

**Body Dissatisfaction, Dietary Restraint and Body Image Importance in
Females Across the Lifespan**

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March 2007

*Submitted in partial requirement for the degree of Master of Psychology (Clinical) at the
University of Tasmania*

I declare that this thesis is my own work and that, to the best of my knowledge and belief, does not contain material from unpublished sources without proper acknowledgement, nor does it contain material which has been accepted for the award of any other higher degree or graduate diploma in any university.

Joanna Burbury

March, 2007

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Literature Review

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Abstract

The aim of this review was to analyse the literature concerning body dissatisfaction, and dietary restraint in females of all ages to identify patterns across the female lifespan and to explore the role of the developmental milestones and body image importance in female's body dissatisfaction and dietary restraint. Sociocultural theory suggests that body dissatisfaction occurs as a result of females feeling pressure to achieve the "thin ideal", a representation of what society deems as attractive. Invariably, women are unable to achieve this unrealistic standard and as a result become dissatisfied with their own body. As females age and experience a number of developmental milestones they move further away from this ideal, therefore, from a sociocultural perspective it has been suggested that body dissatisfaction might increase with age. Despite this, research has consistently shown that body dissatisfaction remains stable across the adult female lifespan (Pliner, Chaiken & Flett, 1990; Tiggemann & Lynch, 2001; Webster & Tiggemann, 2003). It has been suggested that body image importance may play an important role in explaining the relationship between body dissatisfaction and dietary restraint for females at different ages and stages and this assumption is also examined in this review.

Body image refers to the way that a person views and evaluates their body. Negative body image or body dissatisfaction has a close relationship with the development of eating disorders such as Anorexia Nervosa and Bulimia and is a central feature in the diagnosis of these disorders. Anorexia Nervosa and Bulimia are predominantly female disorders with males being less likely to develop the disorders. Similarly, research has consistently shown a marked gender difference in body dissatisfaction indicating that females are more dissatisfied with their bodies than are males (Collins, 1991; Fallon & Rozin, 1985; Frederick, Peplau & Lever, 2006; Lamb, Jackson, Cassiday & Priest, 1993; Lowes & Tiggemann, 2003; Muth & Cash, 1997; Pliner, Chaiken & Flett, 1990; Rozin & Fallon, 1988; Tiggemann, 1992; Wood, Becker & Thompson, 1996).

In today's society body dissatisfaction is so common amongst women that Rodin, Silberstein and Striegel-Moore (1985) described it as a "normative discontent", suggesting that all women are dissatisfied with their shape or weight to some extent. Since then, a number of studies have established that females of all ages experience dissatisfaction with their bodies (Collins, 1991; Dohnt & Tiggemann, 2005; Lewis & Cachelin, 2001; Lowes & Tiggemann, 2003; Schur, Sanders & Steiner, 2000; Stevens & Tiggemann, 1998; Wood et al., 1996).

As females age and pass through three biological milestones (puberty, pregnancy, and menopause), they tend to move further away from what society deems as attractive. Sociocultural theories suggest that women become dissatisfied with their body because they feel pressure to conform to this "thin ideal". From a sociocultural perspective, body dissatisfaction would be expected to increase as females age and move further away from the ideal. However, research indicates that body dissatisfaction is relatively stable across the

adult female lifespan (Pliner et al., 1990; Tiggemann & Lynch, 2001; Webster & Tiggemann, 2003), despite the fact that females are generally moving away from the ideal body type as they age and experience pregnancy and menopause.

More recently researchers have suggested that it might be the relative importance that body dissatisfaction plays in an individual's life that may explain the psychological and behavioural effects of body dissatisfaction at different stages of their life. For example, for an adolescent girl, body image may play a greater role in her sense of self than it does for a woman who has had children or who has passed through menopause. This may help explain why older women may be just as dissatisfied as adolescents with their bodies, but are less likely to develop eating disorders. Body image importance may be a central variable in understanding the interaction between body dissatisfaction and dietary practices and the development of eating disorders in females of all ages.

This review examines previous literature to identify patterns of body dissatisfaction and dietary restraint in females across the lifespan. From a sociocultural perspective, the impact that the developmental milestones of puberty, pregnancy and menopause have on females' body satisfaction is examined, as is the impact that body image importance has on dieting behaviour.

Sociocultural Theories of Body Dissatisfaction

Sociocultural theories attempt to explain individual differences in body dissatisfaction and why females are more likely to be dissatisfied with their body than males are. These theories suggest that social factors, such as the popular media, promote ideas about what is or is not considered attractive in today's society. Sociocultural theories further proposes that

women's body dissatisfaction results from three distinct orientations or processes; the promulgation of the "thin ideal", the "body as object" rather than "body as process" orientation, and the "thin is good" assumption (Morrison, Kalin, & Morrison, 2004).

The "thin ideal", a representation of what is considered physically attractive, is transmitted through popular media and reinforced throughout Western societies. This ideal relates to an unrealistically thin and somewhat androgynous female body type, one that most women would find hard to achieve. Although all women are presented with the thin ideal, women still fall on a continuum of body dissatisfaction from low levels of body dissatisfaction to women with extreme dissatisfaction who develop eating disorders. An important part of a possible explanation of these individual differences in body dissatisfaction has been the idea of "awareness" versus "internalization" of the thin ideal. Awareness is as it suggests, being aware of the socially-prescribed ideal body while internalization refers to how much a person believes or agrees with this ideal and how much they engage in behaviors designed to achieve it. It is postulated that an individual who internalizes the thin ideal to a greater extent will experience greater body dissatisfaction, engage in more dieting or be more likely to develop an eating disorder.

A number of studies have supported sociocultural theory, especially in terms of how internalization of thin ideal leads to body dissatisfaction. For example, Low, Charanasomboon, Brown, Hiltunen, Long, and Reinhalter (2003) found that internalization, but not awareness, of the thin ideal was related to eating concerns and body image dissatisfaction in young adults. Also, in a study looking at the predictors of body dissatisfaction in nine to 12-year-old girls, Sands and Wardle (2003) established that internalization of the thin ideal mediated the relationship between awareness of the thin ideal

and body dissatisfaction, suggesting that awareness of the thin ideal alone would not produce body dissatisfaction.

Sociocultural theories provide a good framework to understand why females are more prone to body dissatisfaction than males are, and why some females become more dissatisfied with their body than other females. However, the theory is a general omnibus explanation of the processes involved in body dissatisfaction, and treats females of different ages alike in its explanation of these processes. The theory might be differentially salient for females at different points in the lifespan, for example in terms of their vulnerability to internalization of the thin ideal.

There has been limited explicit discussion in the existing literature on body dissatisfaction about how it might be affected by age-related changes. It is known that the body goes through profound physical changes in terms of size, shape and functionality over the lifespan. Moreover there are profound psychological changes also associated with aging that might affect body dissatisfaction. Therefore how body dissatisfaction might change as females age is an important area for research.

Age-Related Differences in Body Dissatisfaction

There have been a number of studies that have investigated age related variations in body dissatisfaction. Commonly, these studies are cross-sectional, dividing the sample into different groups dependent on age and making comparisons across measures of body dissatisfaction. Rozin and Fallon's (1988) study has been a benchmark in this type of research. The authors used a figure-rating method to assess body dissatisfaction, as well as investigating attitudes to weight and eating across two generations in both gender groups.

They targeted undergraduate students and their parents. Amongst other results, findings indicated that mothers and daughters were very similar in terms of body dissatisfaction, concern with weight, and weight and eating attitudes, suggesting that these factors were relatively stable between two generations.

One problem with Rozin and Fallon's (1988) study was that participants in the younger group were related to the participants in the older group, therefore possibly confounding any cohort effects. Lamb et al. (1993) tried to overcome this flaw by using an older group of adults (over 39 years of age) who were not related to the participants in the younger group. Their results mirrored Rozin and Fallon's (1988) results, with younger and older women showing similar levels of body dissatisfaction, which were measured by the discrepancy between their current and their ideal figure. However, significant cohort differences were found between the two groups of women involving the size of both their current and ideal figures. These differences indicated that older women reported larger current figures than the younger women. Also, although both female groups indicated a desire to be smaller, the younger group showed preference for a much thinner figure than the older women did. Lamb et al. suggested that this effect might indicate that the younger group had a higher level of body dissatisfaction in terms of their idealized selves, despite a similar discrepancy between current and ideal figures to that of the older women.

Tiggemann (1992) used the figure-preference technique to study body dissatisfaction and self-esteem in an Australian undergraduate sample. Tiggemann looked at age differences in body dissatisfaction by breaking the sample into young adults (less than 21 years of age) and mature adults (21 years old and over). The results of her study indicated that the gender difference found in the younger adults was equal, if not larger, in the mature adults,

suggesting that body dissatisfaction may become more acute for women with age. This study attempted to assess body dissatisfaction over a larger age range, however, the groups tended to be uneven in numbers and age ranges (i.e. 143 young women had an age range of 16-20 years while 91 mature women had an age range of 21-52 years). Although these studies are important in highlighting the similarities in body dissatisfaction in younger and older women, they are limited by the fact that the groups were often formed around arbitrary age ranges and were uneven in numbers.

Body Dissatisfaction Across the Adult Female Lifespan

Since Fallon and Rozin's seminal findings in 1988, that concern with eating, weight and appearance was stable across two generations, more research focusing on body dissatisfaction and dietary practices across the adult female lifespan has been conducted. Questioning Rozin and Fallon's findings, Chrisler and Ghiz (1993) suggested that it would not be surprising to find middle-aged and older women experiencing greater body image dissatisfaction as they age and move further away from the socially prescribed "ideal" of what is beautiful. Similarly, Tiggemann (1992) suggested that it could be expected that women's body dissatisfaction actually increases as they age and move further away from the thin ideal. Recent research has investigated body dissatisfaction across the adult female lifespan to try to answer these questions.

Studies have typically established that body image concerns and body dissatisfaction are evident in older females and stable across the adult female lifespan (Bedford & Johnson, 2006; Bennett & Stevens, 1996; Lewis & Cachelin, 2001; Stevens & Tiggemann, 1998; Tiggemann & Stevens, 1999). Using the figure-rating technique Stevens and Tiggemann

(1998) assessed levels of body dissatisfaction in females across a large age range. These researchers divided women from 18 to 59 years of age into four groups depending on age (18-29 years, 30-39 years, 40-49 years, and 50-59 years). Their results showed that ideal figures were significantly smaller than current figure in all four groups, suggesting that the level of body dissatisfaction was similar for women across this large age range. The results indicated that although participants' perceptions of current and ideal figure-preferences did increase with age, levels of body dissatisfaction, measured by discrepancies between the two figure types, remained constant across the four age groups.

In 2001, Lewis and Cachelin compared body dissatisfaction, drive for thinness and eating attitudes of middle-aged women (50-65 years) and elderly women (66 years and above). The study's results revealed that the older women reported figure preferences and levels of body dissatisfaction that were similar to the middle-aged women, however, the middle-aged women reported more eating and weight related concerns. The authors suggested that although the two groups of women were equally dissatisfied with their bodies, the elderly women were less likely than the middle-aged women to do something about it (e.g. restrain eating).

Tiggemann and her colleagues have consistently shown that body dissatisfaction remains stable across the adult female lifespan. In their 2001 study, Tiggemann and Lynch measured levels of body dissatisfaction using both the figure-preference and questionnaire methods, to gain measures of satisfaction with the whole body as well as body parts respectively. They found that levels of body dissatisfaction, with whole body and body parts, did not differ in females aged 20-84 years. In addition, Webster and Tiggemann (2003) measured levels of body dissatisfaction with a scale designed to investigate satisfaction with

appearance, physical skills and fitness, body function and weight. The results revealed that body dissatisfaction did not differ in females aged 20-65 years of age.

Overall, research of body image in adult women indicates that levels of body dissatisfaction are similar in younger, middle-aged and older women. It appears that levels of body dissatisfaction remain relatively stable as women age implying that an older woman who is well into the menopausal stage of life and most likely further away from the thin ideal may experience levels of body dissatisfaction that are similar to a woman in her twenties. In terms of sociocultural theory, the finding that body dissatisfaction is stable in women as they age is surprising, as sociocultural theory would presume that body dissatisfaction would increase as one moves further away from the ideal. The findings suggest that other factors, such as the relative importance of body image, may mediate levels of body dissatisfaction in females rather than just their deviation from the ideal.

Body Dissatisfaction in Children

In recent years, in response to eating disorders occurring at younger and younger ages, researchers have increasingly investigated body dissatisfaction in pre-adolescent children. Studies by Collins (1991), Wood et al. (1996), Schur et al. (2000), Lowes and Tiggemann (2003), Dohnt and Tiggemann (2004), Dohnt and Tiggemann (2005) and Levina and Tiggemann (2006) have highlighted that pre-adolescent girls experience body dissatisfaction. A number of these studies have suggested that body dissatisfaction may begin to develop around six or seven years of age (Collins, 1991; Dohnt & Tiggemann, 2004; Dohnt & Tiggemann, 2005; Lowes & Tiggemann, 2003).

Studies have shown that the gender difference in body dissatisfaction and desired weight loss found in the adolescent and adult populations is also present in pre-adolescent children. Wood et al. (1996) investigated body dissatisfaction, self-esteem and depression in eight to 10 year-old children. In this group of children who did not differ in body fat, the girls experienced more body dissatisfaction than the boys. In addition, Schur et al. (2000) investigated eating disturbance, body dissatisfaction and desire to change their weight in children aged eight to 13 years. Their results indicated that even though both young boys and girls experienced body dissatisfaction, compared to the boys, a larger percentage of girls wanted to weigh less and wanted a thinner body shape.

Studies have shown that body dissatisfaction is common amongst pre-adolescent girls with Levina and Tiggemann (2006) finding that 49% of their nine to 12 year old female participants reported that they wanted to be thinner. These researchers also found a relationship between social factors such as media, peers, and the internalization of the thin ideal with body dissatisfaction suggesting that pre-adolescent girls' body satisfaction is influenced by sociocultural factors.

Additional studies have shown that girls as young as six or seven years of age experience some degree of body dissatisfaction (Collins, 1991; Dohnt & Tiggemann, 2004; Dohnt & Tiggemann, 2005; Lowes & Tiggemann, 2003). Collins (1991) adapted the figure-preference technique to assess body dissatisfaction in pre-adolescent children. The study revealed that girls, but not boys, as young as six or seven years of age reported significantly differing current and ideal body preferences indicating that girls of this young age were experiencing body dissatisfaction. Similarly, in a study comparing body dissatisfaction and dieting awareness in boys and girls aged five to eight years, Lowes and Tiggemann (2003)

showed that girls, but not boys, six, seven and eight years of age rated their ideal figure as significantly thinner than their current figure, again indicating that girls of this age were experiencing body dissatisfaction. Body dissatisfaction was not evident in the five-year-old girls, which according to Lowes and Tiggemann (2003), indicated that body dissatisfaction may develop around the age of six years.

A longitudinal study of body dissatisfaction and dieting awareness in five to seven year-old girls by Dohnt and Tiggemann in 2004 indicated that at Time 1, the younger girls preferred a larger ideal figure, while the older girls showed preference for a smaller ideal figure. Sixteen months later, the younger group showed preferences for a smaller ideal figure, just as the older girls had at Time 1. Therefore, the younger girls' level of body dissatisfaction had increased over the 16-month period. From these findings, Dohnt and Tiggemann suggest that girls come into school preferring a larger figure but over the first year of schooling their attitude changes and they begin to prefer a smaller figure.

Many of the above studies have used the figure-preference technique to assess body dissatisfaction in children. This method has come under some criticism when used with children because limited psychometric data are available (Smolak, 2004). Collins (1991) reported adequate test-retest reliability for current figure preference measures but not for other measures of ideal self, ideal other child, and ideal adult. Wood et al.'s (1996) study investigated the psychometric properties of two different body dissatisfaction measures for children. Their results indicated that the revised version of the Eating Disorders Inventory – Body Dissatisfaction Subscale, a questionnaire-based measure adapted for children, was a more psychometrically sound measure of body dissatisfaction for children compared with the

figure preference technique. Therefore, one must be cautious when interpreting child data from studies that have used the figure-preference technique.

Overall, the above studies highlight that pre-adolescent girls experience body image dissatisfaction and have body image concerns. The research into body dissatisfaction in children has shown that the gender difference found in adolescent and older females is also apparent in pre-adolescents. Also, recent research suggests that body dissatisfaction may begin to develop around the ages of six or seven, once formal schooling has begun, which suggests that young girls of this age are assimilating the assumption throughout society that “thin is good”.

There have been a limited number of studies that have measured body dissatisfaction in females across a large age range, including both children and adults in the same study using comparable measures of body dissatisfaction. Pliner et al. (1990) were among the first researchers to take a “lifespan perspective” when investigating concern with weight and appearance. They assessed the importance of weight, appearance and eating, as well as self-esteem in a group of participants ranging in age from 10 to 79 years of age, dividing them into seven groups dependent on age. These researchers found that females were more concerned than males about eating, body weight, and physical appearance, and had lower appearance self-esteem. Importantly, they found that there was no interaction between age and gender, suggesting that concerns with weight, eating and appearance were stable over the female lifespan. Further research investigating body dissatisfaction across the female lifespan is needed to gain a clearer understanding of developmental trends in body image issues.

Dietary Restraint in Females

Dissatisfaction with one's weight or shape can motivate an individual to engage in behaviors such as exercise or dietary restraint in an attempt to reduce body fat. Dietary restraint is defined as an individual's tendency to consciously restrict food intake to maintain weight or lose weight (Putterman & Linden, 2004). Dietary restraint is common practice among individuals trying to lose weight, however, on a whole, dietary restriction does not lead to weight loss (Tiggemann, 2004). It has been found to be associated with the development of eating disorders such as Anorexia Nervosa, Bulimia, and Binge Eating Disorder (Polivy & Herman, 1985) as well as an increased weight gain and a higher risk of obesity (Stice, Cameron, Killen, Hayward, & Taylor, 1999).

A number of studies indicate that dieting and dietary restraint is common in females and is present across a broad age range from young girls to older adult females. Davison, Markey and Birch (2003) reported that 14% of the nine-year-old girls in their study replied affirmatively to item stipulating "ever having dieted". Jones, Bennett, Olmstead, Lawson, and Rodin (2001) investigated disordered eating attitudes and behaviors in adolescent girls aged 12 to 18 years and reported that 23% of their sample were currently dieting to lose weight, and 27% of participants reported one or more symptoms associated with eating disorders. Rates of dieting are also high in adult females with Allaz, Bernstein, Rouget, Archinard and Morabia (1998) finding that 42% of women aged 30 to 74 years of age reported dieting in the last five years.

There are conflicting findings regarding the stability of the degree of dietary restraint across the adult female lifespan. Hetherington and Burnett (1994) showed that levels of dieting and dietary restraint were similar for both younger and older adult females. They

compared, amongst other variables, eating behavior, dieting and body satisfaction between equal groups of normal-weight young females (18-30 years of age) and older females (60- 78 years of age). The results showed a similar desire to lose weight between the younger and older groups of women. On average, both the younger and older women wanted to lose around 10 pounds (4-5 kilograms). The two groups were also similar on a measure of cognitive restraint or the extent to which restraint is placed on food intake, indicating levels of dietary restraint that were not significantly differentiated according to age. Nonetheless, the younger women were more concerned with their body shape and exhibited more disinhibited eating, which refers to a lapse in restraint, suggesting that the younger women may experience more behaviors that are indicative of eating disorders.

On the other hand, there is evidence to suggest that there are significant age-related differences in dietary restraint. In their 2001 study, Lewis and Cachelin indicated that elderly females (66 years and older) had significantly lower disordered eating attitudes compared to a middle-aged group. In addition, Tiggemann and Lynch (2001) established that dietary restraint and disordered eating symptomatology decreased across their 20 to 84 year-old group of females. One interpretation of these findings may be that the decrease in the level of dietary restraint in the older females indicates a lessening of importance of body image in females as they age.

Research has demonstrated a close relationship between body dissatisfaction and dietary behaviors (Bennett & Stevens, 1996; Dunkley, Wertheim & Paxton, 2001; Van den Berg, Wertheim, Thompson & Paxton, 2002) indicating that females who are more dissatisfied with their body are more likely to engage in dietary restraint. Among other findings, Dunkley et al. (2001) and Van den Berg et al. (2002) established that body

dissatisfaction was the strongest predictor of dietary restraint in adolescent girls. In addition, Attie and Brooks-Gunn (1989) found that adolescent girls who felt more negatively about their body at an early age were more likely to develop eating problems after two years. Research has also shown that this relationship is present in young girls. Davison et al. (2003) showed that girls' body dissatisfaction and weight concerns were consistent over time and importantly, that girls who had higher levels of weight concerns and body dissatisfaction at five to seven years of age showed higher levels of dietary restraint and dieting at age nine. In another study, although not directly measuring body dissatisfaction, Bennett and Stevens (1996) indicated that older women who were high in weight anxiety were more likely to engage in dietary practices.

Overall, the research suggests that, as with body dissatisfaction, dietary restraint is common in females across a wide range of ages. The findings from a number of studies suggest that girls as young as nine years of age up to women in their 70s are engaging in some level of dietary restraint. Moreover, there is a substantiated predictive relationship between body dissatisfaction and dietary restraint in females indicating that females who are more dissatisfied with their body image are more likely to engage in dietary restraint. There are conflicting findings regarding how levels of dietary restraint change in females of different ages and limited knowledge about how the predictive relationship between body dissatisfaction and dietary restraint may change for females as they age.

Developmental Changes over the Female Lifespan

Females experience a number of developmental milestones throughout their life, which have the potential to change their body. Puberty, pregnancy and menopause are times

in a female's life when the activity of the sex hormones estrogen and progesterone changes, resulting in increases in body fat and changes in body shape (Rodin et al., 1985). Any fundamental change in the body may result in an alteration of body image, and if this change is perceived as moving one further from the ideal then this may result in increased body dissatisfaction. Although age alone moves one further away from the ideal, the developmental milestones produce more dramatic changes, which may result in more noticeable adjustments in body image satisfaction. As well as resulting in changes in the body, the experience of these milestones brings changes in social roles, responsibilities, and expectations, which may alter the meaning body image plays in an individual's life.

Puberty is a time when the sexual reproductive organs mature and the body becomes capable of reproducing. It usually begins around the age of 10 years for most girls, with the physical changes becoming more obvious around 11 to 14 years of age. The production of hormones during puberty causes striking physical changes including growth spurts, increased adiposity, widening of the hips, breast formation, and growth of pubic hair. Before puberty, girls have approximately 10-15% more body fat than boys do, and this difference increases after puberty with girls gaining an average of 11 kilograms of body fat. Hormone production also causes emotional changes with adolescents usually experiencing mood swings. Along with the physical and emotional changes there are a number of psychosocial changes that occur during puberty such as adjusting to puberty, forming peer relationships, and achieving a sense of self (Hill & Pallin, 1997). The major physical and psychosocial changes that occur during adolescence may explain why eating problems usually occur during early to middle adolescence. Attie and Brooks-Gunn (1989) investigated the impact of the onset of puberty on eating problems and body image in girls. They concluded that in females the physical

changes at puberty, in particular the increase in body fat, can be a catalyst for eating problems.

The second developmental milestone in a woman's life capable of producing major physical changes, especially associated to weight and shape, is pregnancy. During pregnancy a healthy woman will gain approximately 12-16 kilograms of weight and approximately 3.5 kilograms of fat alone. Once more hormonal changes are behind the weight increase in pregnancy, with the combination of estrogen and insulin causing unwanted weight gain. Although weight increments are a natural part of pregnancy, after the birth of their children, mothers often find it hard to lose the excess fat accumulated during pregnancy (Rodin et al., 1985).

Davies and Wardle (1994) showed that despite the major physical changes that occur during pregnancy, the state of being pregnant was associated with increased body satisfaction and reduced dieting. However, Jenkin and Tiggemann (1997) investigated weight gain, weight and shape satisfaction, self-esteem and depressive symptoms in first-time pregnant women at both pre-and-post birth times. On average, the results indicated that women weighed more and were less satisfied with their weight and shape four weeks after giving birth compared to before becoming pregnant. There was a relationship between post-natal weight and psychological well being with women who were heavier post-natal being less satisfied with their weight and shape and experiencing more depressive affect.

The third developmental milestone that females experience is menopause. Menopause occurs when a woman stops ovulating and ceases to menstruate. It is a natural event that marks the end of her reproductive capability. The production of estrogen falls significantly during menopause causing weight gain and changes in weight distribution. Women may

experience increased body fat, especially around the abdomen. Lewis and Cachelin (2001) have suggested that the physical and psychological changes associated with menopause; and with ageing in general, may have the same impact as those experienced at puberty. Nonetheless, there has been little research in the area of body image and menopause. Deeks and McCabe (2001) investigated menopausal status, age, and body image in females aged 35 to 65 years. Their study revealed that menopausal women were less positive than pre-menopausal women about their overall appearance and fitness, but did not differ on measures of body dissatisfaction. There were no differences on other measures of body image between menopausal and pre-menopausal women once the effects of age were controlled, making it hard to ascertain whether these findings were related to menopause or to age. Despite these interesting findings, and the assumption that menopause may have a significant impact on body dissatisfaction, there are limited studies comparing body dissatisfaction or eating concerns in pre- and post-menopausal women.

Developmental milestones such as puberty, pregnancy and menopause not only have the capacity to change the body considerably from a physical viewpoint, but are also associated with psychological changes, as females transition from one life stage to another. Therefore researchers and theorists alike need to know more about these transitions and how they influence body dissatisfaction and dietary restraint. Many studies have considered age and the continuous changes that are associated with it. However, there is a need in the literature to also consider discontinuous changes, when females transition from one physical state to another and its accompanying psychological effects. This discontinuous view of change in relation to body image and dietary restraint is largely missing from the current body image literature.

The Importance of Body Image

Considering the significant physical changes females experience as they move through the lifespan, a number of studies have begun to investigate whether the meaning and experience of body image changes, to explain the stability of body dissatisfaction over the female lifespan. Pliner et al. (1990) were some of the first researchers to investigate the importance of body image. These researchers discovered that although body dissatisfaction remained stable across the female lifespan, the importance of attractiveness decreased with age. Since this initial study, Tiggemann and colleagues have devoted much research effort in this area (Tiggemann, 2004; Tiggemann & Lynch, 2001; Webster & Tiggemann, 2003), investigating how the meaning and experience of body image might change over the female lifespan.

Tiggemann and Lynch (2001) measured body dissatisfaction as well as other aspects of body image in females aged 20 to 84 years. Their study revealed that body dissatisfaction did not differ across the large age range, but that other aspects of body image such as, self-objectification, habitual body monitoring, appearance anxiety, dietary restraint and disordered eating, did decrease with age. They speculated that although body dissatisfaction remains relatively stable across the adult female lifespan, the importance of body image might decrease as women age. Similarly, Tiggemann's 2004 study indicated that although the female sample gained weight over an eight-year time span, their levels of body image dissatisfaction remained stable. Therefore, although being further away from the "ideal" the participants did not report greater body dissatisfaction. Tiggemann suggested that either the participant's expectations of herself reduced with age or the importance of body

dissatisfaction reduced with age. Although not directly measuring body image importance, both of these studies suggest that body image importance decreases with age.

Other studies have measured *body image importance* as a distinct variable. In their 2001 study, Rieder and Ruderman defined body image importance as, “the extent to which an individual’s sense of self-worth is based on body image” (p. 802). They measured body image importance by investigating the role that body image played in an individual’s self-image. Their study investigated the relationship between body dissatisfaction, body image importance, and the interaction of these two variables with disordered eating behaviours of bingeing and purging. Their results indicated that body dissatisfaction was related to disordered eating behaviour and that body image importance explained variance in disordered eating behaviour not accounted for by dissatisfaction. They suggested that body image importance along with body dissatisfaction and may be central in understanding why individuals engage in dieting and weight control behaviours. For example, two women may be equally dissatisfied with their body but differ in the level of body image importance. The woman who has low levels of body image importance may be less likely to engage in dieting or weight-loss practices while the woman for whom body image is a central aspect of her sense of self-worth may be more likely to engage in these behaviours.

In a recent study by Webster and Tiggemann (2003), body image importance was directly measured along with body dissatisfaction, self-esteem and self-concept, in non-eating disordered females aged 20 to 65 years. Findings indicated that body dissatisfaction and importance did not differ across the three groups of younger, middle-aged and older women, which is contradictory to studies that, although not directly measuring body image importance, have suggested that it decreases with age (Pliner et al, 1990; Tiggemann, 2004;

Tiggemann & Lynch, 2001). Further research is needed to clarify the role of body image importance in dietary restraint in non-disordered eating females.

In summary, there is limited research investigating body image importance in females and the studies that have investigated this area have produced conflicting results. In addition, there are no studies that have investigated importance directly in pre-adolescent and adolescent girls. The lack of research in the adolescent age group is surprising considering that adolescence has typically been the group that body image research has focused on. As suggested above, body image importance is emerging as a significant factor in body image research and may be central in increasing our understanding of the relationship between body dissatisfaction and weight loss behaviours in females of all ages. More research is needed to clarify the role body image importance plays in females across the lifespan.

Conclusions

Taken together, the research suggests that body image dissatisfaction is relatively stable across females of all ages, agreeing with Rodin et al's., (1989) assumption that body dissatisfaction is a "normative discontent". The literature reviewed here has shown that not only do adolescent girls and young women experience dissatisfaction with their body image, but that body dissatisfaction can occur in girls as young as six years of age as well as in post-menopausal women (Collins, 1991; Dohnt & Tiggemann, 2004; Lewis & Cachelin, 2001; Lowes & Tiggemann, 2003; Stevens & Tiggemann, 1998). Research investigating dietary restraint in females suggests that females across a very wide age range engage in dietary restriction as a means of losing weight, however, it is unclear whether dietary restraint remains stable over the adult female lifespan or decreases in older adult females. Research

shows there is a close relationship between body dissatisfaction and dietary restraint with higher levels of body dissatisfaction predicting higher levels of dietary restraint (Dunkley et al., 2001; Van den Berg et al., 2002). Although a number of studies have investigated age-related changes in body dissatisfaction and dietary restraint, few studies have investigated these variables across a large age range from pre-adolescent girls to post-menopausal women in a single study.

There are many reasons to presume that levels of body dissatisfaction and dietary restraint would change across the female lifespan. Both males and females tend to put on weight as they age, but in addition females experience a number of developmental milestones that have the potential to dramatically change their body. Puberty, pregnancy and menopause are all biological transitions that tend to increase body fat and alter body shape (Rodin et al., 1985). Considering that these biological milestones generally move females further away from the “thin ideal” it could be expected that experiencing these transitions would result in increases in body dissatisfaction. However, despite moving further away from the ideal, research indicates that body dissatisfaction remains relatively stable across the female life span. One explanation for this may be the importance that body image plays in an individual’s life at different stages of her life. That is, the relative importance of body dissatisfaction may change in the context of other life events, stages, and responsibilities. For example, the desire to attract a partner may be more important for an adolescent or young adult female compared to a woman who has already had children or passed through menopause. As a result, for the younger woman, her body may be a more salient factor in her life at that time.

Body image importance may mediate body dissatisfaction in women at different ages, predicting the effect body dissatisfaction has on her psychologically and behaviorally. For example, a woman for whom body image is important and critical to her sense of self may be more likely to engage in dietary restraint than a woman who does not see body image as important. Further research is needed to clarify the role that body image importance has on body dissatisfaction across the female lifespan. Also, further research is needed to clarify levels of body dissatisfaction, dietary restraint and body image importance across the female lifespan and specifically how these variables change and interact at different stages of a female's life.

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Empirical Study

**Body Image Dissatisfaction, Body Image Importance and Dietary Restraint
in Females Across Four Life Stages**

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Abstract

The aim of this questionnaire-based study was to investigate body dissatisfaction, body image importance and dietary restraint in females across four developmental groups as well as investigating predictors of dietary restraint within these groups. One hundred and seventy-seven female participants were divided into four groups dependent on developmental status, that is, Group 1 (pre-puberty), Group 2 (post-puberty, pre-pregnancy), Group 3 (post-pregnancy, pre-menopause) and Group 4 (post-menopause). The results indicated that body dissatisfaction was significantly lower in Group 1, however was similar across Groups 2, 3 and 4, suggesting that body dissatisfaction increases after puberty and then remains stable across the rest of the female lifespan. Both dietary restraint and body image importance were not found to be significantly different across the four groups suggesting that these variables remain stable across the four female life stages. Body dissatisfaction was the strongest predictor of dietary restraint in Groups 1, 2 and 3, with health status accounting for minimal variance in dietary restraint in Group 1. However, in Group 4 body image importance was the sole predictor of dietary restraint accounting for 35% of the variance. This suggests that in post-menopausal women, those who regard body image as an important aspect in their life are more likely to engage in dietary restraint.

In today's society, dissatisfaction with one's body is common and particularly relevant for women. Rodin, Silberstein and Striegel-Moore (1985) considered body dissatisfaction in women to be so prevalent that they described it as "a normative discontent", suggesting that all women are dissatisfied with their body to some extent. Research has consistently supported this view, indicating that females across a wide age range are significantly more dissatisfied with their body than are similarly aged males (Collins, 1991; Fallon & Rozin, 1985; Lamb, Jackson, Cassiday & Priest, 1993; Lowes & Tiggemann, 2003; Muth & Cash, 1997; Pliner, Chaiken & Flett, 1990; Rozin & Fallon, 1988; Tiggemann, 1992; Wood, Becker & Thompson, 1996). Body image has been studied extensively in the psychological literature over the last 30 years because dissatisfaction with body image can lead to dieting and unhealthy weight loss practices and is closely related to the development of eating disorders such as Anorexia Nervosa and Bulimia (Garner & Garfinkel 1981; Striegel-Moore, Silberstein & Rodin, 1986).

Sociocultural theories of body dissatisfaction offer some explanation for the individual differences observed in body dissatisfaction and why females experience higher levels of body dissatisfaction and higher prevalence rates of eating disorders than males. Sociocultural theories suggests that social factors, such as the popular media, promote powerful ideas about what is or is not considered attractive in today's society. The theory proposes that the "thin ideal", a representation of what is physically attractive, is transmitted through popular media and is reinforced throughout Western societies (Morrison, Kalin, & Morrison, 2004). The assumption that "thin is good" is a strongly held belief throughout Western countries. In today's society the ideal of what is considered attractive refers to a very thin figure, one that most females would find hard to achieve. Women feel pressure to achieve this ideal,

however, their inability to do so results in feelings of dissatisfaction with their own body and in extreme cases may lead to the development of an eating disorder.

Previous literature demonstrates that females over a wide age, from pre-adolescent girls to post-menopausal women, experience body dissatisfaction. A number of early studies highlighted that the level of body dissatisfaction experienced by middle-aged women was similar to that experienced by university-aged students (Lamb et al, 1993; Rozin & Fallon, 1988; Tiggemann, 1992). Other studies by Collins (1991), Dohnt and Tiggemann (2005), Lowes and Tiggemann (2003), Schur, Sanders and Steiner (2000), and Wood et al., (1996) have established that pre-adolescent girls are dissatisfied with their bodies, as well as older women (Bennett & Stevens, 1996; Lewis & Cachelin, 2001; Stevens & Tiggemann, 1998; Tiggemann & Stevens, 1999). Traditionally, these types of studies have investigated age-related differences in body dissatisfaction. Although they have been important in highlighting the scope of body dissatisfaction in females, they often focus on narrow and arbitrary age groups and therefore do not provide information on how body dissatisfaction changes over the lifespan.

A number of studies have begun to look at body dissatisfaction in females over a larger age range. These studies have typically established that body dissatisfaction remains relatively stable in females, especially across adult samples (Pliner, et al., 1990; Tiggemann & Lynch, 2001; Webster & Tiggemann, 2003). Pliner, et al., (1990) were among the first researchers to take a “lifespan perspective” by investigating concern with weight and appearance in a group of participants ranging in age from 10 to 79 years of age. These authors found that females were more concerned than males about eating, body weight, and physical appearance, and had lower appearance self esteem. Importantly, their results also indicated that this

gender difference did not decrease with age, suggesting that concern with weight, eating and appearance were stable over the female lifespan. In a purely adult sample, Tiggemann and Lynch (2001) measured body dissatisfaction as well as other aspects of body image in females aged 20 to 84 years. They used both the figure-preference method and questionnaire method to investigate satisfaction of whole body and body parts respectively. Their study revealed that body dissatisfaction did not differ across the large age range, despite the type of dissatisfaction measured. In addition, Webster and Tiggemann (2003) investigated body dissatisfaction in females aged 20 to 65 years using a questionnaire method, finding that body dissatisfaction did not differ across the three groups of younger, middle-aged and older women.

Dieting and dietary restraint are common in females, especially those dissatisfied with their body. Dietary restraint is defined as an individual's tendency to consciously restrict food intake to maintain weight or lose weight (Putterman & Linden, 2004). It is associated with the development of eating disorders such as Anorexia Nervosa, Bulimia and Binge Eating Disorder (Polivy & Herman, 1985) as well as an increased weight gain and a higher risk of obesity (Stice, Cameron, Killen, Hayward, & Taylor, 1999). Davison, Markey and Birch (2003) and Jones, Bennett, Olmstead, Lawson, and Rodin (2001) have reported high levels of dieting in pre-adolescent and adolescent girls respectively and Allaz, Bernstein, Rouget, Archinard and Morabia (1998) showed that 42% of women aged 30-74 years of age reported dieting in the last 5 years. In addition, in their 1994 study, Hetherington and Burnett revealed that both younger and older adult women were similar in levels of dietary restraint, suggesting that dietary restraint remains relatively similar in adult females of different ages. On the other hand, Lewis and Cachelin (2001) reported that elderly females (66 years and older) had significantly lower disordered eating attitudes

compared to middle-aged women. Moreover, Tiggemann and Lynch (2001) showed that dietary restraint and disordered eating symptomatology decreased with age in females aged 20 to 84 years of age. Therefore, there are conflicting results regarding how dietary restraint changes over the adult lifespan in females.

As stated earlier, body dissatisfaction can lead to dieting and other unhealthy weight loss practices in an attempt to lose weight. Researchers have consistently shown that a close relationship exists between body dissatisfaction and dietary restraint in females, indicating that females with higher levels of body dissatisfaction are more likely to engage in dietary restraint. In studies involving adolescent girls, Dunkley, Wertheim and Paxton (2001) and Van den Berg, Wertheim and Thompson (2002) established that body dissatisfaction was the best predictor of dietary restraint. In another study, although not directly measuring body dissatisfaction, Bennett and Stevens (1996) showed that older women who were high in weight anxiety were more likely to engage in dietary practices. Although the research suggests a strong relationship between body dissatisfaction and dietary restraint, there has been little research investigating how the relationship between dietary restraint and body dissatisfaction might vary over the female lifespan. An understanding of the relative strength of this relationship at different stages across the lifespan is important because it might signify changes in the meaning and significance of body dissatisfaction for females at different ages and could indicate different pathways to dieting behavior for females of different ages.

Although more recently researchers have begun to look at body dissatisfaction across the female lifespan, they have not taken a number of biological milestones into account. This is an important factor to consider because females experience biological milestones throughout their life that have the tendency to

dramatically alter the body in terms of size and shape (Rodin et al., 1985). Due to levels of hormone production in puberty, pregnancy and menopause, females experience increased weight gain and changes in weight distribution. Any change in the body may result in an alteration of body image. From a sociocultural perspective if these physical changes are perceived as moving one further from the “ideal” then this may result in increased body dissatisfaction. Although age alone gradually moves one further away from the ideal, the biological milestones produce physical alteration over a shorter period of time, for example during puberty and pregnancy. These in turn may result in dramatic modifications in body image satisfaction.

Despite females moving further away from the ideal as they age and experience these transitions, research indicates that body dissatisfaction remains relatively stable across the female lifespan (Pliner et al., 1990; Tiggemann & Lynch, 2001; Webster & Tiggemann, 2003). One explanation for this may be the relative importance that body image plays for females at different stages of their life. That is, the relative importance of body dissatisfaction may change in the context of other life events, stages, and responsibilities.

Most studies have examined age-related variations in the relative satisfaction (or dissatisfaction) that women experience with their bodies. However, very few studies have examined the salience that body image has for differently aged females. This is important, since it might help to better evaluate and contextualize the findings from age-related studies of body dissatisfaction. A small number of studies have investigated how the meaning and experience of body image might change over the female lifespan (Tiggemann & Lynch, 2001; Webster & Tiggemann, 2003; Tiggemann, 2004). Although not directly measuring body image importance, some studies have suggested that while body dissatisfaction remains stable across the

lifespan, importance of one's body decreases with age (Tiggemann & Lynch, 2001; Tiggemann, 2004). Other studies have measured *body image importance* as a distinct variable. In their 2001 study, Rieder and Ruderman defined body image importance as, "the extent to which an individual's sense of self-worth is based on body image" (Rieder & Ruderman, 2001:802). They suggested that the interaction between body dissatisfaction and body image importance may be central in understanding why individuals engage in dieting and weight control behaviours. For example, two women may be equally dissatisfied with their body but differ in the level of body image importance. The woman who has low levels of body image importance may be less likely to engage in dieting or weight-loss practices while the woman for whom body image is central to her sense of self-worth may be more likely to engage in these behaviours. In regard to lifespan weight concern issues, dissatisfaction in younger women might be associated with much higher levels of dietary restraint that is not found in similarly dissatisfied older women. This might be mediated by differential levels of body image importance. For these reasons therefore, it is imperative to investigate body image importance as well as body image dissatisfaction in women of different ages.

Webster and Tiggemann (2003) directly investigated body image importance in females from 20 to 65 years of age, as well as body dissatisfaction, self-esteem and self-concept. Interestingly, their results indicated that body dissatisfaction and body image importance did not differ across the three groups of younger (20-34 years), middle-aged (35-49) and older (50-65) women showing that body image importance did not decrease with age. This finding is however, inconsistent with other studies which have shown that body image importance in fact decreases with age (Tiggemann and Lynch, 2001; Tiggemann, 2004). The research into body image

importance in females has therefore been contradictory as well as minimal. Also, there have been no studies that have investigated body image importance directly in younger females or across the entire female lifespan taking into account the impact of the biological milestones of puberty, pregnancy and menopause.

Rationale for the Present Study

The investigation of body dissatisfaction and dietary restraint in females has primarily considered age-related changes by dividing participants into arbitrary groups dependent on age. No published studies to date have investigated body dissatisfaction across the lifespan taking into account biological milestones on body dissatisfaction and dietary restraint. However a recent unpublished study by Davis (2006) investigated body dissatisfaction in females between the ages of 10 and 75 years by examining both body dissatisfaction and dietary restraint according to different stages of development. This study considered the impact of these biological milestones by examining levels of body dissatisfaction and dietary restraint in four developmental groups, that is, (1) pre-puberty, (2) post-puberty but pre-pregnancy, (3) post-pregnancy but pre-menopause and (4) post-menopause. The results of this study showed that Groups 2 and 4 had significantly higher level of body image dissatisfaction than Groups 1 and 3. The results for dietary restraint mirrored these findings. The results were explained in terms of the relative importance of body image at different stages of the lifespan, however this variable was not directly investigated in Davis' study.

The present study sought to clarify the role of body image importance, and to replicate the findings for body dissatisfaction and dietary restraint reported in Davis' study, using a separate sample of similarly aged females. The study would

investigate whether body image importance also differs over the lifespan and whether it can better explain dietary restraint in females at different developmental stages of her life, than simply a measure of body dissatisfaction.

Aims and Hypotheses

The present study had two main aims. First, the results of this study sought to replicate Davis' findings by investigating body image dissatisfaction and dietary restraint in females according to similar developmental milestones and groupings, that is, (1) pre-puberty, (2) post-puberty but pre-pregnancy, (3) post-pregnancy but pre-menopause, and (4) post-menopause. In line with Davis' findings, it was hypothesised that the level of body image dissatisfaction would be significantly higher for females in the post-menopausal group compared with Group 2, Group 3 and Group 1. It was also hypothesised that in line with Davis' findings, dietary restraint would be significantly higher in the post-menopausal group compared with Group 2, Group 1 and Group 3.

A number of researchers, such as Pliner et al., (1990), Tiggemann and Lynch (2001), and Tiggemann, (2004) have suggested that body image importance decreases with age. In addition, although not directly measured in Davis' study, the higher levels of body dissatisfaction in the post-menopausal group were explained in terms of lessening importance of body image in this group. Therefore, in the current study it was hypothesised that body image importance would decrease across the four developmental groups, with the lowest ratings of importance in Group 4.

This study also explored the predictive ability of a number of variables for dieting behaviour in females according to developmental status. The explanatory nature of body dissatisfaction, body image importance, current health status and

current exercise status on dietary restraint, were investigated. Current health status and exercise status were included in the analysis because these variables were likely to have some impact on an individual's tendency to engage in dietary restraint. It was hypothesised that body dissatisfaction would be the strongest predictor of dietary restraint in all four groups since there is firm empirical evidence indicating that body dissatisfaction has a significant and robust predictive relationship with dieting behaviour in adolescent girls (Dunkley et al, 2001; Van den Berg et al, 2002), older women (Bennett & Stevens, 1996), and young girls (Davison et al., 2003).

Method

Participants

Participants were 180 females ranging in age from 7 to 80 years. The sample consisted of volunteer undergraduate psychology students from the University of Tasmania and their female relatives (eg: mothers, daughters, sisters and grandmothers) as well as volunteer female students from four Tasmanian schools and their mothers. In addition, older participants were recruited through advertisement at a local community group. Three participants were removed from the post-menopausal group because they had not experienced natural menopause and were two standard deviations below the mean age for the group, therefore considered outliers, leaving a total of 177 participants.

The participants' data were divided into groups based on their developmental status; (1) pre-puberty, (2) post-puberty but pre-pregnancy, (3) post-pregnancy but pre-menopause, and (4) post-menopause. Group 1 ($n = 45$) consisted of participants who had not yet begun to menstruate. This group had a mean age of 10 years ($SD=1.62$) and an age range of 7 to 14 years. Group 2 ($n = 45$) consisted of

participants who had begun menstruation and who had not yet experienced pregnancy. This group had a mean age of 20.31 years ($SD=4.24$) and an age range of 13 to 33 years. Group 3 ($n = 45$) consisted of participants who had begun to menstruate, had experienced pregnancy and who had not experienced menopause. This group had a mean age of 38.31 years ($SD=9.10$) and an age range of 19 to 52 years. Group 4 ($n =42$) consisted of participants who had experienced menopause and no longer menstruated. This group had a mean age of 60.69 years ($SD=11.27$) and an age range of 37 to 80. The 37 year-old in this group experienced a natural, but unusually early menopause. The majority of participants in Group 4 were aged 45 years and above.

Materials

All participants were asked to complete a package of four questionnaires relating to body image dissatisfaction, body image importance, dietary restraint and demographic and lifestyle information.

Body Dissatisfaction

The Eating Disorder Inventory-2 (EDI-2) (Garner, Olmstead & Polivy, 1983) is a widely administered self-report measure of symptoms associated with eating disorders such as Anorexia Nervosa and Bulimia. The EDI-2 has been found to be a highly reliable and valid instrument for measuring eating disorder symptoms (Garner, 1991). In the present study, participants were administered the Body Dissatisfaction sub-scale of the EDI-2 only, since this was the main variable of interest. This sub-scale is comprised of nine items presented in a six-point format requiring participants to answer whether each item applies “always,” “often,”

“sometimes,” “rarely,” or “never”, and measures the participant’s dissatisfaction with the shape and size of specific body regions that are of greatest concern to those with eating disorders (i.e., stomach, hips, thighs, buttocks).

For children under eleven years of age, a revised form of the Body Dissatisfaction sub-scale of the EDI-2 was used (Wood et al., 1996). Wood et al., (1996) showed this revision of the EDI-2 to be a psychometrically sound measure of body dissatisfaction for children aged 8 to 10 years of age, with an overall test-retest reliability of .79, reliability coefficients in the .70’s and .80’s and good internal consistency. The revision of the Body Dissatisfaction sub-scale involved two alterations. Question 2 (‘I think that my thighs are too large’) was adapted by adding, ‘thighs are the part of your leg above your knee’. Question 5 (‘I like the shape of my buttocks’) was also adapted by adding ‘or rear end’. These explanations were added because the terms in the original questions might not have been well understood by Australian girls.

For both the original and the revised versions of the Body Dissatisfaction sub-scale, the nine items were placed in a questionnaire with fourteen randomly chosen items from the other scales of the EDI-2 to reduce the transparency of the questionnaires (see Appendix A).

Body Image Importance

For this study, The Body Dissatisfaction sub-scale of the EDI-2 and the revised version for children aged under eleven years was modified to include parallel items designed to investigate body image importance. The instructions and response format were also altered. The original Body Dissatisfaction sub-scale of the EDI-2 asked, ‘for each item, decide if the item is true about you’, with respondents answering with the appropriate response (always, usually, often, sometimes, rarely,

or never). The Body Image Importance adaptation asked, 'For each item, decide how important the item is for you' with the following responses, 'very important', 'usually important', 'often important', 'sometimes important', 'rarely important', or 'never important'. Three questions relating to body parts were removed to reduce repetition of questions (see Appendix B). Webster and Tiggemann (2003) used a similar means of measuring body importance and they found their measure had an internal reliability of $\alpha = .72$.

Dietary Restraint

The Dutch Eating Behaviour Questionnaire (DEBQ) (Van Strein, Frijters, Bergers & Defares, 1986) is a 33-item self-report measure of eating behaviour, which assesses three separate factors: restrained eating, emotional eating, and external eating. In the present study the restrained eating subscale of the DEBQ was administered to participants, since this was the main variable of interest to the researchers. This subscale is comprised of ten items presented in a five-point format requiring participants to endorse items concerning deliberate, planned weight control as "never," "seldom," "sometimes," "often," and "very often" (see Appendix C). The restrained eating subscale is widely used, has good reliability and validity (Wardle, 1987).

A revised version of the DEBQ restrained eating scale was used for participants under 11 years of age (see Appendix D). This contains 6 of the original 10 items from the adult version that have been rephrased to improve understanding by the younger age group. In addition, the response format has been simplified to a three-point scale of "never," "sometimes," and "very often" (Hill & Pallin, 1998).

Demographic Questionnaire

A questionnaire was administered to investigate demographic and lifestyle characteristics such as age, current health status, dietary and exercise status as well as developmental stage (see Appendix E).

Design

This study consisted of a between-groups design with developmental group as the independent variable and body dissatisfaction, body image importance, and dietary restraint as the dependent variables. There were four developmental groups: (1) pre-puberty, (2) post-puberty but pre-pregnancy, (3) post-pregnancy but pre-menopause, and (4) post-menopause. In order to elucidate the relationship between body dissatisfaction and the dependent variables described above correlation analyses were also carried out.

Procedure

Participants were provided with an information sheet (see Appendix F) outlining the purpose and procedure of the study as well as a statement of informed consent (see Appendix G), which they were required to sign before commencing the study. Questionnaires were presented to participants as a package containing the three scales and the demographic questionnaire. The presentation order of the two body dissatisfaction scales and the restrained eating scale was randomised to control for ordinal effects. Participants were informed that the purpose of the study was to investigate body image dissatisfaction, body image importance and eating behaviour in females across the lifespan and that the completion of the questionnaire would

take approximately one hour. All questionnaires were coded to ensure anonymity of results.

For participants who were undergraduates at the University of Tasmania, the questionnaire package was administered as part of a practical class activity. Seating of students was arranged to ensure privacy while completing the package. Students returned completed questionnaires by posting them in a secure box at the university.

University student volunteers who participated in the study were invited to recruit a female relative (preferably older than themselves) to participate in the study and were provided with a questionnaire package with a stamped self-addressed envelope so the completed questionnaire could be anonymously returned to the researchers. In this case return of the questionnaire package signalled consent to participate.

Students from three local primary schools and one local high school also took part in the current study. Permission was granted by the Principal of the school prior to commencement of the study. Female students were provided with an information sheet (See Appendix H) and a statement of informed consent (see Appendix I) to take home for their parent or guardian to read and sign before they could take part in the study. Students' mothers were also invited to participate in the study. For students Grade 7 and below the questionnaire package was completed in a face-to-face interview with the researcher. For students above Grade 7 the questionnaire was completed in class while they were supervised by the class teacher. Mothers of students who nominated to take part in the study were provided with a questionnaire package and stamped self-addressed envelope to complete at home. Return of the questionnaire package signalled consent to participate

All other participants were provided with an information sheet and the questionnaire package for them to complete in their own time, along with a stamped self-addressed envelope so completed questionnaires could be returned to the researcher.

Results

Treatment of Data

Ratings on each of the items for the body dissatisfaction (BD) measure and the body image importance (BII) measure were summed separately giving a total raw score for BD and BII. The total raw scores were then divided by the number of questions in each measure, that is, nine and five respectively. This gave a mean rating per item, making the two measures comparable to one another.

The adult and child versions of the dietary restraint measure involved scales that had different scalar values and numbers of items. To allow comparison across these measures, all points were converted into percentages. For the child scale, the three points were converted into 16.6%, 50%, and 83.4%. For the adult scale, the five points were converted into 10%, 30%, 50%, 70%, and 90% to give more-or-less equal values to the points on each scale. These percentage values were added together and then divided by the number of questions in each scale (six for the child scale and ten for the adult scale) to produce a mean percentage value per item.

Independence of Measures and Effects

To ensure participants' developmental status, and not chronological age, accounted for the significant differences within the dependent variables, simple correlations were conducted. A low positive correlation was found between age and body dissatisfaction ($r=.22$) showing that there is a slight but significant relationship

between chronological age and body dissatisfaction as measured by the EDI-2. From these data a small but significant amount of the variance in BD was accounted for by chronological age (5%), however, this was not deemed sufficient to require controlling for age in the between-groups analyses.

In addition, simple correlations of body dissatisfaction and body image importance were conducted to ensure that they were measuring distinct variables. A moderate positive correlation was found between body dissatisfaction and body image importance ($r = .49$), indicating a moderate amount of shared variance (24%). Although these two variables are related to some extent, the remaining unshared variance in the measures (76%) indicates that they are measuring distinct aspects of body image.

Group Differences

The data were analysed according to developmental status: (1) pre-puberty, (2) post-puberty but pre-pregnancy, (3) post-pregnancy but pre-menopause, and (4) post-menopause. Means were calculated for each of the four developmental groups on the measures of interest: body image dissatisfaction, body image importance and dietary restraint (see Table 1 below).

Table 1
Mean Body Dissatisfaction, Body Image Importance and Dietary Restraint Measures for the Four Developmental Groups.

Variable	1 (n = 45)	2 (n = 45)	3 (n = 45)	4 (n = 42)
BD	0.46 (.60)	1.06 (.70)	1.42 (1.01)	1.04 (.86)
BII	0.61 (.77)	0.89 (.83)	0.87 (1.07)	0.66 (.77)
DR	42.34 (17.59)	40.80 (17.36)	39.73 (14.23)	44.38 (17.62)

Note 1. BD = Body Dissatisfaction; BII = Body Image Importance; DR = Dietary Restraint.

Note 2. Group 1 = Pre-puberty, Group 2 = Post-puberty, Pre-pregnancy, Group 3 = Post pregnancy, Pre-menopause, Group 4 = Post-menopause.

A one-way analysis of variance was carried out to ascertain any between-groups differences for the dietary restraint measure. It revealed that there was no significant group effect for the dietary restraint measure across the four groups, $F(3, 173) = .63, p = .60$, indicating that dietary restraint did not differ significantly between the four developmental groups (see Table 1 for means and standard deviations).

A 4 x 2 repeated measures analysis of variance was conducted to assess group differences across the body dissatisfaction and body image importance measures. The independent variable for this analysis was developmental group and the within-groups variable was body image measure (body dissatisfaction, body image importance). The analysis revealed a significant interaction $F(3, 173) = 5.77, p < .001$, indicating that body dissatisfaction and body image importance are not parallel across the developmental groups. This interaction is illustrated in Figure 1.

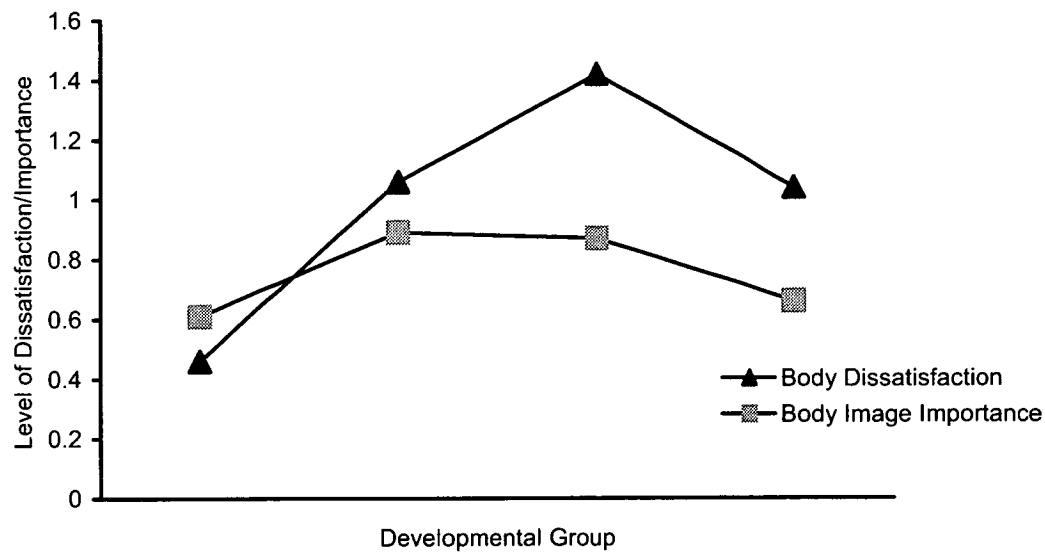


Figure 1. Mean scores of body dissatisfaction and body image importance across four developmental groups.

Post-hoc tests in the form of Least Significant Differences were then carried out to identify where the between-group differences were. For body dissatisfaction, Group 1 had a significantly lower mean than Group 2 ($p < .01$), Group 3 ($p < .001$), and Group 4 ($p < .01$), indicating that body dissatisfaction was lower for Group 1 in comparison with the other three groups. . No other contrasts were significant. There were no significant differences between group means for body image importance (see Table 1 for means and standard deviations).

Additional Least Significant Differences tests were conducted to assess within-group differences (i.e. the differences in ratings between the standardised body dissatisfaction and body image importance measures for each group. The results revealed that body dissatisfaction was significantly higher than body image importance in Group 3 ($p < .001$) and Group 4 ($p < .01$), but that there were no significant differences between body dissatisfaction and body image importance in Group 1 and Group 2 (see Table 1 for means and standard deviations).

Prediction of Dietary Restraint

Multiple regression analyses were carried out in order to test hypotheses relating to the prediction of dietary restraint. The predictor variables used were body dissatisfaction, body image importance, current health and exercise status measures. Separate forward stepwise regression analyses were carried out for each developmental group using dietary restraint as the dependent variable.

For Group 1 (pre-puberty), body dissatisfaction entered the equation first, and accounted for 29% of variance in dietary restraint. Body dissatisfaction was positively related to the dietary restraint measure, indicating that a greater level of body dissatisfaction was associated with a greater level of dietary restraint. At Step 2,

current health status entered the equation accounting for an additional 6% of the variance. Although not accounting for a significant increase of variance in dietary restraint, current health status showed a trend towards a negative relationship with dietary restraint (see Table 2).

Table 2
Summary of Stepwise Regression Analysis for Variables Predicting Dietary Restraint in Group 1 (Pre-Puberty)

Variable	B	SEB	β	R^2	ΔR^2	p level
Step 1						
BD	11.98	3.92	.41**	.29	.29	.001
Step 2						
BD	11.98	3.92	.41**	.29		
CH	-4.39	2.48	-0.23	.34	.06	.06

Note. BD = Body dissatisfaction, CH = Current health
* $p < .05$, ** $p < .01$; *** $p < .001$.
 $n = 45$

For Group 2 (post-puberty, pre-pregnancy), body dissatisfaction was the only variable to enter the equation, indicating that greater body dissatisfaction was associated with greater levels of dietary restraint. For the post-puberty/pre-pregnancy group, body dissatisfaction showed a stronger positive relationship with dietary restraint than for Group 1, accounting for 33% of the variance in dietary restraint (see Table 3).

Table 3
Summary of Stepwise Regression Analysis for Variables Predicting Dietary Restraint in Group 2 (Post-Puberty/Pre-Pregnancy)

Variable	B	SEB	β	R^2	ΔR^2	p level
Step 1						
BD	14.30	3.08	.58***	.33	.33	.000

Note. BD = Body dissatisfaction
 * $p<.05$, ** $p<.01$, *** $p<.001$
 $n=45$

In Group 3 (post-pregnancy/pre-menopause), body dissatisfaction was the only variable to enter the equation accounting for 23% of the total variance in dietary restraint, similar to that accounted for in Group 1. This again indicated that in the post-pregnancy/pre-menopause group, greater body dissatisfaction was associated with greater levels of dietary restraint (see Table 4).

Table 4
Summary of Stepwise Regression Analysis for Variables Predicting Dietary Restraint in Group 3 (Post-Pregnancy/Pre-Menopause)

Variable	B	SEB	β	R^2	ΔR^2	p level
Step 1						
BD	4.40	2.39	.31***	.23	.23	.000

Note. BD = Body dissatisfaction, BDI = Body image importance
 * $p<.05$, ** $p<.01$, *** $p<.001$.
 $n=45$

In Group 4 (post-menopause), body image importance was the only variable to enter the equation, accounting for 35% of the variance in dietary restraint. Body image importance was positively related to dietary restraint, indicating that in this post-menopausal group, increased body image importance was associated with greater levels of dietary restraint (see Table 5).

Table 5
Summary of Stepwise Regression Analysis for Variables Predicting Dietary Restraint in Group 4 (Post-Menopause)

Variable	B	SEB	β	R^2	ΔR^2	p level
Step 1						
BII	11.88	3.13	.51**	.35	.35	.002

Note. BD = Body dissatisfaction, BII = Body image importance
 * $p < .05$, ** $p < .01$; *** $p < .001$.
 $n = 42$

In summary, body dissatisfaction was the strongest predictor of dietary restraint in all groups except for the post-menopausal women. Interestingly, in this group body dissatisfaction was not found to be a significant predictor of dietary restraint. In the post-menopausal group, body image importance was the only variable found to be significantly related to dietary restraint, indicating that greater levels of body image importance are associated with increased levels of dietary restraint. A stronger relationship between body dissatisfaction and dietary restraint was demonstrated in females who had experienced puberty but not pregnancy than in the remaining groups. In the pre-puberty group, there was trend toward current health status predicting dietary restraint, indicating that for this group, girls who perceived their current health as poor engaged in higher levels of dietary restraint. Nonetheless, this effect was not reliable ($p > .05$).

Discussion

The results of the present study provide an insight into body dissatisfaction, dietary restraint and body image importance in females across a large age range, according to their developmental status. The first aim of the present study was to replicate Davis' unpublished findings by investigating body image dissatisfaction and dietary restraint in females according to developmental status, that is, (1) pre-puberty, (2) post-puberty but pre-pregnancy, (3) post-pregnancy but pre-menopause, and (4) post-menopause.

It was hypothesised that in line with Davis' previous findings the level of body image dissatisfaction would be higher for females in the post-menopausal group compared with Group 1, Group 2 and Group 3. The results of the present study only partially supported the hypothesis, and did not fully replicate Davis' previous findings. In the present study body dissatisfaction was similar for Groups 2, 3 and 4, but was significantly lower only in the pre-puberty group. Davis found that females in Group 3 (post-pregnancy but pre-menopause) also had significantly lower BD than the other two adult groups. The finding that body dissatisfaction was significantly lower in pre-pubescent girls compared to females who have reached puberty is consistent with Davis' finding that girls in the pre-puberty group had the lowest level of body dissatisfaction of all groups. Although cross-sectional, the present results suggest that for females, body dissatisfaction might increase as a result of physical and psychological changes following puberty.

Other researchers have found that the onset of puberty is associated with negative body image and the development of eating disorders. For example, Attie and Brooks-Gunn (1989) concluded that the physical changes at puberty, in particular the increase in body fat, could be a catalyst for eating problems. The

current findings, with pre-pubescent girls, showing significantly lower BD than older females, are also supportive of this sociocultural explanation. The physical changes associated with puberty, in particular the accumulation of body fat, causes girls' bodies to move further away from the thin ideal, resulting in increased feelings of body dissatisfaction. The findings are also further evidence that girls who have begun to experience puberty have already started to internalize the socially defined representation of what is considered attractive.

The present results indicate that the level of body dissatisfaction is similar in females who have passed the different developmental milestones of puberty, pregnancy, and menopause. This is consistent with numerous studies that have shown that body dissatisfaction is stable across a large age range of adult females (Tiggemann, 2004; Tiggemann & Lynch, 2001; Webster & Tiggemann, 2003). The results suggest that, unlike puberty, the later developmental milestones of pregnancy and menopause may not be associated with significant increases in body dissatisfaction. From these results we can infer that the dramatic physical changes experienced by females at puberty increases body dissatisfaction significantly, however after this transition body dissatisfaction levels off and becomes more stable in spite of further physical and psychological changes at significant milestones.

The lack of effect of pregnancy and menopause on body dissatisfaction may be a result of the large age ranges in the two older developmental groups (Group 3 had an age range of 33 years, Group 4 had an age range of 43 years). That is, "the milestone effect" seen in the case of puberty may have been diluted at the following milestones due to the heterogeneous make up of the developmental groups. However, the finding from this and a number of other studies that body dissatisfaction remains stable across the adult female groups provides support for the

sociocultural model of body dissatisfaction and the pervasiveness of the effect of the thin ideal on women's body satisfaction in today's society. The findings suggest that the impact of the thin ideal on women's body satisfaction continues into older age.

Davis (2006) interpreted her findings for body dissatisfaction in terms of decreased body image importance in the older post-menopausal group. However in her study she did not employ a direct measure of body image importance. The present study therefore aimed to investigate developmental effects in body image importance, as a possible explanatory variable for group differences seen across developmental stages. It was hypothesised that body image importance would decrease across the four developmental groups (Group 4 having the lowest ratings of body image importance). This hypothesis was not supported by the current study, which found that body image importance did not differ significantly across the four developmental groups. This finding challenges other researchers such as Tiggemann and Lynch (2001) and Tiggemann, (2004) who, although not directly measuring body image importance, have suggested that body image importance decreases in females as they get older. However, the results of the present study are in line with Webster and Tiggemann's (2003) earlier study in which they directly measured body image importance. Their results indicated that body image importance remained comparable across three groups of younger (20-34 years), middle-aged (35-49 years) and older (50-65) women. Similar to the current findings, when directly measuring body image importance Webster and Tiggemann (2003) demonstrated that the importance of body image does not differ in females across a large age range from pre-adolescent girls to post-menopausal women, regardless of developmental status.

Developmental effects in dietary restraint were also investigated in the present study. It was hypothesised that in line with Davis' previous findings, dietary

restraint would be higher in the post-menopausal group compared with Group 1, Group 2, and Group 3. The results of this study indicate that dietary restraint was similar across the four developmental groups. This finding is consistent with other studies such as Hetherington and Burnett's (1994) study, which found that both younger (18-30 years) and older (60-78 years) women had a similar desire to lose weight and similar levels of dietary restraint. The present results extend these findings, establishing that dietary restraint is stable in females across a larger age range, from pre-adolescent girls to post-menopausal women regardless of developmental status.

These findings highlight a number of psychological and health concerns considering that dietary restraint has been found to be associated with the development of eating disorders such as Anorexia Nervosa and Bulimia (Polivy & Herman, 1985). For example, it suggests that pre-adolescent girls are engaging in similar levels of dietary restriction as other females, which may have implications with regard to normal physical development as well as the age of onset of eating disorders in females. Also, for older women, restriction of diet may have negative consequences for their health in terms of obtaining the appropriate nutrients from their diet.

The second aim of this study was to examine the explanatory nature of body dissatisfaction, body image importance, current health, and exercise status for dietary restraint, by investigating their predictive power in multiple regression analyses. The results of this study provide an insight into the relationship between body dissatisfaction and body image importance in predicting dietary restraint in females, according to different developmental statuses. It was hypothesised that body dissatisfaction would be the strongest predictor of dietary restraint in all four groups.

The results of the present study supported this hypothesis, in part, finding that body dissatisfaction was the strongest predictor of dietary restraint in all groups except for post-menopausal women. In the pre-puberty group, body dissatisfaction accounted for 29% of variance in dietary restraint. In the post-puberty but pre-pregnancy group, body dissatisfaction accounted for 33% of variance in dietary restraint. In the post-pregnancy but pre-menopause group, body dissatisfaction accounted for 23% of variance in dietary restraint.

In the post-menopausal group, body dissatisfaction did not show a significant predictive relationship with dietary restraint, while body image importance was the sole predictor of dietary restraint. These results indicate that in the post-menopausal group, the importance placed on body image predicts whether the individual will engage in dietary restraint. This is in contrast to the other developmental groups, where dissatisfaction with one's body image is of primary importance in predicting the same behaviour. This finding indicates that in the post-menopausal group, body image importance has a unique relationship with dietary restraint, suggesting that body dissatisfaction alone does not predict dietary restraint, but rather, whether one considers their body image as an important aspect in their life. This may have implications in terms of the type of therapeutic and preventative strategies used with older women. Strategies designed to reduce levels of dietary restriction in older females may need to focus on the relative importance that body image plays in one's life.

In the present study, the four developmental groups had large age ranges, especially the post-pregnancy but pre-menopause group and the post menopause group. For example, the post-pregnancy but pre-menopause group had an age range of 19 to 52 years and the post-menopause group had an age range of 37 to 80 years.

There would be a large range in terms of emotional and social maturity within each of these groups and that this may have had an impact on the results. Future researchers might refine these groups by dividing each of the developmental groups into sub-groups dependent on the time since experiencing the developmental milestone. This would indicate whether levels of body dissatisfaction, dietary restraint and body image importance are different depending on the recency of the developmental milestone. Unfortunately this data was not gathered in the present study, only whether a milestone had been passed.

The measure of body image importance used in the present study needs further validation and investigation of reliability. Unfortunately it was not in the scope of the present study to do this. Webster and Tiggemann (2003) directly measured body image importance by using a similar method for measuring the variable as the current study and they found the internal reliability to be moderate at $\alpha = .72$. Nonetheless, more empirical data are needed to confirm the reliability of this approach to measuring body image importance.

When interpreting the current study's findings, it should be emphasised that a cross-sectional design was used to investigate possible developmental changes that would be impractical to investigate longitudinally. The only definitive way to see how body image and related variables might change as a result of developmental milestones would be to track the same group of females over a 70-80 year period, measuring these variables immediately after attaining a particular developmental milestone. A cross-sectional design was the only practical alternative, given the scope and limitations of the present study. From such a design, developmental effects can only be implied. The results found in this study therefore may be due to cohort effects rather than actual developmental changes in relation to females' body dissatisfaction,

body image importance and dietary restraint across the lifespan. For example the particular experiences and history of the different groups of females assessed in this study could give rise to particular responses, rather than their status as being in a specific developmental stage. Nonetheless, with similar cross-sectional studies adding to the present findings, there seems to be reliable albeit indirect evidence for a lack of developmental or age-related impacts on body image and dietary restraint.

Conclusions

A number of conclusions regarding body dissatisfaction, dietary restraint and body image importance in females considering the findings of the current study and the findings from similar studies. The results of the present study indicated that puberty was associated with a significant elevation in the level of body dissatisfaction experienced by females. Body dissatisfaction then remained relatively similar across the other developmental groups involved in this study, suggesting the other biological milestones of pregnancy and menopause do not have the same impact on body image satisfaction as puberty. This finding adds to other researchers' conclusions that puberty is a significant factor in the development of body dissatisfaction and eating disorders (Attie & Brooks-Gunn, 1989). It also provides further support for Rodin et al's., (1985) idea that body dissatisfaction is "a normative discontent", for adolescent and adult females at least.

Dietary restraint was found to be similar across all four developmental groups, suggesting that females of all ages on average engaged in similar levels of dietary restriction. The pervasiveness of dietary restraint in the female population may have a number of psychological and health implications, especially in pre-adolescent girls and older females. For example, dietary restraint has been found to

be associated with the development of eating disorders such as Anorexia Nervosa and Bulimia (Polivy & Herman, 1985). Therefore if pre-adolescent girls are engaging in similar levels of dietary restriction as older females, this may have implications with regard to the age of onset of eating disorders. In addition, if older women are restricting their diet, this may have negative consequences for their health in terms of obtaining the appropriate nutrients from their diet.

It can also be concluded that dietary restraint is associated with different aspects of body image for women at different stages of physical and psychosexual development. The results indicate that body dissatisfaction was the strongest predictor of dietary restraint in all groups except the post-menopausal group. This indicates that for females prior to menopause, higher levels of body dissatisfaction predicted dietary restraint regardless of how important their body image was to them. For the post-menopausal group it was body image importance, not body dissatisfaction, which predicted higher levels of dietary restraint. This suggests that in the post-menopausal group, it is the women who regard body image as an important aspect in their life or an important component of their sense of self who engage in higher levels of dietary restraint. This effect seems to be independent of the level of body dissatisfaction exhibited by pos-menopausal women. This finding may be significant when considering therapeutic or preventative strategies in this older group of females. Strategies may need to focus on investigating the relative importance body image play in one's life.

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Appendix A

For each item, decide if the item is true about you ALWAYS (A), USUALLY (U), OFTEN (O), SOMETIMES (S), RARELY (R), or NEVER (N) by circling the corresponding letter

- | | | |
|-----|--|-------------|
| 1. | I eat sweets and carbohydrates without feeling nervous | A U O S R N |
| 2. | I think that my stomach is too big | A U O S R N |
| 3. | I eat when I am upset | A U O S R N |
| 4. | I think about dieting | A U O S R N |
| 5. | I think that my thighs are too large | A U O S R N |
| 6. | I feel extremely guilty after overeating | A U O S R N |
| 7. | I think that my stomach is just the right size | A U O S R N |
| 8. | I feel secure about myself | A U O S R N |
| 9. | I feel satisfied with the shape of my body | A U O S R N |
| 10. | I exaggerate or magnify the importance of weight | A U O S R N |
| 11. | I feel relaxed in most group situations | A U O S R N |
| 12. | I like the shape of my buttocks | A U O S R N |
| 13. | I am preoccupied with the desire to be thinner | A U O S R N |
| 14. | I think my hips are too big | A U O S R N |
| 15. | I am terrified of gaining weight | A U O S R N |
| 16. | I can clearly identify what emotion I am feeling | A U O S R N |
| 17. | I think that my thighs are just the right size | A U O S R N |
| 18. | I trust others | A U O S R N |
| 19. | I have extremely high goals | A U O S R N |
| 20. | I think my buttocks are too large | A U O S R N |
| 21. | I am ashamed of my human weaknesses | A U O S R N |
| 22. | If I gain a pound I worry that I will keep gaining | A U O S R N |
| 23. | I think that my hips are just the right size | A U O S R N |

Appendix B

For each item, please rate how important it is for you ALWAYS (A), USUALLY (U), OFTEN (O), SOMETIMES (S) RARELY (R), or NEVER (N) by circling the corresponding letter

Please choose just one letter to describe how important this is for you

- | | | | | | | | |
|-----|--|---|---|---|---|---|---|
| 1. | Not feeling nervous when eating sweets and carbohydrates | A | U | O | S | R | N |
| 2. | The size of my stomach | A | U | O | S | R | N |
| 3. | Eating when I am upset | A | U | O | S | R | N |
| 4. | Thinking about dieting | A | U | O | S | R | N |
| 5. | The size of my thighs | A | U | O | S | R | N |
| 6. | Feeling guilty after overeating | A | U | O | S | R | N |
| 7. | Feeling secure about myself | A | U | O | S | R | N |
| 8. | The shape of my body | A | U | O | S | R | N |
| 9. | My weight | A | U | O | S | R | N |
| 10. | Feeling relaxed in most group situations | A | U | O | S | R | N |
| 11. | The shape of my buttocks | A | U | O | S | R | N |
| 12. | Wanting to be thinner | A | U | O | S | R | N |
| 13. | The size of my hips | A | U | O | S | R | N |
| 14. | Gaining weight | A | U | O | S | R | N |
| 15. | Clearly identifying what emotion I am feeling | A | U | O | S | R | N |
| 16. | Trusting others | A | U | O | S | R | N |
| 17. | Having high goals | A | U | O | S | R | N |
| 18. | Feeling ashamed of my human weaknesses | A | U | O | S | R | N |
| 19. | Continuing to gain weight | A | U | O | S | R | N |

Appendix C

Eating Behaviour Questionnaire

Please answer each question by circling the most appropriate alternative.

1. If you have put on weight, do you try to eat less than you usually do?

Never Seldom Sometimes Often Very Often

2. Do you try to eat less at mealtimes than you would like to eat?

Never Seldom Sometimes Often Very Often

3. How often do you refuse food or drink offered because you are worried about how much you weigh?

Never Seldom Sometimes Often Very Often

4. Do you watch exactly how much you eat?

Never Seldom Sometimes Often Very Often

5. Do you deliberately eat foods that are slimming?

Never Seldom Sometimes Often Very Often

6. When you have eaten too much, do you eat less than usual on the following days?

Never Seldom Sometimes Often Very Often

7. Do you deliberately eat less in order not to become heavier?

Never Seldom Sometimes Often Very Often

8. How often do you try not to eat between meals because you are watching your weight?

Never Seldom Sometimes Often Very Often

9. How often in the evening do you try not to eat because you are watching your weight?

Never Seldom Sometimes Often Very Often

10. Do you think about how much you weigh before deciding how much to eat?

Never Seldom Sometimes Often Very Often

Appendix D

Eating Behaviour Questionnaire (for minors)

Please draw a circle around the answer that is true for you.

- | | | | | |
|----|---|-------|-----------|------------|
| 1. | If I feel fat, I try to eat less | Never | Sometimes | Very Often |
| 2. | I try not to eat foods that might make me fat | Never | Sometimes | Very Often |
| 3. | I have tried to lose weight | Never | Sometimes | Very Often |
| 4. | If I have eaten too much, I try to eat less the next day | Never | Sometimes | Very Often |
| 5. | I try not to eat between meals because I want to be thinner | Never | Sometimes | Very Often |
| 6. | I try to eat less because I don't want to get fat | Never | Sometimes | Very Often |

Appendix E

Demographic Questionnaire

1. Date of birth:...../...../.....

2. Age:.....

3. How would you rate your health? (please circle one)

Poor Below average Average Above average Excellent

4. Are you on a diet? Yes/No (please circle one)

If yes, how long have you been on a diet?days/months/years (please circle)

Why are you on a diet? (please circle one)

Medically prescribed Weight loss Health/ Fitness

5. Do you exercise? Yes/ No (please circle one)

If yes, how many times each week?.....

What type of exercise do you do? (Eg: swimming, team sports, walking, jogging)

.....

6. How would you describe the exercise you do? (please circle one)

Very low impact (eg: slow walking)

Low impact

Moderate

Intense

Very Intense (Eg: aerobics or jogging)

7. Have you begun your menstruation? Yes/ No (please circle one)

If yes, at what age did you first begin menstruation?.....

8. Do you still menstruate? Yes/ No (please circle one)

If no, please indicate why (i.e.: illness, surgery, menopause)

.....

When was your last menstruation?(year)

9. Have you ever been pregnant? Yes/No (please circle one)

If yes, how many children do you have?

When were they born?

.....

.....

10. Have you ever experienced a miscarriage, stillbirth or termination? Yes/ No
(please circle)

If yes, when did this occur?

Appendix F

Information Sheet

An investigation of Body Image and Body Image Importance in Females across the Lifespan

Dear Participant,

We are researchers from the School of Psychology at the University of Tasmania. We are currently conducting a study to investigate body image in females across the lifespan from 7 years upwards. This research is important as many females are dissatisfied with the body image and this is often related to dieting and eating disorders, which have a negative effect on health and well-being. The information obtained through this study will be used to investigate how body image satisfaction, body image importance and dieting differ with age. You are invited to participate in this study and to recruit female relatives and friends who would like to participate. This study is being undertaken as part of the requirements for a Masters degree in Clinical Psychology. Our study has received approval from the Human Research Ethics Committee.

You will be asked to answer some questions relating to your eating behaviour, body image satisfaction, body image importance as well as other information such as age, health, as well as some more personal questions relating to menstruation and reproductive history. This information will be gathered by completing a number of questionnaires or through one-to-one interviews with the researcher. Information will be gathered. Completion of the questionnaire package will take approximately 1 hour and you will only be needed for this one occasion.

You will remain anonymous throughout the study. You will not be required to provide your name. Instead a code number on your questionnaire package will allow you to request individual information. Your information will remain confidential and will only be available to the investigators. Your information will be kept in a locked filing cabinet and questionnaires will be destroyed 5 years after the conclusion of the study.

Questions relating to body image and dieting can be an issue to some people, therefore, you are not required to answer questions that might cause you distress or discomfort. Your participation in this study is entirely voluntary. You may withdraw at anytime and you can do so without prejudice. If you do feel upset after answering these questions please contact one of the researchers and we will provide you with information about counselling services available to you.

Please keep a copy of this information sheet. For further information you can contact Dr Elaine Hart (Ph: 62262936), Dr. Rosanne Burton-Smith (Ph: 62262241) or Miss Joanna Burbury (Ph: 62278139).

If you have any concerns of an ethical nature or any complaints about the way in which the project is run, you may contact the Chair or Executive Officer of the Human Research Ethics Committee. The Chair is Associate Professor Dalpont, Ph (03) 62262078 and the Executive Officer is Ms Amanda McAully, Ph (03) 62262763. If you would like information about the overall results of the study or if you would like feedback regarding your own answers to the questions you can call Joanna Burbury and quote the code number on your questionnaire package and the information will be sent to you.

Thankyou for your participation

Dr Elaine Hart
Lecturer

Dr Rosanne Burton-Smith
Lecturer

Miss Joanna Burbury
Psychology Student

Appendix G

Statement of Informed Consent for Participants Grade 7 and above

An investigation of Body Image and Body Image Importance in Females across the Lifespan

Participant:

1. I have read and understood the “Information Sheet” for this study.
2. The nature and possible effects of the study have been explained to me.
3. I understand that the study involves the completion of four questionnaires relating to eating behaviour, body image satisfaction and body image importance and some personal information.
4. I understand that some questions may cause distress or discomfort
5. I understand that all my answers will be treated with strict confidentiality.
6. Any questions that I have asked have been answered to my satisfaction.
7. I understand that research data gathered for this study may be published provided that I can not be identified as a subject
8. I agree to participate in this investigation and understand that I may withdraw at any time without prejudice.

Name of participant

Signature of participant Date/...../.....

Investigator:

I have explained the purpose and procedure of this study and the implications of participation in it to this volunteer and I believe that the consent is informed and that she understands the implications of participation.

Name of investigator

Signature of investigator Date/...../.....

Appendix H

Information Sheet for Parents/Guardians of Minors

An investigation of Body Image and Body Image Importance in Females across the Lifespan

Dear Parent/Guardian,

We are researchers from the School of Psychology at the University of Tasmania. We are currently conducting a study to investigate body image in females across the lifespan from 7 years upwards. This research is important as many females are dissatisfied with the body image and this is often related to dieting and eating disorders, which have a negative effect on health and well-being. The information obtained through this study will be used to investigate how body image satisfaction, body image importance and dieting differ with age. Your child is invited to participate in this study because less is known about body image dissatisfaction in younger ages groups. This study is being undertaken as part of the requirements for a Masters degree in Clinical Psychology. This study has received approval from the Human Research Ethics Committee.

Your child will be asked to answer a number of questions relating to their eating behaviour, body image satisfaction, body image importance as well as some other information concerning age, health and menstruation history. This information will be gathered by completing a number of questionnaires. For girls younger than 12 years information will be gathered through one-to-one interviews with the researcher.

Your child will remain anonymous throughout the study. They will not have to provide their name. Instead a code number on the questionnaire package will allow your child to request individual information if they would like feedback. All information will remain confidential and will only be available to the investigators. All information will be kept in a locked filing cabinet and questionnaires will be destroyed 5 years after the conclusion of the study.

Questions relating to body image and dieting can be an issue to some people, therefore, your child will not have to answer questions that might upset them. Their participation in this study is entirely voluntary. They can withdraw from the study at anytime and can do so without prejudice. If your child feels upset after answering these questions please contact one of the researchers and we will provide you with information about counselling services available to them.

Please keep a copy of this information sheet. You will need to read a sign the statement of informed consent before your child takes part in this study. For further information you can contact Dr Elaine Hart (Ph: 62262936), Dr. Rosanne Burton-Smith (Ph: 62262241) or Miss Joanna Burbury (Ph: 62278139).

If you have any concerns of an ethical nature or any complaints about the way in which the project is run, you may contact the Chair or Executive Officer of the Human Research Ethics Committee. The Chair is Associate Professor Dalpont, Ph (03) 62262078 and the Executive Officer is Ms Amanda McAully, Ph (03) 62262763. If you would like information about the overall results of the study or if you or your child would like feedback from their individual questionnaires you can call Joanna Burbury and they quote the code number on their questionnaire package and the information will be sent to them.

Thankyou for allowing your child to participate in this study

Dr Elaine Hart
Lecturer

Dr Rosanne Burton-Smith
Lecturer

Miss Joanna Burbury
Psychology Student

Appendix I

Statement of Informed Consent for Parents/Guardians of Participants Grade 7 and below

An investigation of Body Image and Body Image Importance in Females across the Lifespan

Parent/Guardian:

2. I have read and understood the "Information Sheet" for this study.
3. The nature and possible effects of the study have been explained to me.
4. I understand that the study involves the completion of four questionnaires relating to eating behaviour, body image satisfaction and body image importance and some demographic details and that for children under the age of 12 years this will be done in a one-to-one interview.
5. I understand that questions relating to body image and eating behaviour may cause distress or discomfort
6. I understand that my child's answers will be treated with strict confidentiality.
7. Any questions that I have asked have been answered to my satisfaction.
8. I agree that research data gathered for the study may be published provided that my child cannot be identified as a participant.
9. I agree to allow my child to participate in this investigation and understand that they may withdraw or I may withdraw them at any time without prejudice.

Name of participant

Name of parent or guardian

Signature of parent or guardian Date/...../.....

Investigator:

I have explained the purpose and procedure of this study and the implications of participation in it to this volunteer's parent/ guardian and I believe that the consent is informed and that he/she understands the implications of their child's participation.

Name of investigator

Signature of investigator Date/...../.....