

**THE RELATIONSHIP BETWEEN BODY DISSATISFACTION OF MOTHERS  
AND BODY DISSATISFACTION OF THEIR ADOLESCENT DAUGHTERS**

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## Abstract

In recent research body dissatisfaction has been identified as an important risk and maintenance factor in the development of eating disorders, and studies in adolescent girls have shown a relationship between body dissatisfaction and disordered eating. Sociocultural theories have highlighted the maternal influence on body dissatisfaction and weight concerns, however, contemporary research reveals contradictory results regarding a mother's influence on the body dissatisfaction and eating concerns of her adolescent daughter.

This study investigated whether a significant relationship existed between body dissatisfaction of mothers and body dissatisfaction of their adolescent daughters in a private Johannesburg high school. A convenience sample of 97 mother-daughter pairs completed a demographic questionnaire and the Body Dissatisfaction scale of the Eating Disorder Inventory-3 (EDI-3). The daughters also completed the three scales of the EDI-3 which measure disturbed eating directly in order to screen for the presence of disturbed eating attitudes and behaviours among the adolescent girls in the sample.

No significant relationship was demonstrated between the body dissatisfaction of mothers and their adolescent daughters. Among both the mothers and daughters positive relationships were shown between body dissatisfaction and body mass index (BMI). Based on the results, a mother's own body dissatisfaction does not influence her daughter's body dissatisfaction and disturbed eating attitudes and behaviours.

Based on the screening for the presence of disturbed eating attitudes and behaviours (measured by the Body Dissatisfaction, Drive for Thinness and Bulimia scales of the EDI-3), there were girls in the sample who demonstrated disordered eating attitudes and behaviours. Higher levels of disordered eating were associated with having a higher BMI. Girls with a higher BMI tended to perceive themselves as overweight and showed more disturbed eating. The findings of the study conform to the findings of other South African studies on high school girls regarding the presence of disturbed eating attitudes and behaviours.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Orientation and Motivation for Study

Over the past few decades the public perception has become that a woman is desirable, attractive and successful when she is thin. This thin ideal has resulted in many women feeling dissatisfied with their body shape and weight (Abraham & Llewellyn-Jones, 2001; Haynes, 1995). Sociocultural pressure encourages internalisation of the thin ideal, dieting and body dissatisfaction and therefore influences the development of eating disorders (Stice, 2002). The prevalence of eating disorders is rising among adolescent girls (Prescott & Le Poire, 2002). Szabo (2002, p. 17) states that “whilst such conditions have reportedly existed since ancient times, contemporary Western society has witnessed the emergence of eating disorders to such an extent that they are amongst the commonest of psychiatric disorders to affect young women of all races and socio-economic class.” Davies (1995) indicates that South African studies reveal that urban South African adolescent girls of all races present no less weight concern or disordered eating than females in developed Western countries with a known incidence of eating disorders. However, further research into this subject is required. Wassenaar, Le Grange, Winship and Lachenicht (2000, p. 226) state that “South African research, coming from a developing, rapidly changing and ethnically diverse society could add significantly to our understanding of the eating disorders.”

Recent research conducted in South Africa has focused on comparisons between race groups in examining eating disorders and eating attitudes and behaviours. Studies in samples of adolescent girls (Davies, 1995; Szabo, 2002; Szabo & Hollands, 1997a) and university female students (Edwards, d’Agrela, Geach & Welman, 2003; Wassenaar et al., 2000) have shown that disturbed eating attitudes and behaviours are prevalent among females of all races within the South African context. Davies (1995) indicates that eating disorders are crossing former social barriers as black and white high school girls are equally engaged in struggles over eating and weight and are therefore at equal risk for the development of eating pathology.

Therefore it appears that race is no longer a protective factor against the development of eating pathology in South Africa.

According to Szabo (1999, p. 981), “it is clear that within the broader South African community, eating attitudes exist that place a significant proportion of adolescents and young adults of all race groups at risk for the development of eating disorders.” As the highest incidence of disordered eating occurs among females during adolescence and young adulthood, adolescence is often considered a critical transition period where precursors to serious eating problems and disorders may develop (Geller, Srikameswaran, Zaitsoff, Cockell & Poole, 2003; Pike & Rodin, 1991; Prescott & Le Poire, 2002; Smolak & Levine, 1996). In the South African context therefore, adolescent girls of all races are vulnerable to the development of disordered eating attitudes and behaviours and the development of eating pathology.

In recent research (e.g., Ohring, Graber & Brooks-Gunn, 2002; Phelps, Johnston, & Augustyniak, 1999; Pike, Wolk, Gluck & Walsh, 2000; Polivy & Herman, 2002; Stice & Shaw, 2002) body dissatisfaction has been identified as an important risk and maintenance factor in the development of eating disorders; and studies in adolescent girls have shown a significant relationship between body dissatisfaction and eating symptoms. In non-clinical samples of preadolescents, adolescents and adult females, body dissatisfaction and excessive weight concerns have been identified as the strongest predictors of symptoms of eating pathology (Garner, 2004; Stice & Whitenton, 2002; Tylka, 2004). Phelps et al. (1999) highlight the importance of identifying variables which contribute to body dissatisfaction, as they may be used in the development of prevention programmes.

Sociocultural theories concerning body dissatisfaction and weight loss behaviours in women have focused on sociocultural influences such as the media and its portrayal of the thin ideal (Benedikt, Wertheim & Love, 1998). The results of these studies do not explain the reason why some adolescent girls develop body concerns and diet whereas others who are exposed to these same cultural ideals and messages do not. Research has therefore focused on immediate subcultural influences such as parents who transmit these sociocultural messages to their

adolescent daughters (Benedikt et al., 1998). Studies which have considered both parents (e.g., Wertheim, Mee & Paxton, 1999) suggest that the role of the mother is more influential than that of the father. Benedikt et al. (1998) point out that there are few studies that have examined the role mothers play in transmitting the sociocultural ideal of thinness to their daughters by looking at both mothers and daughters in the same study. Studies that focus on similarities between mothers and daughters in terms of body dissatisfaction and weight concerns have shown mixed results in countries such as Australia, United States of America and the United Kingdom (Benedikt et al., 1998; Wertheim et al., 1999). Some studies (Benedikt et al., 1998; Pike & Rodin, 1991; Sanftner, Crowther, Crawford & Watts, 1996) have shown concordance between mother and daughter body dissatisfaction whereas others (Ogden & Elder, 1998; Ogden & Steward, 2000) have demonstrated no association between mothers' and daughters' body dissatisfaction. To my knowledge, no studies on body dissatisfaction have been conducted in South Africa which include both mothers and daughters in the same study.

From the above, it seems clear that studies on maternal influence on daughters' eating and body concerns are relevant to the South African context. Benedikt et al. (1998) advocate that the results of studies on maternal influence on eating and body concerns be used preventatively by making mothers aware that they may influence their daughters both through their own behaviour and through encouraging weight loss behaviours. Thompson, Heinberg, Altabe and Tantleff-Dunn (1999) state that this may be a way to counteract the negative influence of societal messages and the pressure to be thin which are often reiterated through a mother's behaviour.

## **1.2 Aims of the Study**

As no South African studies have been conducted on this topic to date, the specific aim of this study is to investigate the relationship between a mother's body dissatisfaction and that of her adolescent daughter in a private high school in Johannesburg. In order to situate the findings of the study within current South Africa research, an additional aim is to screen for the presence of disturbed eating attitudes and behaviours among the adolescent girls in the sample. As an exploratory study, this research aims to contribute to studies on body dissatisfaction on

mothers and their daughters as well as to the body of research on disturbed eating attitudes and behaviours among adolescent girls.

### **1.3 Implementation of the Study**

A convenience sample of 97 mother-daughter pairs was drawn from a racially diverse private girls' high school in Johannesburg, South Africa. The mothers and daughters completed the Body Dissatisfaction Scale of the Eating Disorder Inventory-3 (EDI-3) as well as a demographic questionnaire. The daughters completed two additional scales of the EDI-3 (Drive for Thinness and Bulimia scale). In order to screen for the presence of disturbed eating attitudes and behaviours in the sample of adolescent girls, their EDI-3 scale scores (Body Dissatisfaction, Drive for Thinness and Bulimia) were used as a measure of disturbed eating attitudes and behaviours.

### **1.4 Chapter Delineation**

In chapter 1 the orientation, motivation and aims of the study are stated. Chapter 2 forms the theoretical framework of the study. In this chapter literature concerning body dissatisfaction, adolescence and eating disorders are discussed as well as studies regarding mothers and their daughters in terms of body dissatisfaction and eating concerns. In chapter 3 the research design and methodology used in are discussed in terms of the research question, aims of the study, sampling and participant selection. The assessment instruments used in the study are discussed and statistical procedures used are indicated. Ethical considerations that were followed in the study are discussed and the chapter concludes with the limitations of the research design. Presentation and discussion of the statistical results follows in chapter 4. In this chapter, the central findings are stated, followed by a presentation of the results. A discussion regarding the findings of the study and their relation to other findings is also included in this chapter. In chapter 5 conclusions and recommendations of the study are discussed. Finally, chapter 6 concludes with a reflection of the research process.

## CHAPTER 2

### LITERATURE REVIEW

The aim of this chapter is to review the literature concerning body dissatisfaction in adolescent girls as well as literature on the relationship between mother and daughter body dissatisfaction and weight concerns. Based on sociocultural theory, body dissatisfaction is seen as a risk factor in the development of eating pathology and therefore current research regarding this is discussed. Current research within the South African context is discussed in order to contextualise this study within the context of local research on eating disorders. In addition, the research constructs used throughout the proposed study are clarified. Adolescence, eating disorders and body dissatisfaction are defined; the link between mothers and their adolescent daughters in terms of eating concerns and body dissatisfaction are discussed, and the link between body dissatisfaction and eating disorders is made. This is done with the aim of arriving at a hypothesis for the study regarding the relationship between a mother's body dissatisfaction and that of her adolescent daughter. This hypothesis is outlined in chapter 3.

The construct of body dissatisfaction is used extensively throughout the study and therefore the first focus point in this discussion is body dissatisfaction. Since the framework used for the study is sociocultural theory, aspects of the theory regarding body dissatisfaction and eating disorders, as well as mother daughter body dissatisfaction and eating concerns, are examined. An adolescent sample was used, therefore adolescence as a construct is defined and its link to body dissatisfaction and eating disorders is clarified. The link between body dissatisfaction and eating disorders is described in order to explain how body dissatisfaction falls within the domain of eating disorders. This is followed by a description of current research in South Africa with the aim of contextualising the study. An additional aim is to explore the presence of disturbed eating attitudes and behaviours in the sample of adolescent girls by means of a basic screening. This is done in order to further situate the findings within the context of current South African research. The mother-daughter relationship relating to eating disorders and body dissatisfaction is then discussed. The importance of maternal

influence is clarified and studies focusing on mother-daughter body dissatisfaction and eating concerns is discussed.

## **2.1 Body Dissatisfaction**

In this section body dissatisfaction is defined and the sociocultural theory regarding body dissatisfaction and eating disorders is discussed.

### **2.1.1 Defining Body Dissatisfaction**

Body dissatisfaction is a facet of body image. Schilder (as cited in Ogden, 2003, p. 84) defines body image as “the picture of our body which we form in our mind, which includes our perceptions of our bodily boundaries, a sense of attractiveness, and the perception of bodily sensations.” Body image is not determined by actual shape or size but by the individual’s subjective evaluation of his or her body within a specific culture. Therefore body dissatisfaction exists in a context where body image is socially determined (Grogan, 1999). Ogden (2003, p. 87) defines body dissatisfaction as

a discrepancy between the individual’s perception of their body size and their real body size, a discrepancy between their perception of their actual size compared to their ideal size or as feelings of discontent with the body’s size and shape.

According to Stice and Shaw (2002, p. 985), body dissatisfaction refers to “negative subjective evaluations of one’s physical body, such as figure, weight, stomach and hips.”

The measurement of body dissatisfaction has been conceptualised in terms of three perspectives. According to the first perspective, body dissatisfaction is conceptualised as a distorted body size estimation and a perception that the body is larger than it really is. Studies which use this perspective have found that anorexics overestimate their size and that individuals with clinical eating disorders display greater perceptual distortion than nonclinical subjects (Ogden, 2003). Based on the second perspective, body dissatisfaction arises when an individual internalises a culturally determined body ideal and realises that there is a discrepancy between her own body in comparison to the ideal (Dunkley, Wertheim & Paxton,

2001; Ogden, 2003; Phelps et al., 1999). According to the third perspective, negative responses to the body refers to one's negative feelings and cognitions regarding the body and is the conceptualisation used in measures such as the Eating Disorder Inventory (Ogden, 2003).

For the purpose of this study, the third perspective will be utilised when referring to and measuring body dissatisfaction. Therefore the definition of body dissatisfaction as negative subjective evaluations of the body (Stice & Shaw, 2002), specifically referring to discontent with the stomach, hips, thighs and buttocks (Garner, 2004), will be used, as it is the definition that the instrument in the study uses to measure body dissatisfaction.

### 2.1.2 Sociocultural Theory on Body Dissatisfaction and Eating Disorders

The sociocultural theory sees eating disorders as sociocultural phenomena (Levine, Smolak & Hayden, 1994) as sociocultural factors play a significant role as risk factors in their development and aetiology (Garner, 2004; Steinhausen, Boyadjieva & Neumarker, 1995). Many theories on weight loss behaviour and body dissatisfaction in women have focused on sociocultural factors (Benedikt et al., 1998). Sociocultural pressure may increase the risk for eating pathology as it promotes body dissatisfaction and dieting, fosters an internalisation of the thin ideal, and causes emotional disturbances (Stice, 2002).

The sociocultural theory on eating disorders is based on a number of premises. Firstly, epidemiological studies (such as Hoek, 1995) show that eating disorders are not randomly distributed among the population, as young women comprise the most vulnerable group. The incidence of eating disorders is continually increasing, with 95% of eating disordered patients being female and with both body dissatisfaction and restrictive eating practices more commonly found among females (Connors, 1996; Steinhausen et al., 1995).

Secondly, eating disorders have become more prevalent in Western society due to increasing pressure on women to achieve the thin ideal (Garner, 2004). Preoccupation with the thin ideal and internalisation of this thin ideal has resulted in many women feeling dissatisfied with their



actual body shape and weight (Haynes, 1995) and has been found to predict body dissatisfaction and eating disturbances (Blowers, Loxton, Grady-Flessner, Occhipinti & Dawe, 2003; Stice, 2002). Maloney (cited in Szabo, 1998) states that internalisation of these norms of thinness results in dieting and body dissatisfaction in twice as many girls than boys. Stice and Shaw (cited in Hawkins, Richards, MacGranley & Stein, 2004) argue that as women internalise the thin ideal, they experience increased body dissatisfaction, unrealistic body dimension goals and disordered eating behaviours to achieve this goal.

Thirdly, a culture of thinness has developed in which the thin ideal is to be even thinner than before, but the average weight of young women has increased (Levine et al., 1994). This has resulted in a discrepancy between the ideal body and the actual size of most adolescent girls (Hawkins et al., 2004; Wertheim et al., 1999). Johnson, Tobin and Steinberg (cited in Hawkins et al., 2004) indicate that an unrealistic standard of thinness is portrayed in the media where the ideal female is typically 15% below the average weight of most women. The media transmits cultural ideals about body types that influence adolescent girls' perceptions of their bodies and encourage body dissatisfaction (Bissell, 2002). Garner and Wooley (cited in Garner, 2004) indicate that body dissatisfaction is promoted due to the clash between unrealistic cultural ideals to be thin and the biological realities which prevent many women from achieving the thin ideal. Many adolescent girls and women believe that the thin ideal is obtainable even though it has become more difficult for the average women to attain (Hawkins et al., 2004). Exposure to this subculture of slenderness and perfectionist achievement has therefore increased the risk for unhealthy weight loss techniques and the development of eating disorders (Levine et al., 1994).

Body dissatisfaction seems to arise mainly through sociocultural pressure (Stice & Shaw, 2002). Although media messages play a role in forming a background to the thin ideal, a broader sociocultural approach includes the influence of family, peers and dating partners as multiple agents in the context of a subculture of shape and weight consciousness that influence body concerns and dieting (Dunkley et al., 2001; Levine et al., 1994). Dieting and body dissatisfaction in adolescent girls reflect an internalisation of both direct and indirect messages received from these multiple sources (Stice & Shaw, 2002; Stice & Whitenton, 2002).

## 2.2 Adolescence

The discussion in this section will begin with a definition of adolescence. Literature regarding adolescence, body dissatisfaction and eating disorders is then discussed.

### 2.2.1 Defining Adolescence

Adolescence is defined as “the period of life beginning with puberty and ending with completed growth and physical maturity which spans ages 12 to 21 in females and 13 to 22 in males” (Corsini, 1999, p. 21). Adolescence is divided into three stages: early, middle and late adolescence. According to Sadock and Sadock (2003), early adolescence spans 10 to 14 years of age, middle adolescence 14 to 17 years and late adolescence spans the late teens to the early 20s. Adolescence is a challenging time due to the physical, interpersonal and intrapersonal growth which takes place as well as major changes in the individual’s sexual characteristics, intellectual growth and self-concept (Corsini, 1999; Geller et al., 2003). The physical changes that occur in adolescence include a spurt in physical and skeletal growth, growth in muscular dimensions in weight and height, and menarche, which often occurs after the peak of growth in height (Williams, 2001). Adolescent girls also undergo changes in their body shape as body fat increases and broadening of the hips gradually occurs (Williams, 2001). As the adolescent female’s body shape moves further away from the Western thin ideal she may become dissatisfied with her appearance and an overestimation of this fatness may result in body dissatisfaction (Williams, 2001). According to Striegel-Moore et al. (cited in Haynes, 1995, p. 18), “at such a critical stage of identity formation, and when other aspects of life seem out of control, weight may appear to be one of the few areas which can be controlled.”

### 2.2.2 Adolescence, Body Dissatisfaction and Eating Disorders

An adolescent’s perception of her body shape is important to her psychological well-being. However, in many Western countries teenage girls have an exaggerated view of their body size (Abraham & Llewellyn-Jones, 2001) where discrepancies between actual and ideal body images play an important role in the development of body dissatisfaction and eating disorders (Rosen & Straumann, cited in Anton, Perri & Riley, 2000). Studies (e.g., Garner, 2004; Stice & Whitenton, 2002; Tylka 2004) show that body dissatisfaction and excessive weight

concerns are the strongest predictors of eating-disorder symptoms in nonclinical samples of preadolescents, adolescents and adult females. Due to the high prevalence of eating disorders during adolescence, this period is seen as a critical transition period where precursors to serious eating problems and disorders may develop (Geller et al., 2003; Pike & Rodin, 1991; Prescott & Le Poire, 2002; Smolak & Levine, 1996).

A significant proportion of adolescent girls are at risk for developing an eating disorder as they feel dissatisfied with their weight, shape and size and therefore participate in unhealthy dieting practices, weight loss behaviours and disordered eating behaviours (Benedikt et al., 1998; Blowers et al., 2003; Grigg, Bowman & Redman, 1996; Lowes & Tiggemann, 2003). Weight loss behaviours range from milder methods such as dieting and exercising to more extreme behaviours such as fasting, crash dieting, laxative use and bingeing and purging (Benedikt et al., 1998). Phelps et al. (1999) indicate that lower levels of body dissatisfaction result in lowered participation in disordered eating behaviours, therefore emphasising the need for prevention programmes. Steiger and Stotland (1995) indicate that 40 to 80% of high school girls experience body dissatisfaction and 50 to 70% of these girls diet. Body dissatisfaction and dieting intensify eating problems during adolescence, which may influence the development of eating disorders. Hill, Weaver and Blundell (1990) state that dieting is often perceived as a socially accepted means of attaining a desired body shape and weight and often precedes the onset of eating disorders. As such it plays a causal role in the development of eating pathology (Hill et al., 1990). During adolescence dieting is a common phenomenon and Szabo (2002) indicates that at any given time between 30% and 60% of teenage girls are on diet with up to 80% of girls dieting during adolescence. Research (e.g., Szabo & Hollands, 1997b) in South Africa shows similar results. Szabo (2002) argues that most adolescent girls who diet fall within a normal weight range. The dieting is therefore not for health reasons and is inappropriate. Dieting and other weight loss efforts need to be considered, as adolescent females who fall within the “dieters” category as opposed to “non-dieters” are at greater at risk of developing a disturbed eating pattern and developing an eating disorder (Benedikt et al., 1998; Garner, 2004; Szabo, 2002).

Garner (2004) states that in Western society body dissatisfaction is endemic in young women; however, it only leads to eating disorders in a small number of them. As many adolescent girls gain weight and move away from the thin ideal, body dissatisfaction may be seen as normal (Geller et al., 2003; Pike & Rodin, 1991) and may result in healthy eating and exercise routines (Dunkley et al., 2001; Geller, et al., 2003). Although body dissatisfaction has been found to be a strong predictor of eating disorder symptomology, it is not unique to individuals with clinical eating disorders and is found in women to such an extent that it may be seen as normative (Lowes & Tiggemann, 2003; Tylka, 2004). Individuals with mild to moderate levels of body dissatisfaction may live without impairment (Connors, 1996). Although normative in adolescent girls in the sociocultural context in which we live, body dissatisfaction has been found to predict restrained eating patterns and lead to unhealthy weight loss methods. Therefore it is seen as a risk factor in the development of eating pathology (Benedikt et al., 1998; Blowers et al. 2003; Dunkley et al., 2001; Geller et al., 2003; Stice & Whitenton, 2002).

Ohring et al. (2002) found that in the United States adolescent girls' concerns with their weight and body dissatisfaction is common, however this "normative discontent" appears on a continuum (Lowes & Tiggemann, 2003). Based on the sociocultural perspective, there is pressure on women to attain a body weight and size through dieting that is unrealistic and unhealthy, and therefore a moderate degree of concern regarding eating and weight concern is viewed as normal (Pike & Rodin, 1991). Women who develop eating disorders are those which fall at the extreme end of the continuum of eating and weight concerns (Pike & Rodin, 1991). Dunkley et al. (2001) indicate that many larger girls as well as normal weight girls experience body dissatisfaction and diet; however not all girls who are larger than the media ideal portrayed develop body dissatisfaction or engage in unhealthy weight loss behaviours. Body dissatisfaction is found in girls with eating disorders and subclinical eating symptoms, and some adolescent girls experience transient periods of body dissatisfaction whereas others experience recurrent or persistent dissatisfaction (Ohring et al., 2002). However, findings by Ohring et al. (2002) show that adolescent girls with recurrent body dissatisfaction are more likely to experience serious eating problems in young adulthood.

Recent studies have shown that although commonly found in adolescence, body dissatisfaction related to weight concern has extended downwards from adults to adolescents to prepubescent girls (Blowers et al., 2003; Garner, 2004). Research in Australia (e.g., Blowers et al., 2003; Tiggeman & Pennington, 1990) and in Britain (Hill et al., 1992) found that girls between the ages of eight and twelve experience significant levels of body dissatisfaction, as these children adopt adult beliefs, values and prejudices regarding their body (Grogan, 1999). Wainwright and Grogan (cited in Grogan, 1999) indicate that from primary school age girls are sensitive to cultural pressures to conform to societies standards regarding acceptable body shapes. Therefore, body dissatisfaction begins before adolescence and continues throughout the lifespan.

#### 2.2.2.1 Studies on body dissatisfaction in adolescent girls

Studies have found that sociocultural pressure to be thin, internalisation of the thin ideal, individual differences in body mass and deficits in social support are risk factors for increased body dissatisfaction in adolescent girls (Stice & Shaw, 2002; Stice & Whitenton, 2002). When mediated with dieting, body dissatisfaction increases the risk of developing an eating disorder (Paxton, 2002). Wertheim et al. (1992) indicate that in adolescent girls, above average weight is a major predictor of dieting and body dissatisfaction. In a study of 577 adolescent girls in Australia, Dunkley et al. (2001) found the best predictor of body dissatisfaction to be when an adolescent girl has a larger body size than her peers as measured by body mass index (BMI). Blowers et al. (2003) state that being overweight and subscribing to the societal belief of the thin ideal increases the discrepancy between ideal and real weight, which results in body dissatisfaction. Studies by Huon (1994) and Paxton et al. (1991) found that most of the girls who feel dissatisfied with their bodies fall within the “normal” weight range according to the Body Mass Index scale, which is an objective measure of weight. In Australia, Paxton et al. (1991) found a strong relationship between BMI and body dissatisfaction among adolescent girls (N=341) and further discovered that 27% of the girls who fell within the normal weight range still classified themselves as overweight. Grigg et al. (1996) indicate that many normal weight adolescent girls are dissatisfied with their weight, desire to be thinner and therefore may turn to extreme weight control strategies. Wertheim et al. (1992) found that among high school girls in Australia (N=606), a substantial number of girls who engage in extreme weight

loss behaviours experience greater body dissatisfaction, perceive themselves as heavier and have a higher body mass index than their peers.

Blowers et al. (2003) found that in preadolescent and adolescent girls in Australia actual body weight as measured by body mass index is strongly related to body dissatisfaction. In a sample of 294 adolescent girls in China, Lee and Lee (1996) found that their body dissatisfaction scores (as measured by the Eating Disorder Inventory) correlated strongly with their BMI, were qualitatively similar to Western females and were found to be a predictor of eating disorders. Although Blowers et al. (2003) found that body dissatisfaction has a direct association with body mass in girls aged 10 to 13 years, a more complex model which includes pressure from the media, internalisation of the thin ideal, and social comparison improved the prediction of this body dissatisfaction.

Various studies (Ohring et al., 2002; Stice & Shaw, 2002; Stice & Whitenton, 2002) have focused on how biological factors influence body dissatisfaction in adolescence. Body dissatisfaction and weight-related concerns are more prevalent among girls during adolescence when changes in body fat and shape occur (Garner, 2004). Attie and Brooks-Gunn (1989) found that eating problems often emerge in response to the physical changes occurring during puberty and only later during middle to late adolescence do personality factors play a more important role than physical factors. Therefore the increase in body fat occurring in puberty may trigger weight concerns, dieting and body dissatisfaction (Attie & Brooks-Gunn, 1989). Stice and Whitenton (2002) indicate that early pubertal development encourages body dissatisfaction. Due to the increase in adipose tissue that accompanies puberty, girls who are maturing early move further away from the thin ideal; and the greater the deviation from this, the greater the body dissatisfaction experienced (Ohring et al., 2002; Stice & Whitenton, 2002). However, Stice and Shaw (2002) argue that early menarche is not a significant predictor of an increase in body dissatisfaction, therefore suggesting that early pubertal development may not increase the risk for body dissatisfaction over time. Research by Smolak, Levine and Gralen in 1993 (cited in Williams, 2001) also found in their longitudinal study that timing of menarche does not have long term effects on disturbed eating and attitudes concerning weight and shape. Szabo (1998) states that the nature and timing of

bodily changes in adolescence may initially influence attitudes and eating behaviour; however, other factors such as poor body image, sense of ineffectiveness and a tendency toward emotional over-control may be involved in the ongoing development of weight concern.

## **2.3 Eating Disorders**

### 2.3.1 Defining Eating Disorders

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) “eating disorders are characterized by severe disturbances in eating behaviour” (APA, 2000, p. 583). There are two main diagnoses of eating disorders, namely anorexia nervosa and bulimia nervosa. A third category of eating disorders is included in the DSM-IV-TR called Eating Disorder Not Otherwise Specified, which is a residual category used when patients do not meet the full criteria for one of the above eating disorders (Sadock & Sadock, 2003).

#### 2.3.1.1 Anorexia nervosa

According to the DSM-IV-TR anorexia nervosa is characterised as a disorder in which individuals refuse to maintain a minimally normal weight for their age and height, which in early adolescence may be seen in their failure to make expected weight gain instead of weight loss (American Psychological Association [APA], 2000). Individuals with the disorder are intensely afraid of gaining weight or becoming fat, even though underweight, and as their weight decreases their concerns regarding weight gain often increase (APA, 2000). These individuals’ perception and experience of their body weight and shape is distorted, therefore they may feel globally overweight or they may realise they are thin but feel that certain body parts such as the abdomen, buttocks and thighs are too fat (APA, 2000). Assessment of reasonable weight can be determined using the body mass index (BMI). A BMI range of 20-25 is viewed as being healthy or average. To fulfil the ICD-10 diagnostic criteria for anorexia nervosa, the individual should have a BMI equal to or below 17.5, which is underweight (APA, 2000). Another feature of anorexia nervosa in postmenarcheal females with the disorder is amenorrhea (absence of three consecutive menstrual cycles), which indicates physiological dysfunction (APA, 2000).



There are two specific subtypes of anorexia nervosa, the restricting type and the binge-eating/purging type. In the restricting type the individual accomplishes weight loss through dieting, fasting and excessive exercise, and does not regularly engage in binge eating and purging (APA, 2000). In the binge-eating/purging type the individual engages in binge eating or purging through vomiting, misuses of laxatives, diuretics or enemas (APA, 2000). The binge eating/purging type differs from bulimia nervosa in that individuals with bulimia nervosa are able to maintain their body weight at or above a minimal normal level for their age and height, whereas individuals with anorexia nervosa refuse to maintain a body weight at or above a minimally normal weight for their age and height (APA, 2000).

#### 2.3.1.2 Bulimia nervosa

According to the DSM-IV-TR, the essential features of bulimia nervosa are recurrent episodes of binge eating where the individual experiences a sense of lack of control over eating in the episode, followed by inappropriate compensatory methods to prevent weight gain (APA, 2000). A binge is defined as “eating in a discrete period of time an amount of food that is definitely larger than most individuals would eat under similar circumstances” (APA, 2000, p. 589). Inappropriate compensatory behaviour such as self-induced vomiting, misuse of laxatives, diuretics, enemas, fasting or excessive exercise is used to prevent weight gain (APA, 2000). In order to meet the diagnostic criteria for bulimia nervosa, binge eating and inappropriate compensatory behaviours need to occur at least twice a week for a period of three months (APA, 2000). Individuals with bulimia use their body and shape to influence their self-evaluation, are typically ashamed of their eating habits and often attempt to conceal their symptoms (APA, 2000). Individuals with this disorder typically fall within the normal weight range, although they may be slightly underweight or overweight (Sadock & Sadock, 2003).

There are two subtypes of bulimia nervosa, the purging type and the nonpurging type. In the purging type the individual engages in self-induced vomiting or the misuse of laxatives, diuretics or enemas during the episode (APA, 2000). In the nonpurging type other inappropriate compensatory behaviours such as fasting or excessive exercise are used during the episode (APA, 2000).



Eating disorders are one of the most commonly found psychiatric disorders among females (Sadock & Sadock, 2003; Stice & Shaw, 2002). Among the female adolescent and young adult population the prevalence rates for anorexia and bulimia nervosa are between 1% and 4%, with bulimia being more common (Szabo, 2002). Anorexia has been described primarily as a disorder of adolescence with onset in mid to late adolescence between the ages of 14 and 18 years (APA, 2000; Garner, 2004). Onset for bulimia nervosa most commonly occurs in late adolescence or early adult life (Sadock & Sadock, 2003).

Eating disorders are characterised by chronicity, high rates of inpatient hospitalisation, suicide attempts and mortality, as they are marked by medical complications, psychosocial impairment and comorbid psychopathology such as depression, substance abuse and personality disorders (Garner, 2004; Stice & Shaw, 2002). Garner (cited in Szabo, 2002) states they may further result in impairment in physical, emotional, cognitive and social functioning. Individual, family and sociocultural factors all play a role in the aetiology of eating disorders. Research into aetiological factors indicates that these are multifactorial as the interaction between various individual and environmental factors plays a role in the development of these disorders (Davies, 1995; Szabo, 1998). Individual factors which place an individual at risk include body dissatisfaction, a genetic predisposition, neurotransmitter dysfunction (Szabo, 1998), low self-esteem, perfectionism, inadequate coping skills, weight concerns, impulsivity, being overweight, early maturation, dieting and affective dysregulation (Shisslak & Crago, 2003). Family risk factors include parental obesity, parental overprotection, parental neglect, family conflict, parental loss or absence, pathology among family members and family concerns about shape and weight (Shisslak & Crago, 2003). Sociocultural risk factors include the importance of appearance and success for women, the thin ideal, gender role conflict, teasing about weight or shape, media influences, peer influences, parental influences and physical or sexual abuse (Shisslak & Crago, 2003). Szabo (2002) indicates that in order for eating disorders to exist, a certain cultural milieu needs to be present; and therefore any individual placed within this context will be vulnerable to the development of an eating disorder. It is therefore important to focus on the factors that result in the onset and maintenance of eating disorders in order to develop preventive and treatment interventions (Stice & Shaw, 2002). Although treatments for eating disorders are often successful in

restoring body weight, the long-term correction of the psychological disturbance is less satisfactory and relapse is common (Walsh & Delvin, 1998). In recent research body dissatisfaction has been identified as an important risk and maintenance factor of eating disorders (Stice & Shaw, 2002).

### 2.3.2 Body Dissatisfaction and Eating Disorders

Studies in adolescent girls show a significant relationship between body dissatisfaction and eating disorder symptoms. Consequently, body dissatisfaction can be seen as an important predictor and maintenance factor in the development of eating pathology (Ohring et al., 2002; Phelps et al., 1999; Pike et al., 2000; Polivy & Herman, 2002; Stice & Shaw, 2002). It is also correlated with symptom severity and poor treatment outcomes (Pike et al., 2000; Stice & Shaw, 2002). Polivy and Herman (2002) indicate that the more body dissatisfaction the individual experiences, the more likely they may be to attempt to lose weight. Tylka (2004) argues that although body dissatisfaction is a strong predictor in the development of eating pathology, it is found in many women who do not engage in severe levels of disordered eating. Based on these findings, Tylka (2004) lists other variables are involved in the body dissatisfaction-eating disorder relationship such as body surveillance, neuroticism and having a family member or friend with an eating disorder. Garner (2004) indicates that in Western society body dissatisfaction is common among young women and therefore cannot be seen as a construct that causes eating disorders on its own. However, body dissatisfaction is a risk factor in that it may be responsible for initiating and sustaining extreme weight controlling behaviours that may lead to the development of an eating disorder in vulnerable individuals (Garner, 2004). Research shows that individuals with eating disorders experience high levels of body dissatisfaction and disturbed eating attitudes as well as disturbances such as depression, feelings of ineffectiveness, alexithymia (inability to describe emotion or mood), self-criticism, impulsivity, emotional reactivity and life impairment (Connors, 1996). Therefore psychopathological processes combined with concerns regarding dieting and body image seem to play a role in the development of eating disorders (Steiger & Stotland, 1995).

Stice and Shaw (2002) suggest that body dissatisfaction increases the risk for eating disorders through two main mechanisms. Firstly, body dissatisfaction may lead to dieting as a way to

lose excess weight, which in turn increases the risk for onset and maintenance of anorexic or bulimic pathology. When weight loss is reinforced by responses in the social environment such as parents and peers it may lead to further disordered eating attitudes and behaviours. Secondly, a negative affect regulation pathway may occur as body dissatisfaction may lead to negative affect due to the importance placed on appearance in Western society, and negative affect in turn may increase the risk for binge eating as individuals may overeat to attain comfort and distraction from adverse emotions (Stice & Shaw, 2002). This may also lead an individual to utilise further compensatory behaviours such as vomiting in order to reduce anxiety about weight gain after overeating, while in some individuals purging may serve as emotional catharsis (Stice & Shaw, 2002).

#### **2.4 Current Research in the South African Context**

Wassenaar et al. (2000) propose that in South Africa as an ethnically diverse society, research on eating disorders is important as it adds value to the understanding of eating pathology. Davies (1995) indicates that there is a need for research to be conducted on nonclinical samples in South Africa. Much of the research conducted thus far in South Africa has focused on eating disorders and eating attitudes where comparisons are made between the various race groups among high school and university students.

Many theoretical models of eating disorders acknowledge that Western sociocultural factors play an important role in the aetiology of eating disorders (Wassenaar et al., 2000). In the past eating disorders were conceptualised as culture-bound syndromes found in the Western world among upper-middle class adolescent or young adult white females and thus research focused on this population (Garner, 2004; Szabo, Berk, Tlou & Allwood, 1995). White women were seen to be at risk for developing an eating disorder whereas black women were perceived to be immune (Wassenaar et al., 2000). Wassenaar et al. (2000) indicates that this has changed as more studies are focusing on other cultural groups; however these authors note further that research on eating disorders in the developing world is thus far still limited. Changes have taken place in the age, social class and ethnic distribution of eating disorders as they are now seen among lower social classes and among various ethnic groups (Wassenaar et al., 2000).

According to Pate et al. (cited in Davies, 1995, p. 22), “these disorders may be increasing in other sectors of society and a number of diverse cultural settings, other than in achievement-oriented, upper and middle class individuals in Western countries.”

Szabo (2002) states that no data on the prevalence rates of eating disorders in South Africa are currently available. He notes that the epidemiology of eating disorders shows that the demographics are changing and that eating disorders can no longer be assumed to affect only a select section of the community in South Africa as cases are now being seen across various ages in women, men and individuals of all races. Szabo (1999, p. 981) states, “The conceptualization of eating disorders as racially bound within an urban setting in South Africa needs to be dispelled given that these conditions pose a potential public health risk for black South Africans.” Studies have shown that eating disorder pathology is at least as common among black females as it is among white females (Edwards et al., 2003; Haynes, 1995; Szabo, 2002; Szabo & Hollands, 1997a; Wassenaar et al., 2000).

Szabo (2002) indicates that in South Africa, a significant proportion of adolescent girls and young adults of all race groups exhibit eating attitudes which place them at risk for the development of eating disorders. Szabo’s (2002) research found abnormal eating attitudes in both black and white samples, which indicates the emergence of disordered eating within black urban communities. Szabo and Hollands (1997a) conducted a study on high school girls in a racially diverse private high school in South Africa in order to determine prevalence rates for abnormal eating attitudes. In a sample of 213 private high schoolgirls Szabo and Hollands (1997a) found that a significant number (21.66%) of the girls in the sample reported abnormal eating attitudes. The results showed that the black girls had a higher prevalence rate of abnormal eating attitudes (37.5%) than the white girls (20.67%) (Szabo & Hollands, 1997a). These authors conclude that black adolescent females attending private schools may be seen as a high risk with regard to eating attitudes. However, results showed that within the sample (a private high school), girls with the potential for developing eating disorders are similar regardless of race (Szabo & Hollands, 1997a). Szabo (2002) argues that the prevalence rates of the Szabo and Hollands study may not be generalisable as the research was conducted in a single private school.

Szabo (2002, p. 31) states that

the findings amongst South African adolescents are similar to those of a recent British study (Cooper & Goodyer, 1997) which found that 18.9% of a sample of 11-16 year old females reported weight and shape concerns, which may constitute prodromal features of an actual eating disorder.

When using a larger sample (N=1353) in state schools, Szabo (2002) found that prevalence rates for abnormal eating attitudes were similar for the black (18.7%) and white (18.6%) girls in the urban school sample, in comparison with 3% for black girls in rural schools. Szabo (2002) concludes that in state high schools race is not predictive of the extent to which abnormal eating attitudes occur. In terms of body shape dissatisfaction, Szabo (2002) found that white urban girls showed the most body shape dissatisfaction, followed by black urban girls with somewhat less dissatisfaction and black rural girls with the least dissatisfaction. He also points out that the differences between urban white and urban black participants are less than that between urban and rural black participants. He found that regardless of race, females with the highest BMI wanted to be smaller and those with the lowest BMI wanted to be larger. Szabo (2002) indicates that perception of fatness is associated with a higher BMI which in the study also correlated with the EAT-26 score, which indicates that although girls may fall within the optimal BMI range they view themselves as overweight. Patton (cited in Szabo, 2002, p. 163) states that “this serves to emphasize that most adolescent dieting is unjustified on the grounds of appropriate weight control.” The results of the study showed no relationship between socioeconomic status and EAT-26 scores in either the urban or rural setting, therefore Szabo (2002) states that social class may influence actual eating disorders rather than behaviours associated with eating disorders. Szabo (2002) concludes that differences in body dissatisfaction between black and white adolescent girls in South Africa is minimal, with the differences between urban white and urban black girls being less than that between urban and rural black girls. He adds that, in an urban setting, we may therefore assume that a similarity exists between black and white girls regarding abnormal eating attitudes and body dissatisfaction (Szabo, 2002). In short, Szabo believes that in South African urban settings, racial homogenisation occurs in terms of eating attitudes and body dissatisfaction.

Many of the South African studies on eating disorders compare their results with those found by Hooper and Garner (1986), who studied the extent of eating disordered behaviours among high school girls of different races in Zimbabwe. Hooper and Garner used the Eating Disorder Inventory (EDI) and results showed that white girls displayed more episodic dieting and higher scores on both drive for thinness and body dissatisfaction in comparison to the other girls in the mixed race groups. The results of the study can be criticised as the effect of socioeconomic status was not taken into account and for the assumption that genetic differences explained the differences in weight preoccupation (Haynes, 1995). The results of Szabo's and Hollands's (1997a) differed from the Zimbabwe study. Szabo's and Hollands's findings indicated that the black girls in the sample had a stronger preoccupation with being thinner whereas in the Zimbabwean sample white girls had a stronger drive toward thinness. Szabo and Hollands (1997a) note that although different instruments were used in the two studies, the Drive for Thinness sub-scale on the EDI has a relatively high correlation with the dieting sub-scale on the EAT-26. They cite possible reasons for the contradictory findings as being that they were nine years apart, or that "urban, black society Zimbabwe is more 'traditional' than in South Africa, i.e. less inclined to endorse Western aesthetic values" (Szabo & Hollands, 1997a, p. 528). The South African study showed that prevalence figures for abnormal eating attitudes increase from Grade 9 onward, indicating a developmental continuum. This correlates with other findings in normative populations where body dissatisfaction increases in girls between the ages of 13 and 14, with girls aged 14 to 18 scoring higher on the body dissatisfaction sub-scale of the EDI than 11 to 13 year-old girls (Szabo & Hollands, 1997a). Szabo and Hollands (1997a) further refer to research in the last decade that shows body dissatisfaction scores on the EDI to be higher in non-clinical samples, which may affect eating attitudes accordingly.

In a study by Davies (1995) on South African high school girls (N=186) where the EDI was used, results showed that black high school girls are as engaged in struggles over eating and body weight as are white girls. It seems therefore that eating disorders are crossing former social barriers and black girls appear to be at equal risk to white girls. Davies (1995) argues that based on South African studies, young urban South African girls of all races present with the same weight concerns and disordered eating as females in developed Western countries.

Davies (1995) compared girls from a community school, a state school and a private school. This study defined the private school as representing an urbanised affluent environment, the state school as a typical South African government school, while the community school reflected a school deprived of resources and classified by the government as a farm school. The study found that black and white high school girls reported similar body ideals and levels of discrepancy between ideal figure and their actual figures, although the black girls displayed greater tolerance for different figures regardless of whether they were thin or fat. Davies (1995) found that on the three scales of the EDI which directly assess disordered eating patterns (Drive for Thinness, Body Dissatisfaction and Bulimia) black and white girls showed similar results. Davies (1995) found no significant differences in the body dissatisfaction scores of the girls in the private and state schools, although a difference existed between the state and community school girls. Davies (1995) concludes that neither black nor white women in South Africa are protected by their culture from developing weight concerns or levels of disordered eating comparable with other Western countries. Haynes (1995, p. 75) claims that, within the South African context, “increasing westernisation is positively associated with greater body dissatisfaction.” Haynes (1995) found that increasing westernisation is associated with greater body image dissatisfaction, and that South African women whose culture supports a large female body shape but who have become more westernised appear to be more dissatisfied with their body shape and are more likely to engage in weight loss behaviours. For this reason Haynes (1995) argues that within the South African context women from non-Western cultures cannot be assumed to be less vulnerable to eating disturbances.

Selmer (1997) compared high school girls of different races and found that white girls demonstrated more body shape dissatisfaction than the black or Indian girls. Black girls appeared to be the heaviest and wanted to lose the most weight. The results of the study indicate that the greater the BMI, the more dissatisfied the person is with weight status and the more weight loss is desired (Selmer, 1997). The results also indicate that all three races of schoolgirls in the study showed greater body shape dissatisfaction than participants in other studies of westernised groups, and that both the black and white girls in the study were equally inclined to disordered eating (Selmer, 1997).



A number of studies on university female students have used the EDI to explore whether differences in disordered eating exist in terms of race. In a sample of 90 university women, Geach (1995) found that black and white women have similar levels of disordered eating as measured by the three scales of the EDI that measure disturbed eating directly (Drive for Thinness, Body Dissatisfaction, Bulimia). Geach (1995) found no difference between the body dissatisfaction scores of black and white university students and no relationship between socioeconomic status and degree of disordered eating behaviour; although a positive relationship was found to exist between body mass index and disordered eating. Although Geach (1995) found that black girls in the study had a higher BMI than the white girls, no difference was found between the black and white girls with regard to body dissatisfaction and drive for thinness. In a study of 628 participants, Wassenaar et al. (2000) found significant levels of disordered eating among female South African university students among all the ethnic groups in their study. Black participants showed significantly higher scores on the Drive for Thinness subscale than white participants, which support the findings of Szabo and Hollands (1997a) that Black South African women also display abnormal eating attitudes and habits (Wassenaar et al., 2000). However, the white women in the sample scored significantly higher on the Body Dissatisfaction scale than the Black and Asian women (Wassenaar et al., 2000). The results showed that the white students had a lower BMI than the black students and that higher BMI correlated positively with body dissatisfaction and drive for thinness and therefore the desire to lose weight (Wassenaar et al., 2000). Wassenaar et al. (2000) noticed that both white and black South African women scored higher on all three EDI subscales which are related to disordered eating in comparison to the white and black high school girls in the study in Zimbabwe by Hooper and Garner (1986). They therefore conclude that disordered eating attitudes are likely to be prevalent across all racial groups in South Africa.

Studies by Edwards et al. (2003) failed to find significant differences between black and white South African females in terms of disturbed eating patterns or attitudes. The EDI was used on a university sample (N=80) and no significant differences between black and white women were found on the EDI subscales (Drive for thinness, Bulimia and Body Dissatisfaction) (Edwards et al., 2003). In a second study among high school girls (N = 134), Edwards et al. (2003) found that patterns of disturbed behaviour and cognition are present in the early high



school years for both black and white girls. Like Wassenaar and his colleagues, the Edwards et al. (2003) conclude that in the South African context, both black and white females are susceptible to disturbed patterns of cognitions and behaviours regarding eating.

Although convenience samples were used in all of the above South African studies, it appears that in the South African context adolescent girls of all races display body dissatisfaction and are vulnerable to the development of disordered eating attitudes and behaviours, and the development of eating pathology.

## **2.5 Mother-Daughter Relationship, Eating Disorders and Body Dissatisfaction**

The literature on the aetiology of eating disorders includes family influence, where maternal influence is often highlighted. This section focuses on the literature dealing with the mother's influence in order to establish the importance of this study's focus on the relationship between body dissatisfaction of mothers and their daughters. The various theoretical views on eating disorders have conceptualised the significance of the mother's role in various ways. In this study, sociocultural theory on eating disorders and body dissatisfaction forms the basis on which the research question was formulated. Wertheim et al. (1999) state that on a macro level sociocultural factors emphasise the thinness of women in society; however, this does not explain why some women diet and experience body image concerns whereas other women do not. Consequently, subcultural influences such as the family need to be explored. Based on sociocultural theory, parents are viewed as a sociocultural influence and the mother is highlighted for a number of reasons, which are discussed in this section.

Research on maternal influence has considered various possibilities of the role of the mother in both clinical and nonclinical samples. Research has focused on families of patients diagnosed with an eating disorder, children of mothers with eating disorders, as well as body image and eating attitudes and behaviours in non-eating disordered individuals (Thompson et al., 1999). Although the mother-daughter relationship and maternal bodily concerns are viewed as important in the development of the daughter's body image and eating attitudes,

much research has focused on family relationships and the relation of this to the development of eating disorders during adolescence (Attie & Brooks-Gunn, 1989).

### 2.5.1 Influence of Mothers with Eating Disorders

Research has examined maternal influences by focusing on mothers with eating disorders. Stein, Wooley, Cooper and Fairburn (cited in Hill & Franklin, 1998) found that mothers with an eating disorder differed in their interaction with their infants, were more intrusive during mealtimes and displayed more negative emotions in comparison with mothers in the control group. The study also found a relationship between infant weight and the extent of the mother's concern about her own body shape (Hill & Franklin, 1998). Hill and Franklin (1998) indicate that although causality has not been proven, it appears that maternal attitudes and behaviours may influence the child.

Stein and Wooley (cited in Thompson et al., 1999) propose that there are five mechanisms through which parents with eating disorders may influence their children. They state:

Firstly, parent's extreme attitudes on eating, weight and shape may directly influence their children's as they may underfeed their children or they may be overcritical of the child's appearance and eating habits. Secondly, the fact that they have an eating disorder may interfere with their general parental functioning as their preoccupation with themselves may interfere with their ability to respond to their children's needs. Thirdly, they may model disturbed eating behaviour to their children. Fourthly, their eating disorders may be related to marital discord and other interpersonal problems, which may have a negative effect on the children. Lastly, parents with eating disorders may have genetic effects as a genetic component to eating disorders has been identified. (Thompson et al., 1999, p. 180)

### 2.5.2 Family Models of Eating Disorders

Family models of eating disorders have considered parental personalities and attitudes. It has been found that parents of daughters with eating disorders are often overly concerned with physical appearance, weight and have a preoccupation with food themselves (Eisler, 1995; Leung, Schwartzman & Steiger, 1996). Bruch (cited in Ogden, 2003, p. 96) states that "anorexia may be a result of a child's struggle to develop her own self-identity within a

mother-daughter dynamic which limits the daughter's autonomy." Bruch focuses on the mother-child relationship and how the child's needs are not fulfilled. Bruch (cited in Eisler, 1995) also identified a lack of appropriate responses from the mother to the child's needs in the early mother-child relationship. The mother acts on her own needs and the infant's needs and impulses become poorly differentiated as she tries to comply with her mother's needs. In adolescence she is then unable to cope with the developmental demands for individuation and separation as her biological and psychological needs remain blurred (Eisler, 1995). Eisler (1995) indicates that although Bruch's theory is influential and persuasive, it is difficult to empirically evaluate without specific studies of parent-infant interaction.

Family system accounts of eating disorders focus on the family and view it as a complex social system where eating disorder symptoms are embedded in a matrix of interacting factors (Ogden, 2003). Selvini-Palazzoli focuses on the family's need to have a perfect child, and the rigidity of interactional patterns, and views anorexia nervosa as a manifestation of family conflict of loyalty between the current family and the family of origin (Eisler, 1995). According to Crisp (cited in Ogden, 2003), undefined boundaries within the family and an enmeshed relationship between mother and daughter may result in problems with separation in adolescence. Minuchin believed that "psychosomatic families" place adolescents at risk for developing an eating disorder (Eisler, 1995; Steinberg & Phares, 2003). Minuchin, Rosman and Baker (cited in Hill & Franklin, 1998) state that the child in these families is physiologically vulnerable and that these families are enmeshed, rigid, overprotective, and display limited conflict resolution. The child in this family plays a role in conflict avoidance and this role provides reinforcement for the symptoms (Eisler, 1995). Hill and Franklin (1998) indicate that although much has been stated about families with an eating disordered patient, it appears most importantly that these families display "unhealthy" interaction patterns. Prescott and Le Poire (2002, p. 60) note that "in the context of the family system, paradoxes that exist in the mother-daughter relationship make it difficult for mothers to effectively help their daughters diminish eating disordered behaviour."

When assessing weight, eating attitudes and restrained eating, early clinical studies on mothers of daughters with anorexia nervosa (such as Garfinkel et al., 1983; Hall, Leibrich,

Walkey & Welch, 1986) did not find more problems in the mothers of the anorectic daughters when compared with control groups. However, Benedikt et al. (1998) argue that in clinical studies family behaviour and questionnaire responses may be influenced by the presence of an anorectic child and participation in therapy, and may therefore not portray an accurate idea of aetiology and preclinical family patterns.

Hill and Franklin (1998) provide an alternative viewpoint on family influence that focuses on the idea that weight concern and dieting behaviours may be passed on by parents and adopted by their daughters. Studies in Australia (Dunkley et al., 2001; Levine et al., 1994) show that girls who show the most body dissatisfaction and disturbed eating behaviours live in a subculture of dieting that supports the thin ideal, where weight control messages are portrayed by a combination of the media, peers and family.

### 2.5.3 Maternal Influence from a Sociocultural Perspective

Recent research into the reasons why some adolescent girls develop concerns about their bodies and dieting (e.g., Benedikt et al., 1998; Wertheim et al., 1999) has focused on parents who may transmit various sociocultural messages to their daughters. Parents play an essential role in shaping their children's eating from infancy and their feeding practices may be influenced by their perceptions of Western society's thin ideal, which they continue to convey to their daughters throughout adolescence (Benedikt et al., 1998).

Although studies (such as Wertheim et al., 1999) have explored the relationship between the eating behaviours of adolescents and their parents, findings indicate that although both parents may play a role, the role of the mother is more influential than that of the father. Based on sociocultural theory, maternal influence is significant in terms of the mother-daughter relationship in that they are both female, mothers are perceived as role models in terms of weight concern and dieting, and both mothers and daughters are subject to intense social pressure (Pike & Rodin, 1991). Wooley and Wooley (cited in Thompson et al., 1999) state that mothers and daughters may experience the same sociocultural pressure and therefore mothers may be seen as interpreters of these societal standards and expectations and both mothers and daughters may use similar means to cope with these challenges. The family may be seen as the

primary agency for socialisation and mothers play an important role in transmitting the importance of societal pressure on women to their daughters (Hill & Franklin, 1998). Wertheim et al. (1999) suggest that the gender-linked transmission model may be another model of transmission of thinness ideals and dieting behaviour as mothers are more likely to consciously or unconsciously communicate these values to their daughters than are fathers. Mothers may also have a greater influence due to the care giving role which often includes more communication between the mother and the children than that between the father and the children (Wertheim et al., 1999). Female family members may magnify the importance of the female thin ideal by emphasising thinness, modelling weight preoccupation and dieting, and encouraging weight loss in younger family members (Thelen & Cormier, 1995). Thelen and Cormier (1995) state that a parent who models weight concerns may influence their same-sex child, resulting in the child adopting similar attitudes and behaviours. Abramovitz, Davison and Smolak (cited in Ericksen, Markey & Tinsley, 2003) suggest that mothers play an important role in directly and indirectly influencing a girl's body image and weight concerns as the weight-related issues of parents are transmitted to their children. Ogden (2003) notes that research that focuses on the role of the family in predicting body dissatisfaction has highlighted the role of the mother, who may communicate her own body dissatisfaction to her daughters, and so contribute to their body dissatisfaction.

Benedikt et al. (1998) indicate that a number of the mothers in their study of mothers and their adolescent daughters encouraged their daughters to lose weight, even though their daughters were within the healthy weight range. Seen from a sociocultural perspective, it seems that mothers influence their daughters to adopt the thin beauty ideal. Wertheim et al. (1999) found that mothers not only encourage their daughter's weight loss attempts but also comment on the daughter's size and are more accepting of dieting as a weight loss technique whereas fathers may suggest alternative methods such as exercise.

#### 2.5.4 Studies on the Mother-Daughter Relationship Regarding Weight Concerns and Body Dissatisfaction

Hill and Franklin (1998) indicate that methodological and ethical problems abound in studies on the family dynamics of eating disordered patients. They therefore took a different approach

and investigated mothers and daughters where abnormal eating attitudes may be present but are not yet clinical cases (Hill & Franklin, 1998). Benedikt et al. (1998) point out that there are few studies that have examined the role mothers play in transmitting the sociocultural ideals of thinness to their daughters by looking at both mothers and daughters in the same study. Studies that focus on the similarities between mothers and daughters in terms of weight concerns and body dissatisfaction have shown mixed results in nonclinical populations (Benedikt et al., 1998; Wertheim et al., 1999).

Research has focused on two main modes of influence when considering the mother-daughter relationship with regard to weight concerns and body dissatisfaction. The first influence is the modelling effect, where a mother may model attitudes and behaviours concerning weight preoccupation, body dissatisfaction and dieting to her daughter (Sanftner et al., 1996). Secondly, mothers may influence their daughters through their attitudes towards and direct encouragement of their children's weight, shape and diet (Thompson et al., 1999). Some research (Benedikt et al., 1998; Hill et al., 1990; Pike & Rodin, 1991; Sanftner et al., 1996) has found a relationship between mother-daughter weight concerns and body dissatisfaction; however, other studies (Ogden & Elder, 1998; Ogden & Steward, 2000) have shown no significant relationship. No such studies seem to have been conducted thus far in South Africa on mothers and daughters. This section therefore discusses findings from studies in Australia, United Kingdom, Canada and the United States.

In a sample of 89 mother-daughter pairs in Australia, Benedikt et al. (1998) investigated the relationship between mothers' eating attitudes and weight loss attempts and their adolescent daughters' body dissatisfaction and weight loss attempts. They focused on modelling and encouragement as modes of transmitting these values, and split weight loss behaviour into moderate and extreme forms. Benedikt et al. (1998) found that moderate weight loss attempts (through dieting and exercising) and body dissatisfaction in the adolescent daughters were significantly associated with their mother's encouragement of them to lose weight, thus supporting the sociocultural view of the mother as a transmitter of sociocultural values about dieting and body concern. Benedikt's study also found that an adolescent girl's more extreme weight loss behaviours (such as fasting and crash dieting) were influenced by their mothers'

own levels of body dissatisfaction and use of extreme weight-loss methods. The study demonstrated an association between the mothers' and daughters' body dissatisfaction and weight concerns (Benedikt et al., 1998). Therefore, it seems that although mothers do not directly encourage their daughters to engage in extreme behaviours they may model these behaviours to their daughters.

Using the Eating Disorder Inventory on an adolescent sample of 77 high school girls, Pike and Rodin (1991) compared the girls with elevated scores with their mothers. Pike and Rodin found a relationship between daughters with disordered eating and mothers who also reported disordered eating based on the three risk scales of the EDI (Body Dissatisfaction, Drive for Thinness, Bulimia). These mothers also showed a longer dieting history, thought their daughters should lose more weight and were less satisfied with family cohesion compared with mothers of the girls who were not eating disordered (Pike & Rodin, 1991). Pike and Rodin (1991) concluded that mothers are influential and cannot model healthy eating attitudes and behaviours to their daughters if they themselves display disturbed eating attitudes and behaviours, and that the mother-daughter relationship appears to contribute to disordered eating in daughters.

Other studies have also shown a relationship between mother and daughter body dissatisfaction. Hall and Brown (1982) found that mothers of daughters with anorexia displayed greater body dissatisfaction than mothers of non-disordered daughters. In a sample of 135 children in Australia between the ages of five and eight, Lowes and Tiggemann (2003) found that the daughter's level of body dissatisfaction was related to her perception of her mother's level of body dissatisfaction, but not to her father's. When exploring dieting concerns in the United Kingdom, Hill et al. (1990) found a strong positive relationship between degree of dietary restraint in mothers and their 10 year-old daughters. They indicated that a link exists between mothers and daughters in their motivation to diet, and that mothers and daughters share a vulnerability to the disinhibitory effects of negative mood states on their eating behaviour, which is commonly found among adult dieters and bulimic patients (Hill et al., 1990). Hill et al. (1990) suggest that genetic and environmental factors may be responsible for the link between mothers and daughters. Kaye, Strober and Rhodes (2002) add that

symptoms of eating disorders have a heritable component and that there is a significant genetic component to the attitudes and behaviour that contribute to and correlate with eating pathology.

In a British sample of 40 mothers and daughters, Hill and Franklin (1998) confirmed that mothers play a role in the transmission of cultural values regarding weight, shape and appearance as found in the study by Pike and Rodin (1991). Among a sample of 918 high school girls in Canada, Leung et al. (1996) found that family preoccupation with weight and appearance contributed to the development of body dissatisfaction and eating symptoms. These findings are consistent with previous studies (Pike & Rodin, 1991), which indicate that girls who come from families with heightened concerns about weight and appearance issues tend to internalise the 'thin ideal' to a greater extent, experience a higher level of body dissatisfaction, and are more susceptible to eating pathology (Leung et al., 1996). Levine et al. (1994) state that in studies such as Moreno and Thelen (1993), the results show that mothers whose adolescent daughters have high scores on the EDI risk scales (Body Dissatisfaction, Drive For Thinness, Bulimia) are more critical of their daughters' weight and attractiveness than are mothers of girls with low eating disordered scores.

Wertheim, Martin, Prior, Sanson and Smart (2002) indicate that in their sample of adolescent girls (N=619) in Australia, mother and daughter dieting was only associated among the menstrual girls and not the premenstrual girls. The menstrual girls in the study had a higher BMI, experienced greater body dissatisfaction, showed more drive for thinness and more disordered eating problems. Wertheim et al. (2002) noted that although the menstrual girls in the study were larger, their ideals were similar to the premenstrual girls, which confirms the sociocultural theories that state that the discrepancy between the actual and ideal sizes widens during puberty. In a US study on 382 nine to fifteen year-old ethnically diverse girls and their mothers that used the Eating Disorder Inventory, Sanftner et al. (1996) also found that before puberty, there are no significant relationships between mothers' and daughters' weight preoccupation, Drive for Thinness, Body Dissatisfaction, Bulimic behaviours. However, after puberty daughters' Body Dissatisfaction and Drive for Thinness scores were significantly correlated with their mothers' Body Dissatisfaction and Drive for Thinness scores (Sanftner et



al., 1996). It seems therefore that a daughter's entry into puberty is central in determining the mother's influence on eating behaviours.

In contrast to these findings, results of other studies have shown no association between mothers' and daughters' weight concern and body dissatisfaction. In their study of 100 college-aged women and their mothers using the Body Shape Questionnaire (Cooper, Taylor, Cooper & Fairburn, 1987), Ogden and Elder (1998) found no significant correlations between body dissatisfaction and eating behaviour in either the white or Asian participants. In a small sample of 30 mother-daughter pairs in the United Kingdom, Ogden and Steward (2000) assessed concordance between mothers' and daughters' levels of weight concern, and found that although mothers and daughters were similar in their weight and BMI, they showed no associations in their restrained eating or body dissatisfaction. Therefore this study does not support the modelling hypothesis in terms of weight concern between mother and daughter (Ogden & Steward, 2000), but confirms findings from studies such as Attie and Brooks-Gunn (1989) in the United States where a prospective developmental study of adolescents and their mothers reported a marginally significant association between mother and daughter eating concerns using the EAT-26. Research that focuses on modelling effects thus shows inconsistent results.

Wertheim et al. (1999) argue that if parents influence their children's weight loss behaviours through modelling then parents and children's weight loss behaviours would be related; however, studies of mother-daughter similarities have shown mixed results and the evidence is inconsistent. Therefore, mothers may or may not have a modelling effect on their daughter's diet and weight concerns (Wertheim et al., 1999).

Research has also focused on the nature of the mother-daughter relationship itself. Ogden and Steward (2000) explored the mother-daughter relationship in terms of both a modelling hypothesis and an interactive hypothesis, which focused on the relationship between mother and daughter in terms of body dissatisfaction. The results of the study showed no support for the modelling hypothesis but found that mothers who did not believe in their own or their daughter's autonomy displayed a tendency to project their expectations onto their daughters,

which resulted in high levels of body dissatisfaction among the daughters (Ogden & Steward, 2000). Ogden and Steward (2000) suggest that the nature of the mother-daughter relationship itself may be relevant, which may explain the inconsistencies in the literature.

Studies that have focused on direct encouragement as a mechanism for transmitting values regarding weight and shape (e.g., Benedikt et al., 1998; Moreno & Thelen, 1993) have found that mothers' reports of wanting a thinner daughter or encouraging their daughters to lose weight are associated with greater dietary restraint in the daughter. Thelen and Cormier (1995) found that daughters' perceptions of their mothers' encouragement of weight control were correlated with daughters' dieting. In a nonclinical sample of 197 adolescent girls in Japan, Mukai, Crago and Shisslak (1994) investigated the influence of family and friends on their eating disorder tendencies, and looked specifically at maternal encouragement to diet. A high prevalence of dieting and weight concern was shown and findings demonstrate that girls whose mothers encouraged them to lose weight displayed a higher tendency toward eating disorders than girls who report low encouragement by their mothers (Mukai et al., 1994). The study also found that most of the girls for whom dieting and weight loss was encouraged were within the normal to underweight range. The authors suggest that encouragement may influence the development of disturbed eating patterns and body image as it may cause normal weight girls to feel self-conscious about their body and weight (Mukai et al., 1994). Mukai et al. (1994) argue that mothers influence their daughter's weight and eating attitudes. In a study on 73 bulimic university students and their parents, Moreno and Thelen (1993) found that the mothers in the study differed from the mothers of nondisordered daughters in restricting their daughters' food intake, encouraging their daughters to lose weight through exercise and diet and perceiving their daughters as overweight. Moreno and Thelen (1993) propose that these behaviours may be encouraged rather than modelled by mothers. No significant relationships were found between daughters' and fathers' weight and eating habits.

Wertheim et al. (1999) examined adolescent girls' weight loss behaviours and parental influences related to weight and shape. The results of their study show that in mid adolescence, direct encouragement by parents is an important mode of transmission (Wertheim et al., 1999). They suggest that encouragement to lose weight may be given by

verbal reinforcement of dietary restraint, which may be more important than the observational learning found in modelling (Wertheim et al., 1999). However, in terms of more restrictive and extreme weight loss methods, these authors agree with the findings of Benedikt et al. (1998) that these behaviours are more likely to be observed than encouraged by mothers. Wertheim et al. (1999) indicate that although values about thinness may be encouraged by both parents, mothers are more likely to help their daughter's diet, engage in diets together with their daughters and have a greater impact on their daughter's actual behaviours. Wertheim et al. (1999) found that the transmission of dieting appears to be strongest from mother to daughter, as it seems mothers have a greater influence on this aspect of their daughters' eating.

Based on the above literature it appears likely that mothers influence their daughter's weight concerns and body dissatisfaction. However, there are conflicting results in studies where both modelling and direct encouragement are considered.

## **2.6 Chapter Summary**

The literature explored in this chapter reveals that South African adolescent girls of all races display disturbed eating attitudes and behaviours. Body dissatisfaction was identified as a risk factor for the development of eating pathology in adolescent girls. No South African studies that include both mothers and daughters could be found in the literature. The mother-daughter relationship regarding weight concerns and body dissatisfaction was therefore investigated in overseas studies and the importance of considering maternal influence was demonstrated. The relationship between mother-daughter eating concerns and body dissatisfaction was explored with conflicting results. This study addresses the gap in the literature on South African mother-daughter studies, and will explore the relationship between mothers' and daughters' body dissatisfaction in a single Johannesburg school. It will also screen for the presence of disturbed eating attitudes and behaviours among the adolescent girls in the sample.

In chapter 3, the research design and methodology used in the study are discussed.

## CHAPTER 3

### **RESEARCH DESIGN AND METHODOLOGY**

This chapter discusses the research design and methodology used in the study. Firstly, the aims of the study are stated. The research question and hypotheses are clarified and methodology is described in terms of the correlational design strategy used, the sampling and selection of participants, recruitment of participants as well as the confounding variables. The assessment instruments used in the study are discussed, including their reliability and validity. Procedures for the statistical analyses are briefly described. Ethical considerations adhered to in the study are mentioned and limitations of the methodology are discussed.

#### **3.1 Aims of the Study**

The primary aim of this study is to investigate the relationship between a mother's body dissatisfaction and that of her adolescent daughter within a single private high school in the Johannesburg area. As indicated in the previous chapter, overseas research has focused on the mother-daughter relationship regarding eating concerns and body dissatisfaction. In countries such as Australia, United States of America and the United Kingdom, results regarding the relationship between mother-daughter body dissatisfaction were conflicting. A number of studies (e.g., Benedikt et al., 1998; Pike & Rodin, 1991; Sanftner et al., 1996) found a positive relationship between the body dissatisfaction of mothers and the body dissatisfaction of their adolescent daughters and suggest that a mother models her own body dissatisfaction to her adolescent daughter, which in turn influences her daughter's body dissatisfaction. However, other studies (e.g., Ogden & Elder, 1998; Ogden & Steward, 2000) found no association between mother and daughter in terms of body dissatisfaction. Some studies included a number of other variables; however, due to the limited scope of this study the relationship between the body dissatisfaction of mothers and daughters was the only variable examined. The aim in this study is to explore this relationship in a small convenience sample in Johannesburg. In order to contextualise the findings of the study within current South African research, an additional aim is to explore the presence of disturbed eating attitudes and

behaviours among the adolescent girls in the sample using the three scales of the Eating Disorder Inventory-3 which measure disturbed eating attitudes and behaviours (viz. Drive for Thinness, Body Dissatisfaction, and Bulimia).

### **3.2 Research Methodology**

This study was approached from a positivist perspective, using quantitative research techniques. Howell (2002) indicates that positivist social science attempts to discover or confirm social events and laws based on empirical investigation. This type of research methodology is associated with the analysis of quantitative data through mathematical statistics (Howell, 2002). Bailey (1994) states that most positivists use quantitative techniques where the emphasis is placed on precisely measuring variables and testing hypothesis that are linked to causal explanations.

Positivism is the oldest and most widely used approach to research. It arose from the Frenchman Auguste Comte's school of thought in the nineteenth century, and was later added to by John Stuart Mill and Emile Durkheim (Neuman, 2003). Neuman (2003, p. 71) states that "positivism sees social science as an organized method for combining deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity." According to this view, reality is seen as real and out there to be discovered (McBurney, 2001). Positivism assumes that there is only one logic of science to which all intellectual activity referring to itself as science must conform (Neuman, 2003). Therefore both the natural and social sciences should share a common set of principles and logic and should use similar approaches and principles, although these may differ with regard to their content (Neuman, 2003). A positivist approach has a linear view of causality and assumes that by manipulating an independent variable in order to observe the effects on the dependent variable, causal relationships can be determined (Neuman, 2003). This approach further views social reality as a stable external reality, the researcher is seen as detached from the research context, and the research is considered to be objective and value-free (Durrheim, 2002).

In this study quantitative research methods were used not to determine causality but to explore whether a relationship exists among the mother-daughter pairs in the sample. A correlational design strategy was therefore selected.

### 3.2.1 Correlational Design Strategy

Wampold (cited in Whitley, 2002) refers to the correlational strategy as a passive research strategy in which the variables of interest are measured and observed without being manipulated. In a correlational research design, the degree of association between two variables is examined without any attempt at experimental manipulation (Aron & Aron, 1999). Whitley (2002, p. 40) states that “a correlational design strategy looks for relationships between variables that are consistent across a large number of cases”. The correlation coefficient provides information on the strength of the relationship between the two variables, which are indexed from -1 to 1 (Dancey & Reidy, 2002). It also provides information on the direction of the relationship, which is seen as positive when the scores on both variables are high or low (Whitley, 2002). The relationship is negative when the scores on one variable are high and the scores on the other variable are low (Whitley, 2002).

In the present study, a correlational design strategy was used to explore the relationship between the body dissatisfaction of mothers and their adolescent daughters. The correlational design was appropriate for a number of reasons. Whitley (2002) indicates that the advantages of using the correlational design strategy are that it allows researchers to test hypotheses that are not amenable to the experimental strategy. Based on the research question, the variables used could not be manipulated and therefore the aim was not to determine causality but rather to determine the strength of the relationship between the variables by means of a correlation. The correlational design strategy differs from the case study method as the researcher can determine whether a relationship exists across numerous cases whereas a case study cannot, and statistical analyses of data can be used for a correlational design but not for a case study design (Whitley, 2002). In this study I aimed to explore this relationship among a number of cases and for this reason other design strategies such as the case study method and an experimental design strategy were not applicable. A correlational design was also appropriate for providing information with regard to the additional aims in the study, namely, to

investigate disturbed eating among the adolescent participants, based on the relationship between the three subscale scores of the Eating Disorder Inventory-3 scores.

### **3.3 Research Question and Hypothesis Formulation**

#### 3.3.1 Research Question

1. What is the relationship between a mother's body dissatisfaction and that of her adolescent daughter?

This question may be operationalised as the following hypothesis:

H0: There is no significant relationship between a mother's body dissatisfaction and the body dissatisfaction of her adolescent daughter as measured by the Body Dissatisfaction scale of the EDI-3.

H1: There is a significant relationship between a mother's body dissatisfaction and the body dissatisfaction of her adolescent daughter as measured by the Body Dissatisfaction scale of the EDI-3.

#### 3.3.2 Additional Aims of the Study

Although the main aim of the study concerns the relationship between mothers' and daughters' body dissatisfaction, other relationships will also be explored in order to provide information regarding body dissatisfaction and its relation to other variables as well as to investigate the presence of disturbed eating attitudes and behaviours among the adolescent girls in the sample.

The additional aims include the following:

- To explore ranges of body dissatisfaction within the sample
- To explore body dissatisfaction scores in relation to body mass index (BMI)
- To explore self-report perception of size and weight in relation to body dissatisfaction and body mass index (BMI)

- To screen the sample of adolescent girls for the presence of disturbed eating attitudes and behaviours based on the three scales of the Eating Disorder Inventory-3 which screen for disturbed eating attitudes and behaviours (Drive for Thinness, Body Dissatisfaction, Bulimia)
- To explore the relationship between three EDI-3 scales and the BMI of the adolescent girls in the sample

### **3.4 Sampling Design and Participants Selection**

The sample was drawn from a target population of adolescent females in an all-girl, racially diverse private high school in Johannesburg. A target population is a group defined by the researcher's specific interest and therefore participants in the group typically share certain characteristics (Neuman, 2003). For the purpose of this study the necessary characteristics included being an adolescent female in the private high school in Grades 9 or 10. According to the DSM-IV-TR the age of onset for anorexia nervosa is 14 to 18 years while the onset for bulimia nervosa also usually occurs during adolescence (APA, 2000). As adolescent girls in Grades 9 and 10 fall between the ages of 14 and 17 years, they were selected to form the sample based on their age.

The participants were selected using convenience sampling. A convenience sample is not based on representativeness (Reber & Reber, 2001), although it has been commonly used in studies on eating attitudes in high school and university populations in South Africa (Davies, 1995; Haynes, 1995; Selmer, 1997; Wassenaar et al., 2000) as well as Australia (Benedikt et al., 1998) where volunteering mother-daughter pairs comprise the sample. The school from which the participants were recruited was not selected for any specific reason other than that it being an all-girl, racially diverse private high school in the Johannesburg area. Nonrandom sampling methods were used and mother-daughter pairs from learners in Grades 9 and 10 volunteered for the study. The sample size was not predetermined prior to the study, but was determined by the number of mother-daughter pairs who volunteered. However, in order for statistical procedures to be conducted the minimum number of participating mother-daughter pairs required for the sample was 30.



### 3.4.1 Participant Recruitment

The headmistress and resident psychologist at a private high school were approached in August 2005 and permission was obtained for the study to be conducted among the Grade 9 and 10 students and their mothers. Information letters containing a brief description of the study and requesting volunteers were handed out to the Grade 9 and 10 students via the homeroom teachers at the school. No contact was made between myself and the teachers and I therefore exercised no control over the distribution of the letters or the collection; however, I requested that all be returned regardless of whether the response was positive or negative. One hundred and forty letters were distributed to the Grade 9 and 10 classes, of which 26 were returned with 20 refusals and six mother-daughter pairs agreeing to participate in the study. A discussion was held between the researcher and the headmistress in order to gain feedback and an understanding of possible reasons for the lack of willingness to participate in the study. According to the headmistress, there may have been a number of factors that influenced the response rate. She suggested that the timing may have been too close to examinations, that eating disorders are a sensitive topic as there are girls with eating disorders in the school, that the mothers may have felt threatened by the topic, and lastly, that a better response may have been received if the study had not also required the mothers' participation. Based on the poor response, it was decided that the school would no longer be used for the study. A second letter was sent out to the Grade 9 and 10 girls and their parents, thanking those who had responded and stating that the study would no longer be taking place.

A second private all-girl high school in the Johannesburg area was approached in October 2005. Due to the school's timetable and examinations, the headmistress indicated that it would not be possible to commence the process before February 2006. A meeting was held with the headmistress where permission to conduct the study was obtained and the aims of the study as well as the previous difficulties in obtaining participants were discussed. This was followed by a meeting with the two Grade 9 and 10 life orientation teachers. The headmistress and two teachers showed an interest in the study as disturbed eating attitudes were prevalent in the school and they felt that the study would be beneficial to their students. It was decided that the questionnaires would be completed during the Grade 9 and 10 life orientation (guidance) class periods. The content of the information letter was changed in order to make the study sound

less threatening to both the mothers and the daughters; however, the aims of the study were still clearly stated. Participation was requested from both mothers and daughters. The letter further explained that students would complete their questionnaires during school time; however, the mothers' questionnaires, with matching numbers, were to be completed at home and returned to the school in the sealed envelopes provided. Confidentiality and the anonymity of the questionnaires were emphasised. Participation was motivated by stating that a presentation on eating habits and body dissatisfaction would be conducted after completion of the questionnaires, with the aim of informing the students on the topic of eating disorders. Pamphlets on the topic would also be distributed to the mothers.

In total, 175 information letters containing an outline of the study and requesting voluntary participation and signed consent from both the mothers and their daughters were handed out by the life orientation teachers to all Grade 9 and 10 learners, and the replies were collected within a specific time period. A better participation response was attained. All 82 Grade 9 consent forms were returned, with 74 mother-daughter pairs agreeing to participate and eight refusing participation. Among the Grade 10 students, 54 out of the 93 consent forms were returned, with 46 mother-daughter pairs agreeing to participate, eight refusing participation and 39 not responding at all.

Consent to participate in the study from the second school approached was 69% in comparison to 4% at the first high school. Although many studies on eating-related behaviours utilise high school females, the literature seldom describes how the participants were recruited. In a South African study on high school girls (N=213), Szabo and Hollands (1997a) reported a participation rate of 76%, which was, according to the authors, lower than participation rates of high school girls in Egypt where participation was 83%. In a more extensive study, with a sample of 1353, Szabo (2002) reports an 86% response rate in the urban high schools used. These studies describe how contact was made with the schools but do not describe how participation and consent were motivated among the learners.

In this study, 120 mother-daughter pairs volunteered to participate; however, on the day the questionnaires were administered six Grade 10 girls were absent. Therefore, the sample

consisted of 114 mother-daughter pairs. A further 15% dropout occurred as 17 mothers of the 114 failed to return their completed questionnaires. The final sample therefore comprised 97 mother-daughter pairs, constituting an 85% response rate. This seems to be higher than the response rate reported in most other studies. For example, Ogden and Steward (2000) reported a response rate of 52% in their UK sample, where daughters were recruited in a single private all-girl high school and were given matched questionnaires for their mothers to complete. In Australian studies of volunteering mother-daughter pairs, Benedikt et al. (1998) reported a response rate of 34.2% and Pike and Rodin (1991) a response rate of 57%. However, in all the above studies the mothers' questionnaires were returned via mail whereas in the present study the mothers' questionnaires were returned in sealed envelopes via the daughters.

### 3.4.2 Participants

This study uses the term *participants* instead of *subjects* when referring to the mothers and daughters who participated, based on the design of the study where questionnaires were completed as opposed to an experimental design (Reber & Reber, 2001). The final sample comprised 97 mother-daughter pairs. Sixty-five percent (n=64) of the daughters were in Grade 9 and 34% (n=33) were in Grade 10. The age distribution of participants is described in tables 3.1 and 3.2.

**Table 3.1 Age distribution of daughters participating in the study**

Age	N = 97	Percentage
13	1	1.03
14	47	48.45
15	34	35.05
16	14	14.43
17	1	1.03

**Table 3.2 Age distribution of mothers participating in the study**

Age range	N = 97	Percentage
30-35	6	6.19
36-40	28	28.87
41-45	36	37.11
46-50	22	22.68
51-55	5	5.15

As shown in table 3.1, the daughters' ages ranged between 13 and 17 years and the mean age was 14.7. According to the age range question as shown in table 3.2., 6.19% of the mothers reported being between 30 and 35, 28.87% between 36 and 40, 37.1% between 41 and 45, 22.68% between 46 and 50 and 5.15% between 51 and 55 years. In terms of marital status, 5.15% of mothers were single, 87.63% were married, 4.12% were divorced and 3.09% were widowed.

**Table 3.3 Race distribution of participants**

<b>Race</b>	<b><i>N</i> = 97</b>	<b>Percentage</b>
Black	14	14.43
White	77	79.38
Indian	3	3.09
Coloured	3	3.09

In terms of race, 79.38% of the sample (n= 77) were white, 14.43% (n=14) black, 3.09% (n=3) Indian and 3.09% (n=3) Coloured as seen in table 3.3.

**Table 3.4 Language distribution of participants**

<b>Home language</b>	<b><i>N</i> = 97</b>	<b>Percentage</b>
English	81	83.5
Afrikaans	1	1.03
Zulu	7	7.22
Sotho	2	2.06
Xhosa	3	3.09
Other	3	3.09

All the adolescent participants speak and are taught in English at school; however six different home languages were reported within the sample. As seen in table 3.4, 83.5% reported English as their home language, 1.03% Afrikaans, 7.22% Zulu, 2.06% Sotho, 3.09% Xhosa, and 3.09% reported speaking other home languages such as Portuguese and Polish.

The history of mental disorders in the family and participants' history of diagnosis and treatment for an eating disorder are shown in tables 3.5 and 3.6.

**Table 3.5 History of mental disorders in family of participants**

	<b>N=97</b>	<b>Percentage</b>
No mental illness	77	79.38
Eating disorder	2	2.06
Mood disorder	18	18.56
Schizophrenia	1	1.03
Substance abuse	1	1.03

**Table 3.6 Distribution of participants treated for an eating disorder**

	<b>N=97</b>	<b>Percentage</b>
Mothers	2	2.06
Daughters	0	0

As seen in table 3.6, two mothers and no daughters in the sample reported being diagnosed and treated for an eating disorder. Nearly 80% reported no family history of mental illness (table 3.5). Eighteen mother-daughter pairs reported a history of mood disorders, one reported substance abuse, one schizophrenia and two reported eating disorders.

### 3.4.3 Data Collection

Once consent was obtained from both mothers and daughters, the questionnaires were administered during five life orientation class periods over a two-week period. All students in the class that consented to participate simultaneously completed the questionnaires in a group setting. Each session lasted 35 minutes and the researcher was present to answer any questions on the questionnaire and the study. Before filling in the questionnaires the participants were provided with the following instructions. They were requested not to write their names on the questionnaires and it was explained that the numbers matched their mother's questionnaires. Anonymity and confidentiality were emphasised. The questionnaire was described as a measure of attitudes, feelings and behaviours related to eating and other general areas. It was indicated that there were no right or wrong answers to the questions. Participants were requested to answer honestly and no discussion was permitted between participants.

The learners completed a demographic section in the questionnaire which included questions regarding their height and weight in order for their body mass index (BMI) to be calculated. A scale and a measuring tape attached to a wall were available for the students and they were

given the option to utilise them or to self-report on their weight and height. Self-reported weight has been shown to correlate well with actual weight (Benedikt et al, 1998; Ohring et al., 2002; Paxton et al., 1991; Pike & Rodin, 1991). However, the researcher observed that most of the participants weighed and measured themselves in the session.

The participants also completed three subscales of the Eating Disorder Inventory-3 (Body Dissatisfaction, Drive for Thinness and Bulimia scales), which consist of 25 questions. As questionnaires were completed they were checked by the researcher for incomplete answers. Each participant was given an envelope with a matching number containing the questionnaires for their mothers to complete. The mothers completed a different demographic questionnaire and only the Body Dissatisfaction Subscale of the EDI-3 at home. Mothers' questionnaires were returned to the life orientation teachers in the sealed envelopes provided.

Once all questionnaires were returned, a debriefing and presentation were conducted in the following life orientation class periods. Durrheim and Wassenaar (2002) state that debriefing is essential as it emphasises the dignity and autonomy of the participants. Debriefing is an important part of the research process where participants are told the purpose and expected results in order to add educational and personal value to their experience as well as to address any questions and misconceptions (McBurney, 2001). All questions regarding the questionnaires and their feelings regarding participation were addressed. The presentation was interactive and focused on eating habits, body dissatisfaction, and information about eating disorders, including the risks and dangers involved. Another aim of the presentation was to make the learners aware of their perceptions of their own bodies. The school counsellor's details were made available and a pamphlet was given to all the students to read and take home for their mothers. The pamphlet included information on eating disorders as well as details of psychologists in the area who work with eating pathology.

#### 3.4.4 Confounding Variables

A number of variables may have influenced the results. They are race, language and socioeconomic status.

#### 3.4.4.1 Race

Race was not included as a variable in the study; however, participants were requested to record their race on the demographic questionnaire. The purpose of this was to describe the composition of the sample. Recently much research on disordered eating attitudes and behaviours in South Africa has focused on race. The research cited in the literature chapter reveals that within the South African context adolescent girls of all races are vulnerable to the development of disordered eating attitudes, behaviours and pathology. Numerous studies on adolescent girls (e.g., Davies, 1995; Szabo, 2002; Szabo & Hollands, 1997a) and young adults (e.g., Geach, 1995; Wassenaar et al., 2000) found similar levels of disordered eating among the various race groups. Davies (1995) found that on the three scales of the EDI which directly assess disordered eating patterns, black and white high school girls showed similar results, implying that black girls are at least as much at risk of developing an eating disorder as are white girls. Based on the research question, the findings of the above mentioned studies and the small number of black participants in the present study, race was not included as a variable.

#### 3.4.4.2 Language

Language was also a potential confounding variable. Although all participants attended a private English medium high school, this was not the first language of all participants. This may have influenced the way that the questionnaires were answered. In the demographic questionnaire the daughters were required to indicate the range of their current English mark. According to Garner (2004), the Eating Disorder Inventory-3 items are pitched at a Grade 4 level of English. Eighty percent of the sample reported an English mark of above 61%, indicating that most of the learners are likely to have understood the questions clearly.

#### 3.4.4.3 Socioeconomic status

Socioeconomic status was not included as a variable in the study. In the literature, there is little consensus with regard to socioeconomic status and eating-related behaviour (Szabo, 2002). Geach (1995) found that in a sample of South African female university students, there was no relationship between socioeconomic status and disordered eating (as measured by the EDI). Szabo (2002) found that socioeconomic status did not influence disturbed eating

attitudes, although the setting of the school as urban and rural did. Davies (1995) found no significant differences between the body dissatisfaction scores of girls in private and state schools; however, a difference existed between the state and community school girls. For this reason Szabo (2002) states that social class may influence actual eating disorders rather than behaviours associated with eating disorders; however, the research shows conflicting results.

### **3.5 Assessment Instruments**

#### **3.5.1 Demographic Questionnaire**

Demographic questionnaires (see appendix A) were completed as part of the questionnaire by both the mothers and the adolescent daughters. Demographic questions for the daughters included age, grade at school, race, home language, parents' occupation, participation in extramural activities, current weight, current height, desired weight, perception of current size and weight, history of mental disorders and specifically eating disorders. Demographic questions for the mothers included age, race, home language, occupation, marital status, number of children, current weight, current height, desired weight, perception of current size and weight, history of mental disorders and specifically eating disorders. The purpose of the questions regarding weight and height were to calculate the BMI for each participant.

#### **3.5.2 Body Mass Index (BMI)**

As body mass index may be seen as an objective measure of weight, this was calculated for each participant. The BMI is a measure of nutritional status derived from the following formula:  $\text{weight (kg)} / \text{height}^2 \text{ (metres)}$  (Szabo, 2002). Established reference values for BMI were established by the National Heart, Lung, and Blood Institute as well as the World Health Organisation (Garner, 2004). According to BMI, a value below 18.5 is regarded as underweight, 18.5 to 24.9 is regarded as optimal or normal weight, a value of 25.0 to 29.9 is regarded as overweight and a value above 30.0 as obese (Nieman, 2003).

#### **3.5.3 Eating Disorder Inventory 3 (EDI-3)**

The original Eating Disorder Inventory was developed over 20 years ago by Garner, Olmstead and Polivy (1983) was revised by Garner in 1991 as the EDI-2 and revised again as the EDI-3



in 2004 (Garner, 2004). Conceptual refinements and psychometric properties were improved in the EDI-3; however, the original item set of the EDI has been retained. Garner (2004) indicates that the original item set was preserved in order for researchers and clinicians to compare new data with data from previous versions. The original EDI consisted of eight subscales and a total of 64 items (Williamson, Anderson, Jackman & Jackson, 1995), whereas the EDI-3 consists of 12 subscales with 91 items.

The Eating Disorder Inventory is a self-report measure designed for assessing the presence and intensity of psychological and behavioural traits clinically relevant to the onset and maintenance of eating disorders (Garner, 2004; Williamson et al., 1995). It assesses the psychological domains which are conceptually relevant in treating and understanding eating disorders. It is not intended to yield a diagnosis but rather to aid in the formulation of a diagnosis (Garner, 2004). As Garner and his colleagues believed that eating disorders are multidimensional (Garner, 2004), the EDI includes cognitive, sociocultural, behavioural and psychodynamic factors, which are relevant to the aetiology of eating disorders (Davies, 1995).

#### 3.5.3.1 Subscales of the EDI-3

The EDI-3 consists of 91 items comprising 12 subscales, three of which are eating disorder-specific scales and nine of which are general psychological scales relevant to eating disorders (Garner, 2004). The three primary scales (Drive for Thinness, Body Dissatisfaction and Bulimia) are called the Eating Disorder Risk scales as they assess symptomatic patterns of eating behaviour (Davies, 1995). Based on research, Garner (2004) indicates that high scores on these three scales place an individual at increased risk for developing an eating disorder. An eating disorder risk composite score can be calculated by combining the Drive for Thinness, Body Dissatisfaction and Bulimia scores. This score provides a global measure of the three constructs that measure disturbed eating directly. This score reflects eating and weight concerns and can be used for screening purposes (Garner, 2004). The other nine scales assess the psychological traits and constructs that are conceptually relevant to the development and maintenance of eating disorders (Garner, 2004). These scales are Low Self-esteem, Personal Alienation, Interpersonal Insecurity, Interpersonal Alienation, Interoceptive Deficits, Emotional Dysregulation, Perfectionism, Asceticism, and Maturity Fears.

In this study only the Body Dissatisfaction scale, Drive for Thinness and Bulimia scale were used. The Body Dissatisfaction scale was used to measure body dissatisfaction for both the mothers and daughters. The Body Dissatisfaction scale scores of the daughters were also used in conjunction with the Drive for Thinness and Bulimia scales to screen for disturbed eating and weight concerns among the adolescent girls in the sample.

- Body Dissatisfaction Scale (BD)

This scale consists of 10 items. It assesses attitudes related to body shape and focuses on the construct of body dissatisfaction (Stewart & Williamson, 2004). It assesses discontentment with the overall shape and size of regions of the body that are of extraordinary concern to those who have eating disorders such as the stomach, hips, thighs and buttocks (Garner, 2004). According to Stewart and Williamson (2004, p. 506), “the scale was constructed to measure dissatisfaction through representation that specific body parts are too large, especially those associated with increased fatness at puberty.” As body dissatisfaction is commonly found among young women in Western society, body dissatisfaction as a construct is seen as a risk factor responsible for initiating and sustaining extreme weight controlling behaviours that can lead to eating problems in vulnerable females (Garner, 2004). As a contributing risk factor, body dissatisfaction is not considered a direct cause of eating disorders, although Pike et al. (2000) indicate that it has been found to be a strong predictor of eating pathology that is correlated with symptom severity, poor treatment outcome, and treatment relapse in patients with bulimia nervosa. According to Pike et al. (2000, p. 653) “it may be useful to target individuals with high scores on the body dissatisfaction subscale for early intervention efforts.” Body dissatisfaction in both clinical and nonclinical samples is correlated with weight (Pike et al., 2000) and individuals with higher BMIs typically have higher BD scores (Garner, 2004). This subscale has high internal consistency (.91) with an adolescent sample and test-retest reliability coefficients of .95, .97 and .75 for one week, three week and one year intervals (Phelps et al, 1999). Stewart and Williamson (2004) indicate that both convergent and discriminant validity have been established and construct validity has been demonstrated for this scale.

- Drive for Thinness Scale (DT)

According to Garner (2004, p. 14), “this construct has been described as one of the fundamental features of eating disorders and has been considered an essential criterion for a diagnosis according to many classification schemes”. This scale consists of seven items which assess an extreme desire to be thinner, concern with dieting, preoccupation with weight and dieting, and an intense fear of gaining weight (Garner, 2004). Based on research, this scale is a strong predictor of the development of eating disorders among adolescent girls and women, and girls with higher body weights who matured early appear to have higher DT scores (Garner, 2004). Garner (2004) indicates that in nonclinical samples DT has been identified as a risk factor in the development of eating disorder symptoms, while among clinical samples it can be seen as one of the central features associated with the onset and maintenance of eating symptoms. This subscale has alpha coefficients of .81-.91 and a test-retest reliability of .95 at three weeks (Phelps et al., 1999).

- Bulimia Scale (B)

This scale consists of eight items which assess concerns regarding the presence of thoughts and behaviours regarding binge eating such as eating large amounts of food in secret in response to being emotionally upset (Garner, 2004). Binge eating is a defining characteristic of bulimia nervosa, and differentiates the two sub-types of anorexia nervosa (Garner, 2004). Although binge eating is reported in individuals who do not meet the full diagnostic criteria for an eating disorder, research shows that binge eating is associated with severe psychological distress (Garner, 2004). Based on research, the Bulimia scale has proved to be stable over time and has been shown to predict the onset of eating problems (Garner, 2004).

- Low Self-Esteem Scale (LSE)

This scale consists of six items which measure negative self-evaluation, feelings of insecurity, inadequacy, ineffectiveness and lack of personal worth (Garner, 2004).

- Personal Alienation Scale (PA)

The seven items in the scale measures a pervasive sense of emotional emptiness, aloneness and a poor self-understanding (Garner, 2004).

- Interpersonal Insecurity Scale (II)

This scale consists of seven items which measure discomfort, apprehension and reticence in social situations (Garner, 2004).

- Interpersonal Alienation Scale (IA)

This scale assesses disappointment, distance, estrangement and a lack of trust in relationships, and consists of seven items (Garner, 2004).

- Interoceptive Deficits Scale (ID)

This scale consists of nine items assessing an individual's confusion associated with accurately recognising and responding to emotional states (Garner, 2004).

- Emotional Dysregulation Scale (ED)

The eight items assess a tendency toward mood instability, impulsivity, recklessness, anger and self-destructiveness (Garner, 2004).

- Perfectionism Scale (P)

This scale assesses the extent to which a person focuses on achieving high goals and high standards of personal achievement, based on six items (Garner, 2004).

- Asceticism Scale (A)

These seven items focus on the tendency to seek virtue by pursuing spiritual ideals (self-discipline, self-denial, self-restraint, self-sacrifice, control of bodily urges) (Garner, 2004).

- Maturity Fears Scale (MF)

This scale assesses the desire to retreat to the security of childhood and consists of eight items (Garner, 2004).

### 3.5.3.2 Administration and scoring

The EDI-3 is suitable for adult women and adolescents of 13 years and older, although it can be used on children as young as 11 years (Garner, 2004). It can be administered individually or in a group setting and takes approximately 20 minutes to complete. Pike et al. (2000) state

that an advantage of the EDI is that it is a self-report instrument and therefore practical to administer; however, this is also a limitation as eating disorder patients often underestimate their symptomology. The EDI has similar limitations to other self-report instruments in that distortions may emerge in the form of response sets and differences between respondents about the meaning of words and statements (Davies, 1995). This problem may occur when the inventory is used among individuals where English is their second language (Davies, 1995). In the present study all participants attended an English medium private high school with 81% of the sample reporting an English mark of above 61%. The EDI-3 is also vulnerable to potential distortion due to inaccurate reporting, response style bias, participants' defensiveness and denial (Garner, 2004).

The individual responds to items that are presented in a 6-point, forced choice format. Respondents are required to answer whether each item applies to them always, usually, often, sometimes, rarely or never. Responses for each item are allocated a score between 0 and 4, where the most extreme responses in the symptomatic direction (either always or never based on whether item is positively or negatively keyed) are given scores of 4. The next adjacent response follows with 3 or 2 or 1 and then the last two, which are farthest in the asymptomatic direction, score 0. Subscale scores are calculated by adding all the item scores and higher scores indicate a greater manifestation of that particular trait (Pike et al., 2000). Each subscale measures an independent trait and therefore individual subscale scores are important (Pike et al., 2000).

Scoring on the EDI-3 differs from earlier versions where 0-3 point scoring was used. However, this resulted in highly skewed data in nonclinical samples, violating assumptions of parametric statistical procedures (Garner, 2004). This was changed in the EDI-3 to a 0-4 scoring system which expands the range of scores and upholds the heuristic value of the original scoring, thereby improving the psychometric properties for nonclinical populations (Garner, 2004). The EDI-3 is described as a research tool that may be used as both an outcome measure and a prognostic indicator of treatment results (Garner, 2004). It provides descriptive information about samples, and Garner (2004) states that constructs such as body dissatisfaction and weight preoccupation may be used alone.

The EDI-3 revision was based on large clinical samples of eating disordered individuals from treatment facilities in the United States, Canada, Europe, and Australia (Garner, 2004). In the EDI-3 new norms were developed from a multisite clinical sample in the United States and the nonclinical comparison samples hail from the U.S. and Europe (Garner, 2004). Normative information is provided for 13 to 35 year-old females with eating disorders collected at both inpatient and outpatient settings (Garner, 2004). In nonclinical settings the EDI can be used as part of a screening instrument for identifying individuals at risk for developing eating disorders or individuals with subclinical eating disturbances (Pike et al., 2000). In New Zealand Wicks, Siegert and Walkey (2004) conducted a study on the eight factor structure of the EDI in a nonclinical population, and findings from the study indicate that the EDI is a useful instrument. Klemchuk, Hutchinson and Frank (1990) believe that although the EDI was developed to differentiate between clinical and nonclinical groups, it has shown utility as both an empirical and clinical instrument.

Although no South African norms are available the EDI has been used in studies on nonclinical populations in South Africa and Zimbabwe. The EDI was used for the first time in Africa in 1986 on a sample of Zimbabwean high school girls by Hooper and Garner (1986). A number of South African studies (such as Davies, 1995; Edwards et al., 2003; Geach, 1995; Wassenaar et al., 2000) have used the EDI on nonclinical samples of adolescent girls and university students and no problems were reported even when used on a sample where English was not the first language of participants attending English medium schools.

### 3.5.3.3 Psychometric properties of the EDI-3

- Reliability

Garner (2004) indicates that Cronbach's alpha coefficient was used to estimate internal consistency where composite reliabilities were calculated and the reliability ranged between .90 and .97 (median = .94) across the four diagnostic groups and three normative groups. Reliabilities for the three eating disorder risk scales (DT, BD and B) are in the high .80s to the low .90s across the normative groups (Garner, 2004). Reliabilities for the psychological scales and composites are high with the general psychological maladjustment composite range

spanning .93 to .97 across the three normative groups (Garner, 2004). All but one of the composite reliabilities range between .80 and .90 for the normative samples (Garner, 2004).

The test-retest stability coefficients of the EDI-3 are very good (Garner, 2004). The eating disorder risk composite coefficient is .98 and the general psychological maladjustment composite coefficient is .97 (Garner, 2004). The median test-retest coefficients were .95 for the three risk scales and .93 for the psychological scales (Garner, 2004).

- Validity

Content, criterion, convergent and discriminant validity has been shown on the original scales of the EDI (Garner, 2004). The Drive for Thinness scale (.96) and the Body Dissatisfaction scale (.97) have the highest correlations on the risk scale (Garner, 2004).

The EDI-3 has been found to be positively correlated with the Eating Attitudes Test (EAT-26) and the eating and weight-related subscales of the EDI were found to correlate with the Restraint scale (Williamson et al., 1995). The EAT-26 is a widely used, standardised self-report measure of eating-disorder symptoms which provides factor scores for “dieting”, “bulimia and food preoccupation”, and “oral control” and its reliability and validity have been clearly demonstrated (Garner, 2004). Garner (2004) indicates that a consistent pattern was found between the EDI-3 risk scales and the EAT-26, with the DT scale showing the highest correlation with the EAT-26 for both adult (.72) and adolescent groups (.70). The Bulimia scale and the EAT-26 show the lowest correlation, while the Body Dissatisfaction scale was correlated with the EAT-26 with .52 for adults and .54 for adolescents (Garner, 2004). The median correlation between the psychological scales of the EDI-3 and the EAT-26 was moderately higher (.45) for the adolescent sample than for the adult sample (ranged from .15 to .50) (Garner, 2004).

### 3.6 Statistical Procedures

The raw data from both sets of questionnaires were coded and captured using Microsoft Excel, and checked for errors. The data were then submitted for statistical analysis in electronic format to the Department of Statistics at the University of Pretoria. Based on the aims of the study, the following statistical procedures were executed.

#### 3.6.1 Reliability Tests

Reliability tests were performed to establish the internal consistency of the subscales of the EDI-3 used for the sample. This is discussed more fully in section 4.2 of the results chapter.

#### 3.6.2 Descriptive Statistics

Sample means and standard deviations for Body Dissatisfaction, weight, height and body mass index were calculated for both mothers and daughters. These were also determined for the daughters on the Drive for Thinness and Bulimia scales. Frequency distributions for mothers and daughters regarding age, race, home language, and history of eating disorders or other mental illnesses were also calculated.

#### 3.6.3 Inferential Statistics

In order to determine the relationships between variables, the following statistical procedures were used.

1. The Pearson product moment correlation coefficient ( $r$ ) was used to obtain correlations between the variables. This was done to determine the relationships between the body dissatisfaction of mothers and their daughters and the relationship between the body mass indices of mothers and daughters. The correlations between body dissatisfaction and BMI of mothers and daughters were also calculated separately. Correlations were also calculated for the daughters' body mass index and the three EDI-3 scale scores.

2. T-tests were used to measure whether there was a difference in the mean scores of two groups of adolescent girls (average and overweight) based on self-report perception of size



and weight with regard to body mass index, body dissatisfaction, as well as scores on the three EDI-3 scales. T-tests were also conducted on the mean scores of the two groups of mothers (average and overweight) based on self-report perception of size and weight with regard to body dissatisfaction and BMI.

3. The chi-square ( $\chi^2$ ) test was used to establish the association between BMI and self-report perception as average or overweight for both mothers and daughters.

### **3.7 Ethical Considerations**

An essential purpose of ethical research planning is to protect the welfare and rights of the participants (Durrheim & Wassenaar, 2002). Autonomy, nonmaleficence and beneficence are three ethical principles that need to be considered when conducting research. Autonomy implies that the researcher needs to respect the autonomy of all participants by addressing issues such as informed consent, freedom to withdraw from the study and the participant's right to anonymity in any publication arising from the research (Durrheim & Wassenaar, 2002). Neuman (2003) indicates that a fundamental principle is that participation must be voluntary, therefore no individual is coerced into participating. The principle of nonmaleficence implies that the researcher should do no harm, therefore potential risks that may involve emotional or physical harm to any person or creature need to be considered (Durrheim & Wassenaar, 2002). Researchers also need to be sensitive to stress or harm caused towards a person's self-esteem and should not create unnecessary stress that has no legitimate research purpose for the participants (Neuman, 2003). Beneficence implies that the researcher designs the study in a way that it will be of benefit to the research participants, to other researchers and to society (Durrheim & Wassenaar, 2002). While society and professional committees grant researchers the authority to conduct research, they also have a responsibility to guide, protect and consider the interests of the people being studied (Neuman, 2003).

In this study all of the above ethical considerations were taken into account. Signed consent was obtained from all mothers and daughters, participation was voluntary and all participants

were aware of what was required from them. Neuman (2003) states that it is important that participants explicitly agree to participate. As adolescents were used in this study, consent from their mother as their legal guardian had to be attained; however, the adolescents' autonomy was maintained as signed consent was also obtained from them. Durrheim and Wassenaar (2002) indicate that permission from the legal guardian should not override the autonomy of the adolescent if he or she chooses not to participate in the research. Throughout the study all participants remained anonymous and confidentiality was maintained throughout the research process.

### **3.8 Research Design Limitations**

This study was an exploratory study on body dissatisfaction in adolescent girls and their mothers in a private high school in Johannesburg. As such, it entailed a number of limitations. The non-random sampling method used limits the generalisability of the results, so that the results of the study cannot be generalised to populations other than the group used. The sample used in the study is also small and therefore further reduces the generalisability of the results. The validity of the instrument used, namely the Eating Disorder Inventory 3, has not been established for South Africa. However, it has been used in South African studies on nonclinical samples (such as Davies, 1995; Edwards et al., 2003; Geach, 1995; Wassenaar et al., 2000) and no problems have been reported. The EDI-3 is a self-report questionnaire and although anonymity was emphasised, it is not known how honestly the participants responded. The mothers' questionnaires were completed at home, therefore the researcher was not present to answer any questions or to standardise the setting. The EDI-3 was used as the instrument in this study; however, different instruments may have been used to measure the same constructs, which may result in differing findings. As this study focused exclusively on mother-daughter relationships with regard to body dissatisfaction, it excluded other factors such as peers and the media, which have also been found to influence this construct. Therefore, this study may be seen as an exploratory study and more research needs to be conducted on a larger, random sample in order for the results to be generalisable. Since a correlational design strategy was used, no causal relationships could be determined. Future studies may focus on the causal

relationships between the body dissatisfaction of mothers and daughters in a South African context.

### **3.9 Chapter Summary**

In this chapter the aims, research design and methodology of the study were discussed. The statistical procedures executed were briefly described. The following chapter focuses on the presentation and discussion of the statistical analyses of the results.

## CHAPTER 4

### **PRESENTATION AND DISCUSSION OF RESULTS**

The purpose of this chapter is to report and discuss the results of the study in terms of the findings obtained from the statistical analyses conducted. Statistical procedures were conducted on the data by the Department of Statistics at the University of Pretoria. The selection of the statistical procedures used and discussed in this chapter was determined by the aims and research questions. Reliability tests were performed for the subscales of the EDI-3. Means and standard deviations were calculated for all variables. Correlation analyses, t-tests and chi-square tests were performed in order to explore relationships between the variables.

In this section the results are presented and described. Firstly, a brief description of the central findings is given, followed by a presentation of the results and the statistical techniques used. This is followed by a full discussion of the results and their relation to the findings discussed in the literature.

#### **4.1 Central Findings**

The primary aim of the study on the research question (What is the relationship between a mother's body dissatisfaction and that of her adolescent daughter?) was to explore the relationship between a mother's body dissatisfaction and the body dissatisfaction of her adolescent daughter, as measured by the Body Dissatisfaction scale of the EDI-3. The analysis of the results reveals that no significant relationship was demonstrated between the body dissatisfaction of mothers and the body dissatisfaction of their adolescent daughters.

The study had four additional aims. The first was to explore the relationship between the body mass index of mothers and daughters, their levels of body dissatisfaction and the relationship between body dissatisfaction and BMI. The second additional aim was to explore self-report perceptions of size and weight in relation to body dissatisfaction and BMI. The results for these two aims demonstrate no significant relationship between mothers' BMI and daughters'

BMI. Body dissatisfaction levels for the majority of both mothers and daughters in the study were within normal ranges. There were, however, both mothers and daughters who reported significant levels of body dissatisfaction. Positive relationships were shown between body dissatisfaction and BMI for both mothers and daughters. Among the daughters, adolescent girls with low body dissatisfaction seemed to have a more realistic perception of their size and weight than those with a higher degree of body dissatisfaction. Girls showing significant body dissatisfaction tended to perceive themselves as overweight. Although the girls who perceived themselves as overweight had a higher than those who perceived themselves as average, the mean BMI for these participants was still within the optimal/average BMI range.

The third additional aim in the study was to screen for the presence of disturbed eating attitudes and behaviours among the adolescent girls in the sample, as measured by the three scales of the EDI-3. The fourth aim in the study was to explore the relationship between the three EDI-3 scales and the body mass indices of the adolescent participants. The screening for the presence of disturbed eating (measured by Body Dissatisfaction, Drive for Thinness and Bulimia scales of EDI-3), revealed that there were girls in the sample who demonstrated disturbed eating attitudes and behaviours. Significant positive relationships were shown between the Body dissatisfaction, Drive for Thinness and Bulimia scores as well as between BMI and all three scales. Therefore higher levels of disturbed eating are associated with a higher BMI. The girls with a higher BMI tended to perceive themselves as overweight and showed more disturbed eating. However, the BMI for the group that perceived themselves as overweight was within the optimal/average BMI range, indicating that although they had a higher BMI than those in the average group, they still fell within a healthy weight range.

#### **4.2 Reliability Coefficients for EDI-3 Subscales**

Reliability refers to the consistency and stability of a measure (Aron & Aron, 1999). Reliability tests were performed to establish the internal consistency of the subscales of the EDI-3. A measure of reliability is Cronbach's Alpha (Neuman, 2003). Aron and Aron (1999, p. 527) state that "a test should have a reliability (as measured by Cronbach's alpha) of at least 0.7 to be considered useful." A coefficient alpha greater than 0.7 indicates that a test exhibits

good internal reliability (Howell, 2002). Cronbach coefficient alphas were calculated for all three subscales of the EDI-3 used in the study. The Cronbach coefficient alpha for the mothers' Body Dissatisfaction scale was 0.91 and 0.9 for the daughters' Body Dissatisfaction scale. The Cronbach coefficient alphas for the daughters' Drive for Thinness and Bulimia scales were 0.85 and 0.77 respectively. This indicates that the subscales of the EDI-3 used show good reliability for this sample.

### 4.3 Descriptive Statistics Results

Means, standard deviations and some percentiles were calculated for the daughters' height, weight, body mass index (BMI), Body Dissatisfaction scale, Drive for Thinness scale and Bulimia scale (see table 4.1). They were also calculated for the mothers' height, weight, body mass index and the Body Dissatisfaction scale.

Sample characteristics for the daughters are presented in table 4.1 and in table 4.2 for the mothers.

**Table 4.1 Sample characteristics of daughters (N=97)**

<b>Daughters</b>										
<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>Mode</b>	<b>Std Dev</b>	<b>Min</b>	<b>Max</b>	<b>Q1-25%</b>	<b>Med-50%</b>	<b>Q3-75%</b>
<b>Height</b>	97	1.63	1.62	1.62	0.068	1.4	1.81	1.59	1.62	1.67
<b>Weight</b>	97	55.29	55	55	8.00	41	75	50	55	60
<b>Body Mass Index</b>	97	20.85	20.58	18.2	2.89	15.42	28.72	18.65	20.58	22.48
<b>Body Dissatisfaction Scale (EDI-3)</b>	97	18.34	18	14	10.34	0	39	12	18	27
<b>Drive for Thinness Scale (EDI-3)</b>	97	11.54	11	7	7.38	0	28	7	11	17
<b>Bulimia Scale (EDI-3)</b>	97	5.37	4	1	5.28	0	29	1	4	8

**Table 4.2 Sample characteristics of mothers (N=97)**

Mothers										
Variable	N	Mean	Median	Mode	Std Dev	Min	Max	Q1-25%	Med-50%	Q3-75%
Height	92	1.65	1.66	1.6	0.07	1.45	1.8	1.6	1.66	1.69
Weight	96	68.84	66	60	14.09	44	103	59.5	66	75
Body Mass Index	92	25.12	24.39	23.44	4.51	17.78	39.74	21.45	24.39	27.86
Body Dissatisfaction Scale (EDI-3)	97	17.37	16	0	10.94	0	40	9	16	25

#### 4.3.1 Body Mass Index (BMI)

As shown in table 4.1, the mean height for the daughters in the sample was 1.63m ( $SD = 0.068$ ) and the mean weight was 55.29 kg ( $SD = 8.00$ ). Body mass index was calculated using the formula weight (kg) / height <sup>2</sup> (metres). The mean BMI for the daughters was 20.85 ( $SD = 2.89$ ). As seen in table 4.2 the mean height for the mothers in the sample was 1.65m ( $SD= 0.07$ ) and the mean weight was 64.84 ( $SD= 14.09$ ). The mean BMI for the mothers in the sample was 25.12 ( $SD = 4.51$ ).

According to the body mass index, a value less than 18.5 falls within the underweight range, a value of between 18.5 – 24.9 falls within the optimal or normal average range, value of between 25.0 – 29.9 falls within the overweight range and a value of above 30.0 falls within the obese range (Nieman, 2003). The ranges of body mass index for both mothers and daughters are given in table 4.3.

**Table 4.3 BMI ranges of mothers and daughters**

	Body Mass Index	N = 97	%
Daughters	Underweight (< 18.5)	22	22.68
	Average/ Optimal (18.5-24.9)	65	67.01
	Overweight (25-29.9)	10	10.31
Mothers	Underweight (< 18.5)	8	8.25
	Average/ Optimal (18.5-24.9)	45	46.39
	Overweight (25-29.9)	28	28.87
	Obese (30.0 <)	16	16.49

As shown in table 4.3, the BMI of 22.68% of the daughters in the sample was within the underweight range, 67.01% within the average or optimal range and 10.31% within the overweight range. As indicated in table 4.1, 75% of the daughters had a BMI less than 22.48, showing that the majority of the daughters fell within or below the optimal/average BMI range. Table 4.3, shows that 8.25% of the mothers had a BMI value within the underweight range, 46.39% were within the average/optimal range, 28.87% within the overweight range and 16.49% within the obese range.

The Body Dissatisfaction Scale of the EDI-3 was used to measure body dissatisfaction in both mothers and daughters. The daughters' Body Dissatisfaction scores were used again with the two additional EDI-3 scales, the Drive for Thinness and Bulimia Scale to screen for disturbed eating among the adolescent participants. These three risk scales provide a measure of the presence of disturbed eating attitudes and behaviours. The tables below describe the EDI-3 scale scores obtained in the sample.

**Table 4.4 Daughter raw scores on Body Dissatisfaction, Drive for Thinness and Bulimia (EDI-3)**

Scale	Score	<i>N</i> = 97	Percentage
<b>Drive for Thinness</b>	0-16 (Low clinical)	70	72.16
	17-24 (Typical clinical)	23	23.71
	25-28 (Elevated clinical)	4	4.12
<b>Body Dissatisfaction</b>	0-21 (Low clinical)	65	67.01
	22-35 (Typical clinical)	25	25.77
	36-40 (Elevated clinical)	7	7.22
<b>Bulimia</b>	0-4 (Low clinical)	55	56.7
	5-18 (Typical clinical)	39	40.21
	19-32 (Elevated clinical)	3	3.09

**Table 4.5 Mother raw scores on Body Dissatisfaction Scale (EDI-3)**

Score	<i>N</i> = 97	Percentage
0-21 (Low clinical)	59	60.82
22-35 (Typical clinical)	32	32.99
36-40 (Elevated clinical)	6	6.19



### 4.3.2 Body Dissatisfaction

As seen in table 4.1 the mean Body Dissatisfaction score for the daughters in the sample was 18.34 ( $SD = 10.34$ ). Table 4.2 shows the mean Body Dissatisfaction score for the mothers to be 17.37 ( $SD = 10.94$ ).

Table 4.4 reveals that 67.01% of the daughters had Body Dissatisfaction scores within the low clinical range of the EDI-3. As indicated in table 4.5, 60.82% of the mothers' Body Dissatisfaction scores also fell within this range. According to Garner (2004), a score in this range is commonly found in nonclinical samples (70% of girls and 54% of women).

The typical clinical range included 25.77% of the daughters and 32.99% of the mothers. A score in this range indicates significant body dissatisfaction and unhappiness regarding body size, shape and weight (Garner, 2004). Although a score in this range is commonly found in patients with clinical eating disorders, Garner (2004) indicates that a significant proportion of women in nonclinical samples also score in this range. Therefore individuals scoring in this range are not considered high risk unless they show high scores on the remaining two eating disorder risk scales (Drive for Thinness and Bulimia Scale) (Garner, 2004).

The scores of 7.22% of the daughters and 6.19% of the mothers fell within the elevated clinical range. Garner (2004) indicates that a score in this range is rarely found among nonclinical samples as it indicates that the individual is extremely critical of their body size and shape, and is unhappy with her weight.

The above results suggest that the majority of mothers and daughters do not show significantly high levels of body dissatisfaction as measured by the Body Dissatisfaction Scale of the Eating Disorder Inventory-3.

An indication of the ranges of the matched body dissatisfaction scaled scores for mothers and daughters is presented in table 4.6.

**Table 4.6 Matched Body Dissatisfaction scores for mothers and daughters (EDI-3)**

		Mothers' Body Dissatisfaction ( <i>N</i> = 97)				
		Low Clinical Range (0-21)	Typical Clinical Range (22-35)	Elevated Clinical Range (36-40)	Totals	
Daughters' Body Dissatisfaction ( <i>N</i> = 97)	Low Clinical Range (0-21)	Frequency	39	23	3	65
		%	60%	35.38%	4.62%	
	Typical Clinical Range (22-35)	Frequency	16	6	3	25
		%	64%	24%	12%	
	Elevated Clinical Range (36-40)	Frequency	4	3	0	7
		%	57.14%	42.86%	0%	
						<i>N</i> =97

Although a chi-square test was attempted to measure the association between the mother and daughter body dissatisfaction scores, it was not possible to test this relationship due to the low number of girls scoring in the elevated clinical range. The above table shows that there are no significant matched relationships between mother and daughter scores. This will be discussed later with regard to the low correlation between mother and daughter body dissatisfaction.

As seen in table 4.6, among the 65 daughters scoring in the low clinical range on the Body Dissatisfaction scale, 60% of the daughters had mothers with scores in the low clinical range. However, 35.38% of the daughters in this range had mothers who scored in the typical clinical range and 4.62% had mothers scoring in the elevated clinical range. Among the 25 daughters whose scores fell within the typical clinical range, 24% had mothers whose scores also fell within this range; however 64% had mothers whose scores fell within the low clinical range, and 12% had mothers whose scores fell within the elevated clinical range. Among the seven daughters whose scores fell within the elevated clinical range of the Body Dissatisfaction scale, 57.14% of them had mothers scoring in the low clinical range, 42.86% of them had mothers whose scores fell within the typical clinical range and none of them had mothers scoring in the elevated clinical range.

Although the number of mothers and daughters in the low, typical and elevated clinical ranges appears similar, most scores for the mother-daughter pairs do not fall within the same ranges when matched.

#### 4.3.3 Daughters' Scores on Drive for Thinness and Bulimia Scales of EDI-3

As seen in table 4.1, the mean for the daughters on the Drive for Thinness scale was 11.54 ( $SD = 7.38$ ). Table 4.4 shows that 72.16% of the daughters scored within the low clinical range on the Drive for Thinness Scale. A score in this range indicates that these girls do not have significant concerns regarding eating and weight (Garner, 2004). The typical clinical range included 23.71% of the girls. A score in this range reflects significant weight preoccupation commonly found among patients diagnosed with an eating disorder; however, it is relatively rare in nonclinical samples (8% of adolescents and 18% of adults). For this reason, Garner (2004) recommends that individuals scoring in this range be evaluated further. A further 4.12% scored within the elevated clinical range on the Drive for Thinness Scale. Garner (2004, p. 53) states that “a score in this range should raise significant concerns regarding the presence of a clinical eating disorder as it is rare among nonclinical respondents (1% of adolescents and 2% of adults)”.

The scores on the Drive for Thinness Scale suggest that most of the girls do not have significant eating and weight concerns; however, more than a quarter of the adolescent participants (27.84%) do display significant weight preoccupation.

As seen in table 4.1, the mean for the daughters on the Bulimia Scale (EDI-3) was 5.37 ( $SD = 5.28$ ). Table 4.4 shows that 56.7% of the participants' Bulimia scores fell within the low clinical range, which is common in nonclinical samples. Approximately 40% of the girls in the sample scored within the typical clinical range. According to Garner (2004, p. 56), in nonclinical samples, “a score greater than or equal to 5 is uncommon among those 18 years and younger (12%) but is more common among the adult sample (30%) and should raise concerns about the presence of clinically relevant overeating tendencies.” Just over three percent of the girls in the sample scored within the elevated clinical range. Garner (2004) indicates that a score in the elevated range score is very rare among nonclinical samples as it reflects high level of psychopathology and possibly the presence of a clinical eating disorder.

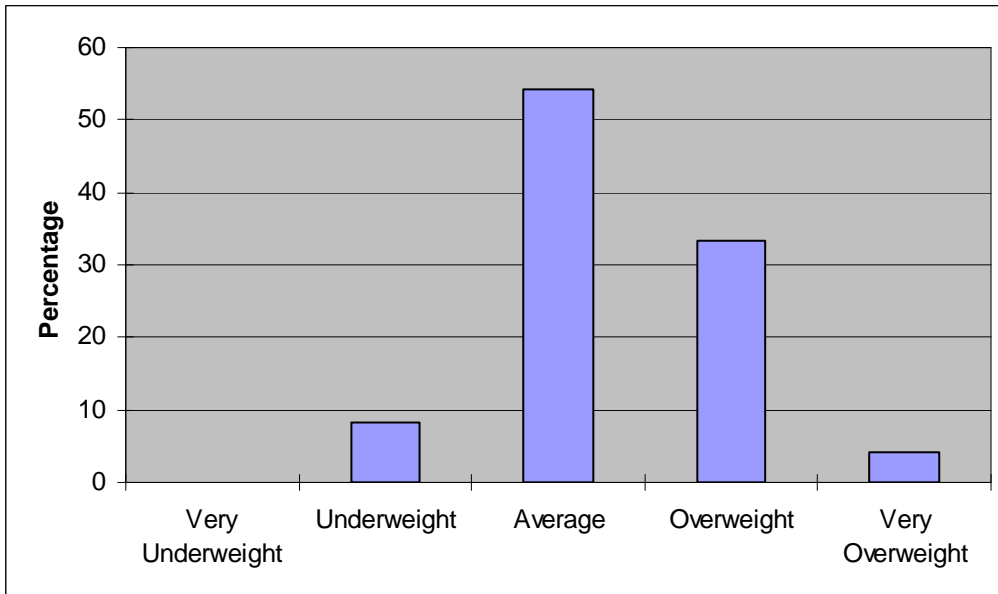
Disordered eating attitudes and behaviours are indicated by a combination of the abovementioned three scores. Therefore, when the body dissatisfaction scores are considered

with the other two scales, this gives an indication of girls who may be at risk for the development of eating pathology. When the body dissatisfaction scores of the participants are interpreted alone they appear within acceptable ranges. However, when all three risk scales are considered together, it appears that there are girls in the sample who display disturbed eating attitudes and behaviours that may place them at risk for the development of an eating disorder.

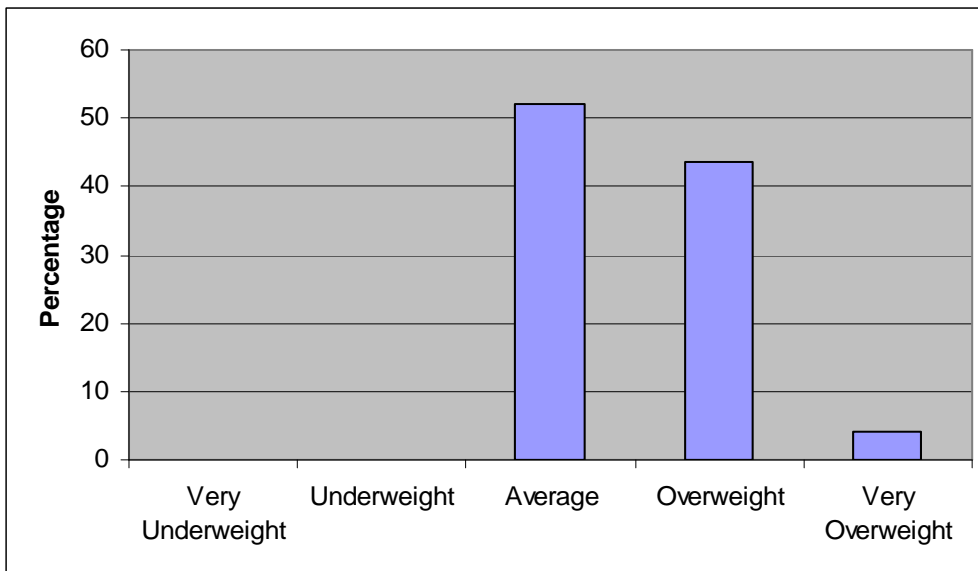
#### 4.3.4 Self-report Perception of Size and Weight

The data regarding self-report perception of size and weight were obtained from responses to a specific question within the demographic questionnaire which inquired about how they feel about their current weight and size. The question asked was: “How do you feel yourself to be: very overweight, overweight, average, underweight, very underweight?” Although this question was not part of the Eating Disorder Inventory-3, it provides information regarding the participant’s subjective view of their size and weight. There were originally five categories on the questionnaire (as shown in figures 4.1 and 4.2). None of the participants perceived themselves as very underweight, therefore only the remaining four categories were considered (see figures 4.3 and 4.4). Due to the small number of participants in two of the remaining four categories, the categories were combined. The first category (“overweight”) comprised participants who considered themselves to be very overweight or overweight. The second category (“average”) consisted of the girls who considered themselves to be underweight or average (figures 4.5 and 4.6).

A graphic representation of the five categories of self-report perceptions for both daughters and mothers is shown in figure 4.1 and figure 4.2 respectively.

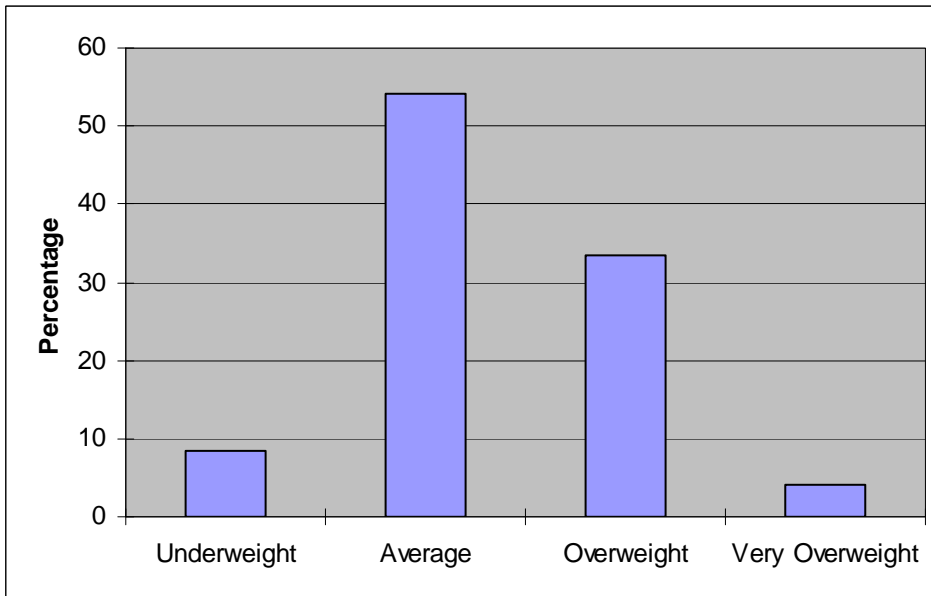


**Figure 4.1 Daughter self-report perceptions of size and weight (5 categories)**

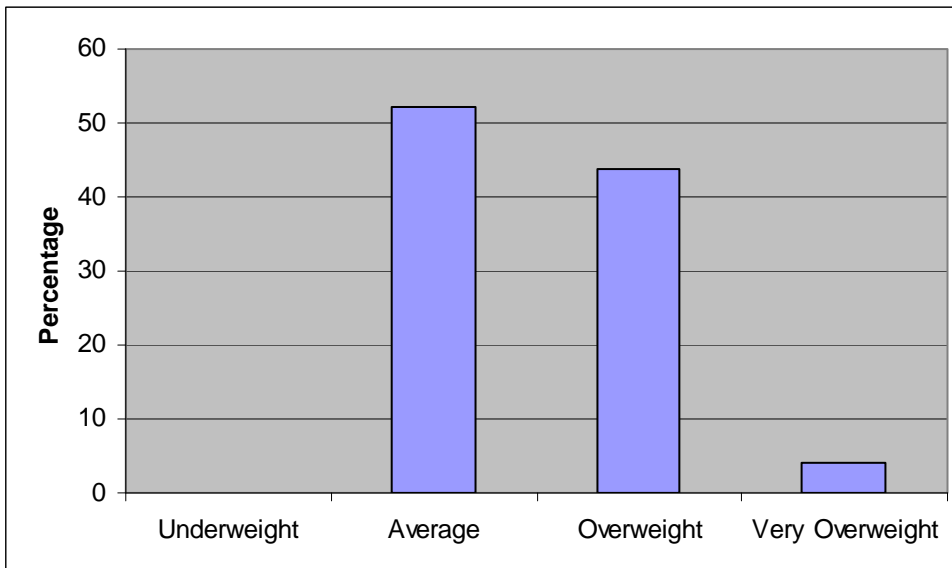


**Figure 4.2 Mother self-report perception of size and weight (5 categories)**

A graphic representation of the four categories of self-report perceptions for both daughters and mothers is shown in figure 4.3 and figure 4.4 respectively.

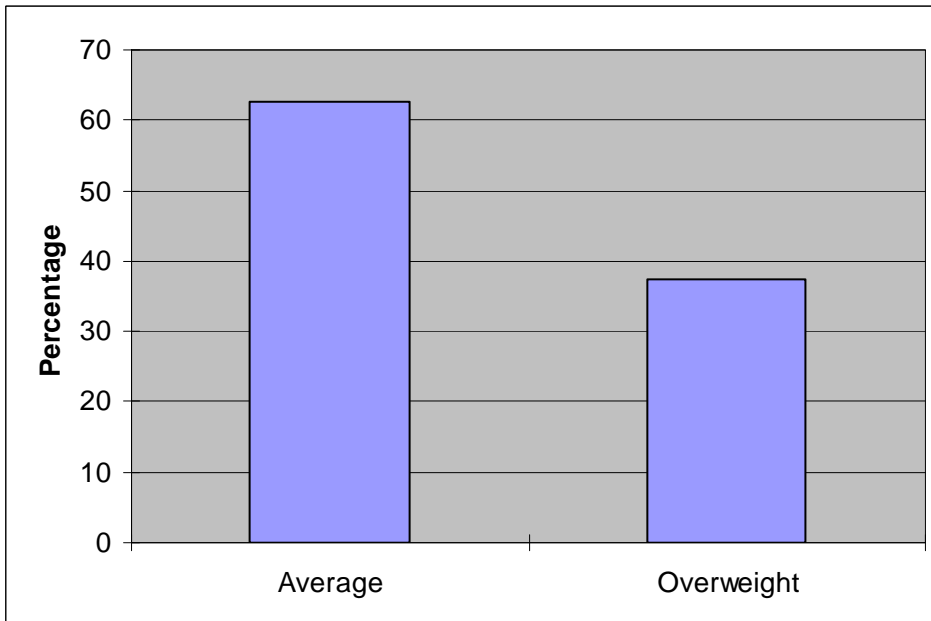


**Figure 4.3 Daughter self-report perceptions of size and weight (4 categories)**

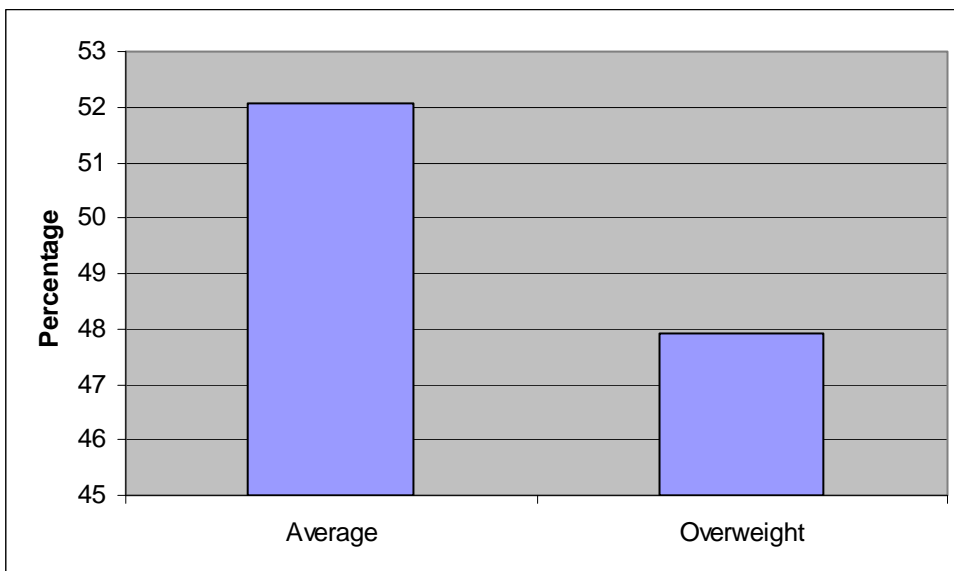


**Figure 4.4 Mother self-report perception of size and weight (4 categories)**

A graphic representation of the combined categories of self-report perceptions for both daughters and mothers is shown in figure 4.5 and figure 4.6 respectively.



**Figure 4.5 Daughter self-report perceptions of size and weight (combined categories)**



**Figure 4.6 Mother self-report perception of size and weight (combined categories)**

Figure 4.1 shows that none of the daughters in the sample perceived themselves as very underweight, 8.33% perceived themselves as underweight, 54.17% as average, 33.33% as overweight and 4.17% as very overweight. As shown in figure 4.2, none of the mothers in the sample perceived themselves as very underweight or underweight, 52.08% perceived themselves as average, 43.75% as overweight and 4.17% as very overweight. Figures 4.3 and 4.4 indicate only the four categories that were considered further. Figures 4.5 and 4.6 show these four categories combined into two categories in order for statistical analyses to be conducted. As demonstrated in figure 4.5, 62.5% of the daughters perceived themselves as average and 37.5% considered themselves to be overweight. Figure 4.6 shows that 52.08% of the mothers considered themselves as average whereas 47.92% considered themselves to be overweight.

Body Dissatisfaction, Drive for Thinness and Bulimia scale scores in relation to the self-report perceptions for the daughters in the sample are presented in table 4.7.

**Table 4.7 Daughter Body Dissatisfaction, Drive for Thinness and Bulimia scores in relation to self-report perception of size and weight (n=96)**

Daughters			Self-report perception		
			Overweight	Average	Total
<b>Body Dissatisfaction Scale (EDI-3)</b>	Low clinical range (0-21)	Frequency	15	50	65
		Percent	23.08%	76.92%	
	Typical clinical range (22-35)	Frequency	16	9	25
		Percent	64%	36%	
	Elevated clinical range (36-40)	Frequency	5	1	6
		Percent	83.33%	16.67%	
<b>Drive for Thinness Scale (EDI-3)</b>	Low clinical range (0-16)	Frequency	15	55	70
		Percent	21.43%	78.57%	
	Typical clinical range (17-24)	Frequency	18	4	22
		Percent	81.82%	18.18%	
	Elevated clinical range (25-28)	Frequency	3	1	4
		Percent	75%	25%	
<b>Bulimia Scale (EDI-3)</b>	Low clinical range (0-4)	Frequency	11	44	55
		Percent	20%	80%	
	Typical clinical range (5-18)	Frequency	23	16	39
		Percent	58.97%	41.03%	
	Elevated clinical range (19-32)	Frequency	2	0	2
		Percent	100%	0%	



As seen in table 4.7, among the 65 girls in the sample who scored within the low clinical range of the Body Dissatisfaction scale, 23.08% view themselves as overweight and 76.92% as average. Among the 25 girls in the sample who scored within the typical clinical range on the Body Dissatisfaction scale, 64% felt overweight and 36% felt average. Among the six girls in the sample who scored within the elevated clinical range, 83.33% felt overweight and 16.67% felt average. Therefore in terms of body dissatisfaction and self-report perception, it appears that most of the girls scoring in the typical and elevated body dissatisfaction ranges tend to perceive themselves as overweight, whereas most of the girls with scores in the low body dissatisfaction range perceive themselves as average.

Table 4.7 shows that, of the 70 daughters scoring in the low clinical range of the Drive for the Thinness scale, 21.43% viewed themselves as overweight and 78.57% of them viewed themselves as average. Among the 22 daughters scoring in the typical clinical range on this scale, 81.82% of them viewed themselves as overweight and 18.18% considered themselves average. All four of the daughters scoring in the elevated clinical range considered themselves overweight. On the Bulimia scale (shown in table 4.7), among the 55 daughters in the low clinical range, 20% felt themselves to be overweight and 80% of them viewed themselves as average. Among the 39 daughters scoring in the typical clinical range, 58.97% considered themselves to be overweight whereas 41.03% of them saw themselves as average. Daughters scoring in both the typical and elevated clinical range on the Bulimia scale considered themselves to be overweight.

Therefore it appears that on all three scales of the EDI-3, most girls who scored in the low clinical range perceived themselves as average in terms of their size and weight. However, among the girls scoring in the typical clinical and elevated clinical ranges, most perceived themselves as overweight. It seems therefore that the participants' perceptions of their size and weight influence their degree of body satisfaction and eating attitudes and behaviours. Girls who perceived themselves as average reported lower levels of body dissatisfaction and disturbed eating attitudes and behaviours, whereas girls who perceived themselves as overweight showed more body dissatisfaction and disturbed eating attitudes and behaviours.

## 4.4 Inferential Statistics Results

The results of the correlation analysis, t-tests and chi-square tests are described in this section.

### 4.4.1 Correlation Analysis

The Pearson product moment correlation coefficient provides information on the strength or magnitude of the linear relationship between two variables, indexed from -1 to 1 (Whitley, 2002). The correlation coefficient varies from 0, where no relationship between the variables is found, to -1 or 1 where a perfect linear relationship between the variables occurs (Dancey & Reidy, 2002). It also provides information regarding the direction of the relationship which can be a positive, negative or zero relationship (Dancey & Reidy, 2002). When high scores on one variable are associated with high scores on another variable, and low scores on one variable are associated with low scores on another variable, the direction of the relationship is positive (Whitley, 2002). A negative relationship is seen when high scores on one variable are associated with low scores on another variable (Whitley, 2002), while a zero relationship implies that no linear relationship between variables exists (Dancey & Reidy, 2002).

In order to test the primary hypothesis as well as other relationships between the variables, the Pearson product moment correlation coefficients were calculated. The results of the correlation analysis are displayed in table 4.8.

**Table 4.8 Pearson's correlation coefficients between mother Body Dissatisfaction, daughter Body Dissatisfaction, daughter BMI, mother BMI, daughter Drive for Thinness and daughter Bulimia**

Correlations							
Pearson Correlation Coefficient		Daughter Body Dissatisfaction Scale	Mother Body Dissatisfaction Scale	Daughter BMI	Mother BMI	Daughter Drive for Thinness Scale	Daughter Bulimia Scale
	Daughter Body Dissatisfaction Scale	1.000	.154	.443**	.022	.722**	.455**
	Mother Body Dissatisfaction Scale	.154	1.000	.110	.455**	.150	.033
	Daughter BMI	.443**	.110	1.000	.172	.482**	.370**
	Mother BMI	.022	.455**	.172	1.000	.031	.050
	Daughter Drive for Thinness Scale	.722**	.150	.482**	.031	1.000	.437**
	Daughter Bulimia Scale	.455**	.033	.370**	.050	.437**	1.000

\*  $p < .05$

\*\*  $p < .01$

#### 4.4.1.1 Relationship between mother and daughter scores on the Body Dissatisfaction scale

**H0:** There is no correlation between a mother's body dissatisfaction as measured by the Body Dissatisfaction scale of the EDI-3 and that of her adolescent daughter.

**H1:** There is a correlation between a mother's body dissatisfaction as measured by the Body Dissatisfaction scale of the EDI-3 and that of her adolescent daughter.

Table 4.8 shows that there is no statistically significant correlation ( $p > .05$ ) between the Body Dissatisfaction scores of mothers and their daughters on the EDI-3 (Pearson correlation coefficient ( $r$ ) = 0.154). Therefore the null hypothesis cannot be rejected as there is no significant relationship between mother and daughter body dissatisfaction.

#### 4.4.1.2 Correlations between other variables

##### *Mother and daughter BMI*

The relationship between mother and daughter BMI was explored, with no statistically significant correlation reported between mother body mass index and daughter body mass index ( $r = 0.172$ ,  $p > .05$ ) (see table 4.8).

##### *Relationship between Body Dissatisfaction score and BMI*

The relationship between the Body Dissatisfaction score and BMI was examined separately for both mothers and daughters. As seen in table 4.8, a statistically significant positive relationship was found between a daughter's body dissatisfaction score and her BMI ( $r=0.443$ ,  $p<.05$ ). The same positive relationship is seen between the mother's body dissatisfaction score and her BMI ( $r=0.455$ ,  $p<.05$ ). Therefore a positive relationship exists between body dissatisfaction and body mass index for both mothers and daughters separately. However, no statistically significant correlations were found between mothers' body mass index and daughters' body dissatisfaction scores ( $r=0.022$ ,  $p>.05$ ), nor between mothers' body dissatisfaction scores and daughters' body mass index ( $r = 0.110$ ,  $p>.05$ ).

##### *Relationship between daughters' Body Dissatisfaction, Drive for Thinness and Bulimia scales*

As shown in table 4.8, statistically significant positive correlations were found between the three subscales (Body Dissatisfaction, Drive for Thinness and Bulimia) of the EDI-3 for the adolescent participants. A statistically significant positive relationship exists between daughters' Body Dissatisfaction and Drive for Thinness scales ( $r=0.722$ ,  $p<.05$ ), daughters' Body Dissatisfaction and Bulimia scales ( $r=0.455$ ,  $p<.05$ ) and between daughters' Drive for Thinness and Bulimia scales ( $r=0.437$ ,  $p<.05$ ). These positive relationships imply that girls with high scores on one scale have high scores on the other scale, and that girls with low scores on one scale have low scores on the other scale.

##### *Relationship between BMI and daughters' Body Dissatisfaction, Drive for Thinness and Bulimia scales*

Statistically significant positive correlations were also found between daughters' BMI and Drive for Thinness scale ( $r=0.482$ ,  $p<.05$ ); BMI and Body Dissatisfaction scale ( $r=0.443$ ,

$p < .05$ ); and BMI and Bulimia scale ( $r = 0.370$ ,  $p < .05$ ). Therefore girls with a high BMI tend to have high scores on all the eating disorder risk scales of the EDI-3, while girls with a low BMI tend to have low scores. Therefore there is a positive relationship between levels of disordered eating and BMI.

#### *Relationship between mother's Body Dissatisfaction and daughters' EDI-3 scores*

Table 4.8 indicates that no statistically significant correlations occur between mothers' Body Dissatisfaction score and their daughters' Drive for Thinness score ( $r = 0.150$ ,  $p > .05$ ), mothers' Body Dissatisfaction and daughters' Body Dissatisfaction ( $r = 0.153$ ,  $p > .05$ ) or mothers' Body Dissatisfaction and daughters' Bulimia scores ( $r = 0.032$ ,  $p > .05$ ). Therefore no significant relationships exist between either mothers' Body Dissatisfaction or BMI scores and her daughters' BMI or any of her scores on the three scales of the EDI-3.

#### 4.4.2 T-tests to Compare the Means

All of the participants were divided according to the self-report perception question into a self-report overweight and a self-report average group. Based on the sample means and standard deviations of the two groups, the daughters' scores on the Body Dissatisfaction, Drive for Thinness, Bulimia scales and BMI were compared with their self-report perception by means of t-tests. T-tests were also used to compare the means of the two groups of mothers (self-reported overweight and average) between perception of self and Body Dissatisfaction and BMI.

In order to conduct a t-test, it needs to be assumed that the two groups being compared have equal variances (Aron & Aron, 1999). Using the F-test statistic, Levene's tests for equality of variances indicate whether the variances of the two groups are equal, (Dancey & Reidy, 2002). The p-value next to the F-value is considered, and variances are interpreted as unequal when this p-value is less than 0.05. When the p-value is greater than 0.05 the variances can be assumed to be equal (Dancey & Reidy, 2002). Under the null hypothesis for the t-test, the means for both groups are the same (Aron & Aron, 1999). The p-value gives an indication of the likelihood of the null hypothesis being true. A p-value greater than 0.05 means that the null

hypothesis cannot be rejected at a 5% level of significance. A p-value of less than 0.05 indicates a significant difference in the means between the two groups.

The results of the group statistics and t-test for the daughters' Body Dissatisfaction, Drive for Thinness, Bulimia and BMI scores compared with their perception of their own size and weight (overweight or average) are described in table 4.9

**Table 4.9 Group statistics and T-test for daughters' Drive for Thinness Scale, Body Dissatisfaction Scale, Bulimia Scale and BMI in terms of self-report perception as overweight or average (N=96)**

	Overweight			Average			T-test for Equality of Means		
	N	Mean	Std Dev	N	Mean	Std Dev	t	df	p-value
<b>Body Dissatisfaction</b>	36	25.417	8.313	60	13.800	8.719	6.43	94	.0001
<b>Drive for Thinness</b>	36	17.278	6.107	60	7.967	5.705	7.54	94	.0001
<b>Bulimia</b>	36	7.972	6.116	60	3.583	3.548	3.93	49.4	.0003
<b>Body Mass Index</b>	36	22.920	2.729	60	19.530	2.108	6.82	94	.0001

The data were divided into two groups according to the reported perception of self of the participants as average or overweight. The data were analysed to determine whether the daughters in these two groups differ in terms of their mean scores on the three EDI-3 scales and in terms of BMI. Among the adolescent girls (n=96), 37.5% of the participants perceived themselves as being overweight and 62.5% as being average. The t-test was used to further determine whether differences appear in the mean scores on the daughters' EDI-3 scales and BMI, based on this division.

As seen in table 4.9, a statistically significant difference ( $t(94)=6.43$ ,  $p=.0001$ ) was found between the means of the overweight ( $M=25.417$ ,  $SD=8.313$ ) and average ( $M=13.8$ ,  $SD=8.719$ ) groups in terms of Body Dissatisfaction at the 5% level of significance ( $p<.05$ ). A statistically significant difference ( $t(94)=7.54$ ,  $p=.0001$ ) was also found between the means of the overweight ( $M=17.278$ ,  $SD=6.107$ ) and average ( $M=7.967$ ,  $SD=5.705$ ) groups at the 5% level of significance in terms of Drive for Thinness ( $p<.05$ ). There was a statistically

significant difference ( $t(49.4)=3.93, p=.0003$ ) in the mean scores of the overweight ( $M=7.972, SD=6.116$ ) and the average ( $M=3.58, SD=3.548$ ) groups at the 5% level of significance for the Bulimia scale ( $p<.05$ ). In terms of body mass index, there was also a statistically significant difference ( $t(94)=6.82, p=.0001$ ) in the mean scores of the overweight ( $M=22.92, SD=2.729$ ) and the average ( $M=19.53, SD=2.108$ ) groups at the 5% level of significance.

In table 4.9 the p-value is less than 0.05 for all variables. Thus the null hypothesis may be rejected, implying that the mean scores for the three scales of the EDI-3 and the BMI of the overweight and average groups cannot be assumed to be the same. Therefore a difference was found between the mean scores on the three scales of the EDI-3 as well as the BMI for the overweight and average groups. It appears therefore that girls who perceive themselves as overweight have a higher mean on the Body Dissatisfaction, Drive for Thinness and Bulimia scales. Girls who classify themselves as overweight also have a higher mean BMI. Therefore, it can be assumed that girls with a higher BMI perceive themselves as overweight and show higher scores on the Body Dissatisfaction, Drive for Thinness and Bulimia scales. Although the BMI in the overweight group was higher than in the average group, the mean BMI for both groups fell within the optimal/average BMI range.

Table 4.10 sets out the results of the t-test for the mothers' Body Dissatisfaction and BMI scores as compared between the overweight and average groups.

**Table 4.10 Group statistics and T-test for mothers' Body Dissatisfaction and BMI scores in terms of self-report perception as overweight or average (N=91)**

	Overweight			Average			T-test for Equality of Means		
	N	Mean	Std Dev	N	Mean	Std Dev	t	df	p-value
<b>Mothers' BMI</b>	44	28.18	3.76	47	22.27	3.14	8.15	89	.0001
<b>Mothers' BD</b>	46	23.63	9.14	50	11.70	9.37	6.30	94	.0001

Among the mothers in the sample ( $n=96$ ), 47.92% perceived themselves as being overweight and 52.08% as average. This was explored further using the t-test to determine whether differences in the mean scores of the Body Dissatisfaction scales and BMI were evident based on these groupings. As seen in table 4.10, a statistically significant difference ( $t(94)=6.30$ ,  $p=.0001$ ) was found in terms of Body Dissatisfaction between the means of the overweight ( $M=23.63$ ,  $SD=9.14$ ) and average ( $M=11.70$ ,  $SD=9.37$ ) groups at the 5% level of significance ( $p<.05$ ). In terms of body mass index, a statistically significant difference ( $t(89)=8.15$ ,  $p=.0001$ ) was found in the mean scores of the overweight ( $M=28.18$ ,  $SD=3.76$ ) and the average ( $M=22.27$ ,  $SD=3.14$ ) groups at the 5% level of significance. The mean of the Body Dissatisfaction scores and BMI of the overweight and average groups differed significantly.

It therefore appears that mothers who perceive themselves as overweight have a higher mean on the Body Dissatisfaction scale and a higher mean BMI. Conversely, mothers with a higher BMI perceive themselves as overweight and show higher Body Dissatisfaction scores.

This finding is the same for both the mothers and daughters in the sample. Both mothers and daughters who perceive themselves as overweight show a higher mean BMI and higher mean Body Dissatisfaction scale scores than mothers and daughters who perceive themselves to be average in size and weight. However, the daughters' mean BMI was still in the optimal/average range for both the overweight and average groups, whereas the mothers' mean BMI for the overweight group fell into the overweight BMI range. The mean BMI for the average group of mothers was in the optimal BMI range. Therefore, although higher BMI is associated with higher body dissatisfaction for both mothers and daughters, the mothers' BMI is much higher than that of the daughters.

#### 4.4.3 Chi-square test

The chi-square ( $X^2$ ) test is used to measure the association between two categorical variables (Dancey & Reidy, 2002). It compares an observed frequency distribution with an expected frequency distribution and measures the level of mismatch between the expected and observed frequencies over levels of categories (Aron & Aron, 1999). The null hypothesis (no association between the variables) is tested against the alternative hypothesis (there is a



relationship). The results of the chi-square test for an association between daughters' BMI and self-report perception are presented in table 4.11.

**Table 4.11 Chi-square test for association between daughter's BMI and self-report perceptions**

		Self-report Perception			
			Overweight	Average	Total in BMI category
BMI	Underweight (18.5-)	Frequency	0	22	22
		Percent	0%	100%	22.92%
	Average/optimal (18.5 – 24.9)	Frequency	28	37	65
		Percent	43.08%	56.92%	67.71
	Obese (25 - 29.9)	Frequency	8	1	9
		Percent	88.89	11.11	9.38
<b>Total in each category</b>			36 (37.5%)	60 (62.5)	N=96
<b>Statistic</b>			<b>Df</b>	<b>Value</b>	<b>Prob</b>
Chi-square			2	24.203	< .0001

The chi-square test demonstrated a significant association between the daughters' BMI and their self-report perception as overweight or average ( $X^2(2, N=96) = 24.203, n=96, p<.0001$ ). There was a highly significant relationship between BMI and self-report perception of size and weight (overweight or average) at the 1% level of significance (p-value less than 0.01).

As shown in table 4.11, 22.92% of the daughters in the sample fell within the underweight BMI range, and all of these girls perceive themselves as average. A further 67.71% of the daughters fall within the average/optimal BMI range, where 43.08% perceive themselves to be overweight and 56.92% consider themselves to be average. Thus, although the majority of participants in this range have a realistic perception of their body weight and size, 43.08% have an unrealistic perception of themselves as overweight. The remaining 9.38% of the daughters fall within the overweight BMI range. Of these, 88.89% perceive themselves to be overweight and 11.11% perceive themselves to be average.

The results of the chi-square test for association between mothers' BMI and self-report perception are given in table 4.12.

**Table 4.12 Chi-square test for association between mothers' BMI and self-report perception**

		Self-report Perception			
			Overweight	Average	Total in BMI category
<b>BMI</b>	<b>Average/optimal (18.5 – 24.9)</b>	<b>Frequency</b>	10	42	52
		<b>Percent</b>	19.23%	80.77%	54.17%
	<b>Overweight (25 - 29.9)</b>	<b>Frequency</b>	22	6	28
		<b>Percent</b>	78.57%	21.43%	29.17%
	<b>Obese (+ 30)</b>	<b>Frequency</b>	14	2	16
		<b>Percent</b>	87.50	12.5	16.67%
<b>Total in each category</b>			46 (47.92%)	50 (52.08)	N=96
<b>Statistic</b>			<b>df</b>	<b>Value</b>	<b>Prob</b>
Chi-square			2	37.734	< .0001

The Chi-square test demonstrated a significant association between the mothers' body mass index and self-report perception of their own size and weight (i.e. overweight or average) ( $X^2(2, N=96) = 37.734, p < .0001$ ). There is a highly significant relationship between mothers' BMI and their self-report perception of their own size and weight at the 1% level of significance (p-value less than 0.01).

As shown in table 4.12, 54.17% of the mothers in the sample fell within the average/optimal BMI range. Of these, 19.23% perceived themselves as overweight and 80.77% as average. A further 29.17% of the mothers in the sample fell within the overweight BMI range. In this range, 78.57% of the mothers perceived themselves to be overweight and 21.43% perceive themselves to be average. The remaining 16.67% of the mothers fell within the obese range where 87.5% of them in this range perceived themselves to be overweight and 12.5% perceived themselves to be average. Therefore the majority of mothers in the sample have a realistic perception of their weight when comparing their self-report perception of their weight and size with their BMI, which may be viewed as an objective measure of weight.

## 4.5 Discussion of Results

In this section the discussion focuses on the main findings of the study and how they relate to other research findings on the relationship between the body dissatisfaction of mothers and daughters, body dissatisfaction among the adolescent participants and the presence of disturbed eating attitudes and behaviours in the sample. This chapter concludes with a discussion on the implications of the findings.

### 4.5.1 Relationship between Mothers' and Daughters' Body Dissatisfaction

No significant relationship was found between the mother and daughter scores on the Body Dissatisfaction Scale of the EDI-3. Therefore the results provide no support for the hypothesis that a significant relationship exists between a mother's body dissatisfaction and the body dissatisfaction of her adolescent daughter. Based on the frequencies, it is evident that the number of mothers and daughters scoring in each range does not vary widely. However, when results are considered by matching mother and daughter scores (correlational analysis), the pairs do not correlate.

This finding implies that in this sample, mothers' do not seem to significantly influence their adolescent daughters' degree of body dissatisfaction based on modelling as there is no relationship between their body dissatisfaction levels. Therefore regardless of whether a mother displays low or high levels of body dissatisfaction, she does not seem to influence the body dissatisfaction levels of her adolescent daughter through her dissatisfaction with her own body.

There was also no significant relationship found between the BMI of mothers and the BMI of their daughters. Most of the daughters (89.69%) scored within the average/optimal or underweight BMI ranges, whereas only 54.64% of mothers scored in these ranges, with 45.36% falling within the overweight BMI category. Therefore the daughters' body mass indices are generally lower than their mothers, with the mean BMI for the daughters being in the optimal range and the mean BMI for the mothers being in the overweight range. As BMI is viewed as an objective measure of weight, it appears that the mothers and daughters in the

study differ in terms of their weight as measured by BMI. In terms of the mother-daughter relationship, therefore, the results indicate that a mother's own body dissatisfaction and BMI does not influence her adolescent daughter's body dissatisfaction or BMI.

Various correlations were examined to determine whether a relationship exists between a mother's body dissatisfaction and her daughter's disturbed eating attitudes, as measured by the remaining two eating risk EDI-3 scales. No significant relationships were found between a mother's body dissatisfaction and her adolescent daughter's scores on the Drive for Thinness or Bulimia scales. These results suggest that a mother's body dissatisfaction has no influence on her adolescent daughter's disturbed eating attitudes and behaviours as measured by the three eating risk scales of the EDI-3.

Findings of other studies have shown conflicting results with regard to the relationship between mother and daughter body dissatisfaction. The results of this study confirm Ogden and Stewards (2000) findings in a sample of 30 mother-daughter pairs in the United Kingdom where no significant correlations were found between mothers and daughters regarding body dissatisfaction and weight concern. However, Ogden and Steward (2000) used a different instrument to measure body dissatisfaction (Body Shape Questionnaire) and the daughters in their sample were between the ages of 16 and 19 years whereas in the present study the daughters were between the ages of 13 and 17 years old. The sample size used in the study by Ogden and Steward (2000) was much smaller than in this study. Ogden and Steward (2000) indicated that mothers and daughters in their sample had a similar body mass index. This differs from the findings in this study where no relationship was found between the body mass index value of the mothers and daughters. Ogden and Elder (1998) report similar results in their study of 100 college-aged females and their mothers. They also found no significant correlations between body dissatisfaction in the white and Asian mother and daughter pairs, also using the Body Shape Questionnaire (Cooper, et al., 1987).

The findings of the present study differ from the results found in the following studies. Pike and Rodin (1991) used the EDI on an adolescent sample (N=77) of high school girls and their mothers, and the results showed a relationship between mothers and daughters on the three

scales of the EDI which measure disordered eating. However, in the study by Pike and Rodin (1991) girls were selected to participate based on their elevated scores on the three scales of the EDI and therefore girls who demonstrated low levels of disturbed eating were not included in the sample. The present findings also contrast with the results of Sanftner et al. (1996) in the United States where the mothers' and daughters' body dissatisfaction scores were significantly correlated among 382 nine to fifteen year-old ethnically diverse girls and their mothers. Sanftner et al. (1996) also used the Eating Disorder Inventory in their study. A relationship between mother-daughter body dissatisfaction was demonstrated among the postpubertal daughters only (Sanftner, 1996). In Australia in a sample of 89 adolescent girls and their mothers, Benedikt et al. (1998) found an association between mother-daughter body dissatisfaction and weight concerns. The size of the sample and age of daughters were similar to the present study; however, the researchers used the Body Figure Perception Questionnaire (by Fallon & Rozin, 1985) to measure body dissatisfaction. Some of the differences in the findings discussed here may be explained by Ogden and Steward (2000, p. 79), who state that inconsistencies in the literature may be due to the research question as a concordance between mothers and daughters weight concerns assumes that the mother's role in the development of her daughter's concerns about weight is simply one of role model and therefore reflects the extent to which the modelling influences provided by the mother are sufficiently powerful to be adopted by the daughter.

#### 4.5.2 Body Dissatisfaction among the Mothers and Adolescent Daughters

The results show that the majority of both the mothers and adolescent girls (60.82% and 67.01% respectively) scored within the low clinical range of the body dissatisfaction scale (EDI-3), indicating that the majority of the participants experience low levels of body dissatisfaction. A further 32.99% of the mothers and 25.77% of the adolescent girls scored within the typical clinical range, which indicates that they may be experiencing significant body dissatisfaction and unhappiness regarding their shape and weight. However, Garner (2004) indicates that this range is still acceptable in nonclinical samples as body dissatisfaction is common, therefore individuals are only at risk when they have significant scores on the other two risk scales of the EDI-3. Elevated levels of body dissatisfaction were reported by 6.19% of mothers and 7.22% of the adolescent girls, which indicates that there are

both mothers and daughters in the sample who are extremely critical regarding their bodies and therefore experience high levels of body dissatisfaction.

When body dissatisfaction was considered as a construct on its own among the adolescent participants, it is evident that 32.99% experience significant body dissatisfaction. However, according to Garner (2004), this is still acceptable as body dissatisfaction is so prevalent, therefore only 7.22% display body dissatisfaction to an extent where it is regarded as extreme. Szabo (2002) found that 80% of urban state high school girls in his sample which included both black and white girls demonstrated body dissatisfaction as measured by the Body Figure Preference Test. In comparison to Szabo (2002), the levels of body dissatisfaction in the present study are lower. However, the studies differ in terms of the instrument used as well as the type of high school recruited. The EDI-3 Body Dissatisfaction scale appears to have wide ranges in the levels of body dissatisfaction, and significant levels of body dissatisfaction are viewed as acceptable when considered alone. Therefore, if a different instrument had been used to measure body dissatisfaction levels in the present study, the findings may have differed.

#### 4.5.3 Body Dissatisfaction, BMI and Self-report Perception of Size and Weight

The relationship between body dissatisfaction and BMI was examined separately for mothers and daughters. In both groups, a significant positive relationship was found between body dissatisfaction and BMI. This finding implies that participants with a high BMI have high Body Dissatisfaction scores and those with low BMI tend to have low Body Dissatisfaction scores. Therefore it appears that the higher the BMI, which is viewed as an objective measure of weight, the higher the subjective experience of body dissatisfaction.

These findings confirm those of Australians Paxton et al. (1991) and Blowers et al. (2003), who found a strong relationship between BMI and body dissatisfaction among adolescent girls. Lee and Lee (1996) found that the body dissatisfaction scores of Chinese girls (as measured by the EDI) also correlated strongly with BMI, and were found to be a predictor of eating disorders.

The results of this study also show a connection between self-report perception of size and weight and body dissatisfaction and BMI. The majority of the adolescent girls who experience low body dissatisfaction (scoring in the low range of the BD scale) have a realistic perception of their size and weight (they perceive themselves as average). However, most of the girls who experience significant body dissatisfaction (typical and elevated clinical ranges of BD scale) perceive themselves as overweight. The results show that the group of girls who perceive themselves as overweight have a higher mean on the Body Dissatisfaction scale as well as a higher BMI than those who perceive themselves as average in terms of size and weight. However, the mean BMI for the girls in the overweight group was still within the optimal BMI range, indicating that although they may have a higher BMI than those in the average group, they are still within a healthy weight range.

All of the adolescent girls who were within the underweight BMI range perceived themselves as average. Of the girls in the optimal/average BMI weight range, 43.08% viewed themselves as overweight and 56.92% perceived themselves as average. Of the girls in the overweight range, 88.89% perceived themselves as overweight and 11.11% considered themselves average. When comparing these findings with the results of Paxton et al. (1991), the number of girls who perceive themselves as overweight while falling within the average BMI range (43.08%) is higher in the present study. Paxton et al. (1991) found that 27% of the girls who were within the normal BMI weight range classified themselves as overweight and the girls who fell within the overweight range also classified themselves as overweight.

Benedikt et al. (1998) found that the number of girls who reported body dissatisfaction and engaging in weight loss behaviours was greater than the number of girls who were objectively overweight. This is comparable to the findings in the present study. Girls who fall within the typical and elevated clinical ranges of the Body Dissatisfaction scale may be seen to experience significant body dissatisfaction. As 32.99% of the daughters fell within this range and only 10.31% were overweight (as measured by the BMI), it implies that more girls experience body dissatisfaction than are objectively overweight. This finding differed from the mothers' results, where 45.36% were overweight (as measured by the BMI) and only 39.18% experienced significant body dissatisfaction.

#### 4.5.4 Presence of Disturbed Eating Attitudes and Behaviours among the Adolescent Girls

Due to the study's secondary interest in investigating eating disorders, the presence of disturbed eating attitudes and behaviours were screened for within the sample of adolescent girls using the three risk scales of the EDI-3 that measure disturbed eating directly. As the Body Dissatisfaction scores for the adolescent girls are discussed in the previous section, they will not be repeated here; however, they formed part of the screening for disturbed eating attitudes and behaviours.

Other South African studies have differed in their method of determining disturbed eating when using the EDI. Geach (1995) used an earlier version of the EDI on a university sample, and indicated that determining cutoff points for the EDI was problematic as each dimension was originally described as a continuous trait. According to Geach (1995, p. 49), "the authors (Garner & Olmstead, 1984) of the Eating Disorder Inventory provide as much information as possible in order to allow EDI users to make their own conceptual decisions." As eating disorders are seen as existing on a continuum, abnormal eating attitudes and behaviours may indicate subclinical or preclinical forms of an eating disorder (Geach, 1995). Geach (1995) followed the approach used by Hooper and Garner (1986) in Zimbabwe, where the cutoff scores were used and scores above the 90<sup>th</sup> percentile on the Drive for Thinness Scale were used to measure disordered eating. Davies (1995) also used the Drive for Thinness Scale as an index of disordered eating in the sample of high school girls. Davies (1995) indicates that Garner and colleagues used the mean Drive for Thinness score of the anorectic group as a cutoff to identify weight-preoccupied individuals. Based on this, Davies (1995) used a score of 12 as a cutoff, with individuals scoring above 15 being described as showing problematic weight concerns or disordered eating. The above approach was not used in this study as the version of the Eating Disorder Inventory used was a revised one. There is a difference in the maximum Drive for Thinness score, therefore cutoff scores differ.

Garner (2004) indicates in the EDI-3, the three risk scales constitute an index of disordered eating. According to Garner (2004), an eating disorder risk composite can be calculated by combining these scores to provide a global measure of the three constructs which measure disturbed eating directly. However, in the present study it was not possible to calculate a



composite risk score for a nonclinical sample. For this reason the three scales scores were considered individually. Studies such as Wassenaar et al. (2000) applied the same approach where these three scales were used as a measure of disturbed eating. Garner (2004) indicates that high scores on these three scales place an individual at increased risk for developing an eating disorder.

The Drive for Thinness (EDI-3) construct is seen as a potential risk factor for the development of eating disorders in nonclinical samples (Garner, 2004). As 72.16% of the adolescent girls in the sample scored within the low range, it is evident that most of the girls in the sample do not show significant eating and weight concerns. However, 23.71% of the girls scored in the typical clinical range, reflecting significant weight preoccupation, and a further 4.12% of the girls scored within the elevated clinical range, which may indicate the presence of a clinical eating disorder. In total, 27.83% of the sample demonstrates significant weight preoccupation based on the Drive for Thinness scale.

The Bulimia scale assesses the presence of thoughts and behaviours regarding binge eating and overeating tendencies (Garner, 2004). Of the adolescent participants, 56.7% scored in the low clinical range, therefore they showed no problems. However, 40.21% of the sample scored in the typical clinical range, indicating the possibility of the presence of clinically relevant overeating tendencies (Garner, 2004). A further 3.09% of the girls in the sample scored within the elevated range, which may reflect the presence an eating disorder.

When considering the Drive for Thinness, Bulimia and Body Dissatisfaction scores together it appears that although most of adolescent girls in the sample scored within normal ranges, there are girls in the sample who demonstrate significant weight preoccupation and eating concerns, overeating tendencies and significant levels of body dissatisfaction. Therefore there were participants who may be at increased risk for developing an eating disorder based on these three scales of the EDI-3 which are seen as a measure of disturbed eating. The three scales were used only to screen for the presence of disturbed eating. In order to investigate this further, follow-up individual interviews with the girls with elevated scores may have provided more information as to whether they met the diagnostic criteria for an eating disorder.

However, this was not possible due to the anonymity of the responses as well as the stated aim, which was merely to do a basic screening for disturbed eating attitudes and behaviours.

#### 4.5.4.1 Comparison of results with other South African studies using EDI

Other South African studies have utilised the EDI-3, and the mean raw scores of the present study will now be compared with these studies. Table 4.13 shows the mean raw scores of the three EDI-3 risk scales of the present study compared with the results from Davies's (1995) study on high school girls, Wassenaar et al.'s (2000) and Edwards et al.'s (2003) study on university students, and Garner's (2004) international nonclinical sample of adolescent girls.

**Table 4.13 Comparison between mean raw scores on three EDI-3 scales with other studies**

	Present Study N=97	Davies (1995)				Wassenaar et al. (2000) N=628			Edwards et al. (2003)		*Garner (2004) N=1074
		Private school		State school		Black	White	Asian	Black N=39	White N=41	
		White N=49	Black N=15	White N=125	Black N=58						
<b>EDI Scale</b>	Mean (SD)	Mean (SD)	Mean	Mean (SD)	Mean	Mean	Mean	Mean (SD)	Mean (SD)	Mean (SD)	
<b>DT</b>	11.54 (7.38)	6.69 (6.09)	6.93	8.37 (6.22)	10.76	7.92	6.56	4.77	6.9 (6.3)	6.2 (5.5)	6.03 (6.59)
<b>BD</b>	18.34 (10.34)	13.76 (7.56)	12.73	15.38 (8.53)	14.39	8.41	12.65	9.17	9.6 (8.7)	13.1 (8.3)	15.51 (10.77)
<b>B</b>	5.37 (5.28)	2.41 (2.99)	2.71	3.39 (4.15)	3.05	1.6	1.98	1.04	1.5 (2.0)	1.9 (2.7)	2.22 (3.61)

\* EDI-3 mean raw scores for international adolescent nonclinical samples (Garner, 2004)

Based on the above table it is evident that the mean EDI scores of the present study are comparable with those of other South African studies. However, both Wassenaar et al. (2000) and Edwards et al. (2003) studied university women and due to the difference in age of participants no comparisons will be attempted on the mean scores. Based on the population used (private high school girls), the mean scores of Davies's (1995) sample of private high school girls will be compared. The mean scores in the present study are slightly higher than those shown by Davies (1995). Davies found that girls in the state high school demonstrated

more disturbed eating than girls in the private school. However, based on the mean scores it appears that higher levels of disturbed eating were found in the present study than in Davies' (1995) study in both school environments. The present study thus conforms to the findings of other studies conducted in South Africa.

#### 4.5.5 Relationship between EDI-3 Scales and BMI in Adolescent Girls

The results show significant positive relationships between the Body Dissatisfaction, Drive for Thinness and the Bulimia scales. Significant positive correlations were also found between BMI and Drive for Thinness, BMI and Body Dissatisfaction, and BMI and Bulimia. Therefore there are positive relationships between the adolescent girls' scores on all three EDI-3 risk scales and body mass index. Therefore higher levels of disturbed eating seem to be associated with having a higher body mass index.

These findings are in line with other South African studies, although different populations were used. In Wassenaar et al.'s (2000) sample of university women, a positive relationship was also shown between BMI and Body Dissatisfaction and BMI and Drive for Thinness. However, in the present study the relationship between the Bulimia scale and BMI was also significantly positive, which contrasted with the Wassenaar et al. (2000) study where no significant relationship was found. In a sample of university women, Geach (1995) also found a positive relationship between BMI and disordered eating, as measured by the Drive for Thinness scale.

Other South African studies on high school girls have shown results similar to this study that higher body mass index may be associated with higher levels of disordered eating. Szabo (2002; Szabo & Hollands, 1997a) indicates that a higher BMI is associated with a desire to weigh less and serious dieting behaviour. Although a different instrument was used, Szabo and Hollands (1997a) found that in their sample (N=213) of South African private high school girls, BMI influenced eating attitudes as a tendency was observed that girls with a higher BMI showed more disturbed eating attitudes (as measured by the EAT-26). Szabo (2002) also found a significant correlation between BMI and EAT-26 scores that measures disturbed eating attitudes, where the higher the BMI, the higher the EAT-26 score. Therefore the results

of the present study are in accordance with the above studies that higher levels of disturbed eating are associated with a higher body mass index.

#### 4.5.6 Self-report Perception, BMI, Body Dissatisfaction, Drive for Thinness and Bulimia Scales

The results show that adolescent girls who perceive themselves as overweight (based on self-report perception of size and weight) have a higher body mass index as well as higher scores on all three EDI-3 scales which measure disturbed eating. Therefore, girls with a higher BMI perceive themselves as overweight and demonstrate more disturbed eating. In the study, girls who perceived themselves as overweight also had a higher mean BMI than those who perceived themselves as average; however the mean for the girls in the overweight group was still within the optimal BMI range. Although only 10.31% of the girls fell into the overweight BMI range, 37.5% perceived themselves as overweight. Therefore more girls perceive themselves as overweight than are objectively so.

Toro et al. (cited in Szabo, 2002, p. 136) state that “the perception of being overweight, rather than actually being overweight, correlates with eating problems during adolescence.” In a study on high school girls in a state school, Szabo (2002) found that perceptions of fatness are associated with a higher BMI, which correlated in turn with disturbed eating attitudes (as measured by the EAT-26). However, Szabo (2002) argues that perceptions of fatness also occur within an optimal BMI range, which supports the view that much adolescent dieting is unjustified.

### 4.6 Implications of Findings

As the results indicated no concordance between mother and daughter body dissatisfaction, this implies that in the present study, a mother does not influence her daughter’s body dissatisfaction through her own level of body dissatisfaction. The lack of a relationship between the body dissatisfaction levels of mothers and daughters suggests that modelling does not play a significant role in this respect. The results of the present study also showed no relationship between a mother’s body dissatisfaction and her daughter’s Drive for Thinness

and Bulimia scale scores. This suggests that a mother's body dissatisfaction does not significantly influence her daughter's disturbed eating attitudes and behaviours.

There are several possible explanations for these findings. In the present study, the body mass index of the mothers and daughters did not correlate. The mean BMI for the mothers was within the overweight range whereas the mean BMI for the daughters was within the optimal/average weight range. The results show that 46.39% of mothers were within the optimal/average BMI range and 45.36% were within the overweight range whereas 67.01% of daughters were within the optimal/average BMI range and only 10.31% were within the overweight BMI range. The physical weight and size differences between mothers and daughters may be a possible reason for the differences in their levels of body dissatisfaction. As the mothers were larger in size than their daughters, their experience of body dissatisfaction may have differed to that of their adolescent daughters. Although the number of mothers and daughters in the study who demonstrated low (60.82% and 67.01% respectively) and high (32.99% and 25.77% respectively) levels of body dissatisfaction were similar, the scores of the matched mother-daughter pairs did not correlate. The fact that mothers and daughters differed in terms of their body mass index ranges may have influenced the effect of the mothers' modelling their own levels of body dissatisfaction to their daughters.

The literature (discussed in chapter 2) suggests that a mother may influence her adolescent daughter with regard to body dissatisfaction and weight concerns. Since modelling did not suggest itself as a major mechanism of influence in this study, the mode of transmitting these ideals may occur through others mechanisms such as direct encouragement. However, since this was an exploratory study in a single private high school, a larger, more representative sample is required to confirm or refute this finding. Although the study found no relationship based on modelling, more research needs to be conducted on mothers in South Africa in order to explore how they may transmit their sociocultural ideal of thinness to their daughters.

As body dissatisfaction has been identified as a risk factor in the development of eating pathology, it is important that factors which may influence body dissatisfaction be further explored among adolescent girls. It seems that maternal influence may play a role; however,

studies have demonstrated mixed results. Based on the present study's findings, as well as other findings (such as Ogden & Elder, 1998; Ogden & Steward, 2000), this influence does not appear to be transmitted through modelling. If the role of the mother in this respect could be more exactly determined, it may be helpful to include mothers in prevention programmes. Sociocultural theory suggests a mother may be influential for numerous reasons. Maternal influence regarding body dissatisfaction and eating concerns may be either positive or negative. Therefore, once further explored it may be combined with other positive and negative influences in developing prevention programmes. Further research on the role mothers play in the development of eating disorders of their adolescent daughters in South Africa is sorely needed and will add value to this debate.

The findings based on the screening done in this study indicate that there are girls in the sample who show high levels of disturbed eating. This finding was expected as the literature on eating disorders among adolescent girls in South Africa suggests that they are vulnerable and at risk for the development of eating pathology. This study confirms other South African research regarding the presence of disturbed eating attitudes and behaviours among adolescent girls in South Africa. The prevalence of eating disorders suggests that a need exists for more research to be conducted in South Africa, which may be used in the development of prevention programmes. Such research should include an investigation of risk factors such as body dissatisfaction. Identifying factors that influence body dissatisfaction both positively and negatively is important as the information can be used in conjunction with other influences to establish prevention programmes among adolescent girls. Research (e.g., Phelps et al., 1999) has shown that lower levels of body dissatisfaction result in lowered participation in disordered eating behaviours, therefore emphasising the need for prevention programmes that may reduce levels of body dissatisfaction.

#### **4.7 Chapter Summary**

The results indicate that a mother does not influence her daughter's body dissatisfaction, body mass index or disturbed eating attitudes and behaviours through her own body dissatisfaction. A relationship between BMI and body dissatisfaction was shown for both mothers and

daughters, implying that higher body dissatisfaction scores are associated with a higher BMI and vice versa for both the mothers and daughters. An association between self-report perception, body dissatisfaction and BMI was demonstrated in that adolescent girls who perceive themselves as average in terms of size and weight display lower levels of body dissatisfaction, while girls who perceive themselves as overweight have a higher BMI and show greater body dissatisfaction.

Based on the screening for the presence of disturbed eating (measured by Body Dissatisfaction, Drive for Thinness and Bulimia scales of the EDI-3), there are girls in the sample who demonstrated high levels of disturbed eating. Disturbed eating attitudes and behaviours were positively correlated with BMI, meaning that girls with a higher BMI experience more disturbed eating attitudes and behaviours. Girls in the sample with a higher BMI tended to perceive themselves as overweight and show more disturbed eating.

In chapter 5 the conclusions and recommendations of the study are discussed.

## CHAPTER 5

### CONCLUSION AND RECOMMENDATIONS

#### 5.1 Conclusions

To the best of my knowledge, this study was the first of its kind to explore the relationship between mother and daughter body dissatisfaction in South Africa. Due to the scope and size of the study the results provide conclusions for the sample and cannot be generalised further.

The findings indicate that a mother does not influence her daughter's body dissatisfaction through her own body dissatisfaction regardless of whether it is high or low. This finding shows no support for the modelling hypothesis which assumes that body dissatisfaction is transmitted from mothers to their daughters via modelling. Further, no relationship was shown between a mother's body dissatisfaction and her daughter's disturbed eating attitudes and behaviours, which implies that a mother's body dissatisfaction does not influence her daughter's level of disturbed eating attitudes through her own body dissatisfaction. As some research (e.g., Benedikt et al., 1998; Hill et al., 1990; Mukai et al., 1994; Pike & Rodin, 1991; Wertheim et al., 1999) has demonstrated the importance of maternal influence on the development of eating pathology, future South African studies may consider the role of the mother further. The results of this study are not generalisable due to the small size of the sample, and also since non-random sampling methods were used in a single high school. Studies using a larger, more representative sample may find differing results. It is recommended that in future studies, maternal influence be considered from various points of view, and not only modelling. For example, encouragement as a mode of transmitting body dissatisfaction from a mother to her adolescent daughter could be investigated.

As body dissatisfaction is described in the literature as a risk factor in the development of eating pathology, it may be useful to explore other variables which may influence body dissatisfaction in adolescent girls within the South African context. The aim of such research



could be to identify these variables in order to include them in prevention programmes among adolescent girls.

The findings from the screening for the presence of disturbed eating reveal that there are girls in the sample who demonstrated high levels disturbed eating. This confirms other South African research on the presence of disturbed eating attitudes and behaviours among adolescent girls in South Africa. This confirms the need for research into the identification of risk factors such as body dissatisfaction; as such information could be used in prevention programmes to counteract the negative influences and pressures of society to achieve the thin ideal.

## **5.2 Recommendations**

In future studies it may be useful to utilise a qualitative approach or to combine this with quantitative measurements when focusing on the topic of body dissatisfaction. As most of the adolescent girls in the study displayed low levels of body dissatisfaction, it may be beneficial to explore protective factors that help them to lower their risk. The role of sociocultural influences such as mothers, peers and the media needs to be explored further in order to consider how they may influence adolescents in both a positive or negative manner. This positive and negative influence should be considered for both body dissatisfaction and eating attitudes and behaviours among adolescent girls. As Szabo (2002) indicates that a significant number of adolescent girls in South Africa display disturbed eating attitudes and behaviours, it follows that prevention programmes are indicated within school environments. By determining protective factors among adolescent girls, these may be further used in these prevention efforts and programmes. In the study, the participants' self-report perception of their size and weight was seen to influence their levels of body dissatisfaction and disturbed eating attitudes and behaviours. Therefore prevention efforts focusing on helping girls attain a more realistic perception of their body size and weight may be beneficial in lowering their experience of body dissatisfaction, as well as reducing disturbed eating attitudes and behaviours.

### 5.3 Limitations of the Study

There are a number of limitations which need to be considered when interpreting the findings of the study.

Firstly, the size of the sample (N=97) was small and was drawn from a single private high school. Further research needs to be conducted using different populations and a larger sample size, as the findings of the present study only apply to the population from which the sample was drawn.

Secondly, the validity of the Eating Disorder Inventory-3 may be questioned as no norms exist for South African populations. Although international norms are given for clinical and nonclinical samples of adolescent and adult females, validity has not been established for Africa. However, other African (e.g., Hooper & Garner, 1986) and South African studies (e.g., Edwards et al., 2003; Wassenaar et al., 2000) that have been accepted in accredited journals have used the EDI and have not declared any problems in reporting their results.

Thirdly, the Body Dissatisfaction Scale of the EDI-3 has wide ranges of levels of body dissatisfaction. Garner (2004) indicates that as body dissatisfaction is endemic in women, high levels are not seen to be problematic unless scores on the Drive for Thinness and Bulimia scales are elevated. Therefore, in terms of determining levels of body dissatisfaction, a different instrument may have elicited different results.

Fourthly, for the screening of disturbed eating attitudes and behaviours where the EDI-3 risk scales were used, ideally the girls scoring above the cutoff scores should have been interviewed to determine if they met the criteria for an eating disorder. However, this was not the aim of the study and anonymity prevented the possibility of identifying the girls with high scores.

## CHAPTER 6

### **RESEARCHER'S REFLECTION ON THE RESEARCH PROCESS**

The study was approached from a positivist viewpoint where the researcher is viewed as neutral and detached and the research as objective. At the beginning of the research process, a quantitative approach was selected based on the research question. When reading quantitative research studies, it seems that very few researchers comment on the process itself, and therefore one assumes that the process from obtaining participants to writing the final document follows a certain order and goes smoothly. During the time of conducting this research, I have been challenged and frustrated many times by the process. It has expanded my ideas and assumptions regarding research and the role of the researcher. Based on the quantitative approach used, the questionnaires were designed to yield results that were as objective as possible. However, in my role as a researcher I did not feel detached as my experiences continually made me reflect and consider not only my research question but also the extent to which the research process had an impact on the participants. I have realised that although research and therapy are part of a single degree course the role of the researcher and the role of the therapist are very different.

Although reflection on the research process does not usually feature in studies conducted within the positivist paradigm, I felt that I needed to share my own learning process. I would have benefited in various ways if I had been able to read about other researchers' experiences and how they overcame problems in order to achieve the final research product. It is for this reason that I wish to briefly discuss how my thoughts and ideas changed as the process evolved.

The first challenge was obtaining participants at the school. In the literature, most researchers do not clearly describe how participation was motivated. Most studies report liaising with the recruitment agency, such as a school, but do not describe how participation was motivated in order to get individuals to take part in the study. When approaching the first school, I assumed that enough mother-daughter pairs would volunteer to participate. The original number

required was 30 mother-daughter pairs, which was the minimum amount needed for statistical analyses to be conducted. When only six mother-daughter pairs agreed to participate, it raised many questions in me. A discussion was held between the headmistress and myself in order to gain feedback in an attempt to understand possible reasons regarding the lack of volunteers. After her feedback, I reconsidered the information letters handed out and how the topic may have appeared threatening to the girls and their mothers. However, when I considered other South African studies within the domain of eating disorders, I wondered how they overcame this obstacle as most studies had also used convenience samples of high school or university females and did not report any problems at this early stage. I also wondered whether it was because I requested participation from the mothers as well, which may have been threatening to the mothers. I still wonder whether the way the questionnaires were handed out may have had an impact, as I had no control over how they were distributed. In addition, timing may have played a role due to upcoming examinations.

After much thought and discussion with my supervisor and various other individuals in the field, I decided to use a different strategy in the second school. The content of the information letters was changed in order to appear less threatening while clearly stating the aims of the study to the potential participants. Participation was motivated by stating that a presentation on eating habits and body dissatisfaction would be conducted after completion of the questionnaires with the aim of informing the students on the topic of eating disorders, and a pamphlet for the mothers would be distributed. The headmistress and teachers in the second school showed more interest in the study as they perceived it as beneficial for their students due to the prevalence of eating disorders. There was a great deal of contact between the Life Orientation teachers and myself and these teachers encouraged the students to participate, and facilitated the process of collecting the consent forms. It is interesting that the Grade 9 girls were more willing to participate: all of the Grade 9 consent forms were returned with 90% agreeing to participate, whereas 58% of the Grade 10s returned their forms with 49% agreeing to participate. I wonder whether this difference in response was as a result of the topic or possibly peer pressure. I felt relieved when the final sample consisted of 97 mother-daughter pairs (a good response compared to the previous school) as I had no idea what response I would have even though a different strategy was followed.

The research questions changed a number of times during the process. When selecting an assessment instrument to use to measure body dissatisfaction, the Body Dissatisfaction Scale of the Eating Disorder-3 was chosen as the literature stated that it could be used on its own to measure this construct, and also because studies focusing on body dissatisfaction have used it. In order to contextualise my study in the wider domain of eating disorders, I decided to use two more scales of the EDI-3. In the manual these three scales (Body Dissatisfaction, Drive for Thinness and Bulimia) are called risk scales and are seen as a valid instrument to measure the presence of disturbed eating attitudes and behaviours directly. The manual indicates that a composite risk score can be calculated using these three scales, which may be used for screening as it provides a single score that reflects eating concerns. My primary research question and aim was to focus on mother-daughter body dissatisfaction (using the Body Dissatisfaction scale of the EDI-3). My secondary aim and research question was to consider the risk score of the adolescent participants in order to explore whether girls with high body dissatisfaction also have a high risk for developing eating disorders based on the composite score. However, it was not possible to calculate a composite score for a non-clinical sample. Raw scores need to be converted to T-scores in order to calculate a composite score. T-scores are not given for non-clinical populations and are also categorised according to the specific type of eating disorder. A number of people were consulted, including my supervisor and the statistician; however it remained impossible to calculate such a score for this sample. Therefore, the secondary aim in the study remained to screen for the presence of disturbed eating attitudes and behaviours among the adolescent participants; but the scores of the three scales were considered and described separately instead of as a composite risk score. The second research question was removed and the basic screening became an additional aim, rather than a second research question.

When considering the results on body dissatisfaction, I wondered whether body dissatisfaction varied depending on the instrument used. Although the Body Dissatisfaction scale of the EDI-3 measures body dissatisfaction as a construct, the range of acceptable levels of body dissatisfaction appears to be wide. Even when participants' scores on the scale fall within the typical clinical range (indicating significant body dissatisfaction), this is considered acceptable since body dissatisfaction is so common. Therefore, unless the individual has high scores on

the other two risk scales as well as the Body Dissatisfaction scale it is considered acceptable. Although in this study this scale was effective, if one measures body dissatisfaction on its own the instrument used will influence the results. The Body Dissatisfaction scale was effective here because the main research question was to explore the relationship between mothers' and daughters' body dissatisfaction regardless of whether it was high or low. The aim was to determine whether there was a relationship between the scores irrespective of the ranges in which the mothers and daughters scored. Therefore, even though the ranges of body dissatisfaction appear wide, the matched mother-daughter scores in the study did not correlate.

All of the mother-daughter studies considered were conducted overseas; however, I noticed that some articles do not state the country where the research was conducted. The nationality of the participants may be deduced or assumed based on the location of the university from which the study derives; however, when the authors hail from different countries it becomes difficult to make such assumptions.

During the debriefing and presentation sessions, my assumptions about the effects of research were challenged and I questioned the role of the researcher in this process. Debriefing is part of the ethical requirements of research, and based on this the correct process was followed. Questions regarding the study and the topic were answered and participants expressed their feelings regarding their participation. However, based on the conversations with the participants I wondered what impact research really has on those who participate. For some I could see that it was fun and interesting; however I observed that for others it raised questions. Some of the girls shared personal stories with the class about a family or friend with an eating disorder or other mental illnesses. I provided information about the school counsellor who is available for them; however, I left feeling that the participants had shared something personal with me and although this was contained in the debriefing, the research process may impact on participants in ways that should be addressed further.

I enjoyed the interaction in the debriefing and presentation sessions and found it interesting to listen to the differing responses in the five classes. It was interesting to hear their views on body dissatisfaction. Their thoughts around the "thin ideal" portrayed mainly through the

media were quite contradictory, which surprised me. In the literature, most studies focus on the negative impact of the media; however, it seems that it also has a positive impact on some girls. Some girls appear to be very influenced by this “perfect thin ideal”; however, there were a number of girls who had very realistic perceptions of the thin ideal and how unrealistic it is to strive towards this. I realised that some view the media and models’ bodies as unrealistic and therefore these girls adopt media icons who look healthy. I think therefore that qualitative research, which focuses on positive and protective factors, may be beneficial in the future for use in prevention programmes.

Although I felt frustrated many times, I feel I have gained from the process. I realise that my reflections on the impact of the questionnaires and the study on the participants come from my values as a therapist rather than as a researcher. Many times during this process I have considered what I would change if I could do this over again. I would have considered and included a motivation for participants to take part from the beginning. I have realised that it is essential to make contact with the teachers involved as well as the headmistress as they are directly involved in the process of distributing information letters and consent forms. In retrospect I think that combining a qualitative approach with quantitative measures on my topic may have provided richer results on the relationship between mother-daughter body dissatisfaction. In the debriefing I realised the importance of also considering positive influences, which a qualitative approach would have made it possible to do. However, my study was an exploratory study on the topic and the aims of the study were achieved. Although my study took longer than anticipated to complete, I feel that it achieved its goals and aims and that I learnt from the process.

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## **APPENDIX A**

**Daughters' Questionnaires**

**Mothers' Questionnaires**

## Daughter's Questionnaire

Please do not write your names on the questionnaires. Your answers are confidential and anonymous and therefore cannot be traced back to you. Please answer all the questions honestly. There are no right or wrong answers.

The following questions ask about your attitudes, feelings and behaviours. Some of the questions relate to food, eating and attempts to control your weight and others ask about your feelings about yourself, your body shape and weight.

Thank you for your time and participation

### Section A

Please complete the following questions, and where applicable, tick the appropriate block

Age:  13  14  15  16  17

Grade at school:  9  10

English mark:  30-40%  41-50%  51-60%  61-70%  71-80%  81-100%

Race:  African  White  Indian  Coloured  Asian  Other

Home language:  English  Afrikaans  Zulu  Sotho  Xhosa  Tswana  Other, please specify \_\_\_\_\_

Occupation of mother: \_\_\_\_\_

Occupation of father: \_\_\_\_\_

Suburb of residence: \_\_\_\_\_

Do you participate in extramural activities (Dancing, sport, gym) \_\_\_\_\_

Height (in centimetres): \_\_\_\_\_

Current weight (in kilograms): \_\_\_\_\_

What is your highest weight ever: \_\_\_\_\_ How long ago was that: \_\_\_\_\_

What is your lowest weight ever: \_\_\_\_\_ How long ago was that: \_\_\_\_\_

What is your goal / desired weight: \_\_\_\_\_

Do you feel yourself to be:  Very overweight  Overweight  Average  Underweight  Very Underweight

Is there a history of mental disorders within your family (e.g. Depression):  No  Yes

If yes please specify \_\_\_\_\_

Have you ever been diagnosed or treated for an eating disorder:  No  Yes

If yes please specify \_\_\_\_\_

## **Section B**

For each question, please tick the answer that applies best to you.

There are no right or wrong answers for the questions. Please answer all of the questions.

- |   |                                 |                                  |                                |                                    |                                 |                                |
|---|---------------------------------|----------------------------------|--------------------------------|------------------------------------|---------------------------------|--------------------------------|
| 1. I eat sweets and carbohydrates without feeling nervous           | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 2. I think that my stomach is too big                               | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 3. I eat when I am upset  | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 4. I stuff myself with food   | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 5. I think about dieting  | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 6. I think that my thighs are too large                             | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 7. I feel extremely guilty after overeating                         | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 8. I think that my stomach is just the right size                   | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 9. I am terrified of gaining weight                                 | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 10. I feel satisfied with the shape of my body                      | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 11. I exaggerate or magnify the importance of weight                | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 12. I have gone on eating binges where I felt that I could not stop | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 13. I like the shape of my buttocks                                 | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |
| 14. I am preoccupied with the desire to be thinner                  | <input type="checkbox"/> Always | <input type="checkbox"/> Usually | <input type="checkbox"/> Often | <input type="checkbox"/> Sometimes | <input type="checkbox"/> Rarely | <input type="checkbox"/> Never |

15. I think about bingeing (overeating)  Always  Usually  Often  Sometimes  Rarely  Never
16. I think my hips are too big  Always  Usually  Often  Sometimes  Rarely  Never
17. I feel bloated after eating a normal meal  Always  Usually  Often  Sometimes  Rarely  Never
18. I eat moderately in front of others and stuff myself  
when they're gone  Always  Usually  Often  Sometimes  Rarely  Never
19. If I gain a pound/ kilogram, I worry that I will keep gaining  Always  Usually  Often  Sometimes  Rarely  Never
20. I have the thought of trying to vomit in order to lose weight  Always  Usually  Often  Sometimes  Rarely  Never
21. I think that my thighs are just the right size  Always  Usually  Often  Sometimes  Rarely  Never
22. I think my buttocks are too large  Always  Usually  Often  Sometimes  Rarely  Never
23. I eat or drink in secrecy  Always  Usually  Often  Sometimes  Rarely  Never
24. I think that my hips are just the right size  Always  Usually  Often  Sometimes  Rarely  Never
25. When I am upset, I worry that I will start eating  Always  Usually  Often  Sometimes  Rarely  Never

## Mother's Questionnaire

Thank you for your time in completing the following questionnaire.

Please do not write your names on the questionnaire. Your answers are confidential and anonymous and therefore cannot be traced back to you. Once completed, please return them to the school via your daughter in the sealed envelope provided.

The following questions ask about your attitudes, feelings and behaviours. Some of the questions relate to food, eating and attempts to control your weight and others ask about your feelings about yourself, your body shape and weight. Please answer all the questions honestly. There are no right or wrong answers.

Thank you for your participation in the study

Kind Regards

Leesa Adlard

### Section A

Please complete the following questions, and where applicable, tick the appropriate block

Age:  Below 30  30-35  36-40  41-45  45-50  50-55

Race:  African  White  Indian  Coloured  Asian  Other

Home language:  English  Afrikaans  Zulu  Sotho  Xhosa  Tswana  Other, please specify \_\_\_\_\_

Occupation: \_\_\_\_\_

Suburb of residence: \_\_\_\_\_

Marital status:  Single  Married  Divorced

Number of children: \_\_\_\_\_

Height (in centimetres): \_\_\_\_\_

Current weight (in kilograms): \_\_\_\_\_

What is your highest weight ever: \_\_\_\_\_ How long ago was that: \_\_\_\_\_

What is your lowest weight ever: \_\_\_\_\_ How long ago was that: \_\_\_\_\_

What is your goal / desired weight: \_\_\_\_\_

Do you feel yourself to be:  Very overweight  Overweight  Average  Underweight  Very underweight

Is there a history of mental disorders within your family (e.g. Depression):  No  Yes  
If yes please specify \_\_\_\_\_

Have you ever been diagnosed or treated for an eating disorder:  No  Yes  
If yes please specify \_\_\_\_\_

## **Section B**

For each question, please tick the answer that applies best to you.

There are no right or wrong answers for the questions. Please answer all of the questions.

1. I think that my stomach is too big  Always  Usually  Often  Sometimes  Rarely  Never
2. I think that my thighs are too large  Always  Usually  Often  Sometimes  Rarely  Never
3. I think that my stomach is just the right size  Always  Usually  Often  Sometimes  Rarely  Never
4. I feel satisfied with the shape of my body  Always  Usually  Often  Sometimes  Rarely  Never
5. I like the shape of my buttocks  Always  Usually  Often  Sometimes  Rarely  Never
6. I think my hips are too big  Always  Usually  Often  Sometimes  Rarely  Never
7. I feel bloated after eating a normal meal  Always  Usually  Often  Sometimes  Rarely  Never
8. I think that my thighs are just the right size  Always  Usually  Often  Sometimes  Rarely  Never
9. I think my buttocks are too large  Always  Usually  Often  Sometimes  Rarely  Never
10. I think that my hips are just the right size  Always  Usually  Often  Sometimes  Rarely  Never



## **APPENDIX B**

### **Letter to schools Information and consent letters**



University of Pretoria

Faculty of Humanities  
Department of Psychology  
Supervising psychologist: W. Louw  
Email: [wp.louw@up.ac.za](mailto:wp.louw@up.ac.za)  
Tel: (012) 842 3684 / 083 360 8672

7 February 2006

Dear Mrs [Headmistress]

I am studying for my Masters degree in Counselling Psychology at the University of Pretoria. I have recently completed my internship at 1 Military Hospital in Pretoria and am currently conducting research within the field of eating disorders.

Adolescent girls are a high risk group and are often dissatisfied with their bodies, weight and shape and may begin dieting at an early age. I am conducting research on body dissatisfaction and eating in adolescent girls between the ages of 14 to 16 years and their mothers. The purpose of my study is to explore body satisfaction / dissatisfaction and how a mother and daughter perceive their bodies and eating in a similar or differing manner. Therefore, I would appreciate mother and daughter volunteers to participate in the study regardless of how they perceive eating and their bodies.

With your permission I would like to arrange a time with the Grade 9 and 10 students where a presentation on the topic of disturbed eating and body dissatisfaction can be done. I will request the students to fill in a questionnaire before the presentation which will be used for my research. The students will benefit from the presentation as it will inform them about the risks factors and dangers of disturbed eating and aims to make them aware of their perceptions of their own bodies. It also includes information of how to find help should they know of someone who may be at risk. After the presentation I will request that each student takes home a brief questionnaire for their mothers to complete. Both questionnaires will be anonymous and no names will be used, only random numbers to link the two questionnaires. Mother's questionnaires will then be returned to the school via the daughters in the sealed envelopes provided and all information will be treated confidentially. A pamphlet on eating disorders will be given to the students for them and their mothers to read and will

include details of psychologists and clinics in the area. Before the presentation, consent forms need to be signed by each student's parents in order for them to participate. At any point during the process, should either the mother or her daughter decide that they no longer wish to participate in filling in the questionnaire, they may withdraw without any negative consequences.

Should you require any further information, I can be contacted at the following: 082-334-4524 or [ladlard@iafrica.com](mailto:ladlard@iafrica.com)

Thank you for your kind cooperation

Yours sincerely

Leesa Adlard



Faculty of Humanities  
Department of Psychology  
Supervising psychologist: W. Louw  
Email: [wp.louw@up.ac.za](mailto:wp.louw@up.ac.za)  
Tel: (012) 842 3684 / 083 360 8672

February 2006

Dear Parents and Students,

We live in a society where the media bombards us with images of women with “perfect thin bodies”. For many young girls and women success is measured by appearance and body weight. Adolescence is a time where girls are faced with many changes and are often unhappy with their bodies, weight and shape and may begin dieting at an early age. Although normal, this may later result in disturbed eating and eventually the possibility of developing an eating disorder such as anorexia or bulimia.

I am studying for my Masters degree in Counselling Psychology at the University of Pretoria, have recently completed my internship at 1 Military Hospital and am currently doing research related to the field of eating disorders.

I will be giving a presentation during the Grade 9 and 10 guidance class on eating habits and body dissatisfaction with the aim of informing the students on the topic of eating disorders. The presentation will inform the girls about the risks and dangers of disturbed eating and aims to make them aware of their perceptions of their own bodies.

Before the presentation I will request the students to fill in a questionnaire for my research. My research is on body dissatisfaction/ satisfaction in girls between the ages of 14-17 years and their mothers. The purpose is to explore how a mother and daughter perceive their bodies and eating in a similar or differing manner. I will also request that each student take home a

short questionnaire for their mothers to complete. Both questionnaires will be anonymous and no names will be used, only random numbers to link the two questionnaires. Mother's questionnaires can be returned to the school via daughters in sealed envelopes provided and all information will be treated confidentially. A pamphlet on eating disorders will be given and will include details of psychologists and clinics in the area where counselling is available.

I request your permission for your daughter to attend the presentation at school and for both mother and daughter to participate in filling in the questionnaire. Any questions regarding the research or the topic will be addressed during the discussion.

At any point during the process, should either the mother or daughter decide that they no longer wish to participate in filling in the questionnaire, you may withdraw without any negative consequences.

Should you require any further information, I can be contacted at the following:

082-334-4524 or [ladlard@iafrica.com](mailto:ladlard@iafrica.com)

Thank you for your support

Yours Sincerely

Leesa Adlard

---

I \_\_\_\_\_, mother of \_\_\_\_\_ (pupil's full name) DO /  
DO NOT give my permission for both my daughter and myself (her mother) to participate in the above  
study.

\_\_\_\_\_  
Mother's signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Place

\_\_\_\_\_  
Daughter's signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Place



University of Pretoria

Faculty of Humanities  
Department of Psychology  
Supervising psychologist: W. Louw  
Email: [wp.louw@up.ac.za](mailto:wp.louw@up.ac.za)  
Tel: (012) 842 3684 / 083 360 8672

1 August 2005

Dear Mrs [Headmistress]

I am currently studying for my Masters degree in Counselling Psychology at the University of Pretoria. I am doing my internship at 1 Military Hospital in Pretoria. I am particularly interested in the field of eating disorders and am conducting my research for my master's degree on body dissatisfaction in adolescent girls between the ages of 14 to 16 years and their mothers. The purpose of my study is to investigate the relationship between body dissatisfaction of mothers and their adolescent daughters within a South African context.

It would be greatly appreciated if I could conduct my research using your Grade 9 and 10 students and for this I request your permission. I have been in contact with the school psychologist and with your permission she is willing to assist me.

I will be requesting mother and daughter volunteers to participate in the study. The students will need to be in Grade 9 and 10. Anonymity and confidentiality will be maintained throughout the study. Each mother/daughter pair will be allocated a number, therefore no names will be utilized in the study. Once they have agreed to participate in the study, they will be requested to fill in a few questionnaires. At a convenient time for the school I will require an hour session with the students participating in the study to complete the questionnaires in a group setting. They will then receive an envelope with similar questionnaires for their mothers

to complete at home. Once their mothers have completed the questionnaire, their daughters will return them in the sealed envelope to the school psychologist.

At any point during the process, should either the mother or her daughter decide that they no longer wish to participate, they may withdraw without any negative consequences.

A debriefing session will take place once the research is completed. Both mothers and daughters will benefit from the session. It will include a brief presentation on eating disorders and the risk factors involved. Contact numbers will be available for clinics and psychologists within the area as well. Any questions regarding the research or the topic will be addressed.

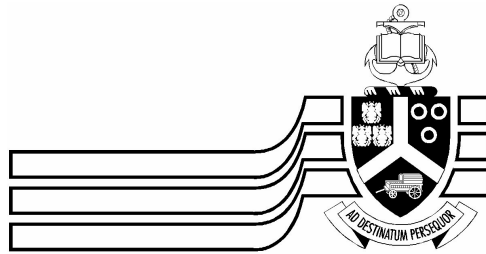
Should you require any further information, I can be contacted at the following:

082-334-4524 or [ladlard@iafrica.com](mailto:ladlard@iafrica.com)

Thank you for your kind cooperation, looking forward to meeting you on Thursday.

Yours Sincerely

Leesa Adlard



## University of Pretoria

Faculty of Humanities  
Department of Psychology  
Supervising psychologist: W. Louw  
Email: [wp.louw@up.ac.za](mailto:wp.louw@up.ac.za)  
Tel: (012) 842 3684 / 083 360 8672

August 2005

Dear Parents and Students,

I am currently studying for my Masters degree in Counselling Psychology at the University of Pretoria. I am doing my internship at 1 Military Hospital in Pretoria. I am particularly interested in the field of eating disorders and am conducting my research for my master's degree on body dissatisfaction in adolescent girls between the ages of 14 to 16 years and their mothers. The purpose of my study is to investigate the relationship between body dissatisfaction of mothers and their adolescent daughters within a South African context.

I am requesting mother and daughter volunteers to participate in my study. Anonymity and confidentiality will be maintained throughout the study. Each mother / daughter pair will be allocated a number, therefore no names will be utilized in the study. Once both you and your daughter have agreed to participate in the study, you and your daughter will be requested to fill in a few questionnaires. An hour session will be arranged during school hours, where the students will complete the questionnaires in a group setting. They will then receive an envelope with similar questionnaires for you as their mothers to complete at home. Once you have completed the questionnaire, your daughter can return it in the sealed envelope to the school psychologist.



At any point during the process, should either you or your daughter decide that you no longer wish to participate, you may withdraw without any negative consequences.

A debriefing session will take place once the research is completed. Both you and your daughter may benefit from the session. It will include a brief presentation on eating disorders and the risk factors involved. Contact numbers will be available for clinics and psychologists within the area as well. Any questions regarding the research or the topic will be addressed.

Should you require any further information, I can be contacted at the following:

082-334-4524 or [ladlard@iafrica.com](mailto:ladlard@iafrica.com)

Thank you for your support

Yours Sincerely

Leesa Adlard

---

I \_\_\_\_\_, mother of \_\_\_\_\_ (pupils full name) DO / DO NOT give my permission for both my daughter and myself (her mother) to participate in the above study.

\_\_\_\_\_  
Mother's signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Place

\_\_\_\_\_  
Daughter's signature

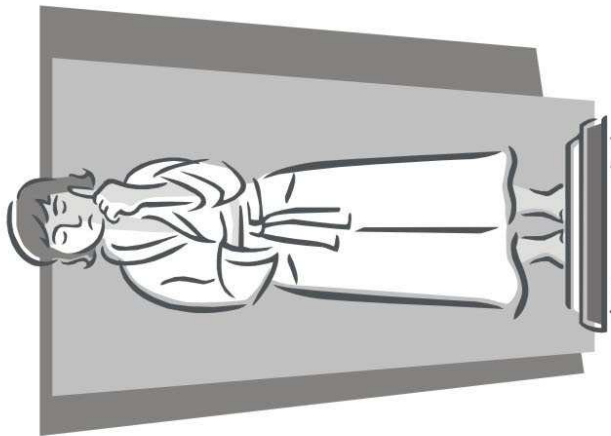
\_\_\_\_\_  
Date

\_\_\_\_\_  
Place

## **APPENDIX C**

### **Pamphlet**

# Eating Disorders



We live in a society where the media bombards us with images of women with "perfect thin bodies". For many young girls and women success is measured by appearance and body weight. Adolescence is a time where girls are faced with many changes and are often unhappy with their bodies, weight and shape and may begin dieting at an early age. Although normal, this may result in disturbed eating and the possibility of developing an eating disorder.

## What is an eating disorder?

- They are severe disturbances in eating behaviour
- 2 Main types:
  - Anorexia Nervosa
  - Bulimia Nervosa

## Who's at risk for eating disorders?

- Most commonly occur in females (10 times more likely than males)
- Often begin during adolescence and early adulthood

## Signs and symptoms:

- *Anorexia Nervosa:*
  - Intense fear of gaining weight or becoming "fat", regardless of low weight
  - Noticeable weight loss and refusal to maintain an appropriate weight for age and height
  - Disturbed perception of body weight, size or shape
  - Irregular menstruation/loss of menstrual cycle
  - Severe restriction of eating and unusual eating habits
  - Excessive exercise
  - Use of laxatives and vomiting to achieve weight loss
  - Withdrawal from family and friends
  - Anxiety, depression, mood swings
  - Low self-esteem
  - Fatigue / lack of energy
  - Complaints of feeling cold/ low body temperature
  - Hair loss, dry brittle nails

## - *Bulimia Nervosa:*

- Person may be under, over or normal weight
- Binge eating (eating large amounts within a short time frame)
- Secretive eating
- Lack of control while eating
- Bathroom visits after meals
- Inappropriate methods to prevent gaining weight such as vomiting, laxatives, excessive exercise
- Avoidance of restaurants, planned meals or social activities

- Low self esteem
- Self-worth determined by weight
- Severe self-criticism
- Depression, anxiety, mood swings
- Fatigue
- Swollen glands or sore throat
- Tooth decay and gum problems

## Causes of Eating Disorders:

There is no single cause of an eating disorder but several factors working together. They include biological, individual, familial and societal factors.

## Getting help:

Eating disorders can result in many psychological and medical complications and can be fatal. However, both Anorexia Nervosa and Bulimia Nervosa can be treated with medical and psychological help.

## Psychologists in the area:

- Lory Daws: 083-381-2859
- Bronwyn Dooley: 084-462-4463
- Tara Psychiatric Unit: (011) 535-3004

Cesca Van Praag (Counsellor at St Dominic's) offers counselling to the students for various personal problems.

For further information I can be contacted at the following:

ladlard@iafrica.com  
Tel: 082-334-4524  
Leesa Adlard

## Sources:

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