfil the criteria.

The majority of anorexics are female, although it is estimated that between 5 and 20% are male (APA, 1994; Bemis, 1978; Eller, 1993; Anderson, 1985). It is possible that the prevalence of anorexia in males is higher, but as it is traditionally a female disorder, males may not seek treatment. In addition, clinicians may be less likely to diagnose a male as suffering from an eating disorder.

Associated Problems

Physical impairment may include heart and circulatory problems, muscle weakness, growth of downy (lanugo) hair, disturbed hypothalamic-pituitary functioning and

abdominal pain, all of which may be attributed to the starvation state (APA, 1994; Kaplan & Woodside, 1987). Also attributed to the starvation are depressed mood and an obsession with food, for example, cooking, reading cookbooks and hoarding food. Such symptoms have been observed in individuals in a starvation state (Kaplan & Woodside, 1987). According to Polivy & Herman (1985), approximately 50% of anorexics regularly binge and purge. In such a case the diagnosis will be binge-eating/purging subtype of anorexia nervosa (APA, 1994), bulimia nervosa or bulimarexia. All refer to the same disorder.

Outcome

Some individuals exhibit anorexia for a short time only, after which they recover. Others will have weight and eating problems throughout their life, while some individuals will experience chronic long-term body image and eating problems (APA, 1994). The mortality rate is estimated at 5 - 18% (APA, 1987; APA, 1994), or up to 20% without treatment (Garfinkel & Garner, 1982), and is commonly due to starvation, suicide or electrolyte imbalances (APA, 1994). It has been suggested that anorexics from lower SES families have greater psychopathology and a poorer prognosis (Crisp, Kalucy, Lacey & Harding, 1977).

II. BULIMIA NERVOSA

Definition and Diagnostic Criteria

The APA (1987) diagnostic criteria for bulimia nervosa are as follows:

A. *Recurrent episodes of binge eating. An episode of binge eating is characterised by both of the following:*

1) Eating, in a discrete period of time (e.g., within any 2-hour period) an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances.

2) A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating).

B. *Recurrent inappropriate compensatory behaviour in order to prevent weight gain such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise.*

C. *The binge eating and inappropriate compensatory behaviours both occur, on average, at least twice a week for 3 months.*

D. *Self-evaluation is unduly influenced by body shape and weight.*

E. *The disturbance does not occur exclusively during episodes of Anorexia Nervosa.*

(APA, 1994, pp 549 - 550)

Prevalence

Bulimia most commonly begins in late adolescence to early adulthood. Prevalence according to the DSM-IV is between 1% and 3% of young adult females (APA, 1994), although a higher prevalence of 4.5% of females and 0.4% of males on a university campus has also been cited (APA, 1987). Other estimates are higher still. Hsu (1990)

reviewed a number of recent studies which estimated the prevalence of bulimia at 2 to 20%. Halmi, Falk & Schwartz (1981) found a prevalence of 24% when university students were studied. It is often suggested that bulimia is most prevalent at universities (Bilich, 1989). Like anorexia nervosa, approximately 1 in 10 bulimics are thought to be males (APA, 1994).

Associated Problems

The bulimic may be slightly over, under or normal weight, and anorexia may also be present. Depression is common in bulimics, as is substance and alcohol abuse and personality disorders (APA, 1994). Most of the physical problems associated with bulimia such as tooth erosion, dehydration and electrolyte imbalances caused by potassium deficiencies are due to repeated vomiting (APA, 1987). Muscle weakness may occur, and in extreme cases, death.

Outcome

Bulimia is an ongoing problem for many individuals, and may last for years, chronically, or between periods of normal eating (APA, 1994). As mentioned above, death is possible, though uncommon. The long-term outcome of bulimia is unknown according to the APA (1994).

Two extremes of body image have been examined in the previous sections of this chapter. The present study will attempt to assess the extent of body image disturbance in children. It is expected that the body image of participants will fall between the two extremes, and range from normal, where the child is satisfied with their body, to disturbed, where the child dislikes their body and has attempted to change it through dieting or another method. Abraham, Mira, Beumont, Sowerbutt & Llewellyn-Jones (1983) support this theory, and believe eating disorders exists along a continuum from normal to disordered.

CHAPTER 2

ADULT STUDIES

It is useful at this stage to examine body image concerns of adults for a number of reasons. It has only recently been discovered that children have similar concerns, hence much of the research is exploratory. Because of the similarity in concerns, results from adult studies may be applied to children to indicate potential areas of research. In addition, instruments developed for adults may be modified for younger individuals. Section 2.1 examines previous Western body image ideals of children and adults, as well as those of non-Western cultures. This puts the current research into an historical and cultural context. Section 2.2 discusses current adult body image ideals, including male and female perceptions, behaviours and attitudes towards their own bodies.

2.1. HISTORY OF WESTERN IDEALS

"Overweight" is a cultural condition according to Schwartz (1986). A person's perception of their weight and how and why they diet is largely determined by current cultural pressures and knowledge. The following section will briefly discuss past weight ideals and practices of adults and children, while Section 2.2, examines current adult ideals.

The meaning given to different body shapes and sizes has changed over the years, and has been influenced by politics, economics, media, advertising and fashion (Gordon & Tobias, 1988). Slimness and obesity have often been linked to status. For example, in the late 19th century slimness was associated with the upper class (Gordon, 1990). According to Bordo (1990), the androgynous figures of the 1890's and 1920's and of today symbolise a new freedom enjoyed by women, and often occur in times of changing gender roles. For women in modern Western society, slimness is equated with success, self-control and beauty, while in other cultures (eg Africa, China) obesity is considered desirable (Gordon, 1990; Nasser, 1988), and is seen to be indicative of fertility and wealth (Gordon, 1990).

Between 50 and 100 years ago, the desired size for children was large by today's standards. Around the 1920s the thin child was perceived to be sick while the fat child was portrayed as a jolly, healthy individual (Schwartz, 1986). Twenty years later people were beginning to realize that the fat child often became a fat adult, and the focus changed to a fear of overfeeding. Toys reflected these trends, from the chubby Kewpie dolls of the early 1900s, to the Barbie doll, introduced in 1958 and believed to have unhealthy body proportions (Pedersen & Markee, 1991). Pictures of males and females in books also appeared to be influenced by the weight ideals at that time. Davis and Oswalt (1992) assessed the size of girls and boys portrayed in childrens books from 1900 to 1980. In 1900, the girls portrayed were fatter than the boys. From the 1930s to the 1940s, the size of the girls decreased dramatically while the male size only decreased slightly. Since that time the size of the boys portrayed has increased, while the female size has remained low. This appears to reflect male and female weight ideals over the past century.

Schwartz (1986) believes weight concerns have shifted to younger and younger individuals over the years, and at the present time there is a "correct" weight for a newborn baby and the unborn child.

Garner, Garfinkel, Shwartz & Thompson (1980) hypothesized that the ideal shape for adult women has changed over the years from curvy to angular and thin. To investigate this they analysed four sources, looking at size of Miss America Beauty Pageant contestants, centrefolds from Playboy magazines, population norms, and the number of dieting articles in women's magazines. Centrefold size (weight for height) was found to decrease from 1959 to 1978. Miss America contestants weighed slightly less while the winners weighed significantly less than other contestants from 1970 onwards. In addition, the number of diet articles in magazines increased from 1958 to 1978. During this time actual weight of women was increasing, probably because of better nutrition. Garner et al (1980) concluded that despite the size of women increasing, the ideal size has continued to decrease from the 1950s to the 1970s.

In addition to constantly changing ideal and actual weight, eating practices have changed over the years. Traditionally families sat down together for three meals per day. Now, however, westerners have become "grazers", eating many snacks during the day and often missing traditional meals (Gordon, 1990). This is aided by the fact that food is both acceptable and available in most situations, from sporting events to celebrations and gatherings of all types. Westerners have access to an ever-increasing number of "fast food" outlets such as McDonald's, and the New Zealand favourite, the fish and chip shop. In addition, more "convenience foods" are appearing, allowing people to spend less time preparing and eating food. Such practices are thought to be partly responsible for the increase in eating problems (Gordon, 1990).

2.2 ADULT LITERATURE REVIEW

In Western society at the present time, slimness is equated with attractiveness. According to Cook, Reiley, Stallsmith & Garretson (1991), society perceives thinness as central to femininity and beauty. As discussed previously, definitions of attractiveness have changed over the years, and what was once considered beautiful is now considered plump and unattractive. Studies discussed in the following section examine body dissatisfaction of males and females in their late teens and adulthood . It is necessary to examine adult body image studies for two reasons. The first is that children are now being exposed to and absorbing adult concepts of attractiveness. Secondly, much of the methodology used in adult body image studies is also used for children.

Wells, Wells, McKenzie and Hornblow (1986) assessed dieting practices of New Zealand women aged 16 to 40 years. Seventy-two percent of the women wished to weigh less. Forty-seven percent indicated that they dieted at least occasionally, while 24% of participants were usually or always on a diet. The validity of these results may have been lowered due to the unrepresentativeness of the sample, which was taken from women attending their doctor.

A number of researchers have selected university students as participants despite this group being unrepresentative of the general population. Ritchie (1988) studied the body

image and dieting of male and female students at a New Zealand university. Sixty-seven percent of women and twenty percent of men indicated that they had dieted at least once before. Despite 84% of males and 80% of females being within normal weight limits, 29% of male participants and 67% of female participants described themselves as overweight. The assessment of weight was problematic however, as participants were asked to indicate their own weight. This leaves room for many inaccuracies and ignores the tendency of both males and females to overestimate their size (Cash & Hicks, 1990; Drewnowski & Yee, 1987). It is likely that many participants did not know their exact weight, especially if they did not weigh themselves often. Sixty percent of females and 41% of males wished to change their weight. When given the Eating Attitudes Test (EAT), an instrument used in the assessment of eating disorders, 14% of females and 1% of males score above the cutoff score which indicates the potential existence of an eating disorder.

Cook, Reiley, Stallsmith and Garretson (1991) examined the eating attitudes of male and female university students at Christian and non-Christian campuses. Eating and weight concerns were prevalent, being observed in both males and females at the christian campus. Eighty-two percent of the Christian females and 48% of the males expressed a large amount of concern about their eating habits, while 60% of women and 22% of men alleged that they were usually preoccupied with controlling their eating. Sixty percent of females and 16% of males usually felt guilty after eating, while 48% of females and 8% of males were constantly dieting. Forty-six percent of females and 8% of males who perceived their weight to be "just right" experienced a large amount of anxiety about their weight. Weight loss was desired by the majority of females (77%) and almost half of the males (42%).

Students from the non-Christian campuses showed similar concerns. Hence, body dissatisfaction appeared to be very common in the two groups despite the majority of participants being within normal weight limits. It is possible however, that the forced choice nature of the questions led to a high number of participants being classified as normal weight. Participants were asked to indicate their perceived size from only three options: overweight, underweight and just right. This ignores the fact that people do not

come in three distinct sizes, and also that fat is not distributed evenly over the whole body. It is likely that some participants who indicated that their size was "just right" actually believed themselves to be slightly overweight or fat in places, and were therefore dissatisfied.

Lending support to this theory, Abraham, Mira, Beumont, Sowerbutts & Llewellyn-Jones' (1983) participants desired weight loss from their waist, thighs and bottom rather than from their whole body. The use of the words "just right" to indicate normal body size may also pose a problem. While "overweight" and "underweight" refer to size, "just right" appears to not only to refer to weight, but also to satisfaction with that weight. A person of "average" weight who wishes to be smaller or larger may be reluctant to indicate that their weight is just right. An additional problem with asking participants to indicate their weight rather than weighing them is that misperception of body size is very common (Cash & Hicks, 1990; Drewnowski & Yee, 1987; Ritchie, 1988).

Drewnowski and Yee (1987) assessed the body satisfaction of 98 male and 128 female university students. Seventy-three percent of females and 81% of males were defined as "normal weight", falling between the 15th and 85th weight percentiles for adults. However, 48% of women and 26 % of men perceived themselves to be overweight while 3% of women and 21% of men perceived themselves to be underweight. While almost half of the females and one-third of males of normal weight thought they were fat, 89% of normal weight females and 53% of normal weight males desired weight loss. These percentages appear to be unusually high and may be due to the forced choice nature of the questions.

Female participants appeared to be more concerned than males with their weight and one-quarter of the females said they were seldom satisfied with their body. Eighty-five percent wished to lose weight and almost 60% had tried to through a calorie-reduced diet. Such dieting attempts were related more to perceived weight than actual weight. Male participants were equally divided between wishing to lose weight (45%) and those wanting to gain (40%). Unlike the female participants, the males used exercise rather than dietary modification to lose weight.

Cash and Hicks (1990) investigated the effect of perceived weight on the body image and weight loss attempts of males and females. Two studies were carried out. The first compared normal weight participants who perceived themselves accurately (NSLN - normal self-labelled normal) with those of normal weight who perceived themselves to be overweight (NSLO - normal self-labelled overweight) In the second study, NSLO participants were compared to overweight participants (OSLO). Participants in both studies were predominantly white, with an age range of 15 to 84 years, the average age being 39 years.

Participants in Study 1 were 353 NSLN males and 215 NSLN females compared to 113 NSLO males and 285 NSLO females. Participants from the two groups were matched on body mass and gender. The NSLN group perceived their bodies far more positively than the NSLO group. NSLO participants had greater amounts of dissatisfaction with their bodies, were more anxious about becoming fat and reported more binges and attempts to diet than the NSLN group.

Participants in the second study were 53 OSLO and 53 NSLO (matched) females and 56 OSLO and NSLO males, also matched. In general NSLO and OSLO participants did not differ in anxiety about weight, eating and dieting behaviours, or overall wellbeing. These findings indicate that perception of weight, rather than actual weight is an important determinant of body image disturbances. The cognitive distortion of the NSLO individuals may be compared to that of anorexics, who also strive to lose self-perceived obesity.

Not all OSLO participants were dissatisfied with their bodies, and OSLO males actually expressed greater satisfaction than NSLO males. This was thought to be due to the overweight males perceiving themselves to be "big and strong", despite being overweight.

Cash, Winstead and Janda (1986) conducted a study of body image from the American magazine *Psychology Today*. Readers were presented with a questionnaire which assessed various aspects of body image and dieting, and asked to send in their

completed surveys. Participants were aged up to 74 years, and the majority were white. Fifty-five percent of females and 41% of males reported being dissatisfied with their weight, while 64% of females and 44% of males feared weight gain. Thirty-two percent of men and 45% of women reported dissatisfaction with their muscle tone. Thirty-eight percent of females and 34% of males reported dissatisfaction with their "looks". Consistent with other research in the area, most female participants perceived themselves as overweight.

Cash et al's (1986) study had several flaws. It is unlikely that the participants were representative of the general American population (participants were magazine readers who replied to the survey). Another problem was the possibility of participant misinterpretation of questions, for example when asked to indicate satisfaction with "looks". This question may be interpreted in different ways by different people. This is especially likely in a magazine survey as participants are not in direct contact with the researcher to enquire about the questions.

Abraham et al (1983) investigated whether eating behaviours existed along a continuum ranging from normal to disordered. Four groups were compared to test this assumption: school and university students (n = 106, mean = 20 years); ballet students (n = 50, mean = 17 years); anorexics (n = 22, mean = 22 years); and bulimics (n = 44, mean = 24 years). All participants were females. Results will not be reported for eating disorder participants who obviously had many eating problems. Instead, ballet and academic students will be compared. It should be noted that ballet dancers as a group have a higher rate of eating disorders due to pressures to be slim (Caldwell, 1993).

Ten percent of ballet students had sought treatment for eating problems compared to 5.6% of academic students. The majority of participants in all groups, including 94% of academic students desired weight loss, and the loss was mostly desired from body parts such as thighs, bottom and waist. Eighty-six percent of academic students had dieted at some stage. Binging was tried at least once by 90% of ballet students and 63% of academic students. Seventeen percent of academic students and 36% of ballet students alternated between binging and dieting or fasting. Strict dieting was the most

common method of weight loss used, although other methods were often used. For example, 5% of academic and 16% of ballet students used laxatives, and approximately twice that amount used natural laxatives such as fruit. Ten percent of both groups vomited occasionally to lose weight. Not surprisingly, the eating disorder groups had higher frequencies of dieting, vomiting and laxative use.

As predicted, eating appeared to exist along a continuum, from severely disordered in the eating disorder groups, to slightly disordered in ballet and academic students. However, all participants showed some signs of disordered eating. Polivy and Herman (1987) refer to the "treatment of normal eating", meaning it is now the norm to diet, binge and be excessively concerned about weight.

Abraham et al's (1983) use of frequencies in reporting disordered behaviour is slightly problematic as the reader can not judge the severity of the eating problem. For example 10% of ballet students sought treatment for their eating, compared to just over 5% of academic students. This data gives no indication of the severity of the students' eating problems when they sought treatment. In addition, most participants wished to lose weight, but the amount they wished to lose was not reported. It is possible that more disordered participants wished to lose *more* weight than less disordered females.

In a much cited study, Fallon & Rozin (1985) presented adult participants (male and female) with a set of 9 male and female figures which ranged from very thin to very fat, and asked them to indicate which one they perceived to be most like their own figure ("current"), the size they would most like their body to be ("ideal"), the size they thought would be most attractive to the opposite sex (attractive), and the opposite sex figure which they considered most attractive ("other attractive").

The female ideal was smaller than the one which they considered attractive, which in turn was smaller than the one the males actually preferred. The current perceived size was larger than all of these (ideal < attractive < other attractive < current). The differences between the figures chosen by females were large, although for males there was little difference between figures selected. The figure which was most attractive to

females was smaller than the one which the males believed would be attractive. The next largest was perceived current size, followed by the ideal (other attractive < attractive < current < ideal). Hence both males and females misjudged what was considered attractive to the opposite sex. Females wished to be thinner than the size which they thought males would find attractive. Males believed females would prefer a smaller figure, although males wished to be larger than they currently were. It must be noted, however, that these results reflect the average of all participant ratings, and it is possible that scores cancel each other out. For example, if one participant selects a small figure and another selects a large figure, the average will be a medium-sized figure. This is especially relevant for males, who are often not unanimous in their desired size.

A number of studies have used body types (somatotypes) to study desired and culturally ideal body sizes and types. In two related studies university students were given the Perceived Somatotype Scale which presents endomorph (fat), ectomorph (thin) and mesomorph (muscular) figures, and asks participants to select perceived and ideal body sizes and types. In addition, participants were given a shortened version of the Body Cathexis Scale. The first study (Tucker, 1982) involved males, while the later study (Davis, 1985) involved females.

Nearly 50% of Davis' (1985) female participants selected the smallest ectomorph to represent their ideal, while 30% chose the next sized ectomorphic figure. Five percent selected a mesomorphic figure as their ideal. In contrast, nearly 60% of Tucker's (1982) male participants selected the mesomorph figure as their ideal. Females who perceived their body to be ectomorphic had greater body satisfaction according to the BCS than their non-ectomorphic peers. Males who perceived their body to be mesomorphic were the most satisfied of the male participants. Hence in the two studies most females wished to be thin/thinner, while most males wished to be muscular/more muscular.

Gacsaly & Borges (1979) asked 100 adult males and females to attribute 24 personality traits to male body types, ectomorph (thin), endomorph (fat) or mesomorph (muscular). The mesomorph was associated with socially favourable traits. The ectomorph was

judged as athletic and academic, while the endomorph was seen as lacking in athletic ability and social skills. Ryckman, Robbins, Kaczor & Gold (1989) undertook a similar study with male and female university students. Again the endomorphic figure was seen more negatively than the other two body types, being seen for example as dirty, lazy and slow. The figures which the participants perceived to be most attractive were the female mesomorph and ectomorph, and the male mesomorph. The figures judged to be most teased were the female endomorph and the male ecto- and endomorph. Hence the thin or muscular female figure and the male muscular figure were most desirable, the thin male figure seen as acceptable but not desired, and the fat figure of both sexes as generally undesirable.

Dion, Berscheid & Walster (1972) believe cultural stereotypes exist about the personalities of attractive people, and as their article is entitled, "what is beautiful is good". Attractive people were judged to attain more prestigious jobs, have happier marriages and generally be more socially acceptable than less attractive individuals. Umberson & Hughes (1987) found that attractiveness was in fact correlated with variables such as income, education and psychological well-being, and it was suggested that attractive people are treated in such a way that they eventually act in a desirable manner.

CONCLUSION

It appears from the studies reviewed in this chapter that eating and weight concerns are prevalent in both males and females, although less so in the males. However, few studies focused on male body satisfaction from their perspective, and most examined "female concerns" (ie dissatisfaction with perceived excessive weight) in males. It is possible that male concerns have not been fully uncovered. This speculation will be further discussed in the next chapter.

Studies discussed in Chapter 3 will highlight the similarities between body image concerns of adults and children. The use of similar assessment instruments should also be noted.

CHAPTER 3

CHILDREN

In the previous chapter body image and related behaviours of adults were examined and dissatisfaction found, especially in females. Similar dissatisfaction appears to be present in teenagers and children. Following a description of physical development in children, male and female body image studies are reviewed.

3.1 NORMAL PHYSICAL DEVELOPMENT IN CHILDREN

The middle primary school years is a time when growth is slowed, although the child grows proportionally thinner as their height increases. Rapid growth, or the "growth spurt" occurs around puberty. There is great variation in the age at which puberty occurs, although it is most common around 9 to 14 years of age (Berger, 1988). Males and females enter puberty at different ages, with the average for females being 11 years, and males 13 years (Smith, 1992).

At this time the body does not grow in proportion. The initial change is rapid weight gain at which time fat may accumulate on the thighs, buttocks, arms and abdomen. This is especially true of females, who by the end of adolescence have a body fat percentage which is almost twice as high as that of males (Parr, 1988). This fat plays an critical role in female biological development and in the reproductive cycle (Gordon, 1990).

Around 10 to 12 years of age and after the gain in weight, an increase in height occurs (Berger, 1988). The rapid growth tends to use up some of the fat stored on the body previously. Growth continues at a rapid rate for approximately one year, and then slows until around 17 to 21 years of age (Parr, 1988).

Hands, feet and the head tend to be the first parts of the body to grow, followed in stages by other body parts (Smith, 1992; Berger, 1988). Additional changes include changed proportions, an increase in hair on the body and increased body odour (Golub, 1985). All of these changes mean puberty can be a time of awkwardness, plumpness and self-consciousness. However, the changes may be viewed in different ways by males and females. For males the changes (increased facial hair, greater height, larger muscles and a deepened voice) are likely to be desired, as all of these changes increase the masculinity of the boys by Western standards. Females are not so lucky, however. The changes which make them more feminine by giving them womanly curves also give them culturally undesirable attributes such as body fat, "superfluous" body hair and increased odour. Hence, at puberty males are naturally brought closer to the cultural ideal, while females are taken further away from it.

Smith (1992) believes coming to terms with the changes of the body, and developing a new body image and self-concept are one of the challenges of the adolescent period.

3.2 FEMALE BODY IMAGE STUDIES

Body image in females has been assessed using a variety of instruments and methods. A total of 21 studies will be reviewed in the following chapter. This includes nine studies with male participants. Appendix A presents a summary of these studies. Findings for males will be discussed in Section 3.3.

Eating disorder instruments have been used in a number of studies to assess body dissatisfaction. Eisele, Hertsgaard and Light (1986) used such an instrument to assess females aged 12 to 14 years. Participants were given five of the eight subscales of the Eating Disorder Inventory (EDI), an instrument commonly used in the assessment of eating disorders in clinical practice. The subscales used included drive for thinness, bulimia, body dissatisfaction, perfectionism, and maturity fears. Despite 81% of participants being classified as an ideal weight or unweight, 78% wished to weigh less. Only 14% of females were satisfied with their current weight. Scores on the body dissatisfaction scale were higher for the older participants.

Lowe, Miles and Richards (1985) administered the Eating Attitudes Test (EAT) to 1514 New Zealand females aged thirteen to seventeen years. Attempts were made to get a representative sample of New Zealand society. The EAT, like the EDI is used in clinical assessment of eating problems and disorders. The percentage of participants scoring above the cutoff score for the EAT (which is indicative of a potential eating disorder) differed across schools surveyed, with a range from 9% to 19% and an average of 14% of females surveyed. It was estimated that between 3% and 8% of the sample had a clinically significant eating disorder.

Carter and Duncan (1984) also administered the EAT, in addition to the General Health Questionnaire (GHQ), a measure of somatic symptoms, anxiety and insomnia, social dysfunction and depression) and questions concerning bulimic symptoms. Participants were 421 females, predominantly aged between 14 and 16 years. Nine percent of participants reported having induced vomiting at least once, with seven percent also binging. It appeared that vomiting was being used as a form of weight control, and 89% of those engaging in bulimic behaviour indicated they would use another method of weight control if it were more effective.

Lachenmeyer and Muni-Brander (1988) compared the prevalence of eating disorder symptoms in two different groups of female and male participants aged 13 to 19 years. Group 1 included 328 females and 384 males, half of whom were non-Europeans (eg Asians, Hispanics) and most were from low to middle SES families. Group 2 consisted of 306 females and 243 males, primarily of Western ethnicity and from upper-middle to upper SES families. Hence results are generalisable to a wide range of individuals. Both groups were given the EAT and Binge Eating Questionnaire (BEQ), an instrument used to gather information about weight history and behavioral symptoms of bulimia. There were few differences between the groups, and between males and females in the groups, in terms of eating disorder symptoms. The prevalence of bulimia in Group 1 was estimated at 7.6%, compared to 4.7% in Group 2. While more lower SES participants met the criteria for bulimia, the high SES participants had a higher prevalence of binge eating, use of diet pills and diuretics. This may reflect the cost and accessability of such items.

Four studies explored restrained eating in females. Hill and Robinson (1991) assessed dietary restraint of thirty-five 9 and 10 year old females in order to explore the relationship between expressed dieting concerns and food intake. Participants completed a dietary restraint questionnaire and kept a diary of eating behaviour and food intake. Use of such a diary has an advantage over the use of retrospective methods in that the validity is not threatened by forgetting. Results indicated that there was a correlation between reported dietary restraint and food intake, and the females with higher restraint scores actually ate less than their unrestrained peers. In particular the restrained females ate significantly less energy and dietary fibre than their peers. Although they tended to consume the recommended intake of protein, fibre and calcium, many ate less than the recommended daily intake of iron. There was a tendency among restrained eaters to skip meals, especially breakfast. Not surprisingly, the restrained eaters had significantly higher levels of hunger than unrestrained eaters.

A similar study was carried out by Hill, Weaver and Blundell (1990), who examined dietary restraint in females aged 9 to 11 years. The mothers of restrained participants were also assessed. Fifty-two girls completed a dietary restraint scale, and those with the ten highest and lowest scores and their mothers were re-interviewed and given the EAT and the Eating Patterns Questionnaire (EPQ). The EPQ asks participants to describe their eating behaviour from the previous week, including reasons for eating, and situational variables. As mentioned previously, such methods may be influenced by forgetting. A strong positive correlation was found between mother's and daughter's motivation to diet. The small sample size (20 females) means results may be considered tentative.

Hill, Rogers and Blundell (1989) focused on eating behaviours and dietary restraint of a group of 12 and 14 year old females. All participants were given a dietary restraint questionnaire, and those with the twelve highest and lowest scores from each age group were randomly assigned to either an experimental or control group. Aided by pictures of food, participants in the experimental group were asked to imagine they were eating their favourite food. This was followed by a taste test, in which participants were allowed to eat as much as they wished. The control group also engaged in the taste test but without first thinking about food. Restrained individuals in the experimental group

ate significantly more than all other females. The exposure to thoughts and pictures of palatable food precipitated a breakdown in restraint in the restrained girls in the same way that it does in adults. It was concluded that the eating behaviour of the restrained children already followed the same pattern as that of restrained adults. The females who were most concerned with their food intake were the ones most likely to overeat. However the small sample size means results are tentative. An additional problem is that more than one variable was altered between the control and experimental groups who had slightly different testing conditions and methods.

Wardle and Beales (1986) examined dieting behaviours and attitudes of a group of males and females aged 12 to 17 years. The majority of participants were from higher social classes, hence lowering the generalisability of results to lower social classes. Assessment consisted of the Dutch Eating Behaviour Questionnaire (DEBQ) containing questions about dieting, desired and perceived weights, perceptions of food types, and a food intake diary. Twenty-five percent of participants (especially younger participants) were not able to specify their desired weight, while the females who did answer wished to lose an average of 5kg. An average of 53% of participants overestimated their size, perceiving themselves to be fat when they were not. An average of 4% of participants underestimated their size, including 3% of overweight females.

Fifteen percent of female participants indicated that they were dieting. However, the DEBQ scores indicated that even the 12 year old females were restrained, with restraint similar to that of older participants. Restraint scores were significantly higher for dieters, and were positively correlated with actual and perceived weight. Thirty-three percent of females, especially older or more restrained participants reported not eating breakfast. A similar result was found by Hill and Robinson (1991). From the results of this study, it may be concluded that females as young as 12 years old are dissatisfied with their weight and are attempting to lose or maintain low levels of weight. It also suggests that females who do not consider themselves to be dieting may attempt to lose weight through restrained eating.

Tiggemann and Pennington (1990) used the Body Figure Perception Questionnaire (BFPQ) which contains nine female and nine male figures which range from thin to fat. From the figures presented, participants are asked to indicate the size of their perceived current figure, their ideal figure, and the one which they consider would be most attractive to the opposite sex. Participants were divided into three groups (9 & 10 years, 15 & 16 years and adults) and presented with gender and age appropriate figures. Both males and females in the youngest age group rated their current figure as significantly larger than their ideal and attractive figures. Adult women also rated their current figure as significantly larger than attractive and ideal figures, although for men there was no significant difference between the figures selected. Similar results were obtained for the adolescent group. Seventy-six percent of adolescent females rated their current figure as larger than their ideal.

Storz and Greene (1983) used a similar method of assessment. Participants were 14 to 18 year old female home economics students, most of whom were European. Five figures ranging from thin to fat were presented, from which participants indicated their perceived current and ideal weight. In addition they were asked to use adjectives to describe their body, and to rate the desirability of a variety of weight reduction methods. Participants overwhelmingly chose smaller than average sized figures to represent their ideal. Most participants chose the figures which represented average weight or 10% underweight as their perceived current figure, and although 13% of participants were at least 20% overweight, only 2% chose the largest figure (representing 20% overweight) as their perceived size. These findings are somewhat inconsistent with other research in which females have overestimated their size (Cash et al, 1986; Bagby, 1993; Maude, Wertheim, Paxton, Gibbons & Szmukler, 1993). It is possible that participants were responding in a socially desirable manner as they may have been embarrassed to describe their size as large. Also possible is that for some participants, recent growth meant they could not accurately estimate the size of their own bodies.

Eighty-three percent of participants wished to lose weight despite 62% of them being within normal weight limits ($\pm$ 10% of average weight). Fourteen percent of females wished to gain weight, while only 2% wished to remain as they were. When asked to

use adjectives to describe their body, negative adjectives such as "fat" and "ugly" were used more frequently than positive adjectives such as "just right" and "attractive". When asked to rate various weight loss methods, the better methods were generally rated as more desirable. However, when asked what they had tried, the second most popular method was the low energy "crash diet". The less desirable methods (food substitution, crash dieting, diet pills, fasting) comprised 42% of attempts to lose weight, and were especially chosen by participants wishing to lose more than 10% of their body weight.

The validity of the results is weakened by the unrepresentative sample which was taken from students of elective home economics classes. It is possible that females who chose this class as their elective were different from the general population.

Paxton, Wertheim, Gibbons, Szmukler, Hillier and Petrovich (1991) responded to the inconsistency of results of studies in the body image area by using several forms of assessment. These included the Body Figure Perception Questionnaire (BFPQ), three of the EDI subscales (drive for thinness, bulimia, and body satisfaction), a fitness satisfaction scale and a number of further questions. Participants were males and females aged from 11 to 18, with an average age of 14 years. Seventeen percent of female participants underestimated their body size; 59% accurately estimated and 24% overestimated. It was speculated that participants underestimated their weight as a result of rapid pubertal growth, as may have been the case in Storz and Greene's (1983) study discussed previously.

A number of overweight females perceived themselves to be normal weight. Underestimation of weight is not often observed in females, although Gustavson, Gustavson, Pumariega, Reinarz, Dameron, Gustavson, Pappas and McCaul (1990) also noticed that obese females tended to underestimate their size. Three percent of Wardle & Beales' (1986) overweight participants underestimated their size.

The majority of participants (71%) of Paxton et al's (1991) study had an ideal size which was smaller than their current size. Twenty-one percent chose the same current and ideal figures, while 8% chose a larger ideal figure. These results are similar to those

found by Tiggemann and Pennington (1990), and Maude et al (1993). The female participants generally believed that being thinner would have a positive impact on their happiness, success, friendships and getting what they wanted. Results from a number of studies suggest that attractiveness *is* related to success and happiness. Mazur, Mazur & Keating (1984) found a substantial correlation between military rank and facial appearance. Participants in a number of studies (eg Gacsaly & Borges, 1979) rated attractive figures as socially desirable, athletic and successful. Webster & Driskell (1983) believed that attractive people were more successful and happier because attractiveness is a status symbol.

The hours of exercise which females in Paxton et al's (1991) study engaged in was lower than that of their male peers. A study by Shaw and Kemeny (1989) examining teenage girls perception of fitness found that fitness was equated with slimness by participants. It appeared that the main reason the females engaged in exercise was to stay thin, and to *look* rather than *be* fit.

Fifty-four percent of Paxton et al's (1991) female participants reported dieting at least once before. An average of 60% of participants reported engaging in "non-extreme" methods of weight loss (exercise, drinking water, skipping meals and counting calories), while an average of 15% of females had tried extreme" methods, the most common being fasting and crash dieting. Nineteen percent of females claimed their parents encouraged them to diet. Use of the word "dieting" was problematic in Paxton et al's (1991) study as its definition was not clearly specified. A strength of the study was the large sample size.

Maude et al (1993) replicated the Paxton et al (1991) study. Six hundred and six females participated, representing a range of geographic, economic and ethnic backgrounds, with ages ranging from 12 to 17 years.

Seventy percent of females chose an ideal body size which was smaller than their perceived current size, while 14% chose an ideal figure which was at least two sizes smaller. Seven percent of female participants chose an ideal figure which was larger

than their perceived current size, and the remaining 22% selected an ideal which was the same as their current perceived size. These results are slightly different to those found by Storz and Greene (1983), who found 83% of their sample wished to weight less and 2% wished to remain the same size. This may have been due to sample differences, as Maude et al's (1993) sample appeared to be more representative of the general population.

Seventy percent of participants accurately estimated their size, 26% overestimated and 4% underestimated. This is considerably different from Wardle and Beales (1986) results, where 53% of participants accurately perceived their size. The difference may be due to the use of different definitions of actual weight.

Age and body mass were correlated with dissatisfaction, with older and heavier participants being less satisfied with their body. A similar result was observed by Eisele et al, 1986). Fifty-one percent of female participants reported having dieted at least once, while 12% had dieted many times. However, 50% of female participants on average had tried a non-extreme method of weight loss (exercise, counting calories, drinking water, skipping meals, smoking), the most popular of which was exercise which 90% of females had tried at least occasionally. On average, 13% of females reported engaging in an extreme method (fasting, crash diets, vomiting, diet pills, laxatives), the most popular being fasting and crash dieting. Thirty-eight percent of females reported engaging in bingeing at least two or three times per month, with five percent bingeing daily. These results are somewhat contradictory, and the meaning of "dieted" needs clarification by the researchers. If taken to mean attempts to lose weight, 90% of females would fall into this category as they had exercised to lose weight. If it is taken to mean calorie-counting, 52% of females had done so at least once. The meaning which the researcher and the participants gave to the word "dieting" is unclear. The strength of the research is the large, diverse sample, making the results generalisable to a wide range of young people. Results in Maude et al's (1993) study were very similar to those found by Paxton et al (1991), showing that results can be replicated.

Cohn, Adler, Erwin, Millstein, Kegeles and Stone (1987) used the Body Figure Perception Questionnaire in addition to a ten-item measure of body dissatisfaction, to assess young males and females aged 11 to 13 years. Participants were from a variety of ethnic groups.

Twenty percent of females chose an ideal figure which was significantly smaller than the figure which they considered to be attractive. Unlike other studies however, there was no significant difference between the perceived current size and the ideal size. Female participants underestimated the size of the figure which males would find attractive.

No correlation was observed between pubertal status (menstrual or non-menstrual) and ratings of ideal figure size. However, females at a more advanced stage of development tended to have a greater discrepancy between current and ideal figures. This may be attributed to the increase in body fat which begins at puberty.

With the exception of Asians, all females responded in a similar manner. Asian females tended to select ideal figures which were heavier than their perceived current size. This is likely to reflect the tendency for Asians to be slim.

Brodie, Bagley and Slade (1994) also investigated the influence of puberty on body dissatisfaction. Participants were 59 prepubescent females ($\bar{x}$ = 9.3 years) and 41 post-pubescent females ($\bar{x}$ = 14.1 years), Menstrual status was used to indicate pubertal stage. Assessment included 10 figures (similar to those used in previous studies), the Body Satisfaction Scale which assesses satisfaction with sixteen body parts and a distorting mirror which was used to indicate ideal and perceived body size. By adjusting the mirror the participant's reflections could be made larger or smaller.

In contrast to Ben-Tovim and Walker's (1990) study in which young females were not able to judge the size of their bodies, all participants were highly accurate in estimating actual body size using the mirror. Because of the high level of accuracy, the instrument was seen as valid. In both groups (pre- and post-puberty) the perceived current figure

chosen was significantly larger than the figure selected as ideal. This result is similar to that found in various other studies (e.g. Maude et al, 1993; Tiggemann & Pennington, 1990), where puberty did not precede dissatisfaction. Postpubescent females however, chose a slightly smaller figure as their ideal. Participants with greater body mass also tended to have smaller ideals. It was clear that body image disturbances were not confined solely to postpubescent females, and thus puberty did not lead to dissatisfaction. However, it is possible that the weight gained at puberty leads to an increase in dissatisfaction at this time.

A third study, carried out by Attie and Brooks-Gunn (1989) examined pubertal influence on body image by assessing females before puberty and again two years later when most were post-pubescent. Longitudinal research has the advantage over a between-groups design as group differences will not confound results. By comparing the same group twice it is more likely that pubertal status will be the only group variable to change.

Participants were given the EAT-26 (a shortened version of the EAT), and the Self-Image Questionnaire for Young Adolescents, a measure of self esteem. The 139 participants were aged approximately 14 years at the first testing, and 16 years at the second. Most were from higher SES groups. Results indicated that the females who were the most dissatisfied with their bodies prior to puberty were significantly more likely to have eating problems during adolescence. It appeared that eating problems and dissatisfaction occurred in response to the physical changes of puberty. Body mass was correlated with eating problems, despite the majority of participants being within normal weight limits.

Researchers do not agree on the effect puberty has on the body image of females. Some believe it does not affect body dissatisfaction as both prepubescent and postpubescent females are unhappy with their bodies. However, from the previous studies it appears that postpubescent females are more dissatisfied than their prepubescent peers. As suggested previously, it may be the physical changes which occur at puberty (see Section 3.1) which lead to dissatisfaction. Females who were previously slim may become plump, hence have a culturally undesirable body. This may lead to a

susceptibility to cultural messages which tell females that plumpness is unacceptable and that they must lose weight.

Further studies which examined body dissatisfaction have focused on the broader area, and in doing so have examined many aspects of eating behaviours and eating attitudes. Bagby (1993) conducted a New Zealand study using a questionnaire which assessed dieting, perceived and desired weight, dissatisfaction and reasons for dissatisfaction of males and females aged 8 to 13 years.

Fourteen percent of females thought they were too fat, 80% were satisfied with their weight, while the remaining 5% believed they were too thin. However, only 53% wished to remain the same weight, and 38% wished to weigh less, despite only 5% of the sample actually being overweight. Nine percent of the females wished to weigh more, although 16% of the sample were underweight.

Generally female participants wished to weigh less all over, but especially from the stomach (45% of participants), legs (41%), bottom (24%) and waist (20%). Weight gain was desired by few participants. The most common reasons for desiring weight loss were "not looking nice", cited by 20% of female participants, and name calling, cited by 13%. Twenty-four percent of females had been teased or bullied about being too fat while 18% had been teased about being too thin. Participants were predominantly teased by peers and family members.

Sixteen percent of females in Bagby's (1993) study reported having been on a diet to lose weight, while 8% were currently dieting. However the word "diet" may have been slightly ambiguous, and could have been taken to mean any of a number of food intake behaviours. Wardle and Beales (1986) reported comments made by their participants, which indicated that the word "diet" was ambiguous when used in a similar way to Bagby's (1993) question. Additional weaknesses of the Bagby (1993) study include a slightly biased sampling procedure and the use of forced choice questions with few options. The latter problem appears to be common in the area of body image research.

Hill, Oliver and Rogers (1992) administered various instruments to young female participants with the aim of assessing general body dissatisfaction. Participants were primarily white, middle class children, aged 9 and 14 1/2 years of age. They were given the Body Cathexis Scale, in which satisfaction with a number of body parts and functions is assessed, the Body Esteem Questionnaire, and asked to indicate their body size preferences.

A high level of motivation to diet was found in both age groups, despite almost 40% of restrained eaters in the 14 year old group and 50% of the 9 year old group being within normal weight limits. Perceived rather than actual size influenced dieting and dissatisfaction in the females.

Fourteen year old females were significantly less satisfied with their weight than the nine year olds. Older females were dissatisfied with their nose length, shoulder width, arms, hips, thighs, calves and feet.

Highly restrained females overestimated their body size significantly more than less restrained participants. In addition they chose slightly slimmer figures to indicate their ideal and attractive sizes, although this effect was not significant. While restrained eaters chose an ideal figure (on average) one size away from their current size, unrestrained females had little difference between their ideal and current size.

Rosen, Gross and Vara (1987) explored the relationship between adolescent self-esteem and weight change attempts. Participants included a total of 1373 males and females aged approximately 14 to 17 years, including a number of "minority" students. The large sample size and diversity of ethnic groups means results will generalise to a wide range of individuals. Instruments used included the EDI body dissatisfaction subscale, the Body Cathexis Scale and three measures of self-esteem: the Rosenberg Self-esteem Scale; Becks Depression Inventory; and the Social Anxiety and Distress Scale. On the basis of desired weight, participants were put in one of three groups: "reducers", who wished to lose weight;"maintainers", who were satisfied with their current weight; and "gainers" who wished to weigh more.

Sixty-three percent of female participants fell into the reducers category. Twenty-eight percent were maintainers, and nine percent were classified as gainers. Female reducers were on average within normal weight limits (± 15% of average weight), while female gainers tended to be below normal weight. Overall, 74% of females wishing to change their weight were within normal weight limits. For female reducers the average EDI body dissatisfaction score fell within the clinical range, and was similar to what bulimics tend to score. Both reducers and gainers had depression scores which approached the clinical range for mild depression. Reducers and gainers had significantly lower self-esteem scores than maintainers, although the scores did not reach clinical significance. Ideal weight rather than actual weight was a predictor of weight satisfaction in females, and it appeared that weight change attempts were related to self-esteem.

The final two studies focus largely on dissatisfaction with body parts. Folk, Pedersen and Cullari (1993) assessed children's satisfaction with body parts, and explored the relationship between such satisfaction and self-concept. Forty-seven male and 43 female participants, aged 8 and 11 years, were given the Piers-Harris Self Concept Scale, and the Body Satisfaction Questionnaire, a measure of satisfaction with body parts.

For the 8 year old females, total body satisfaction was positively correlated with total self-concept. Self-concept was also correlated with satisfaction with certain body parts and characteristics such as waist, hips, breasts, and especially weight for eight year olds. Self-concept of 11 year old females was correlated with satisfaction with breasts, skin and weight, in addition to total body satisfaction. The correlation between self-concept and weight was stronger for the younger females, and the reason for this was unknown.

Davies and Furnham (1986) examined body part satisfaction of an older group of females. Participants, predominantly middle class and white, were grouped into four age groups with average ages of 12, 14, 16 and 18 years. Assessment consisted of YES/NO questions about satisfaction with body parts. In addition, participants were asked to assess their weight as over, under or normal weight.

Satisfaction with hips and stomach declined with age. This may be due to actual physical changes of these parts. While younger participants were dissatisfied with their teeth and feet, older females disliked their breasts. A large number of females in both groups disliked their thighs and buttocks. However, it was speculated that dissatisfaction with parts such as the stomach were not always due to the size of these parts, but properties of them such as firmness and flatness.

Several limitations were observed in Davies & Furnham's (1986) study. Participants were required to rank body parts according to the dissatisfaction they caused. It is conceivable that participants did not have an opinion about certain body parts, yet were forced to rank them. A second problem was that many questions were of a forced choice nature, with few options ("yes" or "no") given. This may lower the validity of results.

3.3 SUMMARY OF FEMALE BODY IMAGE STUDIES

A total of twenty studies have been reviewed, focusing on many areas of body image concerns. Female participants were aged from 8 to 19 years. Overall, females were considerably concerned about their bodies, with a large proportion of them having attempted to lose weight through restrained intake of food, "calorie counting", or other methods. The amount of caloric restriction ("dieting") did not appear to be huge (e.g. 15% of Wardle & Beales' (1986) participants reported dieting), although many females had tried at least one method of weight loss. For example, 90% of females in Maude et al's (1993) study had exercised to lose weight, and 13% had engaged in an extreme method of weight loss. Wardle & Beales (1986) found that although the rate of actual dieting was not high, restraint was common, even in the youngest (12 year old) participants. Although weight loss attempts were not restricted to older females, dissatisfaction did appear to increase with age. The influence of puberty on body image and dieting was examined in a small number of studies (eg Brodie et al, 1994; Cohn et al, 1987), although no firm conclusions were drawn.

Body dissatisfaction and a desire for weight loss appeared to be the norm rather than the exception. For example, 78% of Eisele et al's (1986) participants wished to weigh less,

despite only 19% of them being overweight. In another study, 70% of female participants wished to weigh less. (Maude et al, 1993). Often the weight loss attempts of participants were not correlated with actual weight, but with perceived weight (Wardle & Beales, 1986).

3.4 LITERATURE REVIEW: MALE BODY IMAGE STUDIES

Very few studies have been conducted solely on the body image of males. As a result, this section will largely deal with studies that have been discussed previously. Ten studies will be examined with respect to male results, and male and female results will be compared where possible.

Tiggemann & Pennington (1990) asked males of 9 & 10 years, 15 & 16 years and adults to indicate their perceived current size, ideal size, and the size they believed to be most attractive to females, from a set of nine silhouettes. Nine and ten year old males responded in a very similar way to their female peers, rating their current figure as significantly larger than the figure they saw as attractive or ideal. However gender differences were observed in the two older age groups who responded similarly. In both older groups, the male ideal figure was smaller than the perceived current figure. The figure considered attractive was larger than the ideal and current figure (ideal < current < attractive). Unlike the female ratings, the difference between the three male ratings was not significant. Twenty-seven percent of adult males wished to be thinner, while 33% wished to be larger. The majority of the females (56%) wished to be smaller, and 6% larger.

Cohn et al (1987) used the body figure method in addition to assessing general body dissatisfaction of 11 to 13 year olds. Male participants tended to choose an ideal figure which was larger than their perceived figure, although this difference was not significant. These results are inconsistent with those found by Tiggemann & Pennington (1990). Although the same method was used in the two studies, the figures presented were different, and while Tiggemann & Pennington (1990) used age relevant silhouettes for

each group, Cohn et al (1987) presented adult silhouettes to the children. In addition, the age of participants was slightly different in the two studies.

Cohn et al (1987) did not observe gender differences in total body dissatisfaction. As females are usually found to be dissatisfied with their body, this result appears to indicate dissatisfaction in males.

Paxton et al (1991) used a variety of methods to assess body dissatisfaction of participants aged 11 to 18 years, including the BFPQ and the EDI. Thirty-three percent of males chose an ideal figure which was smaller than their current figure, while 37% chose an ideal which was larger. The remaining 30% had the same current and ideal figure. Sixty-two percent of males accurately perceived their weight, 7% overestimated and 31% underestimated. The large amount of underestimation was thought to be due to rapid growth of participants.

Males scored significantly lower than females on the EDI body dissatisfaction subscale. Fifteen percent of males reported dieting at least once, and twelve percent had parental encouragement to do so. On average, almost 40% had tried a non-extreme method of weight control (exercise, drinking water, skipping meals, counting calories and smoking) at least once, while 8% on average had tried an extreme method (fasting, crash diet, vomiting, diet pills, laxatives and fluid tablets) at least once. At least one extreme method was used at least occasionally by 26% of the males.

A similar study by Maude et al (1993) assessed males and females aged 12 to 16 years. According to the BFPQ, males were equally divided between wishing to be larger, wishing to be smaller and being satisfied with their size. Eighty percent of males of normal weight accurately perceived their weight, 6% overestimated while the remaining 14% underestimated. Unlike the results found by Paxton et al (1991), there was an overall tendency for males to underestimate their weight.

Males scored significantly lower than females on the EDI subscales, especially the dissatisfaction scale. Almost 16% of males had dieted at least once compared to over

50% of the females, while 40% of the males and 38% of females reported bingeing at least two or three times a month. Thirty-six percent of males on average had tried a non-extreme weight loss method, while 8% reported using an extreme method at least once. These results are similar to those found by Paxton et al (1991).

Bagby (1993) gave 8 to 13 year old participants the Eating Attitudes and Behaviours Questionnaire, which assessed such areas as dieting and body dissatisfaction. Sixty-five percent of males did not wish to change their weight. However, 26% percent wished to weigh less while 9% wished to weigh more. Main reasons for desiring weight change were name calling and not looking nice. Forty-five percent of boys reported being teased about their weight, mostly by peers and family. Twelve percent of boys had dieted, although as mentioned previously, the wording of this question was problematic. Thirty-three percent of males wished to lose weight from their stomach; 18% wished to lose weight from their legs, while 12% desired weight gain in their legs. Weight gain was desired in the arms by 27% of males, and in the chest by 14%. In contrast, female participants generally desired weight loss in all areas. These results seem to indicate cultural pressures for females to be thin, and males to be thin yet muscular or bulky.

Wardle and Beales (1986) compared the dietary restraint and body image of male and female teenagers, who were grouped into three age categories: 12 and 13, 14 and 15, and 16 and 17 years. Most were from higher SES classes. Participants were initially asked what they wished to weigh, and a quarter of the participants could not answer this question, especially those from the younger age groups. Of those who could answer the question, older males on average wished to gain weight, while younger participants wished to weight slightly less. However, this may have been biased by the low participation rates.

When asked to indicate their perceived size from three categories (thin, right weight or fat), the males were slightly more likely to underestimate than overestimate. Approximately 61% of males accurately perceived their size, although accuracy differed according to actual weight.

Five percent of the boys reported dieting, compared to 15% of the females. Sex differences were also found in dietary restraint, with females being significantly more likely to show restraint. For both sexes restraint was correlated with actual weight, although for females a slightly higher correlation was found with perceived weight. There were few sex differences in consumption of meals and snacks, although females were less likely to eat breakfast.

Folk et al (1993) examined the relationship between body satisfaction and self esteem in young males and females aged 8 to 11 years. While 8 year old males scored significantly higher than 8 year old females on the Body Satisfaction Questionnaire (BSQ), the difference between the 11 year old males and females only approached significance. It was expected that the increased height and body mass of the older males would lead to increased body satisfaction, although this was not observed, and total satisfaction declined significantly according to the BSQ. Satisfaction with appearance, face and waist also declined. Total self-concept in older boys was positively correlated with satisfaction with the body, hips, skin, weight and legs, while for the younger boys it was only correlated with satisfaction with the legs.

Rosen et al (1987) also explored self-esteem and body image of males. Adolescent males were asked to indicate whether they wished to lose, gain or maintain their current weight. Fifty-six percent were "maintainers", 16% "reducers", and 28% "gainers". On average, reducers were overweight, while gainers were of normal weight. This supports the ideal that the male ideal is bulky, but not fat.

While weight change attempts in females were related to depression and negative self-esteem, no such correlation was observed in males wishing to lose or gain weight.

While the previous studies indicate that males are not excessively preoccupied with their bodies, they are not immune to the more serious problems of eating and body change. Lachenmeyer and Muni-Brander (1988) found a prevalence of bulimia ranging from 5 to 8% in adolescents, with no gender differences in binging, vomiting, laxative or diuretic use, or bulimia.

In an American study, Wang, Yesalis, Fitzhugh, Buckley & Smiciklas-Wright (1994) examined weight gain and athletic ability in males, and in particular, steroid use. Participants were aged 17 to 18. Twenty seven percent of participants reported a desire to lose weight, 27 maintain weight, and 46% gain weight. These results differ from those found in other studies, probably due to the older age group and the use of different assessment. Although participants denied using steroids themselves, most believed their classmates used them.

3.5 SUMMARY OF MALE BODY IMAGE STUDIES

A total of nine studies have been reviewed, focusing on males aged 8 to 18 years, and covering many areas. Assessment included EDI, various questionnaires, and silhouettes. In all but one of these studies, both females and males were studied, although unfortunately the focus was usually on the females. Gender differences in these studies were very common, which is not surprising considering the different cultural pressures which males and females are exposed to.

Dieting, although more common in female participants, also occurred in males. Paxton et al (1991) reported a 15% rate of male dieting, and up to 40% had used non-extreme weight control methods. Five percent of males in Wardle & Beales (1986) research reported dieting, compared to 15% of Bagby's (1993) sample.

The percentage of males wishing to change their weight was often comparable to that of the female participants. However, while females predominantly wished to lose weight, males were mixed between wishing to lose and wishing to gain weight. Table 1 gives a summary of these studies. "Lose" refers to the percentage of participants who stated they would like to be thinner, while "gain" referred to those who wished to be bigger/gain weight.

Table 1: Desired Weight of Male Participants

AUTHOR	YEAR	AGE	METHOD	LOSE	GAIN
Bagby	1993	8 - 13	Gave choices	26%	9%
Rosen et al	1987	14 - 17	Gave choices	16%	28%
Wang et al	1994	16 - 19	Gave choices	27%	46%
Paxton et al	1991	11 - 18	Silhouette	33%	37%
Maude et al	1993	12 - 16	Silhouette	33%	33%

Table 1 above shows that desired weight varies between studies, probably because of the variety of ages of participants and methods used. It may be that most younger males wish to lose weight, while most older males wish to gain weight. However desired weight (smaller, larger or the same size) is influenced by actual weight. Wardle & Beales (1986) found a correlation between actual weight and dietary restraint, and Rosen et al (1987) found that males who desired weight loss were actually overweight. Hence dissatisfaction in males appears to be due to actual weight, whereas in females it tends to be influenced both by actual weight (Attie & Brooks-Gunn, 1989) and perceived weight (Hill et al, 1982; Cash & Hicks, 1990; Drewnowski & Yee, 1987).

While the cultural pressure is for females to be slim, the male ideal is less clearly defined. The current ideal figure is the mesomorph, which is both slim and muscular. This may present a confusing picture for males, who are being told to be slim yet big, and could explain some of the mixed results observed in Table 1 above. A major limitation of the reviewed studies is that they did not distinguish between fat and muscle, despite results of a number of studies indicating that males desire muscle rather than "weight" gain. For example, Bagby's (1993) participants wished to gain weight in their chest and arms.

Despite the cultural pressure for males to be muscular, none of the studies reviewed focused on male satisfaction with muscles. The vast majority of researchers have chosen to approach male body satisfaction studies in the same way as they approach females satisfaction studies - by asking them if they wish to lose weight. As cultural pressures

are different for the two groups, it would be appropriate to approach the area from a male perspective.

3.6 OVERALL STRENGTHS AND WEAKNESSES

Despite the diversity, certain weaknesses were common in the studies reviewed. These can be grouped as problems with areas assessed, instruments used, questions asked and with participants. Each will be discussed in turn.

Areas of assessment

One of the problems of studying body image is the lack of a clear definition. While a simple definition is *the way a person sees their body*, it is often extended to mean attitudes, perceptions and behaviours related to body image, such as dieting, body dissatisfaction and size estimation. The absence of a universal definition of body image makes the area of study extremely large and potentially difficult to research. However researchers tend to repeatedly study some areas such as weight dissatisfaction, to the exclusion of others. Both weight dissatisfaction and size perception have been studied excessively both in adults and children (Cohn et al, 1987; Drewnowski & Yee, 1987; Fallon & Rozin, 1985; Lowe et al, 1985). In such studies little acknowledgement is made of peripheral matters such as male body satisfaction, participant satisfaction with things other than weight, and desire for weight gain. Cook et al (1991) believe that male body image concerns have largely been ignored.

Instruments

The lack of a clear body image definition also affects the range of instruments available. A very large number of instruments have been used to assess body image, although most focus on the same areas, as mentioned previously. A problem associated with having a very large number of instruments is that they are often used only once, and psychometric properties are not established. Researchers in a number of studies have developed an instrument for use in their current research rather than using or adapting a less relevant instrument. While this may be necessary for assessing new areas, it often results in instruments being used only once or twice, and validity and reliability not

being established. Examples of such instruments are the light beams method of assessing perceived size (Ben-Tovim & Walker, 1990).

McCrea, Summerfield & Rosen (1982) see the diversity of instruments as a major obstacle to progress in the body image field due to inconsistent results and incomparable methods. Perhaps this reflects the multidimensional nature of the body image construct.

Some of the instruments mentioned in the review of the literature, such as the eating disorder assessors (EDI, EAT) have validity evidence. However, such instruments were developed on and for individuals with eating disorders. Use on a non-clinical population (Rosen et al, 1987; Lowe et al, 1985) may yield less valid results. Similarly, instruments such as the Body Cathexis Scale (BSC) have in the past been developed on and used for an adult population (Secord & Jourard, 1953). Validity and reliability studies were conducted on adults (e.g. Tucker, 1981). Use on children may again yield invalid results, although a few researchers in the reviewed studies used the BCS on children and teenagers (Hill et al, 1992; Rosen et al, 1987). The BSC and similar instruments will be discussed in Chapter 4.

A second problem with instruments in the body image area is the use of many instruments when assessing children (Carter & Duncan, 1984; Hill et al, 1992; Hill et al, 1990). In this case the researchers have chosen to use existing measures rather than develop their own. While this may have the advantage of giving access to psychometric properties, it becomes problematic when assessment becomes too long for participants. While adults may be able to complete three instruments, 9 and 10 year old children may not, especially if many of the instruments were developed for adults. In this case there needs to be a balance between use of existing measures and development of instruments for use in a specific study, with specific participants (such as 10 year old children) in mind.

Questions

The most common problem with questions in the body image area is the use of forced choice with few response options. For example, Davies & Furnham (1986) used yes/no

responses to satisfaction with body parts. Another common question is to ask participants if they believe they are over-, under- or normal weight (e.g. Bagby, 1993). Participants may be satisfied with their overall weight, but are unhappy with their thighs, hence none of the categories fully apply. In this case participants are forced to select an answer which may not reflect their attitudes. Consequently, results will be invalidated.

Another problem with the use of forced choice questions is the loss of information. To illustrate how this may occur, the previous example will be used. Individuals who may indicate a desire to lose weight include an obese individual, a normal weight individual who wishes to lose weight from their thighs, stomach and waist, and an underweight eating disorder sufferer who perceives themselves to be overweight. A forced choice answer will not distinguish between the three individuals, despite the important differences between them. It does not distinguish between the level of dissatisfaction with body weight, or appropriateness of such dissatisfaction.

A final problem with questions in the body image area is ambiguity when enquiring about weight loss or gain. The word *diet* is often used to refer to weight loss (Wardle & Beales, 1986), or both weight gain and loss (Bagby, 1993). The word can mean anything from the food a person eats (e.g. having a balanced diet), to attempting to lose weight (e.g. the hip and thigh diet) or avoiding certain types of food (e.g. a wheat-free diet). Again a lot of information is lost through asking such a question, and the ambiguity of the question may lead to validity problems.

Participants

The vast majority of participants in the reviewed studies were european females from higher social classes (e.g. Davies & Furnham, 1986; Wardle & Beales, 1986). This limits the applicability of results to other groups. However, results are often assumed to generalise to such groups. Certain groups of participants, including males, non-europeans (including New Zealand Maori) and those from lower social classes, are somewhat neglected when it comes to body image studies.

A few of the reviewed studies used a small number of participants (Hill et al, 1990; Hill et al, 1989). While it is at times difficult to get participants, the small number in the studies means results must be considered tentative. In addition, there is a greater chance of getting non-significant results. However, the majority of studies had sufficient numbers of participants.

CHAPTER 4

THE PRESENT STUDY

The overall aim of the present study was to target gaps in the research and address common weaknesses discussed in the previous chapter. The solutions to the weaknesses, and subsequent development of an assessment instrument will now be discussed.

4.1 RESPONSE TO WEAKNESSES

*(See Chapter for discussion of weaknesses)

1)Areas of assessment

As stated previously, the main aim of current research was to target some of the neglected areas in body image research. Assessment objectives are as follows:

-to extend the examination of dissatisfaction beyond weight satisfaction, to include satisfaction with body parts and functions.

-to uncover sources of male body dissatisfaction.

-to further examine the influence of puberty on female body image.

-to examine perceptions of male and female body size.

-to examine attempts to change the body, *including* weight gain, weight loss and muscle gain.

-to assess knowledge of ways to gain or lose weight.

2)Instrument

The desired characteristics of an assessment instrument for use in the current study are as follows: it should be at an appropriate level of difficulty, applicability, length and interest for the children. It should have validity and reliability evidence. It should not be harmful or extremely distressing, or aggravate or cause eating problems. Lastly, its content should not simply replicate the many other studies in the body image area.

The two main problems with the reviewed instruments were the lack of established reliability and validity, and the use of of too many assessment instruments. However it

has also been suggested that the area to be studied should target gaps in the research, and the instrument should have certain characteristics.

In order have validity, an existing instrument would need to be used. However as no instrument examines all of the areas specified previously, several instruments would be required. This defies one of the requirements, that several instruments will not be used as assessment becomes too long for young participants. Hence the instruments would need to be adapted to be more suitable, although this is likely to lower the reliability and validity. Alternatively, a new instrument may be developed. The latter option was selected as it meant the instrument could be developed to fulfill the aims stated previously. This was seen to compensate for the lack of psychometric evidence, and it was predicted that by fulfilling the aims, validity would follow.

Questionnaire development was based on previous instruments and research. Table 2 summarises what each question assesses and what research or instruments it is based on. (See Appendix B for Questionnaire items). Each question will be briefly discussed with respect to the research or instruments which it is based upon.

Demographic information

Previous research has found there are body image differences between prepubertal and pubertal females (Brodie et al, 1994; Attie & Brooks-Gunn, 1989), and it has been suggested that it is at the first menstrual period that the changes occur. (Koff et al, 1978). Folk et al (1993) identified pubertal differences in body part satisfaction as an area for future research. Females in the current study were therefore asked if they had had their first menstrual period. Additional questions enquired about gender, ethnicity and age. Previous research has found differences between the body image of Europeans and non-Europeans, although there has been little research conducted on non-Europeans (e.g. Maori) in New Zealand.

Table 2: Development of questions

QUESTION	AREA ASSESSED	BASED ON
Demographics	Pubertal status, ethnicity, age, gender.	Group differences in body satisfaction.
1 (a, b & c)	Male dissatisfaction, satisfaction with body functioning.	Suggestions that body functioning is important to males.
2 & 6	Perceptions with male and female body size	Storz & Greene (1983), BFPQ, Male and female size ideals.
3, 4 & 5	Attempts to lose/gain weight and gain muscle, male dissatisfaction, pubertal influence.	Wardle & Beales (1986); Bagby (1993); Maude et al (1993); Paxton et al (1991).
7	Body part satisfaction, male dissatisfaction, pubertal influence.	Bagby (1993); BSS; BSQ; BSC.
8 & 9	Knowledge of ways to lose/gain weight.	Storz & Greene (1983); Cultural reaction to obesity.

Importance of fitness, strength and physical ability (Qu.1)

As suggested previously, while females are concerned with their appearance, males are thought to be concerned with the functioning of their body (Lerner & Korn, 1972; Pliner et al, 1990; Fallon, 1994). Question 1 aimed to target some aspects of physical functioning of the body. The BCS includes similar items, although it goes into a lot more detail. As the area has seldom been assessed and was therefore exploratory, only three items were included.

Perception of male and female figure size (Qu. 2 & 6)

Previous research has assessed perceptions of own size, but not perception of the size of another. Question 2 and 6 present participants with a male and female figure, and ask them to indicate the size they perceive the figure to be. The figures used are based on Storz & Greene's (1983) figures, and the method based on size perception studies such

as those which use the Body Figure Perception Questionnaire. However the motivation for including the question came from the differing tolerance of fat on the bodies of males and females.

Weight loss/gain and muscle gain (Qu. 3, 4 & 5)

Weight loss attempts have been assessed by a number of researchers, and the most common method is to ask participants if they have "dieted" (Wardle & Beales, 1986), or "dieted to lose weight" (Bagby, 1993). Other researchers have presented a range of weight loss behaviours and asked participants which of the behaviours they had done (Paxton et al, 1991; Maude et al, 1993). The problem with asking participants if they have dieted have been discussed previously. While presenting participants with a range of weight loss behaviours elicits a large amount of information, it is a lengthy way to get such information. In the current study participants were simply asked if they had tried to lose weight, and asked what they did. This is a short, simple question which avoids the use of the word "diet", and applies to a number of weight loss methods.

Research indicates that males wish to be larger in terms of weight or muscle (Bagby, 1993, Wang et al, 1994; Paxton et al, 1991). However very little research has asked participants if they wish to be bigger or have larger muscles, or if they have tried to achieve this. Most of the evidence comes from the use of body figures and indications of ideal size. Bagby (1993) asked participants if they had dieted to lose weight. As the word "diet" typically refers to weight loss, participants were likely to be confused. The current study simply asks participants if they have tried to gain weight or muscle.

Satisfaction with body parts

A number of research instruments have focused on body parts. Bagby (1993) asked children if they had tried to gain or lose weight from their chest, waist, stomach, bum, arms, legs and anywhere else. Folk et al (1993) used the Body Satisfaction Questionnaire, a measure of satisfaction with 15 body parts, adapted from the Body Image Satisfaction Questionnaire. Items included hips, waist, weight, breasts, height, arms, legs and face. A five-point scale was used, and all responses added to give a total score ranging from 1 to 75. No reliability or validity evidence was reported on this

scale.

Slade et al (1990) and Brodie et al (1994) used the Body Satisfaction Scale. This scale assesses satisfaction with 16 body parts including similar items to the BISC (above), in addition to a number of items about the head. Scores are added to give satisfaction with the head (7 items), satisfaction with the body (7 items) and an overall satisfaction score (16 items). Responses were on a seven-point scale for adults and a five-point scale for children. This scale was validated on a number of females aged from late teens to forties (Slade et al, 1990).

A commonly used instrument to assess body part satisfaction is the Body Cathexis Scale. Developed by Secord & Jourard (1953) and modified by Clifford (1971), items are often added and subtracted by researchers according to their research requirements (Roger, 1977). The BCS is a very detailed scale with up to 46 items relating to health and fitness, appearance, physical and muscular strength and subordinate and independent body features (Tucker, 1981). Individual items include physical skills, energy levels, teeth, hands, voice, body build and leg shape. Participants respond on a scale ranging from 1 (Have strong feelings and wish change could somehow be made) to 5 (Consider myself fortunate). The complexity of the scale is apparent.

The BCS has considerable validity and reliability evidence (Jourard & Remy, 1955; Markee, Corey & Pedersen, 1990; Tucker, 1981; Balogun, 1986).

None of the scales were completely suitable for use in the current research. However the current research was based upon the most relevant items, and those which appeared to be central to the body image of children. The response scale was also based on the instruments, and was very similar to the 5-point scale used in the BSS.

Knowledge of weight gain/loss methods (Qu. 8 & 9)

Storz & Greene (1983) found teenagers had a good knowledge of ways to lose weight. Children in the current study were asked what they would tell a friend to do if they were slightly fat or skinny, and were unhappy about it. This question not only assessed

knowledge of methods, but also measured attitudes towards obesity and slimmness, and whether participants thought the situation was in need of action, for example, did the participant believe their thin friend need to attempt to gain weight.

Response to questionnaire (Qu. 10)

This question was devised to give participants an opportunity to say what they thought of the questionnaire, and anything else they wished to say.

Additional comments about questionnaire development

By developing a questionnaire for the current study, certain characteristics could be fulfilled. Throughout the questionnaire, attempts were made to devise questions at the appropriate level of difficulty for the pre-teenaged children. Questions were kept as brief as possible in order to avoid excessive questionnaire length, one of the problems in previous research. One of the important requirements for the questionnaire was to avoid harm or discomfort to participants. To lessen the potential for discomfort caused by personal questions, the most threatening questions were embedded in the middle of the questionnaire. Initial and final questions were perceived to be least threatening. In addition, each question was devised to be as harmless as possible, while assessing the area of interest. Participants were not required to answer any questions which they did not wish to, and could stop at any stage during questionnaire completion.

At this stage a pilot study was conducted with four children within the relevant age cohort. Their feedback about the questionnaire, including discomfort caused by individual questions was incorporated into the final version of the questionnaire.

4.2 HYPOTHESES

The expected findings for each question will now be discussed. As most of the questions are exploratory, hypotheses are tentative, and based upon suggestions from previous research and authors. Each hypothesis will now be given, and discussed in terms of supporting evidence.

Hypothesis 1a and 1b (Qu. 1)

1a) It is expected that fitness, strength and physical ability will be more important to males than to females.

1b) It is expected that fitness, strength and physical ability will be more important to prepubertal than to pubertal females.

Little research has been carried out in the area of satisfaction with physical abilities in children, but many researchers have suggested that body functions are more important to males, while body appearance is more important to females (Lerner & Korn, 1972; Lerner & Karabenick, 1974; Pliner et al, 1990; Fallon, 1994).

Fitness - Shaw and Kemeny (1989) found that females regarded fitness to be important only for weight loss reasons, referred to as "cosmetic fitness" by Coakley (1994). Females engage in less exercise than their male peers (Paxton et al, 1991; Rudat, 1992), especially after puberty (Christensen, 1993). Rudat (1992) found that while boys engaged in more hours of exercise as they got older, females engaged in less. In addition to the physical changes of puberty which can affect sporting ability (Christensen, 1993), females also have to contend with the fact that sport has traditionally been a male domain (Coakley, 1994).

Since many females only value fitness for cosmetic reasons, and engage in less exercise than males, it is expected that they will perceive it to be less important than their male peers do. As females engage in less exercise after puberty, it is expected that menstrual females will rate exercise to be less important than non-menstrual females do.

Strength - It is likely that males will rate strength to be important. There is great cultural pressure for males to be strong and muscular, and the mesomorph (muscular) body type is the ideal for males (Staffieri, 1967; Jacobi & Cash, 1994; Gacsaly & Borges, 1979), while the female ideal is the ectomorph (thin) figure (Davis, 1985; Gacsaly & Borges, 1979). Tucker (1983) believed strength to be central to the self-concept of males. It is thus likely that males will perceive strength to be more important, while females do not.

Physical ability - Few studies examine the importance of physical ability to children. However, as stated previously, it is thought that body functioning is more important to males than females. It is then predicted that physical abilities such as running and sports are more important to males.

Hypothesis 2a and 2b (Qu. 2 & 6)

2a) It is predicted that the male figure will be perceived to be thinner than the female figure by both males and females.

2b) It is possible that female participants, and especially menstrual females, will perceive both figures to be fatter than male participants perceive them to be.

Little research has been carried out on perceptions of others body size. The hypothesis is based on the cultural expectation for women to be very thin, and men to be large; and also on previous research on size estimation.

Females, especially older and pubescent females and those with a high level of dietary restraint tend to overestimate their own body size (Wardle & Beales, 1986; Maude et al, 1993; Paxton et al, 1991; Hill et al, 1992). This is likely to be due to comparison with a very thin ideal size (Storz & Greene, 1983). The female figure in Question 2 may also be compared to the ideal, and consequently be judged as overweight.

Males in body estimation studies tend to be more accurate in estimating their own size, probably because the male cultural ideal is more realistic, less demanding and less narrowly defined (Pliner et al, 1990; Wardle & Beales, 1986). It is likely that the size of the male figure will also be compared to the broad ideal, and judged to be an acceptable size.

As females (especially postpubertal females) are likely to be more aware of and focused on weight and fat than males, they are likely to estimate the size of the figures as being larger (i.e. more obese) than males do.

Hypothesis 3 (Qu. 3)

3) It is expected that significantly more males than females will have tried to make their muscles bigger. It is likely that few females will have tried to make their muscles bigger.

This is a neglected area of the research as few studies focus on male attempts or desire for muscle gain. Most of the evidence supporting the hypotheses is indirect, based on the male and female ideal sizes. The male ideal body type is the mesomorph (muscular and lean) body type. Male participants in a number of studies have indicated a desire to be "bigger" (e.g, Rosen et al, 1987). Neimark (1994) found that most of the males who indicated a desire to gain weight actually desired muscle gain. Bagby's (1993) participants wished to gain weight in the arms, legs and chest, areas in which the ideal male body is muscular. As it appears that males wish to be more muscular, it would follow that some had attempted to increase their muscle size.

Hypothesis 4 (Qu. 4)

4) It is expected that more males than females will have tried to gain weight.

Male participants in a number of studies indicated a desire to weigh more (Bagby, 1993; Rosen et al, 1987). In previous research, more males than females desired weight gain (Bagby, 1993; Rosen et al, 1987, Maude et al, 1993).

It is likely that at least a few of those who desired weight gain attempted to gain weight. Bagby (1993) found that 3% of males and 1% of females had tried to gain weight through dieting. It is likely that the number of participants wishing to gain weight in the current study is slightly higher than Bagby's (1993) percentages, due to question differences.

Hypothesis 5a and 5b (Qu. 5)

5a) It is expected that more females than males will have tried to lose weight.

5b) It is likely more menstrual than non-menstrual females will have tried to lose weight.

A large number of studies indicate that most females wish to weigh less (Eisele et al, 1986; Tiggemann & Pennington, 1990; Storz & Greene, 1983; Maude et al, 1993), and the rate of dieting in females has been cited as between approximately 15% (Bagby, 1993; Wardle & Beales, 1986) and 50% (Paxton et al, 1991; Maude et al, 1993), although dietary restraint appears to be more common than dieting (Wardle & Beales, 1986).

The rate of male dieting varies from just below that of female dieting (Wardle & Beales, 1986; Bagby, 1993) to much below that of the females (Paxton et al, 1991; Maude et al, 1993) at a rate of approximately 15%.

Because of the inconsistent results, it is difficult to predict the rate of weight loss behaviour. Due to wording differences the rate is likely to be higher than that found by Bagby (1993) and Wardle & Beales (1986).

Hypothesis 6a, 6b, 6c (Qu. 7)

6a) It is expected that menstrual females will have the greatest body dissatisfaction of the three groups (males, non-menstrual females, menstrual females).

6b) It is expected that female participants are dissatisfied with their weight, stomach, legs (especially thighs), bottom, waist and hips. Female dissatisfaction is likely to centre around weight and appearance of these parts.

6c) It is expected that males will be dissatisfied with their stomach, legs, chest, muscles and possibly height. Male dissatisfaction may centre around functional aspects of these parts.

Female body dissatisfaction appears to increase with age, and becomes especially prominent after puberty (Eisele et al, 1986; Maude et al, 1993; Attie & Brooks-Gunn, 1989), although researchers disagree on the exact effect of puberty on dissatisfaction. It is expected that the postpubertal females in the current research will be less satisfied than their postpubertal peers with their bodies.

Previous research has shown that the most common sites for female dissatisfaction are

the stomach, waist, hips, legs/thighs, and bottom, with dissatisfaction centring around weight (Bagby, 1993; Folk et al, 1993; Davies & Furnham, 1986, Gitter, Lomranz, Saxe & Bar-Tal, 1983). This supports the idea that females are concerned about the appearance of their bodies while males are concerned with body functioning.

Male participants in previous research have been dissatisfied with their stomach, legs and chest, legs, hips and weight (Bagby, 1993; Folk et al, 1993). Cash et al (1986) observed dissatisfaction of adult males and females with their muscle tone. Height was seen as a potential source of concern by Jacobi & Cash (1994), who believed it to have social emphasis. However, this may be true only of older males.

Richardson, Hastorfl, Goodman & Dornbusch (1961) found that males perceived functional impairments to be more severe than other types of disabilities. Females responded differently, and perceived a disfigurement of the appearance to be a severe disability. It is expected that participants in the current study will respond in a similar manner, with males being concerned with physical aspects of the parts of their body and females with the appearance of the parts.

Hypothesis 7a and 7b (Qu. 8 and 9)

7a) It is expected that having an underweight friend would be more acceptable to participants than having an overweight friend.

7b) It is expected that the children would have knowledge of ways to gain and lose weight.

This question was exploratory, and based on the cultural attitude toward over- and underweight. Richardson et al (1961) noted that obesity was rated as a worse disability than other impairments such as physical disabilities by young males and females.

It is expected that participants will have knowledge of ways to gain and lose weight. Storz & Greene (1983) found teenagers knew which methods of weight loss were "better", although they did not necessarily use the best methods themselves.

CHAPTER 5

METHOD

5.1 PARTICIPANTS

Participants were 44 females and 48 males from selected classes of an intermediate school in Palmerston North. The classes selected are likely to be representative of the school population. In each class were male and female pupils of various ethnicities, aged 10 to 13. Demographic information for the participants is given below.

1) FEMALES

Females comprised almost half of the total sample (48%). For the purpose of analysing results, they were divided into those who had not yet had their first menstrual period ("non-menstrual"), and those who had ("menstrual"). This distinction was made as previous research suggests that body image and dissatisfaction change at puberty. Table 3 below shows menstrual status and age of the female participants.

Table 3: Age and Menstrual Status of Female Participants

		Menstrual	Non-menstrual	TOTAL
	11	4	10	14 (35%)
AGE	12	7	9	16 (40%)
	13	5	5	10 (25%)
TOTAL		16 (40%)	24 (60%)	40*

*There were 4 additional participants, one of unknown age, and three of unknown menstrual status.

The average age of female participants was 11.9 years. The majority of female participants were European. Table 4 presents details of the ethnicity of female participants. Two females did not state their ethnicity.

Table 4: Ethnicity of Female Participants

ETHNICITY	N	%
European	36	82%
Total Non-European:	6	16%
Maori/European	2	24%
Maori	1	2%
Pacific Islander/European	1	2%
Asian	1	2%
Other	1	2%

2) MALES

Age of male participants is given in Table 5 below. One male did not state his age. The average age of male participants was 11.8 years, compared to 11.9 years in female participants.

Table 5: Age of Male Participants

		N	%
AGE	11	16	34%
	12	23	49%
	13	8	17%
	Total	47	

Unlike the females, a large number of male participants were non-European. Ethnicity is shown in Table 6. As can be seen from this table, 38% of male participants are Non-European, compared to 16% of females. This difference is statistically significant, $\chi^2(1) = 5.45$, $p = 0.02$. Despite this difference, a similar range of ethnicities were observed between the two groups. Non-European participants in both groups were predominantly Maori or Maori/European. Others were Pacific Islander, Asian or "Other".

Table 6: Ethnicity of Male Participants

ETHNICITY	N	%
European	28	58%
Total Non-European:	18	38%
Maori/European	8	17%
Maori	2	4%
Pacific Islander	1	2%
Asian	2	4%
Other	5	10%

5.2 MATERIALS

A questionnaire (Body Image and Attitudes Questionnaire - see Appendix B) was developed specifically for use in the current study. The development of the questionnaire has been discussed in the previous chapter. The Body Image and Attitudes Questionnaire had a male and female version, with questions modified according to gender (See Appendix B for differences).

5.3 PROCEDURE

An intermediate school in Palmerston North was selected to carry out the research. This school is likely to be representative of all intermediate schools in the area. After receiving approval from the Massey University Human Ethics Committee, the school was approached and consent gained from the principal to carry out the research.

Prior to giving out the necessary forms to the children, a meeting was held with teachers to explain the study and decide on the most appropriate procedure for the testing. Through liaison with the staff it was decided that a "team" would complete the questionnaire. A "team" consisted of four classes, or one-quarter of the school. Each class contained males and females of various ages. The pupils in the team were given an information sheet for themselves and their parents, and a non-consent form for

parents (see Appendix C). The non-consent form was initially planned as a consent form for parents to complete and return. However this was perceived to be impractical by the school, and the form was altered to a non-consent format. Children were given these forms in class, and asked to give their parents the information and non-participation forms. Parents were given one week to return the non-participation forms, indicating that they did not wish their child to participate. All children in the team who were allowed to participate were given the choice to complete the questionnaire.

The questionnaires were given out on the same day at the same time, although the four classes were in separate classrooms, and were supervised by their teachers. The teachers in each room handed out the questionnaires, giving males the male version and females the female version. Pupils judged by their teachers to be incapable of completing the questionnaire were given alternative work, as decided beforehand by the teachers and the researcher. When all questionnaires were given out, the teachers read out a set of instructions (See Appendix D).

Participants were given time to complete the questionnaire. Each class had a large envelope, into which participants placed their questionnaires. When everyone had put their questionnaire into the envelope, it was sealed and sent to the office. The four envelopes were then collected, and consent forms removed.

CHAPTER 7

RESULTS

Percentages in all tables in the Results section refer to the percentage of participants in each subgroup (NM or M females, or males). "Don't know" and "No response" are not included in the percentages, descriptive statistics or statistical tests. For the analysis of results, female participants were divided into two groups according to pubertal status: non-menstrual (NM) and menstrual (M).

QUESTION 1

The initial question enquired about the importance of fitness, strength and physical ability to participants. It was hypothesised that fitness, strength and physical ability would be more important to males than females (H1a); and more important to NM than M females (H1b). The scale ranged from 1 to 4, where 1 = very important, 2 = important, 3 = not important and 4 = don't know. The scale was assumed to be categorical (not continuous) for the sake of statistical tests. Results are discussed below.

1) FITNESS

Table 7 presents results for female and male ratings of importance of fitness.

Table 7: Importance of Fitness

	Very important 1	Important 2	Not important 3
Females			
NM	9 (50%)	7 (38%)	2 (11%)
M	13 (81%)	3 (19%)	-
Males	27 (69%)	10 (26%)	2 (5%)

Group Differences

The majority of participants in all groups selected Option 1, indicating that fitness was very important to them. Despite the apparent differences in Table 7, there were no significant differences between the female groups according to a chi-square test, $\chi^2(1) = 2.32$, $p = 0.1$. However, the small number of participants in each category may have reduced the accuracy of the test. There were too few participants to compare the three groups with a chi-square test. However male ratings of the importance of fitness appeared to fall between those of the two female groups. As results were non-significant, Hypotheses 1a and 1b were rejected with respect to fitness.

Age Differences

Age appeared to have an influence on female participant's scores, with fitness being more important to older participants. The majority of female participants of all ages chose Option 1 ("Very important"), and the amount selecting this option increased with age. Fifty-seven percent of 11 year old females selected Option 1, compared to 73% of 12 year olds and 80% of 13 year olds. Numbers were too small to conduct a chi-square test accurately. The effect of age on males was unclear, with fitness being rated as important by 11 and 13 year old males, but less so by 12 year old males. One-hundred percent of 13 year old males judged fitness to be very important to them, compared to 67% of the 11 year olds and 45% of 12 year olds.

2) STRENGTH

Table 8 presents participant ratings of the importance of strength for the three groups. Corresponding hypotheses (H1a and H1b) were given previously.

Table 8: Importance of Strength

	Very important 1	Important 2	Not important 3
Females			
NM	-	12 (67%)	6 (33%)
M	3 (19%)	11 (69%)	2 (12%)
Males	14 (33%)	27 (64%)	1 (2%)

Group Differences

The group that rated strength as least important was the non-menstrual female. This was followed by menstrual females, almost one-fifth of whom rated strength as very important. However it was males who placed the most importance on strength, and the difference between male and (NM and M) female participants was significant according to a chi-square test, $x^2(2) = 7.78$, $p < 0.05$. Only one male participant indicated that strength was unimportant to him, compared to a total of 23% of female participants. In this case Hypothesis 1a with respect to strength was accepted, aa strength was significantly more important to males than females. However Hypothesis 1b, that NMs would rate strength to be more important than M females rated it, was rejected.

Age Differences

For both male and female participants, the importance of strength appeared to increase with age. Thirty percent of 13 year old females rated strength as very important, compared to 7% of the 11 and 12 year olds. The small size of the male 13 year old group made it difficult to accurately compare to the other age groups. However, 71% of the 13 year olds indicated that strength was very important to them. Only one participant out of the male group stated strength was not important to him.

3) PHYSICAL ABILITY

This question corresponds to Hypotheses 1a and 1b, given previously. Results are shown in Table 9.

Table 9: Importance of Physical Ability

	Very important 1	Important 2	Not important 3
Females			
NM	10 (42%)	12 (50%)	2 (8%)
M	10 (67%)	4 (27%)	1 (7%)
Males	29 (66%)	12 (27%)	3 (7%)

Group differences

Menstrual females and males responded identically to this question, and the majority of both rated physical ability as very important. Hence H1a, that males will give a higher physical ability rating than females, is rejected. As NMs females gave a lower rating that Ms females, H1b is also rejected. Non-menstrual females on average gave a lower rating, with less than 50% selecting Option 1 ("Very Important"). As the males and M females responded identically, they were compared to as one group to NM females. A chi-square test between the NM females and the other groups revealed a significant difference, $x^2(1) = 3.9$, $p < 0.05$.

Age differences

Unlike fitness and strength ratings, physical ability ratings did not appear to differ across age groups for females. The majority of females of all ages selected Options 1 and 2, although older females were possibly slightly more likely to select Option 1. Eleven and 13 year old males responded slightly differently to 12 year olds. While the majority (73%) of the 11 year olds and all of the 13 year old males thought physical ability to be very important to them, 12 year old males' responses fell almost equally on Options 1 and 2. Five percent of 12 year old males selected Option 3 ("Not important").

QUESTION 1 SUMMARY

In general, body functions were most important to males and menstrual females, and to older participants of each group.

Statistical differences at a 5% level of confidence were observed between males and (total) females in the importance of strength, and between non-menstrual females and the other groups for importance of physical ability. Hence Hypothesis 1a, that males would rate fitness as more important than female did, was supported. All other hypotheses (H1a and H1b with respect to fitness, strength and physical ability) were rejected.

QUESTION 2 AND 6

In Question 2, participants were presented with a female figure and asked to rate it on a scale from 1 to 6 (See Appendix 1). Question 6 asked the same question but presented a male figure. For the purpose of analyzing results, the scale was considered to be continuous. It was predicted (H2a) that the male figure would be perceived to be thinner than the female figure by all participants. It was also expected that females (especially M females) would perceive the figure to be fatter than males perceived them to be (H2b).

Results for males and females for Question 2 and Question 6 are presented in Table 10.

Group differences

Menstrual females made the highest ratings of both the female and male figure, indicating that they perceived the figures to be overweight. This supports Hypothesis 2b. Non-menstrual females made the lowest ratings, perceiving the figures to be approximately average weight. Sixty-five percent of the NM females perceived the female figure to be an average weight, compared to half of the M females and almost 60% of the males. Half of the M females perceived the female figure to be overweight. All groups judged the male figure to be larger than the female figure, although for NM females the difference was very small. This contradicts Hypothesis 2a. The three groups were compared by an ANOVA test on ratings of both figures. All differences were tested (NM females vs M females vs males on female figure and on male figure) Most differences were small. The largest difference between groups was observed between NM and M females for Question 6 (male figure), although the difference was not significant at a 0.05 level of confidence, $F(1, 39) = 3.36$. Non-significant differences meant Hypotheses H2a and H2b are rejected.

Table 10: Perceptions of Female and Male Figure Size

		NM Females	M Females	Males
Female figure (Qu 2)				
Very thin	1	-	-	-
.	2	-	-	1 (2%)
.	3	15 (65%)	9 (50%)	27 (57%)
.	4	8 (35%)	8 (44%)	18 (38%)
Very fat	5	-	1 (6%)	1 (2%)
MEAN SCORE		3.35	3.56	3.4
Male figure (Qu 6)				
Very thin	1	-	-	-
.	2	1 (4%)	-	-
.	3	12 (52%)	6 (33%)	23 (49%)
.	4	10 (43%)	11 (61%)	21 (45%)
Very fat	5	-	1 (6%)	3 (6%)
MEAN SCORE		3.39	3.70	3.57

Age Differences

Table 11 gives the male and female mean scores by age for Question 2 and 6. The two female groups are combined so *age* effects rather than *puberty* effects may be observed. While no clear trend emerged for females responses to Question 2, it appeared that older females perceived the male figure (Q6) to be large while the younger females saw it as smaller. Younger males (11 year olds) tended to see the female figure as a bit fat, whereas older males (12 and 13 year olds) saw it as an average size. However it was the older males who perceived the male figure to be overweight, while many of the 11 and 12 year olds saw it to be an average size.

There is little difference in male and female mean scores according to age on Question 2 and 6. The exception is for 13 year old male and female ratings of the size of the female figure. While females rated it as slightly overweight, males perceived it to be of average weight. Half of the 13 year old females were post-pubertal, which may have influenced results.

Table 11: Perceptions of Figure Size by Age

		FEMALES	MALES
Q2			
	11 years	3.60	3.65
AGE	12 years	3.23	3.32
	13 years	3.50	3.13
Q6			
	11 years	3.47	3.47
AGE	12 years	3.56	3.64
	13 years	3.60	3.63

QUESTION 3, 4 AND 5

Questions 3 to 5 are concerned with attempts participants have made to change their body weight or muscle (See Appendix 1). Corresponding hypotheses are H3, H4 and H5. Table 12 presents results for the three questions.

Table 12: Attempts to Change Body

Response	Yes	No
Q3 (GAIN MUSCLE)		
NM Females	1 (4%)	24 (96%)
M Females	1 (6%)	15 (94%)
Males	16 (35%)	30 (65%)
Q4 (GAIN WEIGHT)		
NM Females	2 (8%)	22 (92%)
M Females	-	16 (100%)
Males	9 (19%)	38 (81%)
Q5 (LOSE WEIGHT)		
NM Females	8 (33%)	16 (67%)
M Females	7 (41%)	10 (59%)
Males	10 (22%)	36 (78%)

QUESTION 3

Group Differences

Hypothesis 3 predicted that more males than females would have tried to make their muscles larger. Table 12 shows that very few females of either group had attempted to make their muscles bigger, compared to over a third of males. This difference was statistically significant according to a Chi-squared test, $x^2(1) = 11.46$, $p < 0.001$. Hence Hypothesis 3 was accepted.

Participants were asked how old they were when they tried to increase the size of their muscles. Male attempts occurred from 8 years to 13, with an average age of 10 1/2. The two females attempted to make their muscles bigger at age 10 and 12. Methods used by males included sports and exercise, and lifting weights.

QUESTION 4

Group Differences

It was predicted that more males than females would have tried to gain weight (H4). None of the M females and 8% of the NM females had tried to gain weight, compared to almost 20% of males. The difference between the males and (total) females was significant, $\chi^2(1) = 3.93$, $p < 0.05$. Hypothesis 4 was accepted.

The age at which males had attempted to gain weight ranged from 6 to 13 years, with an average age of 9 years. The females tried to gain weight at 11 and 13 years.

Methods used by males included eating more, eating more of one type of food (eg starch, "junk food"), and exercising.

QUESTION 5

Group Differences

Hypothesis 5a predicted that more females than males will have tried to lose weight. Hypothesis 5b predicted that more menstrual than non-menstrual females would have tried to gain weight. Menstrual females were most likely to attempt to lose weight (41%), followed by NM females (33%), then males (22%). Despite the apparent dissimilarity between males and females, there were no significant differences at a 5% level of confidence between the weight loss of males and (total) females, $\chi^2(1) = 2.33$, between males and M females, $\chi^2(1) = 2.38$, or between NM and M females, $\chi^2(1) = 0.27$. Hypotheses 5a and 5b were rejected.

Menstrual female attempts to lose weight occurred at ages 9 to 13, with a mean of 11 years. Both NM female and male weight loss attempts occurred from 8 to 13, with a mean of 10 years.

A wide variety of methods were used to lose weight. These were grouped into 3 categories: exercise only, diet only, and exercise and diet (diet refers to a change in eating habits). Table 13 presents the results for all groups.

Table 13: Weight Loss Methods Used

Method	Diet	Exercise	Diet and exercise
NM Females	3 (38%)	1 (13%)	4 (50%)
M Females	5 (71%)	1 (14%)	1 (14%)
Males*	2 (28%)	2 (28%)	3 (43%)

*Three males did not state how they attempted to lose weight.

Male responses were divided between the three methods. Many NM females chose combined exercise and diet, while M females relied mostly on a change in diet to lose weight. Most common for all groups who changed their diet was to eat less "junk food", lollies, cakes and fatty food, while a few substituted healthy eating habits, such as eating more fruit. Only a few participants, most of whom were female, resorted to a low-calorie or "starvation" diet.

QUESTION 7

In Question 7, participants were asked to indicate how happy they were with various parts of their body by circling a number from 1 (Very happy) to 5 (Very unhappy) (See Appendix 1). The sixth option, "Don't know" was not included in statistical tests. For the purpose of results, the scale was treated as continuous. Corresponding hypotheses are H6a, 6b and 6c.

Hypothesis 6a predicts that menstrual females will have the greatest body dissatisfaction of the three groups (Males, NM and M females). Hypothesis 6b suggests females will be dissatisfied with the weight or appearance of their waist, weight, stomach, legs, bottom and hips. Hypothesis 6c suggests males will be dissatisfied with their stomach, legs, chest, muscles and height, and be concerned with the functioning of their body.

Average scores and response distribution are shown in Table 14. Both are presented as the mean scores were not always the best indicators of responses for the groups.

Group Differences

Most participants appeared to be reasonably satisfied with their bodies, and selected Options 2 and 3, "Happy" and "Not happy or unhappy". Males were only slightly more satisfied than females according to the overall mean score. Menstrual females were the least satisfied of the three groups, and non-menstrual females most satisfied. This supports hypothesis 6a. Support for H6a can also be observed for individual body part ratings and comments. As the two female groups are different from one another it is inappropriate to combine them, hence they were considered separately.

According to the mean scores, females were more satisfied than males with both their shoulders and their arms. NM females received a lower mean score than M females for arms, despite similarities in responding. For shoulders it was the NM females who appeared to be more satisfied, as a number of them selected Option 1. However, mean scores were similar, and differences between the groups minimal.

Males and females can not be compared on breasts/chest. While the M female mean score was only slightly lower than that of the NM female, more M females selected Option 1 or 2, indicating greater satisfaction.

Both males and M females appeared to have a degree of dissatisfaction with their waist. NM females appeared to be happy as 66% of them selected either Option 1 or 2.

Dissatisfaction with the stomach was evident in all groups, with M females having the highest mean score. Males showed the least dissatisfaction of the three groups.

Males and NM females were mainly satisfied with their hips, and M females were not far behind in terms of mean scores.

Males were the most satisfied of the three groups with their bottom, followed closely by NM females and M females. Legs were the greatest source of concern for M females, and the difference between the three groups was significant, $F(2, 82) = 3.17$, $p < 0.05$. Weight also caused dissatisfaction in M females, with 24% selecting Options 4 or 5. T-

tests but not ANOVA's revealed significant differences between weight satisfaction of M and NM females, $t(40) = 1.88$, $p < 0.05$, and males and M females, $t(60) = 1.97$, $p < 0.05$. However, both males and NM females had some dissatisfaction with their weight.

Menstrual females were more satisfied with their height than the other two groups, both of whom appeared somewhat dissatisfied. T-tests revealed significant differences between M and NM females, $t(40) = 1.84$, $p < 0.05$, and males and M females $t(60) = 1.67$, $p < 0.05$.

While the female groups scored similarly for satisfaction with muscles, the response distribution suggested the M females were slightly happier. Although the male mean score was slightly higher than that of the females, indicating dissatisfaction, more males than females selected Option 1.

For many body parts, NM and males scored lower than M females, indicating greater body satisfaction. However, the distribution did not differ much between the females groups. It appeared that males predominantly selected Options 1 and 3, while NM females selected Option 2. M females were more likely to select Options 4 and 5, indicating dissatisfaction.

Table 14: Question 7 Distribution of Results and Mean Scores

BODY PART	1 Very happy	2 Happy	3 Not happy or unhappy	4 Unhappy	5 Very unhappy	MEAN
NM Females						
Shoulders	16%	72%	12%	-	-	1.96
Arms	15%	63%	15%	7%	-	2.15
Breasts	6%	53%	41%	-	-	2.35
Waist	8%	58%	31%	4%	-	2.31
Stomach	11%	32%	42%	1%	4%	2.65
Hips	12%	60%	24%	4%	-	2.20
Bottom	4%	45%	41%	9%	-	2.55
Legs	7%	46%	27%	19%	-	2.58
Height	18%	48%	30%	4%	-	2.19
Weight	12%	52%	28%	4%	4%	2.36
Muscle	11%	55%	28%	6%	-	2.28
AVERAGE	11%	53%	28%	6%	1%	2.33
M Females						
Shoulders	13%	73%	13%	-	-	2.00
Arms	-	81%	12%	7%	-	2.25
Breasts	-	73%	20%	7%	-	2.33
Waist	7%	37%	50%	-	7%	2.63
Stomach	-	35%	47%	12%	6%	2.88
Hips	12%	59%	18%	6%	6%	2.35
Bottom	7%	40%	40%	7%	7%	2.67
Legs	12%	18%	29%	29%	12%	3.12
Height	53%	29%	12%	6%	-	1.71
Weight	6%	29%	41%	12%	12%	2.94
Muscle	6%	76%	12%	-	6%	2.24
AVERAGE	11%	50%	27%	8%	5%	2.47

Males						
Shoulders	18%	51%	31%	-	-	2.13
Arms	14%	43%	33%	10%	-	2.38
Chest	15%	48%	32%	5%	-	2.28
Waist	10%	37%	45%	8%	-	2.50
Stomach	12%	37%	35%	14%	2%	2.58
Hips	14%	39%	42%	6%	-	2.39
Bottom	12%	35%	41%	12%	-	2.53
Legs	28%	19%	36%	17%	-	2.40
Height	29%	38%	21%	10%	2%	2.19
Weight	26%	33%	24%	14%	2%	2.33
Muscle	17%	46%	27%	10%	-	2.29
AVERAGE*	18%	39%	33%	9%	1%	2.36

*AVERAGE = Overall percentage of participants responding to each Option (1 to 5)

Comments About Body Parts

SHOULDERS - Comments for M and NM females were generally positive, indicating happiness with shoulder size and shape. Males also made positive comments, mainly about shoulders being broad, large or normal.

ARMS - Positive comments were made by females about length and lack of fat. Only one female (NM) commented on strength. Males did not directly comment on the strength of their arms, although many did complain about their arms being too thin/skinny.

BREASTS - Few comments were made. Negative comments were made by NM females about breasts being too small.

CHEST - Comments were mixed, and while some males were happy because their chest was big/broad, others were unhappy with the lack of size and muscularity of their chest.

WAIST - M females comments were negative, referring to the size of their waist. NM females generally made positive comments about size and lack of fat. Not many

comments were made by males, but those made were generally positive, about lack of fat.

STOMACH - A lot of comments were made by all participants. M females appeared to have strong, negative opinions about this part, mostly referring to the stomach being too large or fat. NM comments were mixed, and not as negative as those made by M females. Negative comments referred to slight dissatisfaction due to size (eg slightly plump), while positive comments also referred to size (eg not fat). Some males were unhappy because their stomach was too thin, while others were concerned with fat.

HIPS - Comments were mixed. A few M females were unhappy because their hips were too big, while a NM female liked her hips because they were not too wide. One male wanted broader hips, while another disliked the way his hips stuck out.

BOTTOM - M females made negative comments about their bottom being too big/fat. One NM female thought her bottom was a bit fat. Males did not appear to have a definite opinion about this part, with many saying "don't know" or "don't care".

LEGS - A lot of comments were made by females about their legs, most of which were negative. While M females commented on the size of their legs and thighs, NM females referred to other things, such as the hairiness and colour of their legs. A small percentage of NM females thought their legs were too fat. Males also had a lot to say, and comments were mixed between good and bad. Many comments were made about the leg length. Some males commented on the functioning of their legs, such as being good for running, or being bad because of an injured knee. Additional male comments were made about shape, tan, amount or fat, and lack of muscles.

HEIGHT - Most M female comments were positive, about being just right, or tall, although one female disliked being so tall. NM females on the other hand disliked being short. Many males also complained about their lack of height, while others liked being tall. One participant complained that he could not play basketball because he was too short.

WEIGHT - A lot of comments were made, especially by M females. Some said they were a bit fat, and that their weight "could be better", while others had stronger feelings, saying they were very heavy, or weighed far too much. NM females had negative feelings about being slightly heavy. Few males commented on their weight. One participant disliked being heavy, while others disliked being light.

MUSCLES - Comments indicated that strength/muscles were desirable to the females, and M females made positive comments about strength and muscle size. Negative comments were made by M females about the lack of size. Male comments ranged from the negative at not having enough muscles, to neutral comments such as "alright" and "I don't care", and positive comments about being average, having a few muscles, or being strong and having "really big" muscles. One participant was not happy due to their inability to run well.

GENERAL COMMENTS - A number of male participants made one comment to cover all body parts. A few were happy because their body worked well and because they were fit. Other participants did not really care or worry about the appearance of their body.

Overall, M females expressed strong, negative comments about their body, usually referring to the amount of fat on it. NM females did not have such negative feelings, although many commented on slight fatness. NM females made more positive comments about their bodies. Both positive and negative feelings were expressed by male participants, although most did not appear to be overly concerned about their body. Many concerns referred to the functioning of the body part rather than its appearance (eg legs not strong enough for running). A number of male participants did not have an opinion about their body, and comment indicated that they may not have thought much about it.

From analysing responses and comments, it appeared that males were somewhat dissatisfied with their arms, legs, chest, stomach and height, as predicted in Hypothesis 6c. However they did not indicate dissatisfaction with "muscles", despite referring to

dissatisfaction with the muscularity of individual body parts (e.g. arms and chest). In addition approximately one-third of males rated strength to be very important in Question 1, and 35% of males had attempted to make their muscles larger. As expected (H1b), females were dissatisfied with their weight, stomach, bottom, waist, hips and legs.

General Group Differences

While M female comments generally referred to the size or fatness of the body parts, NM females mentioned other things, such as the hairiness or colour of legs. This supports Hypothesis 6b, that females would be dissatisfied with their body for weight or appearance reasons. Males were more likely to refer to the functioning of their body, with fewer comments on size or appearance. This supported Hypothesis 6c, that males would be dissatisfied with the functioning of their body. A few male participants stated they were not concerned about appearance.

QUESTION 8 & 9

In Question 8, participants were asked what they would do if they had a friend of the same sex who was slightly skinny, and unhappy about it. Question 9 asked the same question about a "slightly fat friend". It was hypothesized (H7a and H7b) that participants would have a knowledge of ways to gain and lose weight. It was predicted that the thin figure would be more acceptable to participants.

For Questions 8 and 9, answers were put into categories. "Diet" is used to refer to any prescribed change in eating, whether it be a change in food intake or a change in the types of food eaten. Results for the three groups are shown in Table 15 and Table 16. The number refers to the number of participants giving an answer similar to the category response.

QUESTION 8

Results for Question 8 are shown in Table 15.

Group Differences

Most M females would tell their friend not to worry, and would try to convince her that there was nothing wrong with her body. Only 3 M females mentioned attempting to gain weight, while some explicitly said don't gain weight. It appeared that the M females thought their "friend" would gain weight naturally. NM females on the other hand mentioned eating more, eating healthy food or trying to gain weight, while only a few said "Don't worry". Males responded similarly, predominantly mentioning eating more or eating healthy food. Unlike the NM females however, males were more likely to suggest eating more junk food as a good way for their friend to gain weight. In addition, many males said they would tell their friend not to worry about their weight. The majority of participants wrote a combination of the two (don't worry, eat more).

QUESTION 9

Results for Question 9 are presented in Table 16.

Group differences

Both NM and M females had a high number of responses where the participant said they would tell their friend not to worry about their weight. NM females were more likely to mention dieting without exercise as a means of weight reduction. Many males suggested exercise, and often specific and pleasurable activities such as tramping or cycling. Females on the other hand referred to exercise as if it were a chore specifically undertaken to lose weight. Like the females, few males referred to exercise in combination with a change in diet. Males were not as likely to tell their "friend" not to worry about their weight.

A few participants in the male and female groups indicated that they would reject their friend because they were fat, or that they would not have a fat friend to start with. However, the majority of participants were more sympathetic toward the plump friend.

Table 15: Advice to "Skinny Friend"

Category	Number of responses	Examples of responses
M FEMALES		
Tell her not to worry	7	Don't worry, it's better to be skinny than fat. Be happy, don't try to gain weight.
Diet	3	Eat more.
Support her	1	
Other	1	It's not up to me
N-M FEMALES		
Tell her not to worry	3	Don't worry. Everyone is different.
Diet	9	Eat healthy, don't diet or pig out.
Diet/exercise	1	Eat healthy and exercise to build up muscle.
Try to gain weight	4	Put on a bit of weight, but not too much.
MALES		
Diet/Don't worry	22	Eat more, don't worry. Eat more junk food. Eat more healthy food, bread, fruit.
Support him	4	Everyone is different. It doesn't matter how you look. Give him confidence about his body.
Other	8	It's none of my business. Do nothing. Talk to your parents.

Table 16: Advice to "Fat Friend"

	Number of responses	Examples of responses
M FEMALES		
Support her	6	Tell her she's okay.
Exercise	1	
Diet	2	Diet. Eat sensibly but don't diet.
Exercise/diet	3	Exercise and eat healthy.
Other	3	It's not up to me. Lose weight. Lose weight or exercise.
NM FEMALES		
Support	6	Don't worry, it's okay to be any size.
Diet	5	Eat healthy. Diet.
Exercise	2	
Exercise/diet	1	
Other	3	Go to Jenny Craig. Depends, it may just be puppy fat. Tell her to go away.
MALES		
Exercise	7	Don't diet, but run, fish, tramp. Do sit-ups, biking.
Diet	8	Don't eat as much. Cut back on sweets. Eat healthy. Don't eat junk food.
Exercise/diet	3	
Other	14	Go to Jenny Craig (5). Lose weight (4). Nothing (2). None of my business. I wouldn't have a friend who was fat.

Hypothesis 7a, that participants would percieve a slimness as more acceptable than obesity was supported. Participants were more likely to tell their "skinny friend" to do nothing, and their "fat friend" to lose weight. A small number of participants indicated dislike for the "fat friend" because of their weight.

Hypothesis 7b, that participants would have knowledge of ways to gain and lose weight was supported. However some participants had greater knowledge than others.

QUESTION 10

Question 10 was an open ended question which allowed participants to comment on the questionnaire. Comments were grouped into 4 categories: "No Comments"; "Satisfactory", where participants did not indicate great satisfaction or dissatisfaction; "Good", where participants enjoyed completing the questionnaire; and "Poor", where participants disliked completing the questionnaire. Table 17 gives results for all participants.

Table 17: Response to Questionnaire

Comments	No comment	Satisfactory	Good	Poor
M Females	7 (41%)	2 (12%)	4 (24%)	4 (24%)
NM Females	10 (45%)	6 (27%)	6 (27%)	-
Males	16 (36%)	7 (16%)	20 (44%)	2(4%)

Group differences

Equal numbers of females did not answer this Question 10. Some M females expressed dislike of the questionnaire, while none of the NM females did so. Most NM females either thought the questionnaire was alright, or enjoyed completing it. One quarter of M females also enjoyed completing it. The proportion of males and females who did not comment on Question 10 was roughly equal. Males, like M females, were less likely to

say the questionnaire was "okay", although many more participants reported enjoying it (44%). The comments made by male participants were generally more positive than those of the females, for example, "I really enjoyed it". Only 4% of males disliked completing the questionnaire, compared to 24% of M females. However, in actual numbers of participants disliking the questionnaire, there was little difference.

Age differences

Younger male participants tended to enjoy the question. while the older participants had no comment. Most younger females also enjoyed the questionnaire, while older menstrual females did not.

ETHNIC DIFFERENCES IN RESPONDING TO QUESTIONNAIRE

It was difficult to observe ethnic differences in responding as there were few non-European participants. This was especially true of the female groups. Observed trends are described below.

Questions 1, 7, 8 and 9

For Questions 1 (importance of fitness, strength and physical ability), Question 7 (body part satisfaction) and Questions 8 and 9 (advice to skinny or fat friend) there were no discernable differences between Europeans and non-Europeans. This may indicate too few participants to observe trends, or may suggest there were no differences between the groups.

Questions 2 and 6 (Male and female figures)

Although there were few non-Europeans, a few trends emerged. Fifty percent of European females perceived the male figure as normal or underweight, compared to only 29% of non-European females. Almost 75% of the non-European females perceived the male figure to be overweight. Non-European males tended to perceive the female figure to be average weight, while European males saw it to be overweight. There were too few participants in each case to conduct a statistical test.

Question 3 (Attempted muscle gain)

There were too few non-european females to examine ethnic differences, although there were sufficient numbers of male non-europeans. Forty-one percent of european males had tried to make their muscles bigger, compared to 29% of non-european males. However, the difference was not significant at a 1% level of confidence according to a Chi-sqared test, $\chi^2(0.1) = 0.58$.

Question 4 (Attempted weight gain)

Non-European males appeared to be slightly more likely to attempt to gain weight.

Question 5 (Attempted weight loss)

No significant differences emerged between European and Non-European weight loss attempts. However, it appeared that Non-European males were more likely to attempt weight loss. Twenty-nine percent of Non-European males tried to lose weight, compared to 19% of Europeans. Of the females, 38% of the Non-Europeans tried to lose weight, compared to 27% of Europeans. Almost all of the menstrual Non-European females had attempted to lose weight.

Question 10 (Comments)

Most of the non-european males appeared to enjoy completing the questionnaire. There were too few female comments to observe trends.

CHAPTER 7

DISCUSSION

7.1 DISCUSSION OF FINDINGS

Importance of Fitness

Females engage in less exercise than their male peers (Paxton et al, 1991), and can be pressured by society to cease exercise altogether when they reach puberty (Boutilier & SanGiovanni, 1983). Since pubertal females engage in less exercise, it was predicted that exercise was less important to them than to males or pre-pubertal females.

Instead the opposite pattern emerged, and menstrual females gave fitness a higher rating (indicating greater importance) than both non-menstrual females and males. The vast majority (81%) of post-pubescent female rated fitness as very important. Males followed with lower importance scores, while prepubertal females did not rate fitness to be overly important. It is possible that fitness was important to the menstrual females for weight loss reasons. In Shaw & Kemeny's (1989) research, females of a similar age to those in the current study reportedly engaged in exercise to look fit rather than for the health benefits, and it appeared that fitness was equated with slimness. In other words, the females were more interested in the cosmetic benefits than in the health benefits that fitness gave them. In a later question, 28% of females in the current study reported exercising to lose weight. This lends supports to the theory that females exercise for reasons other than fun or fitness, and may be the reason why so many menstrual females in the current study rated fitness to be very important.

Another explanation for fitness being important is that menstrual females may simply be more aware of their body and it's functions after reaching puberty. Berger (1988) believed puberty to be a time of great self-consciousness. Menstrual females in the current study appeared to show a heightened awareness of their body, and this may have lead to a greater importance placed upon functions of the body.

A third possible explanation for the increased importance of fitness to menstrual females is that they were influenced by the fitness programme run by the school which they attended. This programme encouraged fitness in its pupils, and may have influenced the females to value fitness more than they otherwise would have done. If this explanation were true, it may be expected that all participants, not just the pubertal females, would value fitness. Results show that 50% of prepubertal females and 69% of males rated fitness as very important, and it was unimportant to only 11% of prepubertal females and 5% of the males. Hence the fitness programme may have been successful.

Although many of the females stated that fitness was very important to them, previous research suggests that most females cease to engage in sports and exercise at adolescence (Boutilier & SanGiovanni, 1983). Many may take up a fashionable form of exercise, such as aerobics, which the media often presents as a form of weight control and a means to firm up the body. The result may be females who engage in exercise only for cosmetic reasons, such as the participants in Shaw & Kemeny's (1989) study. In conclusion, although females in the present study rated fitness as very important, they may have had different reasons than the males for giving it such a rating.

Importance of Strength

In a number of studies reviewed in Chapters 2 and 3, males indicated a desire to be "bigger" (Cohn et al, 1987; Paxton et al, 1991; Fallon & Rozin, 1985). The mesomorph figure appears to be the desired body type for males (Gacsaly & Borges, 1979; Ryckman et al, 1989), and according to Neimark (1994), there is a new fascination with the muscular male physique. It is clear that muscular size and strength are important to males in Western societies. Hence males in the current study were expected to rate strength as very important, and also to rate it as more important than females did.

The expected result occurred, with only 2% of males stating strength was not important to them. It appeared that the importance of strength increased for both males and females with increased age, and this may be due to a greater body awareness. Overall however, strength was significantly more important to males than females, as predicted.

Nineteen percent of menstrual females rated strength to be important, compared to 33% of males. The large percentage of females rating strength as important may be due to increased awareness of the body. An alternative explanation is that the self-defence programme run at the school for female pupils has influenced their attitudes.

A third explanation is that the media often presents strength and toned muscles as very desirable in females. The female mesomorph figure is perceived to be attractive, although not as attractive as the ectomorph (Ryckman et al, 1989). Bordo (1990) believes females are no longer concerned with excess weight, but are now disturbed by bulges, flab and "looseness" of the body. Females in the present study may have desired strong, toned bodies as they are portrayed as the latest ideal. According to Coakley (1994), there has been a move since the early 1980s towards promoting fitness as a way to lose weight and increase sexual attractiveness.

Importance of Physical Ability

Little research has been conducted on the importance of physical ability in children. It was tentatively predicted that physical ability would be more important to prepubertal females and males, and that the importance of physical ability would decrease at puberty for females.

The hypothesis was not supported, and M females in the current study responded identically to the male participants. Approximately two-thirds of each selected Option 1 (Very important), compared to less than half of the NM females. Although this result is unexpected, it is consistent with responses to previous questions where menstrual females rated body functions to be important while NM females perceived them to be unimportant. Again the result may be attributed to the increased body awareness of the M females.

Size Perceptions

A large number of studies have assessed male and female perception of their own body size. In the present study the participant's perception of other people's bodies was assessed instead. This research was in part exploratory. Western society places great

emphasis on slimness for females, yet there is less pressure for males to be slim. However, males are expected to be muscular and bulky. For this reason it was expected that two equally sized figures (male and female) would be judged differently with respect to size. It was predicted that the female figure would be seen as larger than the male figure by both males and females. In addition, females were expected to be less tolerant of fat, and would consequently rate the figures as larger than the males did.

The female figure was judged as approximately average weight by the non-menstrual females, larger by the males, and larger again by the menstrual females. The average scores for the groups were between 3 (indicating average size) and 4 (indicating a bit fat). No significant differences emerged between the average scores of the three groups.

The majority of participants perceived the male figure to be larger than the female figure. Such a result was not expected, although in hindsight the male figure was likely to be inappropriate in terms of size and shape. Both figures were adapted from adult figures to represent slightly overweight figures of the children's age. However, the actual physical differences between males and females were not taken into account. The female figure was depicted as slightly pubertal in order to apply to both pubertal and pre-pubertal females. The male figure did not take into account that the majority of males in the present study were likely to have been prepubertal according to their age (Smith, 1992 reported the average age of puberty for males at 13 years). Hence most preadolescent males would be likely to be very small in terms of body size and build. If the male figure in Question 6 was considered to be prepubertal, it may be correct to consider it larger than the slightly-pubertal female figure. Another way of looking at this problem is to compare for example an 8 year old prepubescent boy to an average sized 14 year old girl. If the boy has a similar amount of fat to the 14 year old pubescent girl, it is likely that he is slightly plump for his age and developmental stage. This problem confounds results, and the limitation must be kept in mind when considering the results cf Question 2 and Question 6.

Average ratings for the male figure ranged from 3 to 4 for the three groups, and again there were no significant differences between the groups. Despite this, the two figures

elicited different responses. In both cases the menstrual females made the highest estimations of the size of the figures, while the non-menstrual females had the lowest estimations. This was predicted, as it was expected that the females would be more aware of, and less tolerant of fat. Males responded similarly to the non-menstrual females for Question 2, the female figure. However for the male figure they estimated higher than the non-menstrual females, though lower than the menstrual females. As a general rule, menstrual participants generously estimated size, while non-menstrual females and males underestimated to some degree. This pattern mirrors that found in studies which assess participant's perception of their own body size. Constant over or underestimation would be considered a response style or response bias, and would usually be considered a "nuisance variable", one which is incidental to the variable of interest (Nunnally & Bernstein, 1994). However, distorted perception of body size may become the variable of interest for those researching the area of body image. Further attention may be given to the reasons why people do not accurately estimate size. It may be influenced by the media and cultural presentation of ideal figures, and the focus on women's weight.

The cultural ideal weight for males is not as strictly defined as it is for women, hence more males will fit the ideal. Few women, however, fit the culturally defined ideal weight. This may explain why in previous studies females have perceived themselves to be overweight and are dissatisfied with their body, while males are more satisfied and perceive themselves to be an adequate weight. However, it does not explain why participants in the present study appeared to apply the same distortions to others. The participants may not have absorbed cultural messages to the opposite sex, but apply their own perceptions to the opposite sex. Females who believe they are fat may also see males as fat, while those who see themselves to be okay see others as okay. Females are likely to be more sensitized to weight than males are, especially after puberty. This could explain why non-menstrual females and males perceived the overweight figures to be approximately an average weight, while menstrual females saw them as overweight. In this case the females are simply more aware of body size. Alternatively, menstrual females are more focused on weight and critical of overweight, as they are constantly pressured to be thin themselves. Males and non-menstrual females are

unlikely to have the same pressures, hence may not have internalized the messages that they and others must be slim.

Questions 3 to 5 enquired about the children's active attempts to change their body, including changing muscles and increasing or decreasing the weight. Each of these will be dealt with in turn.

Muscle Gain

In Question 1, strength was significantly more important to males than to females. It would then follow that more males than females would have attempted to make their muscles larger, and this was found to be true. While one third of males believed strength to be very important to them, a slightly higher number had attempted to make their muscles larger (35%). Almost 20% of menstrual females indicated that strength was very important to them, but only one had attempted to make their muscles bigger. Although the mesomorphic figure is acceptable for females (Ryckman et al, 1989) a very muscular figure is usually undesirable and may be perceived as masculine (Lenskyj, 1986). Hence females are unlikely to strive for large muscles but may wish to be strong (as indicated in Question 1 results) and have toned muscles.

Males commonly referred to exercise and sport as methods used to build up their muscles. Attempts to make the muscles larger occurred from 8 to 13 years, with an average age of 10 1/2 years. Perhaps it is at this age that males begin to compare themselves to the cultural ideal, and attempt to change their body. Supporting this theory, the average ages for attempts to change weight were 9 years for weight loss and 10 years for gain.

Weight Gain

A small number of female participants in body image studies such as Bagby's (1993) have attempted to or desired weight gain. Participants in the current study were asked if they had ever tried to lose or gain weight. As very little research has been conducted to examine attempted weight gain by males and females, predictions were tentative. It was estimated that a small number of females and a larger number of males would have

attempted to gain weight. It was predicted that few menstrual females were currently attempting to gain weight.

As expected, a small number of non-menstrual females (8%) had attempted to gain weight, while none of the menstrual females had done so. As the question enquired about attempts to gain weight, including previous attempts, it is unusual that none of the pubertal females answered affirmatively. This may have been due to random variation between the female groups.

Almost 20% of males had tried to gain weight. Some males may have been attempting to "bulk up" and gain muscles, while others may have wished to be fatter. Many males indicated on Question 7 (body part satisfaction) that they wished to be more muscular, or "bigger" in areas such as the chest. However some also referred to being too skinny. Hence it is difficult to know what males were attempting to do when they gained weight. As the male ideal is muscular and lean yet not thin, either explanation is possible. It was expected that more males than females had attempted to gain weight, although there were no significant differences between the groups.

Results in the present study differ from a previous study by Bagby (1993), where only 1% of females and 1% of males reported attempting to gain weight. This may be explained by differences in the particular question asked. While Bagby (1993) enquired about attempts at weight gain through dieting, participants in the current study were asked about any attempts to gain weight. Hence Bagby's question may have excluded people who had exercised or used another method to gain weight. Participants in Bagby's (1993) study may have been confused by the use of the word "diet" to refer to weight gain rather than loss.

Weight Loss

There is no culturally specified lower limit for the weight a woman "should" be, and emaciated women are often envied by other females. Dieting is now considered the norm among women (Polivy & Herman, 1987). A number of researchers have specifically examined dieting practices of children and teenagers, and the percentage of

participants who attempt to lose weight ranged from 5% to 50%, depending on the definition of dieting and the sample. It was predicted that the present study would yield similar results and a high level of weight loss attempts would be reported due to the open-ended nature of the question. It was predicted that more menstrual than non-menstrual females would have attempted to lose weight, and that more females than males had tried to lose weight.

As expected, the lowest rate of attempted weight loss was observed in males (22%). This was compared to 33% of non-menstrual females and 41% of menstrual females. Although results followed predictions, there was no significant difference between the three groups. The large incidence of attempts by males to lose weight was somewhat unexpected, as males are not presented as a high-risk group for dieting. However, male dissatisfaction was evident in previous research. Wardle & Beales (1986) found a 15% rate of female dieting, compared to 5% in males. Bagby (1993) observed a female rate of dieting at 16%, compared to 12% in males. Many researchers have chosen to ignore the high rate of weight loss attempts in males, and are contented to report on the weight loss epidemic in females. However, evidence suggests that attention should be paid to the eating practices of males.

In terms of weight loss methods, the majority of participants were not putting themselves at risk of malnutrition. The vast majority of dieters, whether male or female, simply eliminated or reduced foods such as cakes, biscuits and "junk food" from their diet. This may be due to the school health syllabus which teaches participants about healthy eating. However Storz & Greene (1983) found teenagers had knowledge of which weight loss methods were "best" in terms of safety and effectiveness, despite not necessarily engaging in these methods themselves.

A very small number of female participants in the present study appeared to have disordered eating. However it was not unusual that at least some of the 92 participants showed signs of body image problems. The rate of clinical anorexia nervosa in pubescent females is approximately 1 in 100 (APA, 1994), although a larger amount of females have some of the symptoms associated with anorexia nervosa and bulimia.

Body Parts Satisfaction

A small number of studies have focused on children's satisfaction with body parts. From these it was predicted that females, and especially menstrual females would be less satisfied with their body than males were. Females were expected to be dissatisfied with their weight, stomach, legs/thighs, bottom and hips. Male dissatisfaction was expected to occur for the stomach, legs, chest, muscles and possibly height. In addition it was speculated that males would be dissatisfied with body functioning, while females would be dissatisfied with body appearance.

The first detail to emerge from the results was the responding style of participants: females predominantly selected Option 2 (indicating satisfaction), while males mostly selected Option 3 (indicating not happy or unhappy). This meant males received higher dissatisfaction scores, which contradicts previous research in the area. It appeared that the wording of the question may have been responsible for the differences in responding. Option 3 was worded "not happy or unhappy". This may have been interpreted in two ways: as a category between Option 2 ("happy") and Option 4 ("unhappy"); or to indicate neutrality of feelings or lack of opinion. It was intended that it be taken to mean the former. However, it appeared that the males interpreted it as the latter.

Due to the differences in responding style, interpretation of responses was difficult. To get a better idea of the satisfaction of participants, the mean scores, response distribution and comments must all be considered.

In general menstrual females appeared to be less satisfied than both non-menstrual females and males with their body. As the two female groups responded differently for the majority of the questions, analysing menstrual and non-menstrual females' results separately was justified. Menstrual females appeared to be less satisfied than the other two groups with their waist, stomach, bottom, legs and weight, and also for the overall mean for all body parts, with dissatisfaction being due to size or amount of fat. This result was expected, although it was also predicted that menstrual females would be less satisfied with their hips. While they did show dissatisfaction, with 12% indicating they were unhappy with this part, males also indicated dissatisfaction. This may have

reflected the high number of Option 3 responses. Alternatively, males may have been dissatisfied. Folk et al (1993) found a correlation between self-esteem and satisfaction with hips for males.

Males and non-menstrual females responded similarly to a number of questions and in most cases had similar average scores. Like their menstrual peers, non-menstrual females were slightly unhappy with their stomach, bottom and legs. While menstrual females described these parts as "too fat" or "way too big", non-menstrual females referred to "slightly plump" areas. Despite most females being dissatisfied with certain body parts, the severity of their unhappiness was dictated by pubertal status. This is most likely to be due to actual physical differences, as menstrual females are likely to have a greater proportion of fat on them than their prepubescent peers. This theory is supported by Attie & Brooks-Gunn (1989), who believe eating problems begin in response to the physical changes at puberty.

Non-menstrual females were more satisfied than menstrual females with all of their body parts, in particular their waist, hips and weight. It is likely that as they progress into further stages of development, their dissatisfaction will approach that of the menstrual females.

As expected, males showed some dissatisfaction with their arms, stomach, legs, chest and height. In the case of height, male and NM female satisfaction was surpassed by that of the menstrual females. The most likely explanation is that height of menstrual females is likely to be greater than that of their peers, due to recent pubertal growth. While males reported dissatisfaction with arms, chest and legs, they did not indicate dissatisfaction with their muscles. Bagby's (1993) male participants were also dissatisfied with the size of their arms, legs and chest, although muscle satisfaction was not assessed. While a few of Bagby's male participants wished to lose weight from these parts (especially legs), a great deal more wished to gain weight. For example, 27% wished to gain weight in their arms. It was expected that participants in the current study would be dissatisfied with their muscles, especially as comments made for parts such as the arms and chest indicated dissatisfaction with size and muscularity (e.g

broadness, skinniness or size of shoulders, skinniness of arms, muscularity of legs and broadness, size or lack of muscles in chest). It is then unexpected that only 4 male participants reported muscle dissatisfaction. It is possible that the item "muscles" was too vague for participants to answer accurately, or it may have referred to too many body parts, such as arm muscles, leg muscles and chest muscles. It is conceivable that a boy is satisfied with the muscularity of his legs but is unhappy with his lack of upper body strength and muscularity. In this case, the Question 7 item on muscle satisfaction is too broad.

A final point should be made about this question. Some body parts may not have applied to males and non-menstrual females, including hips, waist, and breasts. Such participants are unlikely to have such body parts, hence such items on the questionnaire may apply only to menstrual females. It then becomes somewhat inappropriate to compare the three groups. For the item "hips", it appeared that males were dissatisfied, as they had a high average score. However a closer inspection reveals that males had a higher than average amount of Option 3 ("not happy or unhappy") responses, coupled with few comments about this body part. As mentioned earlier, male participants appeared to be selecting Option 3 when they had no opinion on an item. It may then be that males had no opinion about their hips. It may be expected that non-menstrual females responded in a similar way, as they too have undefined hips and waist. However, the large number of comments made by NM females for such body parts indicates that they did indeed have an opinion about those parts.

Advice To Skinny/Fat Friend

It was predicted that participants would have knowledge of weight gain and loss methods. This was found to be true, although some individuals had poor knowledge of this area. It would be expected that advice would follow attitudes. Females who perceived obesity to be a problem were likely to suggest weight change, while males who did not perceive it to be problematic may not suggest such change.

In the case of postpubertal females, this was observed, and most gave the advice "tell her not to worry". This is especially unusual considering almost half of the postpubertal

females had attempted to reduce their own weight. Perhaps a double standard exists among these females, where they are personally concerned with weight yet do not wish their friends to be concerned also. Another explanation is that the suggestions made were not what the females would actually do if they had an overweight friend or were overweight themselves. This is a possibility as behaviours do not always follow attitudes (Myers, 1990). However it is also possible that the question did not in fact measure attitudes of the children.

NM females suggested a dietary change, while males suggested both dietary change and not worrying about the weight. The latter suggestion by males appears to follow their attitudes, as it would be expected that they would not be concerned with weight. Male responses to Question 7 (body parts dissatisfaction) showed that they were generally less concerned with weight than the females were.

The question enquiring about advice to a skinny friend appeared to better reflect attitudes of the female participants. The majority of M females suggested their skinny friend should not do anything to change her weight, and should try to stay skinny. The other groups prescribed a change in diet and an increase in exercise, although again male participants believed there was no reason for their friend to worry.

Final Comments Made By Participants

The final question aimed to assess what participants thought of the questionnaire, and allow them to make additional comments. Males and non-menstrual females predominantly completing the questionnaire, while a number of menstrual females indicated that they did not like completing it. It is likely that the questionnaire was threatening to menstrual females due to their degree of body dissatisfaction. Such dissatisfaction was not observed in the other two groups, and the participants who showed the least dissatisfaction (the youngest males) made the most positive remarks about the questionnaire. Hence enjoyment of the questionnaire appeared to be correlated with dissatisfaction with the body, possibly as dissatisfied participants may have been uncomfortable discussing and considering their distress.

7.2 IMPLICATIONS AND GENERAL DISCUSSION

The results of the current study suggested that the females judged fitness to be important for appearance reasons. The media tends to portray women who exercise as slim, toned and attractive as opposed to fit and healthy. This may lead females to exercise for the wrong reasons, and abandon exercise when an easier method of weight loss and muscle toning is discovered. At the present time there exists a bevy of beauty products which are claimed to transform the body in weeks with a minimum expenditure of effort. Such products promise to turn fat into muscle, firm the body without exercise, eliminate "ugly" cellulite and reverse the ageing process. Bordo (1990) believes to such promises promise instant gratification, whereas more sensible weight loss does not. The existence of these products tempts individuals to avoid exercise. However, the products may not have proven effectiveness or safety. Users may be exposed to harm through use of unsafe products, or incorrect use of exercise equipment or products, for example using diet pills as an alternative to eating for extended periods of time. Such practices are likely to be especially harmful to children who are in the process of growing. During periods of growth, food intake needs to be directly related to growth (Mallick, 1982). Such growth continues until the late teens to early twenties.

A sizeable number of participants in the current study had attempted to change their body, and most attempted weight loss. While Bagby (1993 believed children were engaging in harmful dieting behaviours, the same conclusion was not drawn in the current research and it appeared that most children were simply eliminating unhealthy food. Having said this, it should be pointed out that all weight loss attempts are potentially harmful and may lead to nutritional deficiencies and temporary impairment caused by insufficient food intake. In severe cases such as in eating disorders, death or permanent impairment is possible. Hill & Robinson (1991) reported that dieters appeared to have a greater risk of developing eating disorders, while Polivy & Herman (1985) believed crash dieting could actually trigger eating disorders.

Although the children did not report "crash dieting" at the time of the study, it is possible that many will engage in such practices in their teenage and adult life. It is also possible that dietary restraint such as that found by Wardle & Beales (1986) is present

in the females in the current study. Wardle & Beales (1986) observed restraint in girls as young as 12 years old, despite many of them reporting they were not dieting. Hill & Robinson (1991) found restrained females ate less energy food and dietary fibre than their unrestrained peers, had low levels of iron and were more likely to skip meals, especially breakfast. In addition they were more at risk of later binging and eating disorders. If females in the present study are restrained in a similar way, their food intake may be inadequate. Whether the children are eating sensibly or not, the fact remains that many have attempted to change their bodies, which in itself is a matter for concern.

Attempts at weight loss are not only harmful physically, but psychologically also. According to Balogun (1986), body image is a major subcomponent of self-esteem. Tiggemann et al (1994) found that perceived overweight in women was correlated with low self-esteem, and they concluded that weight is more central to a woman's self esteem than to a man's. However Folk et al (1993) found that male satisfaction with certain body parts such as muscles was also correlated with their self-esteem.

Muscle gain is relatively harmless in terms of mortality, although harm is still possible. Many males in the current study had exercised in order to increase their muscle size While such a practice may be beneficial, attempts at muscle and weight gain can become harmful if steroids are used or the individual becomes obsessive about exercising and lifting weights. Neimark (1994) uses the term "reverse anorexia" to describe muscular males who perceive themselves to be thin. Additional dangers include physical trauma caused by incorrect or excessive exercising, stress on the body and joints and dietary inadequacies caused by increased nutritional demands on the body. Despite the mortality rate being low for attempted muscle gain, the potential for harm justifies attention paid to this area. It shows that males are also dissatisfied with their body and may be willing to change it through drastic means.

Almost twenty percent of males and eight percent of prepubertal females in the current study indicated attempts to gain weight. Weight gain is generally not perceived to be harmful, and most researchers have chosen to disregard it when assessing attempted

weight change. However a number of participants in this and a later question suggested eating "junk food" to gain weight. While this may successfully lead to weight gain, it could also cause dietary deficiencies and a high intake of salt, sugar, fat and artificial ingredients, all of which can be harmful to the body (British Nutrition Foundation, 1993). In the long term a poor diet may lead to middle-age obesity, which in turn may aggravate hypertension, heart problems and diabetes (Gordon, 1991). The increased availability of food at the present time means most people have to exercise restraint towards eating (Robertson, 1992). Bordo (1990) suggests such restraint is the basis for both eating disorders and obesity, as society struggles between control of desire to consume and submission to that desire.

The lack of concern shown by males toward their diet and appearance may lead to heart disease in later life, a major cause of premature death in males in the Western world (British Nutrition Foundation, 1993). According to the British Nutrition Foundation (1993), many of the controllable factors which can lead to coronary heart disease (CHD) involve the diet. These include alcohol, salt and fat intake, obesity and smoking.

Robertson (1992) criticises the practice of sending women with eating problems to a psychiatrist, while such individuals who eat and drink to excess, hence putting themselves at risk of heart disease are seen as normal. The mortality rate for males (all ages) from CHD is 0.2%, while females have a 0.08% mortality. This is compared to between a 0.05% and 0.2% anorexia mortality rate (assuming a prevalence of 1 in 100 young women and a mortality rate from 5 to 20%). Hence both behaviours (starvation and incorrect diet) have similar mortality rates. This suggests a need not only to prevent weight loss and body dissatisfaction, but also to educate about healthy eating habits. The latter may not appear to be as important as heart disease tends to occur later in life whereas many individuals suffer from eating disorders and body dissatisfaction from a young age. However, education about healthy eating, sensible ways to gain and lose weight and exercise may be beneficial in a number of ways. Such a programme could teach sensible eating habits which do not lead to weight gain in females. It may also teach males who are concerned with their lack of size or who are attempting to increase the size of their muscles of correct nutrition. Such a programme would also benefit those

who are underweight, who do not receive much education or support. One question in the current study illustrated the lack of understanding of underweight. Many menstrual females said they would tell their "skinny friend" not to worry about her weight, not gain weight and to be happy that they are thin.

Dissatisfaction is likely to occur until the female ideal becomes more realistic. Media is likely to play a large role in such dissatisfaction. Television creates illusions of perfection which may be blurred with reality by some individuals (Fallon, 1994). The media teaches people how to achieve the ideal figure (Gordon, 1990; Ritchie, 1988), and promises vast rewards for its attainment. Advertisements encourage fantasy (for example, "cover girl" makeup), and by showing individuals being transformed by diets, exercise and beauty makeovers, the idea that the ideal is attainable is cultivated (Barthel, 1988). When the ideal is not attained, dissatisfaction results. Hamid (1995) suggests women compare themselves to others when evaluating their own body. If the comparison leaves them feeling inadequate, compensatory behaviours such as dieting result (Hamid, 1995). By comparing themselves to illusionary images of women in the media, females are highly likely to feel inadequate.

Attempts may be made to improve women's perceptions of their own bodies. This may include education about realistic female body size, variations of body shape and size, the role of fat on the female body and of media and fashion portrayal of the female figure.

While this may be useful, the role of attractiveness in the Western culture also needs to be acknowledged. It will be a futile exercise to teach females to accept their body if the rest of society continues to value and reward slimness. A programme into healthy eating and exercise may give children a practical way to achieve or maintain a more culturally acceptable body.

While females have intense pressure to be slim, males have less pressure to conform to a certain body ideal. The male ideal is believed to be less demanding than the female ideal. The male ideal is different in another way, however. The female ideal focuses on

attractiveness, and Franzoi & Herzog (1987) suggest the personal qualities of a woman are judged by this attractiveness. However the male ideal includes such things as strength and power, which may be fulfilled in a number of ways including through sporting ability, physical strength or a well paid job. Hence males have a number of realistic ways to become the "ideal man".

7.3 AREAS FOR FUTURE RESEARCH

As many questions in the current study were exploratory, the scope for future research is large. Attempts were made to assess body image from a male perspective. It appears that males are concerned with body functioning, muscles and a large body size in the same way that females are with their weight. It would then appear that further research into these areas is well justified. Body change attempts in males may also warrant further study.

The effects of puberty on female body image have only occasionally been studied. The difference between the body image and attitudes of pre- and post-pubertal females was considerable, and it was suggested that actual body changes lead to these differences. This theory is supported by Abraham, Mira, Beumont, Sowerbutts & Llewellyn-Jones (1983), who believe the physical changes that occur at puberty can challenge the female body image.

As the male body also changes at puberty, it is likely that their body image will also change. To support this prediction, older male participants in the current study (who were likely to be approaching or at puberty) gave answers which differed from those of the younger and probably prepubertal males. Bagby (1993) acknowledged the effect of puberty on male body image, believing at this time males would become more satisfied with their body. Attie & Brooks-Gunn (1989) also believed males would become more satisfied with their body at puberty. It may be concluded that the effect of puberty on the body image of both females and males requires further investigation.

Still on the area of pubertal differences, as puberty is a gradual and not sudden event, it may be useful to assess childrens' body image longitudinally, throughout the pubertal

changes. This may give information into the time at which participants are most vulnerable to cultural pressures regarding appearance. Research may also be extended into the teenage years. Females in the current study did not indicate that they were engaged in dangerous weight loss practices, although it was suggested that such practices may occur in the teenage years. Research suggests a high rate of such practices as food restriction and bulimia in the teenage female population.

While the participants in the current study did not report dangerous weight controlling practices, they may be restricting their food intake. A dietary restraint questionnaire may be given to children to uncover any casual weight loss attempts which may not otherwise be reported.

There are few studies which have analysed the body image of children, and especially non-European children. While there were few non-European participants in the current study, it appeared that Maori females had a high rate of weight loss attempts, and that most non-Europeans were vulnerable to the Western body image ideals. As the ideals are based on a European body shape and size, it may be especially difficult for non-Europeans to conform to them. This applies both to ethnicities which are typically larger than the ideal, such as Polynesians, and to those who are smaller than the ideal, such as Asians. Future research may target the body image of such ethnic groups.

Further research may extend directly from the questions used in the current study. Body functioning such as fitness and physical ability may be assessed further. Menstrual females responded differently from what was predicted, and it was speculated that this was due to an increased body awareness.

It was concluded that the male figure presented to participants in the current study was inappropriately sized. Future research may replicate the question with a more appropriately sized figure. It appeared that participants were assessing the size of the female and male figures by comparing them to themselves and their classmates. There is little research on the perception of others, and this, and the relationship between assessing own size and size of another figure may be explored further. It is possible that

(postpubertal) females consistently overestimate the size of their own and other people's figures. However this may also be due to the individual's perception of the ideal size.

Females in the current study rated strength to be important and muscles to be desirable. However few females had attempted to make their muscles larger, and it was suggested that females wish to have strong and toned as opposed to large muscles. As the current female body ideal firm (muscles) in addition to slender, the desire for muscles and strength may be further investigated.

A few participants in the current study appeared to be prejudiced against overweight individuals. Research may be conducted into the attitudes of children towards obesity and underweight.

7.4 CONCLUSIONS

The main aim of the current study was to assess neglected areas of body image research. This proved valuable, and several areas for future research were recognised.

Although participants did not appear to be engaging in dangerous eating practices to change their body, many were dissatisfied with body parts and almost half had attempted to change their weight or muscles. Weight loss was the most common change attempted by males and females.

Bordo (1990) believes self management becomes more elusive as it becomes more pressing. Dieting ensures its own failure as deprivation leads to binging and feelings of failure (Bordo, 1990). This creates a cycle of low self-esteem and shame in the individual (Tiggemann et al, 1994). This is especially applicable to females, who are being pressured to fit an increasingly narrow standard of attractiveness (Gordon, 1990). The norm of thinness poses conflicts with biological reality, in a clash between nature and culture (Gordon, 1990).

According to Harris (1988), "Males are socialised to use their bodies to please

themselves, while females are socialised to use their bodies to please others" (pp 215). However it is becoming evident that males too are affected by societal pressures regarding appearance, and results of the current study show dissatisfaction in males as young as 10 years of age.

Postman (1985) believes the gap between adults and children is narrowing. Results of the current study support this statement, and children displayed similar dissatisfaction to adults. From a very young age, males and females are falling short of their unrealistic body ideals, and this usually results in dissatisfaction (Brownell, 1991). It is difficult to deal with such a problem from the individual level while society continues to reward pathological attitudes and behaviours towards the body. It was suggested that eating disorder prevention and education about a healthy diet and body weight is a more realistic solution.

APPENDIX A: CHILDREN'S BODY IMAGE STUDIES

AUTHORS	YEAR	PARTICIPANTS	INSTRUMENTS USED	STRENGTHS/ WEAKNESSES	ADDITIONAL COMMENTS
Attie & Brooke-Gunn	1989	193 teenage females and their mothers	EAT-26, Self-image Questionnaire	High SES participants only (W). Longitudinal (S)	
Bagby	1993	76 female, 78 males, 8 - 13 years old	Eating Attitudes and Behaviours Questionnaire	Possibly biased sample, forced choice questions (W)	New Zealand study
Brodie, Bagley & Slade	1994	59 prepubescent females, 41 post-pubescent females	Distorting mirror, BSS, silhouettes	Reasonably small samples (W)	Tested the assumption that dissatisfaction begins at puberty
Carter & Duncan	1984	421 females, 14 and 15 years old	EAT, GHQ, own questionnaire		
Cohn, Adler, Irwin, Millstein, Kegeles & Stone	1987	288 females, 283 males, mixed ethnicity, 11 - 13 years	BFPQ	Used adult figures (W). Varied ethnicity (S)	

Davies & Furnham	1986	182 females, 12 - 18 years, middle class.	Satisfaction with body parts.	Forced choice (W)	Believed it was not size but properties of body parts which caused dissatatisfaction
Eisele, Hertsgaard & Light	1986	385 females aged 12 - 14 years	EDI subscales		Examined factors relating to eating disorders
Folk, Pedersen & Cullari	1993	43 females, 47 males, 8 - 11 years	Satisfaction with body parts	Small sample size (W)	
Hill & Robinson	1991	35 females, aged 9 & 10 years	Diary of eating, dietary restraint scale	Small sample size (W)	
Hill, Oliver & Rogers	1992	170 females, aged 9 & 14 years	Various measures of body dissatisfaction		
Hill, Rogers & Blundell	1989	54 females, aged 12 and 14 years	Restraint scale and and test	Small samples - only only 12 per group (W)	Experimental design
Hill, Weaver & Blundell	1990	52 females, 10 years old, and their mothers	Restraint scale, EAT, EPQ	Small samples - only 10 per group (W)	Experimental design. Mothers were also tested

Lachenmeyer & Muni-Brander	1988	Total of 634 females and 637 males	EAT, Binge Eating Questionnaire	Large samples (S), range of SES and ethnic participants (S)	Compared groups
Lowe, Miles & Richards	1985	1514 females, aged 13 - aged 17 years	EAT	Large sample (S), Attempted to gain representative sample (S)	NZ study
Maude, Wertheim, Paxton, Gibbons & Szmukler	1993	606 females and 315 males aged 12 - 16 years	EDI subscales, BFPQ, own questions	Range of ethnic and SES participants (S)	Australian study
Paxton, Wertheim, Gibbons, Szmukler, Hillier & Petrovich	1991	341 females and 221 males, aged 11 - 18 years. Range of SES and ethnic groups	Variety of instruments	Large sample, wide range of participants (S)	Australian study
Rosen, Gross & Vara	1987	1373 female and male adolescents, mixed ethnicities	EDI subscale, various self-esteem scales	Large sample (S)	

Storz & Greene	1983	203 females aged 14 - 18 years, predominantly white	Perceived and ideal weight, assigned adjectives to body, desirability of various weight loss methods	Unrepresentative sample (W)	
Tiggemann & Pennington	1990	Total of 241 participants, aged 9 to adult, female and male	BFPQ	Age-relevant figures used (S)	
Wardle & Beales	1986	348 females and males, 12 - 17 years years	DEBQ, food intake list	Food intake task relies on memory (W)	Participants found the word "diet" to be ambiguous

APPENDIX B: QUESTIONNAIRES

V1:Females

BODY IMAGE AND ATTITUDES QUESTIONNAIRE

Age_____

Ethnicity (circle a number)

1. European
2. Maori
3. Asian
4. Maori/european
5. Pacific Islander
6. Other

Have you had your first menstrual period?_____

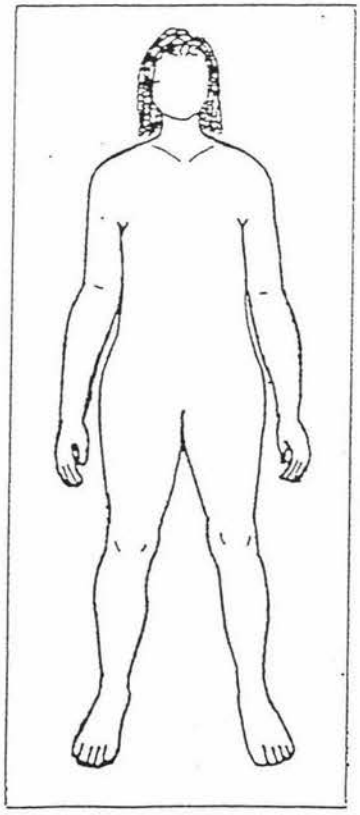
1) How important are the following things to you? Please answer each question by circling a number from 1 to 4.

1 = important **2** = a bit important
3 = not important **4** = don't know

For example, if fitness was very important to you, you would circle 1.

	Important	A bit important	Not important	Don't know
Fitness	1	2	3	4
Strength	1	2	3	4
Physical ability (eg running, climbing, sports)	1	2	3	4

2) This girl is 12 years old. Do you think she is: (circle a number)



1. Very thin
2. A bit thin
3. Average weight
4. A bit fat
5. Very fat

3) Have you ever tried to make your muscles bigger?

___No

___Yes. What did you do to make your muscles bigger? (eg lifted weights)_____

_____

How old were you when you tried to make your muscles bigger?

_____

4) Have you ever tried to gain weight?

___No

___Yes. What did you do to gain weight? (eg ate more food)_____

_____

How old were you when you tried to gain weight?_____

5) Have you ever tried to lose weight?

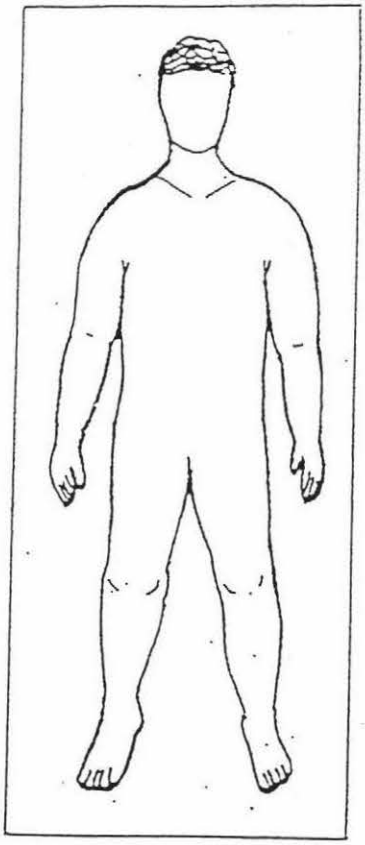
___No

___Yes. What did you do to lose weight? (eg ate fewer lollies)_____

_____

How old were you when you tried to lose weight?_____

6) This boy is 12 years old. Do you think he is: (circle a number)



1. Very thin
2. A bit thin
3. Average weight
4. A bit fat
5. Very fat

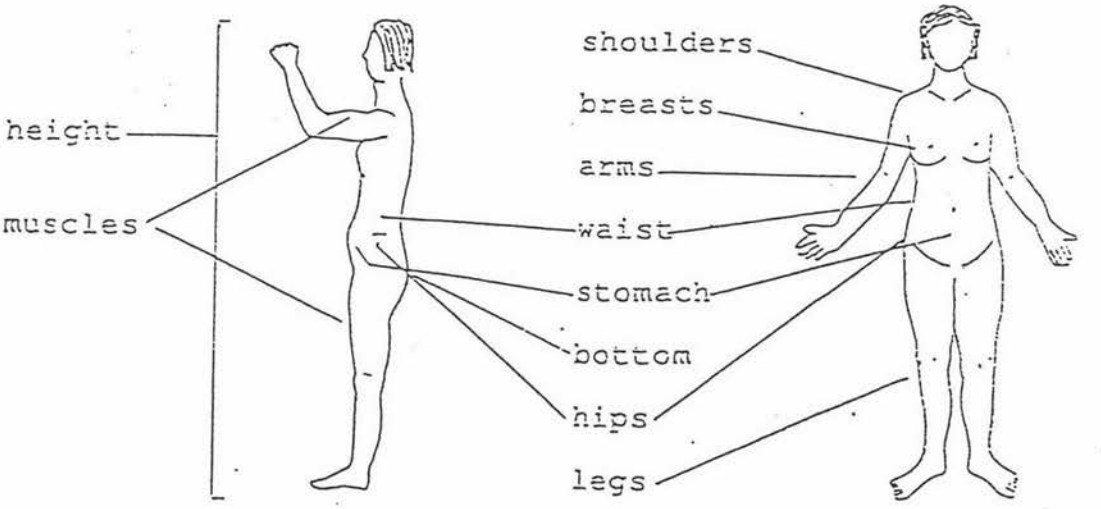
INSTRUCTIONS. Do <u>not</u> write on this page.

The next question (Question 7) asks you how you feel about parts of your body. For each body part, please circle a number from 1 to 6, to show how happy you are with that body part.

Circle **1** if you are very happy with the part.
Circle **2** if you are happy with the part.
Circle **3** if you are not happy or unhappy, but in between the two.
Circle **4** if you are unhappy with the part.
Circle **5** if you are very unhappy with the part.
Circle **6** if you don't know how you feel about the part, or you haven't really thought about it.

For example, if you really liked your legs you would circle 1, because you are very happy with them. If you didn't know how happy you were with your hips, you would circle 6.

Here is a picture of the body parts, to help you.



Now answer Question 7

7. How happy are you with the parts of your body? The instructions for this question are on the back of page 2. Please answer quickly, and don't spend a long time thinking about your answer.

	Very happy	Happy	Not happy or unhappy	Unhappy	Very unhappy	Don't know
Shoulders	1	2	3	4	5	6
Arms	1	2	3	4	5	6
Breasts	1	2	3	4	5	6
Waist	1	2	3	4	5	6
Stomach	1	2	3	4	5	6
Hips	1	2	3	4	5	6
Bottom	1	2	3	4	5	6
Legs	1	2	3	4	5	6
Height	1	2	3	4	5	6
Weight	1	2	3	4	5	6
Muscles	1	2	3	4	5	6

For each of the body parts in question 7, if you can, say why you are happy or unhappy. If you can't give a reason, leave the space blank

REASON FOR BEING HAPPY OR UNHAPPY

8) If you had a friend who was a bit skinny, and she was not happy about it, what would you tell her to do?

_____

_____

9) If your friend was a bit fat, and she was not happy about it, what would you tell her to do? _____

_____

_____

10) Did you enjoy doing this questionnaire? Is there anything else you would like to say about it?_____

_____

_____

V2:Males

BODY IMAGE AND ATTITUDES QUESTIONNAIRE

Age _____

Ethnicity (circle a number)

1. European
2. Maori
3. Asian
4. Maori/european
5. Pacific Islander
6. Other

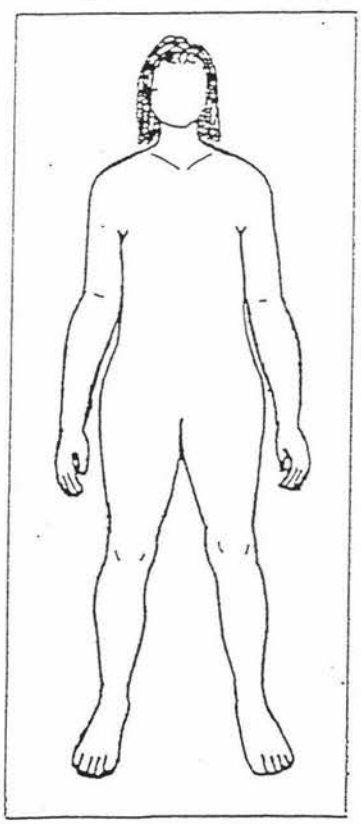
1) How important are the following things to you? Please answer each question by circling a number from 1 to 4.

1 = important **2** = a bit important
3 = not important **4** = don't know

For example, if fitness was very important to you, you would circle 1.

	Important	A bit important	Not important	Don't know
Fitness	1	2	3	4
Strength	1	2	3	4
Physical ability (eg running, climbing, sports)	1	2	3	4

2) This girl is 12 years old. Do you think she is: (circle a number)



1. Very thin
2. A bit thin
3. Average weight
4. A bit fat
5. Very fat

3) Have you ever tried to make your muscles bigger?

___No

___Yes. What did you do to make your muscles bigger? (eg lifted weights)_____

_____

How old were you when you tried to make your muscles bigger?

_____

4) Have you ever tried to gain weight?

___No

___Yes. What did you do to gain weight? (eg ate more food)_____

_____

How old were you when you tried to gain weight?_____

5) Have you ever tried to lose weight?

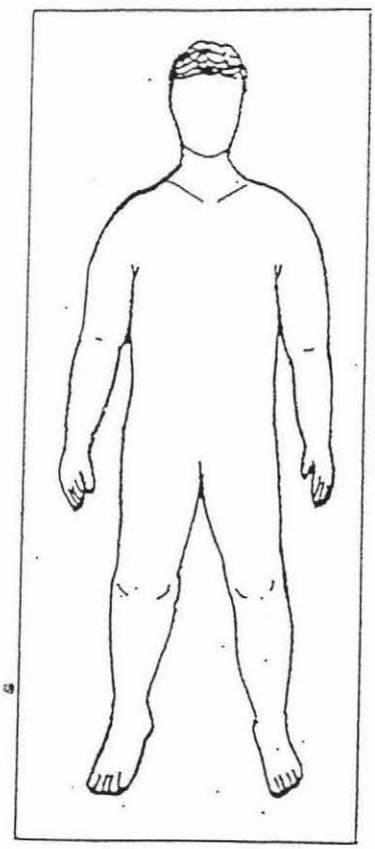
___No

___Yes. What did you do to lose weight? (eg ate fewer lollies)_____

_____

How old were you when you tried to lose weight?_____

6) This boy is 12 years old. Do you think he is: (circle a number)



1. Very thin
2. A bit thin
3. Average weight
4. A bit fat
5. Very fat

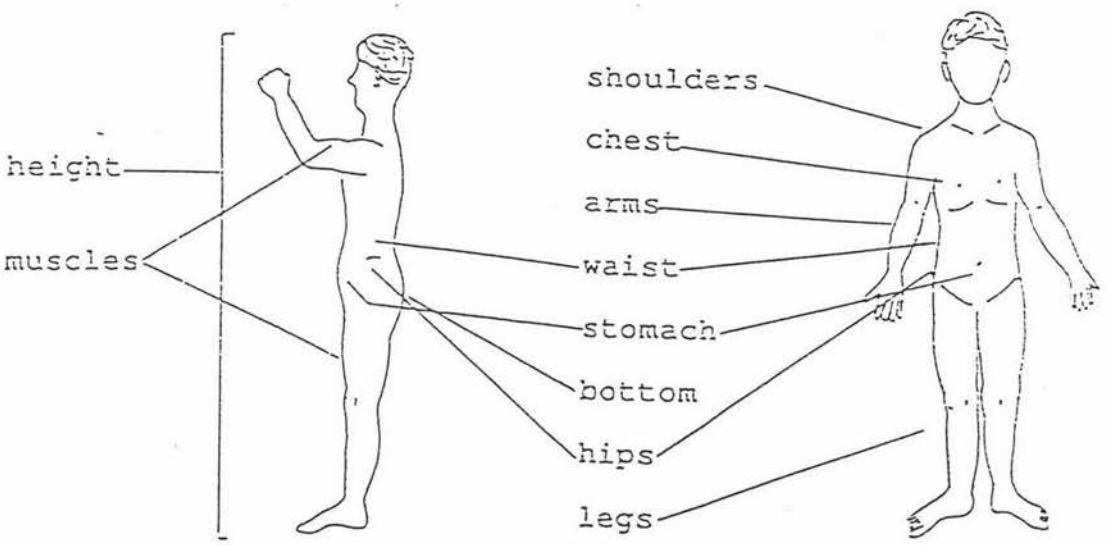
INSTRUCTIONS. Do <u>not</u> write on this page.

The next question (Question 7) asks you how you feel about parts of your body. For each body part, please circle a number from 1 to 6, to show how happy you are with that body part.

Circle **1** if you are very happy with the part.
Circle **2** if you are happy with the part.
Circle **3** if you are not happy or unhappy, but in between the two.
Circle **4** if you are unhappy with the part.
Circle **5** if you are very unhappy with the part.
Circle **6** if you don't know how you feel about the part, or you haven't really thought about it.

*For example, if you really liked your legs you would circle **1**, because you are very happy with them. If you didn't know how happy you were with your hips, you would circle **6**.*

Here is a picture of the body parts, to help you.



Now answer Question 7

CTT

7. How happy are you with the parts of your body? The instructions for this question are on the back of page 2. Please answer quickly, and don't spend a long time thinking about your answer.

	Very happy	Happy	Not happy or unhappy	Unhappy	Very unhappy	Don't know
Shoulders	1	2	3	4	5	6
Arms	1	2	3	4	5	6
Chest	1	2	3	4	5	6
Waist	1	2	3	4	5	6
Stomach	1	2	3	4	5	6
Hips	1	2	3	4	5	6
Bottom	1	2	3	4	5	6
Legs	1	2	3	4	5	6
Height	1	2	3	4	5	6
Weight	1	2	3	4	5	6
Muscles	1	2	3	4	5	6

For each of the body parts in question 7, if you can, say why you are happy or unhappy. If you can't give a reason, leave the space blank

REASON FOR BEING HAPPY OR UNHAPPY

8) If you had a friend who was a bit skinny , and he was not happy about it, what would you tell him to do?

_____

_____

9) If your friend was a bit fat, and he was not happy about it, what would you tell him to do? _____

_____

_____

10) Did you enjoy doing this questionnaire? Is there anything else you would like to say about it?_____

_____

_____

_____

APPENDIX C: INFORMATION AND CONSENT / NON-PARTICIPATION FORMS

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FACULTY OF
SOCIAL SCIENCES

DEPARTMENT OF
PSYCHOLOGY

INFORMATION SHEET FOR CHILDREN

Body Image and Attitudes Study

This study looks at how you see your own and other people's bodies. If you would like to be in the study, you will fill in a questionnaire, which will take about 10 minutes to do. When everyone has finished I will talk to the class about the questionnaire, and answer any questions you have about it. I will also give you some activities to do.

If you decide you would like to do the questionnaire but change your mind, you can stop at any time. You do not have to answer any questions you don't want to. No one else will see what you have written.

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FACULTY OF
SOCIAL SCIENCES

DEPARTMENT OF
PSYCHOLOGY

CONSENT FORM FOR CHILDREN

Body Image and Attitudes Study

I have read the information sheet. I know what this study is about and what I have been asked to do. I would like to take part in this study.

Name:

Signature:

Today's date:

MASSEY
UNIVERSITY

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New Zealand
Telephone +64-6-356 9099
Facsimile +64-6-350 5673

FACULTY OF
SOCIAL SCIENCES

DEPARTMENT OF
PSYCHOLOGY

INFORMATION SHEET FOR PARENTS/CAREGIVERS

Body Image and Attitudes Study

My name is Shari Mason, and I am a postgraduate student in the Psychology Department at Massey University. This year I am doing research to complete a Masters degree.

My research is concerned with childrens perception of their own and others bodies. A questionnaire has been developed to research the above area, which will take approximately 10 minutes to complete.

After completing the questionnaire, the children will be given the opportunity to ask questions about the questionnaire and the general area of body image. This will be followed by a brief discussion period which will include a few structured activities. The children will be shown material illustrating the diversity of shapes and sizes which people come in, and the stereotyped ways in which the media presents the male and female body. It is hoped that the activities and discussion will help the children to accept and feel good about their own appearance and talents.

Children are free to decide if they will complete the questionnaire, and can withdraw from the study at any time. All information gained will be confidential.

If you would like your child to participate in this project, please complete the consent form included, and send it back to school with your child. If you require any additional information, or wish to ask questions at any time during the course of the study, please feel free to contact me. Write to me at the Psychology Department, Massey University, or phone 3546192.

Shari Mason

Cheryl Woolley (Senior Lecturer, Project Supervisor)

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FACULTY OF
SOCIAL SCIENCES

DEPARTMENT OF
PSYCHOLOGY

NON-PARTICIPATION FORM

Body Image and Attitudes Study

I do not wish my child to participate in this study.

Signature:

Child's name:

Date:

APPENDIX D: INSTRUCTIONS TO PARTICIPANTS

Participants were advised before completing the questionnaire:

-You do not have to do the questionnaire if you don't want to. If you do it, you do not have to answer any questions you don't feel comfortable answering.

-The questionnaire is confidential. The consent form with your names on it will be removed when the questionnaires are collected in.

-Do not talk to others or copy their answers.

-This is not a test, and there are no right or wrong answers.

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