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# THE PREDICTION OF BODY IMAGE SATISFACTION AMONG ADOLESCENT GIRLS

by

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Deborah Patricia Elliott

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# SUMMARY

Numerous factors contribute to the development of a distorted body image among adolescent girls, as reflected and supported by the literature on this topic.

The goal of this study was to determine any additional factors which may be influential in precipitating a distorted body image, later leading to the development of disordered eating patterns among adolescent school-girls. The following hypothesis has been formulated:

Body image satisfaction among adolescent school girls in a private school setting is influenced by the following predictor variables: body maturation, age, participation in physical activity, involvement in a romantic relationship, sibling constellation, self-esteem, family influences and schooling structure (same sex versus co-educational schools).

The etiology of disordered eating patterns is complex, hence it is important to study the theoretical framework, as well as the predicting factors that may contribute to a distorted body image. Teachers, medical practitioners and families could benefit from this data by understanding how various factors contribute to body image satisfaction in adolescent girls.

In this research, a total of 183 adolescent private school girls participated in the study. A total of 92 of the girls were from a private same sex school in the northern suburbs of Johannesburg, while 91 of the girls were from a co-educational private school in the northern suburbs of Johannesburg. Each participant's height and weight was recorded to calculate Body Mass Index, used to classify her dimensions. To establish body image satisfaction, the subjects were asked to complete a biographical questionnaire, the body dissatisfaction sub-scale of the EDI (Eating Disorder Inventory), and the self-esteem and family relations sub-scales of the PHSF (Personal, Home, Social and Formal Relations

Questionnaire). The girls in the respective schools were divided into two groups based on the acceptability or the unacceptability of their body image satisfaction, according to their Body Mass index and their scores on the Eating Disorder Inventory. The groups were then compared for biographical, self-esteem and familial factors. The data was subjected to a logistic regression analysis in order to determine which of the abovementioned factors could significantly predict the group membership of a girl (acceptability or unacceptability of body image satisfaction).

The following factors were found to significantly contribute to the prediction of body image satisfaction suggesting that:

- Adolescent girls in a co-educational private schooling structure were more likely to develop a distorted body image than those in a same sex private schooling structure.
- Adolescent girls who display more family involvement and who are more sensitive to family influences revealed a greater body image distortion that those who exhibit less family involvement.
- Adolescent girls who are dissatisfied with their bodies because of over- of underweight are more prone to use dieting as a measure to alter their body shape in order to conform to societal norms and expectations.

If there is a greater awareness among teachers, medical practitioners, and families concerning the precipitating eating disorders, resources can be used more effectively to lessen or even prevent body dissatisfaction.

In conclusion, the study has shown the importance of schooling structure and its influence over the prediction of body image satisfaction amongst adolescent girls. Further investigations could clarify these findings.

# OPSOMMING

Uit beskikbare literatuur is dit duidelik dat verskeie faktore meewerk in die ontwikkeling van 'n versteurde liggaamsbeeld by adolessente dogters.

Hierdie studie het ten doel om te bepaal of enige addissionele faktore tot die bestaande faktore ook 'n bydrae lewer tot die ontwikkeling van 'n versteurde liggaamsbeeld wat moontlik later ook tot ongesonde eetgewoontes by adolessente skoolmeisies mag lei. Die volgende navorsingshipotese is geformuleer:

Ligaamsbeeldtevredenheid by adolessente meisies in 'n privaatskool opset word beïnvloed deur die volgende voorspellerveranderlikes: liggaamsrypwording, ouderdom, deelname in fisiese oefening, betrokkenheid in romantiese verhoudinge, sibbe konstellasie, selfbeeld, gesinsverhoudinge en skoolstruktuur (enkel- en dubbelgeslag).

'n Studie van die voorspellerveranderlikes wat tot 'n versteurde liggaamsbeeld mag bydra, is van belang wanneer die kompleksiteit van die etiologie van eetversteurings oorweeg word. Ten einde die bruikbaarheid van die resultate vir onderwysers, mediese praktisyns en families te verseker, is dit noodsaaklik dat die invloed van die privaatskool struktuur op die etiologie ondersoek moet word. 'n Teoretiese raamwerk van die faktore wat 'n invloed op die liggaamsbeeld mag uitoefen, word in diepte in die studie bespreek ten einde te begryp hoedat elk 'n rol speel in die presipitering van ligaamsbeeldtevredenheid by adolessente meisies.

In die navorsing word 'n totaal van 183 adolessente meisies vanuit privaatskole betrek. n' Totaal van 92 van die meisies is afkomstig uit private , enkelgeslagskole in die noordelike voorstede van Johannesburg, terwyl 91 meisies afkomstig is uit dubbelgeslag-privaatskole in dieselfde geografiese area. Elke meisie se Liggaamsmassa-indeks is bepaal as verhouding van haar lengte tot haar gekwadreerde massa en die mate van tevredenheid met hul liggaamsbeeld is met die liggaamsontevredenheid-subskaal van die

eetversteuringsvraelys (EDI), sowel as met die selfagting en gesinsverhoudinge subskale van die PHSF bepaal.

Die meisies van die onderskeie privaatskole is op grond van hul aanvaarbaarheid of onaanvaarbaarheid van hulle liggaamsbeeldtevredenheid in twee groepe verdeel. Die aanvaarbaarheid of onaanvaarbaaheid is vasgestel deur hul liggaamsmassaindeks en hul tellings op die eetversteuringvraelys (EDI). So is 'n respondent wat oormassa is en daarmee ontevrede is, byvoorbeeld in die aanvaarbare groep geplaas en iemand wat oormassa is en tevrede daarmee is, in die onaanvaarbare groep geplaas. Die twee groepe is daarna vergelyk in terme van biografiese veranderlikes, selfagting en gesinsverhoudinge. Die data is hierna aan 'n logistiese regressie onderwerp ten einde vas te stel watter van die bogenoemde faktore die groeplidmaatskap van 'n respondent beduidend kon voorspel.

Die volgende faktore het beduidend tot die voorspelling van liggaamsbeeldtevredenheid bygedra en suggereer dat:

- Adolessente meisies in 'n dubbelgeslag-privaatskool is meer geneig om 'n versteurde liggaamsbeeld te toon as diegene in 'n enkelgeslag-privaatskool.
- Adolessente meisies wat meer gesinsbetrokkenheid ervaar is meer sensitief vir gesinsinvloede en toon 'n groter mate van liggaamsbeeldversteuring as meisies wat minder gesinsbetrokkenheid ervaar.
- Adolessente meisies wat met hul liggame ontevrede is omdat hulle oor- of ondermassa is, is meer geneig om 'n dieet as meganisme te benut om hul liggaamsvoorkoms te probeer verander sodat dit aan samelewingstandaarde en -verwagtinge kan voldoen.

Indien daar 'n groter mate van bewustheid by onderwysers, mediese praktisyns en gesinne oor die presipiterende faktore van eetversteurings bestaan, kan hulpbronne in die voorkoming daarvan meer effektief benut word.

Die studie het die belang van verdere ondersoek na die skoolstruktuur en die invloed daarvan op die voorspelling van liggaamsbeeldtevredenheid by adolessente meisies duidelik uitgelig.

# KEYWORDS

**FEMALE**

**ADOLESCENT**

**BODY IMAGE**

**EATING DISORDERS**

**PHYSICAL ACTIVITY**

**FAMILY**

**SELF-ESTEEM**

**RELATIONSHIP**

**AGE**

**SAME SEX SCHOOL**

**CO-EDUCATIONAL SCHOOL**

# CHAPTER ONE : INTRODUCTION AND PRIMARY AIMS OF THE RESEARCH STUDY

## 1.1 INTRODUCTION

The possible causes of distorted body perception include personality, general health; both physical and psychological, as well as the fear of the adolescent having to become independent, self supporting, having to face the implications of men, sex and marriage (Feldman, Feldman & Goodman, 1988). In affluent Western societies, slenderness is generally associated with happiness, success, youthfulness and social acceptability (Orbach, 1993). For women, the ideal body is slim. Non-conformity to the slender ideal has a variety of negative social consequences (Wolman, 1988). Being overweight is seen as physically unattractive. Furthermore, within Western ideology, being overweight is perceived to violate the cultural ideal of self-denial and self-control.

The idealization of slenderness in women is often viewed as the product of a historical evolution that has occurred over the past century. Despite changes in the feminine ideal, one thing remains constant throughout the decades. Women have always been encouraged to change their shape and weight to conform to current trends (Grogan, 1999). The body image is one aspect of the self-concept (Gerdes, 1988). Other aspects include a sense of personal efficacy and a sense of personal worth (Branden, 1969). Research has shown that there is a strong relationship between self- esteem and satisfaction with physical attractiveness in young women (Lerner, Orlos & Knapp, 1976). Low self –esteem is a widely recognized correlate of body image disturbance. It can therefore be seen that the female's assumptions about her physical attractiveness has important implications for her personal, social and academic adjustments (Garner, Garfinkel & Olmstead, 1983).

The media often affects body- esteem and self-esteem by becoming a reference point against which comparisons are made. If these comparisons are unfavourable, reductions in self-esteem levels result (Ferguson, 1983).

Little research has been conducted regarding the relationship between schooling structure and family structure and body-and self- esteem (Le Grange, Tibbs & Selibowitz, 1995). According to research conducted by Le Grange, Tibbs and Selibowitz (1995), 11% of the pupils sampled from private schools, as opposed to 5.3% sampled from state schools presented with eating disorder – like symptoms.

This study seeks to readdress and examine the possibility that the majority of students in a given sample said to be at risk for developing an eating disorder are females from private schools. The study will at the same time examine the influence of developmental stage factors including age, self-esteem and time of body maturation. The social factors that will be investigated in the study include interaction with the opposite sex and involvement in physical activity. The environmental factors of family and schooling structure are also addressed in the research with the focus being on how the aforementioned constructs predict deviations between body image satisfaction and body mass among female adolescents in a private school setting.

## 1.2 Primary aims of the research study

1.2.1 To explore a possible relationship between body image satisfaction and body mass among female adolescents in a private school setting.

1.2.2 To investigate the effectiveness of participation in physical activity in predicting a deviation between body image satisfaction and body mass among female adolescents in a private school setting.

1.2.3 To investigate the effectiveness of the female adolescents self -esteem in predicting a deviation between body image satisfaction and body mass among female adolescents in a private school setting.

1.2.4 To investigate the effectiveness of the female adolescents involvement in a romantic relationship in predicting a deviation between body image satisfaction and body mass among female adolescents in a private school setting.

1.2.5 To investigate the effectiveness of age in predicting a deviation between body image satisfaction and body mass among female adolescents in a private school setting.

1.2.6 To investigate the effectiveness of time of body maturation in predicting a deviation between body image satisfaction and body mass among female adolescents in a private school setting.

1.2.7 To investigate the effectiveness of sibling constellation in predicting a deviation between body image satisfaction and body mass among female adolescents in a private school setting.

1.2.8 To investigate the effectiveness of same sex versus co-educational private schools in predicting a deviation between body image satisfaction and body mass among female adolescents in a private school setting.

**1.3 Study outline**

Chapter Two defines the concept of self-esteem and discusses how it is influenced by social, contextual and biological factors. Chapter Three takes a closer look at the concept of body image and the importance of physical attractiveness in relationships with the opposite sex. Chapter 4 looks at the other predictors investigated in predicting body image satisfaction, namely, family structure, age, body maturation, participation in physical activity and schooling structure- same sex versus co-educational private schools. Chapter Five delineates the research methodology taken to construct and perform this research study. Chapter Six reports and discusses the results of this study, the conclusions drawn and implications of the research are presented in Chapter 7.

# CHAPTER TWO : SELF- ESTEEM

## 2.1 INTRODUCTION

In this chapter, the concept of self - esteem will be defined and discussed according to current literature and research reviews. The influences as well as the formation of self - esteem in adolescent girls will be focussed on.

Self- esteem can be defined as the evaluative aspect of self-concept (Gerdes, 1988). Several factors influence self-concept. These range from physical appearance to intellectual ability (Baron & Byrne, 1991). High self-esteem is associated with feelings of competence and satisfaction with oneself, while low self-esteem encompasses feelings of incompetence and self – depreciation (Branden, 1969).

A variety of studies indicate that women, beginning in adolescence and continuing throughout adulthood, suffer from depression and low self-esteem related to the impossibility of conforming to the body image dictated by society. Girls, according to one such study, equate good looks with self worth (AAUW, 1991). Among American Caucasian female adolescents, beauty was revealed as a strong predictor of self-esteem (Baron & Byrne, 1991). It can therefore be seen that body image plays a significant role in evaluating a young woman's self-esteem.

Slade (1988) describes body image as the picture we have in our minds of the size, shape, and form of our bodies and the feelings we have concerning these characteristics and our constituent body parts. Body image disturbance is a multidimensional phenomenon that involves perceptual, attitudinal and behavioural features (Cash & Brown, 1987; Garfinkel & Garner, 1982; Kearney- Cooke, 1989; Rosen, 1989; Slade, 1994; Thompson, 1990; Williamson, 1990). Body image disturbance in women with eating disorders has been attributed to cultural standards, self esteem, learning within the family, disturbances in psychosexual development and disturbances in the development of self-identity and

effectiveness (Rosen, 1990). Due to the fact that self-esteem and body image are important evaluative components of the self, they will be considered in more detail.

## 2.2 THE SELF

The way in which people think of and evaluate themselves both as a consequence and as a predisposition for subsequent behaviours, is an essential construct for interpreting human conduct (Howcroft, 1986).
Theorists recognize the self-concept as an important aspect of personality development (Plug, Louw & Meyer,1997). A positive self-concept is associated with positive personality development, while a negative self-concept is associated with a less positive personality development. Several theories postulate the self as the organizing agent of the personality. Also, it is often the self that is postulated as the mechanism providing individual consistency over time and across situations. It would be useful to consider the historical development of theories on the self in order to help define the concept more clearly.

### 2.2.1 Theories of the self

#### 2.2.1.1 C.H. Cooley (1902)

Cooley (1902) emphasised the continuity of the individual with society and suggested that it is essential to consider the self as part of the social milieu in which the individual is embedded or the persons with whom he interacts. Individual behaviours and social expectations modify each other and a large component of self-esteem is your perception of how others think of you.
The first premise of symbolic interactionism according to Cooley (1902) is that humans respond to the environment on the basis of the meanings that elements of the environment have for them as individuals. The second premise of social interaction is that such meanings are a product of social interaction, and the third premise is that these societal meanings are modified by the individual's interpretation within the shared interaction.

#### 2.2.1.2 E. Fromm (1939)

Fromm (1939) stressed the close relationship between a person's regard for himself and the way he is able to deal with other persons. His association with the concept of self-esteem is similar to the idea of self love; a basic notion of Fromm's theory is that self love is a prerequisite to love others.

#### 2.2.1.3 C. Rogers (1961)

Rogers (1961) viewed the condition of the self as being the pivotal factor in determining a person's emotional health. He viewed the essential condition for maladjustment to be a schism between what he called the individual's own organismic valuing of events and values that he or she consciously asserts. Because all people need acceptance, especially early in development, evaluation from others may violate the child's organismic valuing process. In order to avoid rejection, the child may adopt or introject the values of the parents and define them as his or her own. The perceived self grows out of the configuration of the directly experienced self and the distorted introjects. When a perception that is distinctly at variance with the self as structured enters the consciousness, the individual either denies its meaning or further distorts it. In that fashion, the self narrows the range of information and behaviours available to the person, confirming the structure of the self as one's definition of one's identity.

This brief theoretical explanation has provided a basis towards the understanding of self-esteem. Attention will now shift towards a more general description of self development.

### 2.2.2 The development of the self

Towards the end of infancy, children can recognize themselves and give basic descriptions of themselves. At the age of approximately five, the preschooler can establish a categorical self. They are able to describe themselves in terms of name, gender, age, skills, property, where they live, and who their friends are (Bukatko & Daehler, 1992). Despite the fact that preschoolers can describe themselves in terms of external observable attributes, description of their internal self is mostly linked to specific

experiences (Eder, 1989). A young child's self concept is closely related to his or her possessions. Assertion over ownership of objects in young children is regarded as an important part of developing self-definition- they are busy defining boundaries between themselves and others (Levine, 1983).

During middle childhood, the self-concept develops rapidly. According to Papalia and Olds (1995), at the age of six to seven years, children begin to define themselves in psychological terms; they develop a concept of real self- who they really are, and also an ideal self – who they would like to be. The ideal self often includes many of the norms they have learnt. At this age, children develop the ability to assess themselves accurately. Their knowledge of themselves is not only based on their achievements, but also on their needs and what others expect of them. The self- concept is also influenced by the degree to which children can regulate their own behaviour. It is therefore important that children should develop faith in their ability to meet personal and social requirements ( Harter, 1982).

Adolescents' identity development influences their self- concepts. As their identities develop, so their views of themselves will change accordingly (Damon & Hart, 1988). The adolescent's description of himself or herself includes less physical and more psychological aspects. Their descriptions move from being concrete to more abstract. At the same time, adolescents become increasingly aware of themselves- they think about themselves and describe themselves in terms of feelings and characteristics. Acceptance by others is particularly important for the adolescent and they are thus more inclined to describe themselves in terms of their social competencies. Adolescents are also more inclined to include personal and moral values in their self-descriptions. Adolescents self-description includes both positive and negative characteristics, and they are able to give a more integrated self-description (Harter, 1990).

As children develop, their self-esteem gradually begins to include all aspects of the self namely cognitive, physical and social. During adolescence, the self-esteem has to be modified even further, as several new dimensions are added which have to be evaluated. These new dimensions include their changing physical appearance, sexuality, changes in their social and romantic relationships and choosing careers (Berk, 1994).

The adolescents self esteem also changes. The preschoolers self esteem is particularly high. During middle childhood, when children start comparing themselves with others, their self-esteem declines somewhat, becoming more realistic. During early adolescence when the growth spurt, pubertal changes and cognitive and social changes occur and adolescents are adjusting to a high school environment, they are inclined to experience a temporary decline in their self esteem (Harter, 1990). As they adjust to their physical, cognitive and social changes, their feelings of self worth are restored again (Offer, 1988).
The self involves attributes that are physical, social, emotional and intellectual. These attributes interact with the aspect of the self that comes to know through its perceiving, performing, thinking and remembering functions. The interaction of these attributes and functions leads to the development of two core ingredients of the self, namely the self concept (ideas about oneself) and self-esteem (feelings and evaluations about oneself).
During adolescence, the ability to consolidate the aspects of the self into a cohesive and individual identity is a major task (Harter, 1983).
Due to the fact that one of the predicting factors of body image satisfaction focused on in this study is self-esteem, it will now be discussed in detail.

## 2.3 SELF-ESTEEM

Self –esteem is a vital conceptual tool for both psychological and sociological perspectives. The Encyclopedia of Psychology (1984) defines self-esteem as " the way one feels about oneself, including the degree to which one possesses self-respect and self-acceptance (p.289)." Self-esteem refers to the evaluations that we as individuals make of the things we do, of who we are, and of what we achieve in terms of our own expectations according to the goodness, worthiness or significance of our actions. The following section will highlight the link between self-esteem and social factors, as well as introduce the association between body image related factors and self-esteem.

### 2.3.1 Social support and self-esteem

All aspects of adolescent development occur within a social context. In adolescence, parents and peers dominate social support systems. Parent – adolescent conflict increases at this developmental stage due to the adolescent's increasing need for autonomy. Parents reaction to this is often to exert more control, which can result in the adolescent rebelling (Santrock, 1997). The parenting style adopted by the parents of an adolescent can influence his or her self-esteem. The authoritative parent is one that allows the adolescent independent behaviour within a framework of limitations. The adolescent children of these parents are often reliable and socially responsible. They have good insight into their capabilities as well as their limitations (Baumrind, 1971). The authoritarian parent sets limitations in a strict and punitive fashion. The adolescent receiving this type of parenting style often views himself or herself as incompetent. This type of parenting style is often associated with socially incompetent behaviour in adolescents, which results in a decreased ability in the adolescent to take initiative, as well as increased anxiety when compared socially. These factors in turn affect the self-esteem of the adolescent (Baumrind, 1971). Permissive parenting occurs when no control is exerted over the adolescent's behaviour. These adolescents show limited self-control as they have never been taught to control their behaviour (Baumrind, 1971).

Adolescents display an intense desire to belong. Peer-group interaction allows for satisfaction of the adolescents emotional needs beyond the family structure and provides an opportunity for socialization (Lefrancois, 1996). Due to personality characteristics, some adolescents are more accepted by their peers than others. Those who are tolerant, sympathetic, self-confident and attractive are viewed favourably. Adolescents who lack self-confidence, who are nervous, shy and withdrawn, tend not to be accepted (Berk, 1994).

Most adolescents judge their value in terms of others reactions to themselves and are dependent on their parents and their peers approval, acceptance and support for adequate self-esteem and psychological development (Berk, 1994).

The way we relate to others therefore simultaneously affects and is influenced by our self-esteem. Apart from the external factors in the environment a number of internal

factors interact with self-esteem, for example body image and the behaviours related to it. These factors will be explored in the following section.

### 2.3.2 The association between eating disorders and self-esteem

In a patient with an eating disorder, weight control is a remedy for the defect she perceives in her appearance (Rosen, 1992). Patients suffering from an eating disorder experience distorted sensations or images of their physical appearance. A discrepancy between actual appearance and a patient's mental picture of herself suggests a perceptual disturbance (Bruch, 1962). Although a striking feature of anorexia nervosa or bulimia nervosa is the person's conviction about the existence of a physical defect, this distortion is only one step in a sequence of eating disorder beliefs. According to Wilson and Smith (1989) The typical thought pattern is as follows: "I look defective therefore people view me as unattractive and evaluate me negatively as a person (p. 174)." The importance given to physical appearance in self-evaluation is a better discriminator of women with eating disorders than physical attractiveness is. Apart from perceptual, cognitive and affective features that contribute to the development of an eating disorder, behavioural features also play a significant role. At a behavioural level, the patient engages in avoidant behaviour to situations where she feels she may be evaluated. She also engages in checking behaviour- inspecting her perceived deficit regularly. Finally, eating disorder patients are convinced that the only way to improve their self-esteem is to improve the way they look. Dieting and exercise are viewed as the main beauty remedies (Saltzberg & Wendt, 1991).

The body is the object in a person's perceptual world that is simultaneously perceived and is part of the self. It is for this reason that there lies an equation between body feelings and personality patterns (Fisher, 1966; Schilder, 1935). The body is linked to the individual's identity and thus reflects and shares in the individual's most important preoccupations (Fisher, 1990). Fisher (1966), recognized that the body, being such a significant object can become a "screen" on which one projects one's most intense concerns. Some people project their experiences of overwhelming intrapersonal or interpersonal struggles that they feel inadequately equipped to deal with, onto their

bodies. They perceive their bodies as changeable; by projecting their feelings of being out of control onto their bodies, these individuals are given the illusion that they have a means of restoring control. These clients believe "If I change my body, I will change myself and feel more competent in the world." The efforts that they expend to change their bodies offers temporary relief from aversive emotional states by narrowing their cognitive focus to a structured task that appears manageable (Heatherton & Baumeister, 1991).

Western culture reinforces this myth of transformation. Due to our society being so image conscious, developing an image has become more important than developing an authentic self (Gergen, 1991). This is especially true of women. Socialization from childhood dictates that appearance is important and that beauty is an essential part of women's worth, and that acceptance or rejection by others depends largely on how they look (Striegel-Moore, Silberstein & Rodin, 1993). Therefore, most women experience a tremendous "charge" around their bodies. The message in Western culture is that power for women equals the ability to make her body look like the present beauty ideal. As women look outside themselves for the current ideals for their age, they internalize these standards and become profoundly dissatisfied with themselves (Davis, 1985).

Eating disordered clients often feel particularly empowered when they are losing weight. They obtain a false sense of power by controlling their bodies. This illusory sense of power is protection against the fragility or helplessness that goes with a poorly defined identity (Horner, 1989).

Self-psychologists look at an individual's developmental failures in the provision of mirroring, idealizing and validating needs leading to deficits in the capacity to maintain self-esteem, cohesion and various self-regulating functions. The result is a vulnerability to developing an eating disorder ( Geist, 1985; Goodsitt, 1977; Sands, 1991). Sands (1989) notes that developing girls are presented with particular obstacles in mirroring and idealizing dimensions. In contrast to boys, girls are discouraged from showing off, and are rather reinforced for being lady-like. Girls are encouraged particularly in the sphere of physical appearance to obtain mirroring gratification. Thus, later in life, women are predisposed to reveal their psychopathology through bodily symptoms such as eating disorders. The profile of an adolescent girl who is predisposed to developing an eating

disorder of some kind enters puberty poorly equipped to regulate her moods, tensions, self-esteem and cohesion. She turns to body manipulation in the form of bingeing, purging and weight control to temporarily restitute a sense of effectiveness (Goodsitt, 1983).

McArthur and Alan (2001) surveyed 128 dietetics majors aspiring to be registered dietitians in order to identify their reasons for wanting to lose weight and the weight loss techniques they would recommend to their clients. Fisher's exact tests were used to analyze behavioural data and binomial tests were used to determine whether proportions of students achieving their weight loss outcomes were significantly greater than 50%. Most dieters wanted to lose weight to improve their appearance and increase their self-esteem. Weight loss techniques that were used and recommended included increased exercise, low fat foods and portion regulation.

Tiggemann, M (2001) conducted a study with the aim of situating adolescent girls body dissatisfaction, disordered eating, and self-esteem in the context of their life concerns. Questionnaires containing measures of body dissatisfaction, disordered eating and self-esteem were administered to 306 girls with a mean age of 16 years. The results of the study revealed that although academic success and intelligence were rated as the most important life concerns, an emphasis on slimness was most strongly linked to body dissatisfaction, disordered eating and global self-esteem.

Button, Sonuga-barke, Thompson and Davies (1996) carried out a longitudinal study of the relationship between eating disorders and self-esteem.

A total of 594 schoolgirls aged 11 years self-esteem was measured using the Rosenberg self-esteem scale. The girls were retested 4 years later using a health questionnaire, which evaluated feelings of fatness, use of weight control from Garner, Olmstead, Bohr and Garfinkel's Eating Attitudes Test-26 (1982) and Zigmonde and Snaith's Anxiety and Depression scale (1983). The results showed that the EAT-26 scores at age 15 were predicted significantly by self-esteem scores at age 11. 3% of the girls in the high self-esteem group went on to have high EAT scores, while 28% of girls in the low self-esteem group went on to have high EAT scores by age 15.

Low self –esteem is a significant and precipitating characteristic of eating- disordered patients (Polivy & Herman, 1987). Despite the appearance of social poise in these women, they are often hiding a deep sense of inadequacy (Riebel, 1989).

This section provides evidence of the difficulties experienced by women in general as they attempt to negotiate societal demands and incorporate them into their self-esteem and body image. Another difficulty often experienced by adolescents is the bodily changes that they experience at this developmental stage in their lives. The following section will examine this link more closely.

### 2.3.3 The influence of body maturation on self-esteem

The characteristics and perceptions of a person's physical self affect self-concept, interpersonal relations and professional choices (McCandless, 1961). Interest in appearance increases during adolescence, a period marked by significant physical changes (Blyth, Simmons & Zakin, 1986). Sexual maturation is one of the most dramatic events in human development (Moffit, Caspi, Belsky & Silva, 1992). Adolescents are acutely aware of the physical changes that they experience. One of the tasks of adolescent development is the acceptance of changes in physical appearance. Acceptance is not always easy for adolescents. For boys, the lowering of the voice and the possible embarrassment that this may cause them, seems to be their greatest concern. For girls, the sudden weight increase is usually their greatest concern (Brooks-Gunn, 1988).

Due to the body changes that occur during puberty, much research has been conducted on body image perception among adolescent females. Gowen (1998), believes that the strong body image concerns among young adolescent girls is a developmental issue, since they are going through puberty, and a great deal of attention is focussed on their bodies.

Adolescent males generally appear to be satisfied with the weight gain associated with adolescence, females however are usually unhappy with these changes which seem to represent an increased fatness (Blyth, Simmons & Zakin, 1985).

Erikson (1968), Schonfield (1969) and McCandless (1970), each emphasized the importance of the bodily changes that occur during puberty and the influence that these changes have on the overall perception of self.

Adolescent girls become more self conscious, express lower self esteem, show more dissatisfaction with their bodies and have a lower body image than adolescent boys (Clifford, 1971; Simmons & Rosenberg, 1975). At the age of approximately 15 years, girls reveal a sharp increase in self consciousness- more so than boys- which continues to rise in later adolescence whilst that of boys declines (Davies & Furnham, 1986). Girls often appear particularly concerned with the impression that others have of them, evaluating themselves and their bodies through the eyes of others (Rosenberg & Simmons, 1975).

There is a stronger relationship in adolescent girls between self-esteem and physical attractiveness than there is in boys (Lerner & Karabenick, 1974). This would suggest that girls' total self concept through adolescence towards early adulthood is constructed more of interpersonal attractiveness than by other factors such as academic success (Davies & Furnham, 1986).

The age at which physical maturity is reached affects the adolescents' psychological development. Adolescents' view of their bodies is largely linked to their self-esteem, and how other people perceive them. Adolescents who mature exceptionally early or exceptionally late are perceived as out of the norm by their peer group. The effects and consequences of earlier or later maturation differ for adolescent girls and boys (Padin, Lerner & Spiro, 1981). Boys who mature early have a better body image and higher self-esteem than boys who mature late. They tend to be more self-confident, controlled and levelheaded (Mussen, Conger, Kagan &Huston, 1984). While early maturation is more positive for boys than is late maturation, late maturation seems to be more beneficial for girls. Girls who mature later are seen as physically attractive, sociable and more popular than those who mature early. They also seem to have a more positive body image than girls who mature early do (Bulcroft, 1991). Due to the extensive physical development during puberty, adolescents become increasingly aware of their sexuality. The sudden interest in the opposite sex may result in a number of activities and behaviours designed to enhance physical attractiveness. These activities, in turn may also have a relationship with self-esteem (Mussen *et al.*, 1990).

## 2.4 CONCLUSION

Thus far, literature reviews have focussed on the intrapersonal and interpersonal factors contributing to the formation of self-concept and their association with body image. The literature has provided evidence that adolescent girls often equate their self worth with their appearance. Most adolescent girls report that they want to lose weight in order to improve their self-esteem. Furthermore, a low self-esteem is often a precipitating characteristic of patients with eating disorders.

Further factors such as societal influences also affect the individual's appraisal of the self. The fact that societal demands too play a role in the formation of an individual's identity needs to be recognized and related in turn to the perceptions than an individual creates of his or her body. The focus of the following chapter will turn to societal influence on the self and the body.

# CHAPTER THREE : BODY IMAGE

## 3.1 INTRODUCTION

Cultural norms, acceptance and societal values all affect social behaviour. The implications of these factors affect psychological development leading to beliefs about the self and the world. Beliefs regarding one's body image and the societal influences that dictate body satisfaction will be explored in this chapter.

## 3.2 A definition of body image

Body image is the mental picture one has of his or her physical self (Collins & Propert, 1983). Body image perception has been conceptualized as the mental picture of one's body – the product of unconscious and conscious perceptions, attitudes and feelings (Page & Page, 1993).

The body image or body self thus refers to the images and feelings an individual holds about his or her body (Schilder, 1935; Rosenbaum, 1979).

The concept of body image is important to an understanding of psychological and social development. Much of the focus on body image has been restricted to women. Women's bodies are represented more frequently in the media than male bodies, and the descriptions of women tend to be more embodied than those of men (Morgan 1993). Not only are the differences in body image experience evident at a gender level, but the influence of changes that occur at different developmental stages too play a role. The experience that an individual holds of his or her body interacts with environmental factors such as culture, societal expectations and peer and parental interactions. The way in which bodily experience and environmental factors interact in the formation of one's body image depends on the stage of development the individual finds himself or herself at.

### 3.3 Body image disturbance in today's society

Several authors (Striegal-Moore, Silberstein & Rodin, 1986) have noted that concerns about body shape and weight are critical features in the process of female adolescent psychological development and may play a crucial role in the etiology of eating disturbances. A distorted body image, perceiving oneself to weigh more or to be larger than actual measurements, has been found common among adolescent females expressing dissatisfaction toward their bodies (Feldman, Feldman & Goodman, 1988).

Dietary and body shape concerns are common among adolescent girls, and in extreme form can lead to the development of an eating disorder (Le Grange, Tibbs & Selibowitz, 1995). Wardle and Marsland (1990), found that as many as 50% of a sample of adolescent females aged between 11-18 years perceived themselves as fat and wanted to lose weight. As many as 17% of adolescent females present with pathological eating behaviour (Van Thorre & Vogel, 1985).

Body image distortion, in addition to being a significant emotional problem for adolescents may serve as a motivator for engaging in potentially dangerous weight-reducing behaviours (Whitaker, Davies, Schaffer, Abrams, Walsh & Kalikow, 1989).

Past studies on body image and the female adolescent have centered around its relationship with self-esteem, weight status and eating disorders. The consensus suggests that a more negative body image perception is associated with a lower self-esteem, obesity, and increased prevalence of eating disorders as well as a preference for thinness evident across all age levels (Bell, Kirkpatrick & Rinn, 1989).

### 3.4 The relationship between body image and body satisfaction

The following discussion elaborates on the link between body image and body satisfaction. Evidence will be provided that body satisfaction has little to do with the body mass index (Furnham & Greaves, 1994). Furthermore, the different views that men and women have of their bodies will be discussed, as well as the specific body parts that are viewed with significance by women.

Widespread body dissatisfaction and concern with weight and appearance among young women have been documented through a large number of studies. The most generally accepted explanation for these current high levels of body image disturbance and body dissatisfaction, as well as the increasing rate of eating disorders is provided by the sociocultural theory (Thompson, Heinberg, Altabe & Tantleff-Dunn, 1999). This theoretical model proposes that societal standards for beauty continually emphasize the desirability for thinness and that this ideal of thinness is accepted by most women, despite the fact that it is impossible for many to achieve. As images of the ideal shape over the past few decades have become progressively thinner (Wiseman, Gray, Mosimann & Ahrens, 1992), real women have actually become heavier (Spitzer, Henderson & Zivian, 1999). The result is that so many more women experience dissatisfaction with their body size and shape. The pursuit of thinness has led to excessive dieting practices and the emergence of clinical eating disorders (Rodin, Silberstein & Striegel-Moore, 1985).

Body image is among the most supported etiological factors for the development of maladaptive eating and dieting. A young women's self-perception of her body weight is of even greater importance than her objective weight in developing maladaptive eating and dieting. A high level of body dissatisfaction is a central feature of eating disorders and has been consistently identified as a key element in subclinical patterns of problematic eating ( Patton, Johnson-Sabine, Wood, Mann & Wakeling, 1990; Lawrence & Thelen, 1995). Body dissatisfaction has also been reported as a correlate of dieting concerns in school girls (Hill, Oliver & Rogers, 1992) and has been one of the most consistent predictors of eating and dieting problems in longitudinal studies of adolescent girls (Killen, Taylor & Hayward, 1996). Striegel-Moore, Silberstein, Frensch and Rodin (1989) found that as body image worsened, disordered eating increased in a sample of high school adolescent girls.

One way that body satisfaction can be investigated is through an assessment of the difference between an individual's perceived and ideal body size. Fallon and Rozin (1985) used this technique to investigate body satisfaction in a sample of males and females. Participants were asked to select the figure that best represented their current and ideal body sizes according to the Stunkard Body Shapes Figure Scale. A significant difference existed between females' perceived actual and ideal body sizes. Typically,

they expressed a desire to be thinner. Pilner *et al.*(1990) compared concern with body weight, eating and physical appearance between men and women aged 10 to 79 years. Women were found to be more concerned about eating, body weight and physical appearance, and felt less attractive with their appearances.

Monteath and McCabe (1997) undertook a study to investigate the factors associated with the perceptual and attitudinal components of female body image. The influence of society and factors thought to mediate the relationship between body image and society such as self-esteem and locus of control were explored. Age and body mass index were also included as independent variables. A total of 101 female's ranging in age from 18-55 years participated in the study. A video camera apparatus was used to assess perceptual distortion of body size. The Body Esteem Scale and the Appearance Evaluation Sub-scale of the multidimensional Body Self-Relations Questionnaire (Cash, Winstead & Janda, 1986) were used to assess body satisfaction. On average, women overestimated their body sizes by 4%, and they typically wanted to be smaller than their actual body sizes. Societal factors and self-esteem best explained body satisfaction. 94% of the sample expressed a desire to be smaller than their perceived actual size, 5% were content with their current sizes, and only 1% of the sample expressed a desire to be larger. Responses to the Body Esteem Scale revealed that 44% of the sample expressed moderate to strong negative feelings about different parts of their bodies. 39% expressed moderate to strong negative feelings about their bodies as a whole.

Lamb, Jackson, Cassiday and Priest (1993) demonstrated that females in two different generations expressed a desire to be thinner, and the younger women desired much thinner bodies than the older generation did. Cash, Winsted and Janda (1986) revealed that the specific areas of the body that cause the greatest dissatisfaction among women include the middle and lower sections of the body- areas commonly affected by weight gain. Dissatisfaction particularly with the lower part of the body where fatty tissue tends to accumulate in women, is widely documented in studies. In a survey of readers of Psychology Today magazine, 55% of women were dissatisfied with their weight, 45% with muscle tone, 32% with upper torso, 50% with lower torso and 38% with overall appearance (Cash *et al.*, 1986). The areas of the body that presented most concern were the mid-torso - stomach and lower torso- hips and buttocks.

Furnham and Greaves (1994) found that body dissatisfaction showed no association with body mass index although it was highly correlated with self-esteem and locus of control. Clearly, perceptions of body size and shape are not determined by actual body size. The factors that seem to predict body satisfaction with the most influence are social experiences, self-esteem and perceptions of control over ones life including perceived control over ones body (Grogan, 1999). Because body image may be more a cultural reflection than a response to one's actual physical dimensions, the adolescent judged to be of normal weight may well hold a distorted body image. Where a negative body image may be suspected in an overweight teenager, dissatisfaction in the asymptomatic female is much more difficult to recognize (Guinn, Semper, Jorgensen & Skaggs, 1997). Researchers have revealed body image dissatisfaction and distortion to be higher among girls and women with clinical eating disorders (Horne, Van Vactor & Emerson, 1991). Subclinical eating disturbances have been associated with greater body dissatisfaction and such high rates of dissatisfaction may in turn potentiate or exacerbate eating related problems (Klemchuk, Hutchinson & Frank, 1990).

This section highlights the role of societal and perceptual factors in determining ones body image satisfaction. The influence of social response to one's body shape will now be explored.

### 3.4.1 The association between body image, build and the individual's psychological state

One's body build and shape often elicits specific social responses either positive or negative, which in turn affect the individual's development of self-confidence and self-esteem. This is particularly true for the individual who is either significantly overweight or significantly underweight. There is a clear parallel between the way people appraise themselves as individuals and the way that they evaluate their bodies. This becomes especially significant when considering how the feedback one receives purely on the basis of physical appearances can influence our feelings about ourselves (Fisher, 1986).

Tiggemann and Pennington (1990) suggest that body image dissatisfaction is a normal experience for girls in a Western culture aged 9 upwards. The imagery surrounding issues

of fatness and slimness is very influential in determining children's beliefs around correct and incorrect body size. Many adolescents are preoccupied with some bodily fault or imperfection that may be only barely visible to another person. Juvenile-onset obesity is however a definite visible physical deviation from the societal norm. The ramifications of such a deviation is often being teased by peers and family members and an inadequate opportunity to learn appropriate social skills. Obesity invites dislike, ridicule and criticism resulting in these individual's developing an extremely poor self-concept and body image. These painful experiences can exert a continuing negative psychological influence (Leon, 1982). Many obese people withdraw from society and in turn use eating as their main source of comfort and consolation (Wolman, 1988). Associated with their physical defects is a sense of inferiority, inadequacy and a self-destructive attitude (Bruch, 1973). The concerns about appearance, attractiveness and body shape that begin in adolescence continue throughout one's adult life. The most visible part of one's self is the body- it is accessible to others in almost all social interactions and it has become a facet on which individual's base their self worth and social experiences (Cash & Pruzinsky, 1990).

From the above research, it can be deduced that societal reactions play a significant role in the perception of body image satisfaction. One's body build and shape thus has the potential for eliciting specific social responses, either positive or negative.

### 3.4.2 The importance of physical attractiveness in contemporary society

Attractive individuals are assumed to have many other positive qualities. Both sexes believe that those who are attractive are more interesting, sociable, independent, exciting, intelligent, well adjusted and successful than those who are unattractive (Feingold, 1990). Handsome males are said to be more masculine, while beautiful females are perceived as more feminine than those who are less attractive are (Gillen, 1981). The impact of perceived attractiveness or unattractiveness on ones lifestyle, social interactions and self-confidence is an important consideration when exploring body image. Much research regarding physical attractiveness revolves around the "halo effect" in person perception. Beauty is associated with goodness and the more beautiful one is, the better (Lucker,

Beane & Helmreich, 1981). Three particular dimensions; namely sexiness, femininity and masculinity have been strongly linked to physical attractiveness (Lucker, Beane & Guire, 1981).

Western culture perceives that a large part of being sexy which in turn is being strongly representative of one's respective sex (male or female) is physically attractive. The study conducted by Lucker *et al.*, (1981) showed that both female and male subjects demonstrated a strong tendency to perceive a woman's sexiness, happiness and femininity as being strongly linearly related to her physical attractiveness.

A stereotypical belief in today's society is that good people are given good looks, while bad people are not (Dion & Dion, 1987). Often, perceptions of beauty also shape our expectations for performance. People have been found to be anxious and to please and co-operate with attractive people (Conant, 1988). Attractiveness is furthermore associated with an individuals competence (Mayo, 1995), and attractive people are more likely to get positive comments regarding their work performance than less attractive people are (Friedmann, 1990).

It is important to note from the abovementioned literature that how we treat others has an influence on their perception of themselves. Our inclination to associate positive qualities with physically attractive people functions as a self –fulfilling prophecy. We see in an individual what we expect to see in them and then behave in a manner that is consistent with the expectation, which in turn helps to make it come true (Berschied & Walster 1971).

One particular factor that is of great significance to the adolescent is appearing attractive to members of the opposite sex. A young girl's body shape is often something that is perceived to be in her control and is a facet that will influence how attractive she appears to boys. Efforts made by young girls to obtain a positive reaction from the opposite sex in turn providing the opportunity for involvement in a romantic relationship and general social acceptance will now be explored.

### 3.5 The importance of physical attractiveness in relationships with the opposite sex

Research has revealed that physical attractiveness is one of the main criteria considered when choosing a dating partner. In a study conducted by Halpern *et al.*, (1999) among female adolescents in grades 7 and 8, virtually all girls rated being physically attractive as somewhat or very important. Girls who valued having a boyfriend placed a high value on physical attractiveness.

Walster *et al.* (1966) randomly matched 376 men and 376 women – all college students- for a blind date and then asked them if they would date the same person again. Both sexes gave significantly more preference to the dates that had been previously rated as physically attractive. The more physically attractive the date was, the more he/she was liked.

Dion, Berscheid and Walster (1972) showed photographs of three college – aged people to a group of college students. One was physically attractive, the second- average, and the third was rated as unattractive. The students then rated each of the individuals in the photographs in terms of personality traits and prospects for future happiness. The results revealed that the physically attractive people were assigned the most desirable traits and were given the greatest chance for future happiness. The respondents also reported that they attributed sensitivity, kindness, poise, excitement and sociability to good-looking people.

Dating; like puberty is a normal developmental challenge requiring adaptation. Because of the link between attractiveness and heterosocial popularity, and because slenderness is an important aspect of attractiveness for females, one facet of adaptation is likely to be nonpathalogical dieting. By the time they reach puberty, girls are bombarded with messages via the media and popular culture, which insist on the importance of appearing sexually attractive to males. Because of the link between attractiveness and heterosocial popularity and because slenderness is an important aspect of attractiveness for females, one facet of adaptation is that woman and girls whose natural looks do not fit the stereotype are subjected to pressure to alter their appearance in a variety of ways, including dieting (White, 1980). Generally women view being thin as a distinct advantage, and they believe that thinness leads to happiness, success, more friends, and

more dates. (Parker, 1995). Interviews revealed that the right weight was often perceived as a ticket to the perfect life. The girl with the perfect body was described as being perfect in every way. By extension, the girl with the perfect body has a perfect life: she gets the boy of every girl's dreams. Girls described how being thin was a prerequisite for popularity. (Parker, 1995).

In general, research indicates that women perceive their current body figure to be heavier than the figure they perceive as ideal or as most attractive to men. This perception is not limited to white adolescent females, as older white females and minority adolescent females have also been shown to perceive their current figure as heavier than their perception of an ideal or most attractive figure (Cohn *et al.*, 1987; Fallon & Rozin, 1985; Rozin & Fallon, 1988).

A survey of 11037 men and women reported by Britton (1988) found that although women think men like a very lean body, 65% of men say that their ideal women has an average body type; while only 18% of men thought that thin is ideal.

However, male adolescents in a Canadian study admitted that although they try to resist judging girls on their looks, they would nevertheless expect to be teased by other boys should they date an overweight girl (Dywer, 1993).

It can thus be deduced that the stereotypes explored in terms of body image ideals and physical attractiveness too play a role in relationships with the opposite sex.

### 3.6 The link between self-esteem and body image

The link between self-esteem and body image has been confirmed by research (Thomas, 1989). Being overweight in Western society is correlated with feelings of failure, depression, unattractiveness, isolation and dissatisfaction (Furham, Hester and Weir, 1990).

Guinn, Semper, Jorgensen and Skaggs (1997) conducted a study examining the relationship of body image to self-esteem, physical activity involvement and body composition among Mexican-American female adolescents. Data was gathered through a self-report survey instrument consisting of body image, self-esteem and activity involvement states and anthropnmetric measures to assess body composition. Results

indicated a positive relationship between body image perception and self-esteem. Self-esteem followed by body fat composition was found the most powerful predictor of body satisfaction scores. Results from this study were consistent with previous research concerning body image perception and self-esteem. From the results, it has been concluded that low self-esteem fosters the female adolescents feeling of lack of control over her body. When comparing themselves with others or popular cultural ideals, those with low self-esteem are more likely to develop a negative body image.

It can therefore be deduced that body image plays an important role in young women's self-esteem.

## 3.7 CONCLUSION

This chapter has explored the influence of one's beliefs and perceptions as well as society's influence on body image satisfaction. It has become clear that societal demands play more of a role in determining an individuals body image satisfaction than the actual size and measurements of one's body does. Furthermore, women often perceive themselves to weigh more than they actually do, resulting in them wanting to lose weight. Research has revealed that women across all ages want to be thinner, however, younger girls express a thinner ideal body than older women. In addition to societal demands, women tend to place increased pressure on themselves when it comes to appearing attractive to men. Despite the fact that women perceive men to desire a thin body, this is not always the case. Further factors regarding the role of males and their influence over females' perceptions of their bodies particularly in the schooling structure are focussed on in Chapter Four. Other environmental factors including family relations will also be examined.

# CHAPTER FOUR : THE EFFECT OF OTHER PREDICTING FACTORS ON BODY IMAGE SATISFACTION

## 4.1 INTRODUCTION

Thus far, research findings have focussed on intrapersonal as well as interpersonal factors, and their association with the formation of an individual's identity and body image satisfaction. This chapter will look at other predicting factors of body image satisfaction – including micro level influences as well as macro –level factors. The factors to be considered in this chapter include age, time of body maturation, involvement in physical activity, school structure and family dynamics and their influence over body image satisfaction.

## 4.2 Age and body image satisfaction

Research reveals that age has been considered a potentially important variable in body image satisfaction. Berscheid *et al.* (1973) investigated the effects of age. They compared adolescents as a group with persons in other developmental stages including middle childhood, and early and middle adulthood. Although significant differences in body image satisfaction among age groups were not found, age significantly differentiated adolescents when specific parts of the body (breasts for girls and sexual organs for boys) were investigated.

In a study undertaken by Cok (1990) where the level of body image satisfaction among Turkish adolescents was researched according to various factors including age, similar results were revealed. Although no significant differences were found between age groups (11-12, 13-14, 15-16, 17-18) for boys and girls, when specific characteristics were investigated, girls in the 15-16 age group were found to be more satisfied with their breasts than were girls in the other age groups. Boys in the 11-12 and 13-14 age groups

were found to be less satisfied with their sexual organs than were boys in the 15-16 and 17-18 age groups.

Davies and Furnham (1986) investigated whether satisfaction with bust, waist and hip measurements declined steadily through adolescence from 12 to 18 years, and if this satisfaction was merely a function of weight and body shape. Participants were divided into four groups according to age, that of 12 year olds, 14 year olds, 16 year olds and 18 year olds. Results revealed that although satisfaction with bust did not decline much over the four age groups, satisfaction with hip measurements did decline significantly. Other literature findings have also found that while waist measurement satisfaction did not decline with age, the amount of distress caused by stomach measurements increased significantly with age (Huenemann, Shapiro, Hampton & Mitchell, 1966).

It has been revealed that as girls become proportionately heavier for their height, so they become less satisfied with their waist measurements (at age 18) and hip measurements (at ages 16 and 19). Perception of weight and body measurements also plays an important role. 19.2% of girls who believe that they are overweight are satisfied with their hip measurements, while 87.5% of girls who believe they are underweight are satisfied (Davies & Furnham, 1986). These results coincide with other studies where subjects have been asked to rate their own bodies in relation to the attractiveness of bodies presented to them in pictures (Brenner & Hinsdale, 1978). Lerner, Orlos and Knapp (1976) found that a sample (N= 218) of 19-year-old American females rated their thighs and hips as the least attractive feature of all 24 bodily features. In the 16-year-old group, 90% of the girls who classified themselves as overweight were satisfied with their bust, while only 12,5% of those who classified themselves as underweight were satisfied with their bust. This represents the difficulty of an adolescent girl who wishes to have a moderate to large bust with minimal hip measurements (Lerner, Orlos & Knapp, 1976).

Furthermore, research reveals that younger compared with older subjects seem more dissatisfied with body factors such as their teeth and feet. It is thus apparent that as pubescent growth occurs, girls become more concerned with changes in their body measurements, while features considered distressing before puberty become less important (Huenemann, Shapiro, Hampton & Mitchell, 1966). The influence of pubertal development on body image satisfaction will now be discussed further.

### 4.3 Body maturation and body image

Pubertal development is a series of interrelated physiological changes resulting in adult reproductive functioning and adult appearance. Increases in body fat that occur with puberty have been associated with desires to be thinner, and other subclinical levels of eating problems (Dornbusch *et al.*, 1984; Graber *et al.*, 1994). In addition, breast development has been associated with efforts to control food intake in girls from upper middle class families (Dornbusch *et al.*, 1984). Although early adolescent girls often accommodate to their changing bodies by altering their body image, they must also cope with the responses to their maturing bodies by significant others, such as their peers and family members (Steiner- Adair, 1986).

Although pubertal development and associated weight changes have been repeatedly linked to eating and body image problems in theoretical literature, empirical studies have been less consistent in their findings on the association among these variables. Higher levels of body mass were associated with the development of dysfunctional eating patterns in longitudinal studies of adolescent girls (Attie & Brooks-Gunn, 1989; Graber *et al.*, 1994). The abovementioned studies included a majority of normal weight girls. Keel, Fulkerson and Leon (1997) investigated precursors of disordered eating in fifth and sixth grade boys and girls. Their results revealed that both body mass index and level of pubertal development were predictive of eating problems one year later. However earlier studies with different samples found pubertal status to be a weak predictor of eating problems in adolescent girls (Leon, Fulkerson, Perry & Cudeck, 1993).

Other pubertal factors such as pubertal timing have also been implicated in the development of problematic eating (Cauffman & Steinberg, 1996). Earlier pubertal maturation has been associated with increased body fat as well as subsequent food restriction in middle and late adolescent girls (Graber *et al.*, 1994) and eating disorders in a large epidemiological study (Graber, Lewinson, Seeley & Brooks-Gunn, (1997). The coincidence of increases in body fat and increasing heterosocial interest and activity may be particularly problematic for early maturing girls. Early-maturing girls accumulate body fat earlier and tend to be heavier for their height than late maturers (Faust, 1977).

Early- maturing girls are usually initially bigger, heavier and have more body fat than their petite late-maturing peers. Due to Western society placing an emphasis on being tall and slim, the heavier a girl is- or thinks she is- the more dissatisfied she is with both her weight and her body shape. For a time, the early –maturing girl is "out of phase" with both her female and male counterparts and thus faces a departure from the slim female form. They may idealize the perfect female body earlier than other girls do, and lack the reassurances and knowledge that may come form observing similar physical processes in others. Very often, these physical changes coincide with school transitions – moving from primary school to high school; attention from older peers, as well as early dating which in turn makes the increase in body fat especially challenging (Caspi & Moffitt, 1991). Cauffmann and Steinberg (1996) investigated the relationship between menarcheal status, dating and dieting in early and middle adolescent girls. Girls who had already experienced menarche and who were dating were more likely to engage in dieting behaviour.

Cok (1990) researched body image satisfaction among Turkish adolescents. The aim of the study was to determine the level of body image satisfaction and whether it varied according to age, sex, socioeconomic status, early versus late sexual maturation, exposure to mass media, and participation in physical activity. Subjects included 296 female and 286 male secondary school students aged between 11-18 years. They were administered the Body Image Satisfaction Questionnaire developed by Berscheid, Walster and Bohrnstedt (1973). Time of sexual maturation was found to discriminate between groups. Early maturing boys and late maturing girls had higher levels of body image satisfaction. This could be characteristic of societal influences and the emphasis of masculine features present in early maturing boys, and on thinness for women, a feature sought by late maturing girls (Blyth, Simmons & Zakin, 1986).

Puberty is a time of establishing one's identity, with increasing concerns with respect to self-awareness, self-consciousness, preoccupation with image and social acceptance (Harter, 1999). Pubertal development means that girls move away from, rather than toward the media promoted ideal shape for women. Given the search for identity and social acceptance, together with sociocultural promotion of the thin ideal, it is not unusual to expect that the majority of adolescent girls suffer dissatisfaction with their bodies and

want to lose weight (Attie & Brooks-Gunn, 1989; Paxton *et al.*, 1991; Thompson, Coovert, Richards, Johnson & Cattarin, 1995). They may in turn engage in dieting and unhealthy weight loss practices (Stice, Killen, Hayward & Taylor, 1998). A significant weight loss practice in today's society is that of exercise. The influence of exercise practices is too a factor that needs to be considered in terms of body image satisfaction.

### 4.4 Exercise and body image

Many individuals in today's society accept the cultural patterns of constructing their bodies by means of strict diets and compulsive training. At times, people arrive at pathological behaviours such as exercise addiction and eating disorders. The strong emphasis in our contemporary culture on the ideal appearance of the body is such that we are supposed to control and alter our physical appearance and obtain the ideal look. Body ideals today include not only ideals of appearance, but also ideals of strength, energy, movement and proper control (Fiscke, 1987). Diets and physical activity are presented as the best way to have control over our bodies and our lives. The connotation attached to a firm or muscular body is that one cares for oneself and in turn has the ability to shape one's life (Marzano-Parisoli, 2001).

The following section explores the relationship between exercise and body image satisfaction in detail.

#### 4.4.1 Exercise and psychological well-being

Recently, attention has been given to non-traditional methods of combating psychological problems. Among these methods is physical exercise, which is increasingly recommended for improving, enhancing and maintaining mental health. Regular exercise is said to offer a variety of psychological benefits such as promoting feelings of well being and self-efficacy (Potgieter, 1997). Morgan and O'Connar (1988) found that approximately 80% to 90% of exercisers reported feeling better after 8-10 weeks of exercise. Improved feelings related to exercise include a sense of mastery, achievement and social acceptability.

### 4.4.2 Exercise and self-concept

Evidence has been provided that participation in long-term exercise programmes can enhance self-esteem. Improvement in physical appearance and performance leads to an enhanced self-concept. Plante and Rodin (1990) suggested that the improvement in self-concept that is related to exercise is possibly due to the increased feelings of self-efficacy that the individual experiences. The implication of this is that it is not primarily the physiological fitness changes that lead to improved self-concept, but rather the perceptions of ability (self-efficacy). A further deduction is that enhanced self-efficacy helps the individual to cope more effectively with stressful situations (Potgieter, 1997). Several theories have been proposed in terms of the psychological benefits of exercise:

#### 4.4.2.1 Time-out

A popular explanation for feelings of well being is that exercise provides a distraction and it is therefore a beneficial time-out activity (Solomon 1984).

#### 4.4.2.2 Social Processes

Another hypothesis proposing the subjective feelings of psychological well being associated with exercise is that it is the result of the social dimensions of exercise (Soloman, 1984). The mere social interaction of talking to others, exchanging opinions and progress and the sense of belonging to a particular group has been found to influence individuals' mood levels and rid them of any feelings of isolation.

#### 4.4.2.3 Chemical reactions

Other research has revealed that the chemicals produced in the brain during exercise such as endorphins and opiates provide a possible explanation for perceived good feelings reported by exercisers (Potgieter, 1997). Endorphins, opiate-like molecules produced in

the brain, have effects similar to morphine on the central nervous system. The secretion of these endorphins is being studied as a possible explanation for the euphoric feeling reported by exercisers. It is generally accepted that the improvement in mood following exercise is stimulated by endorphins (Potgieter, 1997).

#### 4.4.2.4 Thermogenic hypothesis

This theory proposes that the raising of body temperature that occurs during exercise has therapeutic purposes (De Vries *et al.*, 1968). It has been proposed that certain levels of monoamines that are altered in the brain as a result of temperature increase occurring during exercise are too responsible for perceived feelings of well being (Morgan & O'Connor, 1988).

### 4.4.3 Involvement in physical activity and body image satisfaction

Researchers have argued that women who exercise experience positive changes in body image and self-concept. Snyder and Kivlin (1975) found that women who exercised had a more positive body image than non-exercising women did. They presented evidence that women exercisers felt more positive towards their bodies, especially in relation to their energy level and health, and perceived their participation in sports as satisfying and rewarding. This may be because exercise leads to a slimmer, more toned body. It is also likely that physical mastery increases self-esteem (Furnham & Greaves, 1994). Tiggemann and Pickering (1996) demonstrated that engaging in a sporting activity may bolster body image and self-esteem. Watching sports on television, which in turn reflects a general interest in sports was also associated with improved body image and healthier eating attitudes.

Guinn *et al.*(1997)examined the relationship of body image perception to involvement in physical activity among 254 female Mexican American adolescents. Degree of activity involvement was measured by an activity index developed by the Public Health Service (1981). The index was composed of three items that determine the extent to which the participant engages in vigorous aerobic, strength and conditioning, and general

fitness/skill activities. Subjects reported their participation involvement for each of the three items by one of the three responses: "sometimes", "almost always" or "almost never". Results revealed that body image was positively associated with self esteem and activity involvement. Those satisfied with their bodies had higher self-esteem and were more physically active. Cok (1990) had similar results in his study on body image satisfaction among Turkish adolescents, where participation in physical activity was also considered a predicting factor of body satisfaction. It was revealed that girls who participated in physical activities had higher levels of body image satisfaction than did non- participants. This is consistent with Shontz's (1969) finding that physical activity increases interest in the body as well as level of body image satisfaction.

### 4.4.4 Eating disorders and exercise

Eating disorders are common among athletes and people who exercise intensively (Pruitt *et al.*, 1991). 38-75% of anorexic cases among American university students are strongly related to intensive exercising (Black & Burckes-Miller, 1988). A relationship between eating disorders and physical activity has been found among swimmers, gymnasts and long distance athletes, however, the cause effect relationship remains unclear (Rosen & Hough, 1988). Pruitt *et al.*(1991) reported that laboratory research reveals that physical exercise together with food deprivation may result in anorexia. Katz (1986) found that many anorexic patients were physically active before the onset of their eating disorder. His research revealed that many patients experienced eating problems after embarking on a serious long distance training programme. There is thus a correlation between long distance running and the onset of anorexia nervosa among individuals who are biologically and psychologically vulnerable to eating disorders.

Certain joggers and other exercisers display many of the same characteristics as anorexic patients (Yates, 1983). Anorexic patients refuse to maintain a normal body weight, have an intense fear of gaining weight, even when emaciated, and have a distorted body image. Runner's World Magazine undertook a study using 4000 runners as subjects. Results showed that 48% of female runners and 21% of male runners were terrified of being fat (Wilfrey & Brownell, 1994). Many compulsive exercisers also have a bizarre

preoccupation with food. Excessive exercise is a common symptom of eating disordered individuals, as well as among a non-clinical sample with a distorted body image (Potgieter, 1997).

### 4.4.5 Weight problems and exercise

Obese individuals can benefit immensely from exercise. Research has indicated that although diet is an effective way of losing weight, it is less effective in maintaining the desired weight. Diet combined with exercise leads to better weight management (Dishman, 1994).

Problems are encountered for obese people when they attempt exercising due to the humiliation often placed on them by societal norms. Despite the many benefits that exercise can provide to these individuals, the humiliation and the time that these individuals have to go through before the benefits of their exercise programme can be seen, often results in non-compliance to the programme. This in turn results in them lacking the very necessary benefits that exercise can provide them with such as increased self-esteem, health benefits and general social and psychological well being. Special care should be taken that obese people are not embarrassed when they exercise as it possibly evokes memories of negative experiences with sport and physical activity (Wilfrey & Brownell, 1994).

## 4.5 Schooling structure and body image satisfaction

While as many as 17% of adolescent females may present with pathological eating behaviours, some are considered to be higher risk factors for developing an eating disorder as such. Included in the high-risk groups are ballet dancers and private school girls (Le Grange *et al.*, 1994; Szmulker *et al.*, 1985). In terms of social class distribution, most studies confirm that there is an upper social class bias in anorexia nervosa (Hsu *et al.*, 1979; Pope *et al.*, 1987; Smukler, 1983). Particular subcultures or environments that amplify the cultural emphasis on thinness have been identified. However, the one environment that is an important source of influence for most adolescents, namely the

school, has received little attention (Thompson & Heinberg, 1993). In general, literature on eating disorders among women, Silverstein and Perdue (1988) identified two recurrent themes. It appears that body dissatisfaction, dieting and other maladaptive eating habits are related not only to the thin ideal standards of beauty, but also to achievement and non traditional sex role aspirations (Silverstein & Perdue, 1988; Silverstein, Carpman, Perkick & Perdue, 1990). It has been proposed that an emphasis on achievement motivation and competitiveness might contribute to the development of disordered eating (Striegel-Moore, Silberstein, Grunberg & Rodin, 1990).

Le Grange, Tibbs and Selibowitz (1995) undertook a study in attempt to highlight potential risk factors in the etiology of eating disorders. 321 adolescent high school boys and girls from both private and government schools participated in the investigation. The age of the sample ranged from 12 to 19 years. All students were asked to complete the Eating Attitudes Scale (Garner & Garfinkel, 1979), the Body Shape Questionnaire (Cooper *et al.*, 1987), the Self-Disclosure Questionnaire (Jourard, 1971) and a demographic questionnaire. Of the subjects sampled, 28 presented with EAT scores greater than 30. 86% of these were women, and 75% attended private schools. It was found that 15% of the girls sampled and 2.4% of the boys sampled presented with pathological eating behaviour as indicated by their EAT scores. Furthermore, 11% of the pupils from private schools met this criterion compared with 5.3% of the pupils from government schools. Therefore, the majority of students presented in this study who could be at risk for developing an eating disorder were females from private schools. The interaction between school and gender was significant for the EAT and BSQ. Female students attending private schools indicated a greater degree of perceived body shape concerns than their counterparts at state schools, emphasizing the enhanced pressures for weight control felt by many students in private school environments. Crisp *et al.* (1976) revealed similar findings, showing that girls attending private schools in London are more likely to present with a diagnosis of anorexia nervosa than their peers in state schools. Other factors such as the degree to which competitiveness is encouraged in the private school setting, could also explain why these girls might seem to focus more on body weight concerns. Due to the high level of competition in private schools, particularly among the girls, the influence of peers and body image satisfaction too needs to be taken

into account (Levine *et al.*, 1994). To gain acceptance by their peers, adolescents may resort to adopting the perceived beliefs and behaviours practiced by members of their peer group (Sieving, Perry & Williams, 2000). Levine *et al.* (1994) assessed the relationship of weight control practices of middle school girls and their peers. They found that the weight control practices of girls were significantly related to those of their peers. Moreover, peer pressure has been found to be a risk factor for developing bulimic behaviours and disordered eating (Field, Camargo, Taylor, Bekey & Colditz, 1999).

Szabo and Hollands (1997) undertook a study to establish factors in the environment as well as individual factors that may influence eating attitudes in a non-clinical population at risk of developing eating disorders . The study used 213 secondary- schoolgirls attending a private all-girl school in Johannesburg. Respondents were required to complete the EAT questionnaire, as well as a dieting questionnaire which explored personal feelings about weight. 21.66% of the respondents scored positively (>20) on the EAT. 100% of the EAT positive respondents had at some time wanted to be thinner and lose weight. Among EAT negative respondents (<20), 82% had at some time wanted to be thinner, and 70% had attempted to achieve this. Perception of weight was an important predictor of mean EAT score, with those who perceived themselves to be fat having higher scores than those who felt they were thin. Of the sample, 46% perceived themselves to be too fat, despite an appropriate BMI (body mass index). The likelihood of dieting in this sample seems strong as results reveal that 76% had at some time attempted to lose weight and approximately 50% felt that they were too fat with lack of evidence in terms of required weight and height specifications. By implication, the potential for dieting which may lead to an eating disorder is great, given the findings of Drenowski *et al.* (1994) that most new cases of bulimia nervosa diagnosed in a college sample were drawn from previously intensive dieters.

Tiggemann (2001) engaged in a study with the aim of situating adolescent girls' body dissatisfaction, disordered eating and self-esteem in the context of their life concerns and leisure activities. Questionnaires measuring the abovementioned factors were distributed to 306 private school girls with a mean age of 16 years. It was found that although academic success and intelligence were rated as the most important life concerns, an emphasis on slimness was most strongly linked to body dissatisfaction, disordered eating

and global self-esteem. An emphasis on popularity with girls was also associated with body satisfaction and disordered eating, with the former also linked to time spent socializing. The fact that popularity with girls and time spent socializing are similar to emphases on slimness and physical attractiveness in their prediction of body image dissatisfaction and eating disorders confirms the suggestion that peers (other girls) may be a very important source of influence in this area (Paxton, 1996; Paxton, Schutz, Warheim & Muir, 1999). The domains of importance for adolescent girls (e.g. popularity and socializing) are likely to have implications for their views of themselves and their bodies. An emphasis on slimness and attractiveness is likely to have negative consequences in a society in which the beauty ideal is so thin it is almost impossible for most women to achieve. There is also evidence that an emphasis on intelligence and achievement may be linked to body dissatisfaction and disordered eating (Dyer & Tiggemann, 1996; Silverstein & Perdue, 1988), perhaps through the mechanism of competitiveness (Burckle, Ryckman, Gold, Thornton & Audesse, 1999).

One particular aspect of the school environment that has generated much debate on academic achievement is the sex composition of the school (Marsh, 1989). However, little research has considered the implications of same-sex as opposed to co-educational school environments. The one study that offers a direct comparison is that of Dyer and Tiggemann (1996) which found that girls at a private same-sex school nominated a thinner ideal figure and displayed more disordered eating patterns than those at a private co-educational school. A further study conducted by Tiggemann (2001) aimed to investigate the role of gender composition of school on body figure preferences, eating disorder symptomology, and role concerns. Questionnaires were completed by 261 Australian adolescent girls in two private same-sex and two private co-educational school environments. The adolescent women in both schools rated their current figure as substantially larger than their ideal and attractive figures. The study thus replicated results of previous research by demonstrating once again that young women are overwhelmingly dissatisfied with their current shape. In exploring the differences between same-sex and co-educational schools, overall, the same-sex girls did not exhibit a greater preoccupation with weight, inconsistent with the suggestion that such environments may give rise to a greater incidence of eating disorders (Lawrence, 1987). There were however significant

differences on role concerns, with girls from same-sex schools placing more emphasis on achievement, than their co-educational school counterparts. More importantly, the different role concerns were involved in the endorsement of ideal body shape. Despite the fact that an emphasis on slimness predicted a thinner body ideal for both groups, girls in the same-sex sample associated intelligence and success with a thin figure. The findings of this study suggest that the school environment might be an important sociocultural factor in determining young women's attitudes towards their bodies. Although it is clear that the concerns surrounding body image are complex, the motivation behind the wish for thinness seems to differ between the school environments, in particular, same-sex schools appear to provide an environment that promotes academic achievement, which is in turn linked to a thin ideal body.

The above literature and research indicates the importance of considering environmental predictors in body image satisfaction in particular the private same sex schooling structure and its influence on the pupils needs, perceptions and behaviours.

### 4.6 Family influences on body image satisfaction

A general interest and concern lies among clinicians working in the field of eating disorders as to what factors exactly play a role in contributing to the onset and maintenance of eating disorders. The exact etiology of eating disorders remains vague, however one factor that has been considered at great length is the role of the family and the various patterns of family interaction that may in turn lead to the development of pathological eating patterns (Schmidt, Tiller & Treasure, 1993)

Of interest is the role of parental behaviour and the way in which interaction with the daughter or son precipitates and eventually leads to abnormal eating attitudes (Le Grange, Tibbs & Selibowitz, 1995).

Evidence suggests that maternal concerns about physical appearance and food intake are associated with similar self-appraisal concerns in daughters (Pike & Rodin, 1991). A negative body image in young adolescent girls has been found to be associated with subsequent development of eating disorders (Attie & Brooks-Gunn, 1989). Children are able to accurately perceive parental opinion on body shape and weight (Pierce & Wardle,

1993), which in turn may impact on their self-esteem and result in attempts to address the perceived situation with the consequent onset of eating problems (Hill, Oliver & Rogers, 1992). In a study by Szabo and Hollands (1997) among 213 adolescent school girls where respondents were asked to fill out a dieting questionnaire exploring the influence of peer and family factors on eating attitudes, the following results were revealed: maternal dieting appeared to have little impact on eating attitudes as assessed by the Eating Attitudes Scale (Garner & Garfinkel, 1979). However, the impact of encouraging dieting behaviour may be significant as at the time of evaluation, 75% of mothers had at one time been on diet, and 76% of the sample had at one time attempted to lose weight. Although mothers' behaviour may have promoted similar behaviour in their daughters, it did not necessarily result in abnormal eating attitudes in their daughters. Maternal influence was noted directly in those girls whose mothers thought they were too fat. They exhibited the highest EAT scores. Communication about their perception of their daughters' weight therefore had a notable impact on eating attitudes. These results coincide with a previous study conducted by Mukai *et al.* (1994) which found that mothers of a college sample of bulimia sufferers more often perceived their daughters to be overweight and encouraged dieting and exercise more that the mothers of the control group. Furthermore, it has been discovered that mothers of adolescents with eating disorders tend to be significantly more prone to eating disorders than mothers of adolescents without eating disorders (Pike & Rodin, 1991).

The sample further revealed that 38.5% of all the girls had been encouraged to lose weight: 50% of these girls reported that they had been encouraged by their mothers, 20% had been encouraged by a female friend, 1% by a male friend, and 10% by their fathers. Encouragement to lose weight was also associated with higher EAT scores- this is thus an area requiring sensitivity in a family setting.

### 4.6.1 The association between parent-adolescent relationships and body image

Numerous changes, including physical, emotional and social confront girls during the early adolescent years. Notably, family relationships undergo significant change during the pubertal years such that parent-adolescent conflict peaks at this point as parents and

adolescents negotiate their roles and expectations (Paikoff & Brooks-Gunn, 1991). Both family changes and pubertal maturation changes have been linked to eating attitudes and behaviours (Swarr & Richards, 1996).

Many researchers have linked the adolescent's family relationships, particularly parent-adolescent relationships to the development and maintenance of eating disorders (Humphrey, 1987; Minuchin, Rosman & Baker, 1978; Rhodes & Kroger, 1992).

Researchers are only beginning to examine the contribution of family relationships to eating problems in a non-clinical sample. Few longitudinal studies of eating disorders in adolescent girls found associations between positive family relationships and less problematic eating attitudes and behaviour. Graber *et al.* (1994) did an 8-year investigation of middle and late adolescent girls and found only modest associations between family relationships and subclinical eating problems. However, there was some indication that positive family relations may serve as a protective factor against developing more serious eating problems. Swarr and Richards (1996) found that early and middle adolescent girls' positive relationships with both of their parents were related to reports of healthier eating.

Archibald, Graber and Brooks-Gunn (1999) investigated a longitudinal study on the association of pubertal development and parent-adolescent relationships on dieting and body image of girls in the United States. Participants included 127 early adolescent girls aged 10 –14 years. The girls were seen 1 year after the initial research and at that time ranged from 11 –15 years in age. Adolescent girl's perceptions of parent-adolescent relationships were associated with increased dieting and lower body image. Less warm and more conflictual parental relationships were predictive of increased dieting concurrently and longitudinally. More positive ratings of parental relationships were associated with the development over time of a more positive body image. Longitudinal results revealed that perceptions of negative parental relationships were associated with less healthy dieting and body image over and above prior dieting at the first time of assessment. This finding thus reveals that poorer parental relationships tend to precede, but not follow the increases in dieting and decreases in body image. The results further reveal that parental relationships have a significant effect on dieting attitudes and behaviour and a trend toward a direct effect on body image. In this adolescent sample,

dieting and body image were not longitudinally predictive of parental relationships. These findings are in accordance with both developmental (Attie & Brooks-Gunn, 1989; Graber *et al.*, 1994) and clinical literatures (Rhodes & Kroger, 1992; Strober & Humphrey, 1987) that suggest problematic family relationships lead to increased symptoms of, and clinical eating disorders.

### 4.6.2 The emotional climate of the family and disordered eating among adolescent girls

The family environment has also been considered an important factor in the development of disordered eating among adolescent girls (Humphrey, 1987; Minuchin, Rosman & Baker, 1978; Strober &Humphrey, 1987). The studies of family environment have been conducted using mainly inpatient samples and have revealed associations between eating problems and particular dimensions of family environment such as low levels of family cohesion and increased levels of family conflict (Sheppy, Freisen & Hakistan, 1988). The family of the eating disordered adolescent is said to be less supportive and less cohesive with each other, they have been typified by high levels of conflict and family dysfunction (Sheppy *et al.*, 1988).

### 4.6.3 Family systems and anorexia nervosa and bulimia nervosa

Studying the etiology of anorexia, Yager (1982) discovered several relevant family variables including family relationships, the presence of affective disorders in other family members and sociobiological factors to be associated with the occurrence of eating disorders.

#### 4.6.3.1 Psychopathology in family members

Strober and Humphrey (1987) noted the occurrence of anorexia in biological relatives of anoretics. Gershon *et al.* (1983) found that first degree relatives of anorexics were more likely to have an eating disorder than were relatives of normal controls. At a family level,

relatives of anorexics carry almost six times the risk of developing an eating disorder. Strober *et al.* (1990) found that the prevalence of bulimia in sisters of bulimics was four times that of the general population. Furthermore, despite lack of evidence pointing towards the fact that the parents of anoretics tend to manifest severe psychopathology (Crisp, Harding & McGuinness, 1974), it has been revealed that relatives of anoretics and bulimics tend to suffer from an affective disorder more than controls (Hudson & Pope, 1988; Strober & Katz, 1988). Thus some cases of eating disorders do seem to stem from family vulnerability and the presence of psychopathology in family members may also carry prognostic value for persons with eating disorders (Norre & Vandereycken, 1990).
A study undertaken by Strober (2001) revealed that women contract full or partial anorexia nervosa more than nine times more frequently when a man in the family has the eating disorder. The study examined the lifetime incidence of full and partial anorexia nervosa in 747 relatives of 29 men with the disorder and 181 women with no symptoms. Researchers found 15 cases of anorexia nervosa among female relatives, 10 of them related to ill men, but no cases among male relatives, suggesting the disorder does not transmit preferentially to same-sex relatives.

#### 4.6.3.2 Sociobiological factors

Despite a variety of research on social class, race, birth order, incidence of broken homes and time of patient's birth (Askevold, 1982; Pyle, Mitchell & Eckert, 1981; Rand & Kaldau, 1992), only social class has been found to be associated with the incidence of eating disorders- specifically anorexia. Schwartz and Barrett (1988) suggested that women are taught by their families and Western society that success, intimacy, security and life satisfaction are obtained by becoming and remaining thin and attractive. Anorexia and bulimia facilitate women's attempts to meet family and society's standards of attractiveness.
The subordinate position of women in society and in turn very often in the marital and familial relationship has taught women to be passive, dependent and satisfied with little control over their lives (Schwartz & Barrett, 1988). Eating disorders represent an indirect method of gaining power and control (Schwartz & Barrett, 1988). Furthermore, an

additional sociocultural factor influencing women in today's society is the portrayal of women as nurturers and caregivers, particularly in the family system towards her parents, her husband and her children. The social mandate to be self sacrificing and other-focussed may manifest itself in eating disorders- by denying her own needs, she can take care of other's needs (Schwartz & Barrett, 1988).

#### 4.6.3.3 Family relationships

Anoretic families usually exhibit four characteristics: enmeshment, rigidity, lack of conflict resolution and overprotectiveness (Minuchin, Rosman & Baker, 1978). Comparing the family dynamics of anoretics and troubled adolescents, Heron and Leheup (1984) found that anoretic families are more characterized by enmeshment. In contrast, members of bulimic families rate themselves as less involved with one another and perceive themselves as less cohesive and more achievement oriented than do members of control families (Stern *et al.*, 1989).

Kog and Vandereycken (1989) found that eating disordered families demonstrated less openness in discussing disagreements between parents and children than control families. Waller, Calam and Slade (1989) concurred with other reports that anoretic and bulimic women perceived their families as more rigid than the controls. Furthermore, they found that although bulimic families are more conflicted, family members rarely express conflict.

Another family characteristic reported by clinicians working with anoretic families is the presence of parent-child coalitions and blurred generational boundaries. Yager (1982) conducted a comparison of triads, composed of father, mother and daughter from anoretic and control families to assess the differentiation of experience in family relationships. Parents of anoretics experienced no difference between the attitudes held by their partners and their daughters towards them. Anoretics parents also perceived their own attitude toward their partner to be the same as their attitude toward their daughter. To be concluded from this is that the strong coalitions between individual parents and their anorexic daughter are indicative of a highly enmeshed family system. Blurred generational boundaries are observed in the lack of efficient leadership by the parents as

well as a lack of definition in terms of the family member's hierarchical organization (Stierlin & Weber, 1989).

In regard to bulimic families, Pole *et al.* (1988) reported that low maternal scores and high paternal protectiveness scores were the best predictors of bulimic symptomatology.

## 4.7 CONCLUSION

Body image satisfaction is characterized by a variety of individual, social and environmental factors. The interaction of all these factors makes it difficult to separate and individuate the contribution of one particular factor over another and its influence in creating a distorted body image. When asked to describe themselves, people tend to first describe their physical appearance. People in turn develop assumptions and opinions of others based on their physical appearance. Theorists have afforded great importance to body image perception in the development of a healthy sense of self. Hamchek (1991) defines body image as follows:

"The foundation of our self -image is our body image. This is not so surprising when you consider that children's initial contacts with life and the world around them are essentially visceral and tactile in nature. Among children's first discoveries are their hands and feet, and among the first sensations are the varied pains and pleasures of their own bodies...What begins as a purely physical self expands slowly with time and becomes integrated into a more complex psychological self. Our body image does not constitute the whole of the psychological self, but it is a highly significant aspect of it" (Hamachek, 1991: 159-160).

It is thus evident that environmental interaction with family members, as well as with peers, affects our perception of ourselves and in turn our self-esteem. What remains unclear is how the constellation of the family and the structure of the schooling environment, according to sex, affects the way we view ourselves and in turn our bodies. This study seeks to recognize and elaborate on these factors. This literature study has provided a context from which to base the present research. The manner in which the study was undertaken will be highlighted in Chapter Five.

# CHAPTER FIVE : RESEARCH METHODOLOGY

## 5.1 INTRODUCTION

In this chapter, the research methodology is presented. This includes a discussion of the research design, the research sample, the method of data collection, and the measuring instruments, followed by the formulation of the research hypothesis and the presentation of the statistical procedures.

As already outlined in chapter1, the aim of this study is to determine the effect of the following predictor variables on the acceptability or unacceptability of body image satisfaction among adolescent girls in a private schooling setting. The predictor variables considered in this study include: age, time of body maturation, sibling constellation, involvement in a romantic relationship, participation in physical activity, family influences, self-esteem and schooling structure (same sex versus co-educational schools).

## 5.2 The research design

The present study uses the acceptability or unacceptability of the adolescent girls body image satisfaction as the criterion variable (dependent variable) while the biographical factors as well as the influences of family and schooling structure are the predictor variables (independent variables), being measured. The study is thus considered to be non-experimental in nature (Huysamen, 1993).

### 5.2.1 The criterion variable

In order to determine the **index** of acceptability or unacceptability of body image satisfaction **(BSI)**, a measurement of the girls body image satisfaction was obtained using the Body Dissatisfaction sub-scale of the Eating Disorder Inventory (EDI). A high score on this scale is indicative of low body image satisfaction, while a low score indicates

satisfaction with one's body. Secondly, the Body Mass Index (BMI) of each research participant was calculated by dividing the individual's weight in kilograms by her height in meters squared. The Body Mass Index provides a series of scores which indicate whether the person is underweight (a score of less than 20), of normal weight (a score between 20 and 25), or overweight (a score of more than 25). The information obtained from the BMI and the body dissatisfaction sub-scale of the EDI was used to determine the index of acceptability or unacceptability of body image satisfaction.

Due to the fact that no guidelines are provided by the EDI as to how the two groups should be divided, the two groups were formed by examining the skewness and curtosis of the EDI scores. The SAS-computer programme (SAS Institute, 1985) was used for this purpose. The skewness showed a value of 0,0367 while the curtosis revealed a value of – 0,088. It can be deduced from this information that the scores are of a normal distribution (skewness close to zero).

The mean and the standard deviation of the research population was then calculated. The mean was calculated as 10,8, with a standard deviation of 7,47.

The girls with a score less than half a standard deviation below the mean were classified as the group who were **satisfied** with their body image. Those with a score greater than half a standard deviation above the mean were classified as the group who were **dissatisfied** with their body image. It was decided to use half a standard deviation rather than a whole standard deviation from the mean. This was done taking into consideration that if a whole standard deviation from the mean was used, the classification of the participants in terms of the satisfaction or dissatisfaction of their body image would have left many of them in a neutral group, in other words, too many of the participants would have fallen into the group neither satisfied nor dissatisfied. Therefore, the girls that did not have a score greater than half a standard deviation above or less than half a standard deviation below the mean (those who were neither satisfied nor dissatisfied with their bodies) were not made use of in the study. Taking into consideration the scores of both the body dissatisfaction sub-scale of the EDI (body image satisfaction) and BMI (body measurements), six possible combinations could be formed. For example, an overweight girl who is satisfied with her body would fall in the unacceptable group. These possibilities are presented in table 5.1.

**Table 5.1: Calculation of the index of acceptability or unacceptability of body image satisfaction**

| | | Body Satisfaction Index (BSI) | |
|---|---|---|---|
| **Body Image satisfaction** | **BMI** | **Acceptable** | **Unacceptable** |
| Satisfied | <20 underweight | | * |
| Dissatisfied | <20 underweight | * | |
| Satisfied | >25 overweight | | * |
| Dissatisfied | >25 overweight | * | |
| Satisfied | 20 – 25 normal weight | * | |
| Dissatisfied | 20 – 25 normal weight | | * |

From Table 5.1 it is clear that the subjects who are underweight or overweight and are still satisfied with their bodies are placed in the unacceptable group. Those who are of a normal weight according to the BMI and who are dissatisfied with their bodies are too placed in the unacceptable group. Those considered to be underweight or overweight according to the BMI and who are dissatisfied with their bodies are placed within the acceptable group, as well as those who are of a normal weight and satisfied. The exact number of girls represented in each category is presented in Chapter six.

### 5.2.2 The predictor variables

As already explained in 5.1, a number of independent variables were considered for this study. A biographical questionnaire was compiled in order to obtain information regarding the participant's age, time of body maturation, involvement in a romantic relationship, participation in physical activity, and family constellation. For the other two variables, namely family influences and self-esteem, sub-scales measuring these two factors from the Personal, Home, Social and Formal Relations questionnaire were used. The specific measuring instruments used in the study will later be discussed in more detail.

### 5.3 Participants

Participants were selected by means of a non-probability sampling technique known as purposive sampling (Dane, 1990). Purposive samples are the samples that result when the researcher handpicks the elements to be included in the sample on the basis of expert judgement. The individuals selected may be either those judged to have certain characteristics or those who are likely to be able to provide useful information for the purposes for which the study is being done. The chief advantages of non-probability sampling are convenience and economy. Its weaknesses however, are that there is no way to estimate the probability of each elements being included in the sample, and no guarantee that each element has the same chance of being included. Females of private schooling status between the ages of 12 and 16 years were chosen as a target group for this study. The participants were divided into two categories according to their schooling status. The first group (A) consisted of girls from a same sex (girls only) private school (n=92), and the second group (B) consisted of girls from a co-educational (both boys and girls) private school (n=91). The inclusion of participants from various ages and developmental stages adds diversity to the study, which will be of benefit if the findings are used at a later stage for theoretical development. 190 questionnaires were distributed to all consenting learners from grades 8, 9 and 10. The sample eventually consisted of 183 female pupils. 92 from a same sex private school in the northern suburbs of Johannesburg, and 91 female pupils from a co-educational private school in the northern suburbs of Johannesburg. Each participant was informed about the research and was required to give written consent for their participation in the study (appendix D). The consent of their parents was also required (appendix E) as well as the consent of the relevant school principals.

The age distribution of girls from the same sex-schooling environment is presented in table 5.2.

**Table 5.2: Frequency distribution of same-sex-school girls according to age**

| | Girls | |
|---|---|---|
| Age | N | % |
| 12 | 5 | 5,4 |
| 13 | 17 | 18,5 |
| 14 | 40 | 43,5 |
| 15 | 27 | 29,3 |
| 16 | 3 | 3,3 |

From table 5.2, it is clear that almost half (43,5%) of the respondents in the same-sex school sample was 14 years of age.

The age distribution of girls from the co-educational- schooling environment is presented in table 5.3.

**Table 5.3: Frequency distribution of co-educational - school girls according to age**

| | Girls | |
|---|---|---|
| Age | N | % |
| 12 | 2 | 2,2 |
| 13 | 22 | 24,2 |
| 14 | 29 | 31,9 |
| 15 | 28 | 30,8 |
| 16 | 10 | 11,0 |

From table 5.3, it is clear that a fairly equal number of 13, 14 and 15 year olds were represented in the co-educational school sample.

The distribution of the research group according to schooling structure is presented in table 5.4.

**Table 5.4: Frequency distribution of the schooling structure of the research group**

| | Girls | |
|---|---|---|
| **Schooling structure** | **N** | **%** |
| Same sex | 92 | 50,3 |
| Co-educational | 91 | 49,7 |
| TOTAL | 183 | 100,0 |

From table 5.4, it is clear that there is an almost equal distribution of girls in private same-sex (50,3%) and private co-educational (49,7%) schools.

### 5.4 Measuring Instruments

The details of the measuring instruments used in this study will now be discussed. For the purposes of the study, raw scores were used. Using raw scores rather than standardized scores allows for a more accurate calculation and representation of the particular sample used in this study.

#### 5.4.1 Biographical questionnaire (Appendix A)

A biographical questionnaire was constructed by the researcher to elicit information regarding specific participant characteristics. In this section, information regarding height, weight, age, family composition, participation in physical activity, age of body maturation, relationship status and attempts to change body shape were elicited.

### 5.4.2 The Personal, Home, Social and Formal Relations Questionnaire (Appendix B)

Adjustment can be defined as the dynamic process by which a person strives to obtain his/her inner needs and at the same time strives to cope successfully with the demands of the environment in order to attain a harmonious relationship between the self and the environment. The development of this harmony between the self and the environment depicts healthy adjustment (Fouche & Grobbelaar, 1976). The purpose of the PHSF is to measure by means of 11 components the personal, home, social and formal relations of high school pupils, students and adults to determine their level of adjustment.

The level of adjustment of a person for each of the various components is determined by the frequency with which his/her responses in relation with the self or with the environment are mature or immature, efficient or inefficient.

The scoring of the components is based on a four-point Likert-style response format (always, often, sometimes, never). The results in a scale range from 0-45. Higher scores represent better adjustment.

The self-esteem sub-scale measures the individuals inner appraisal based on evaluation and acceptance of real or fancied personality characteristics, abilities and defects. The family influences sub-scale measures the degree to which the individual as a dependent in a home is influenced by factors such as position in the family, family togetherness, relationship between parents and socio-economic conditions.

#### 5.4.2.1 Validity

Research regarding the validity of the PHSF indicates that it possesses a high degree of construct validity. The **z** values of the two sub-scales are:

**Self-esteem 0,72**

**Family influences 5,57***

According to the manual of the PHSF, the asterix * next to the family influences sub-scale reveals a 1% level of significance. The self-esteem sub-scale does not show a significant z value at either a 1% nor a 5% level of significance. Despite recognizing this

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shortcoming, it was decided to still use the self-esteem sub-scale so as to provide for consistency in the study by using two sub-scales from the same questionnaire.

### 5.4.2.2. Reliability

The internal consistency was calculated by examining the individual items measuring family influences, self-esteem and body satisfaction. This was done using Cronbach's α-coëfficients aided by the SPSS- computer programme (SPSS Incorporated, 1983), which is an indication of whether or not all the items of a sub-scale measure the same attribute. Due to the fact that all the respondents answered the questionnaires in English, the reliability of the group as a whole was examined. The coefficients are reported in table 5.5.

**Tabel 5.5: Cronbach's α-coefficients for family influence, self-esteem and body satisfaction**

| Measurement | α-coefficients |
|---|---|
| Family influence | 0,8206 |
| Self-esteem | 0,8080 |
| Body satisfaction | 0,8798 |

The calculated coefficients in table 5.5 indicate that the items of the different variables deliver an acceptable internal consistency. According to Foster and Parker (1999) a reliability of 0,8 or higher is expected in cognitive tests. The measurements obtained in this study are non-cognitive in nature, however, the measurements of the respondents perceptions as can be seen in table 5.5 reveal a high internal consistency of the sub-scales. It can thus be deduced that the abovementioned questionnaire proves a satisfactory reliability.

### 5.4.3 The Eating Disorder Inventory (Appendix C)

The purpose of this questionnaire designed by Garner, Olmstead and Poilvy (1983) is to assess a broad range of behavioural and attitudinal characteristics of anorexia nervosa and bulimia. The questionnaire consists of nine sub-scales, namely; drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness and maturity fears. It has the advantage of being suitable for both a clinical as well as a non-clinical sample. The questions were generated for behavioural and psychological constructs that have been described as relevant for eating disorders. The body dissatisfaction sub-scale of the questionnaire reflects the belief that specific parts of the body associated with shape or increased fatness at puberty are too large (e.g. hips, thighs, buttocks). Body dissatisfaction has been found to be related to other body disturbances in anorexia nervosa (Garner & Garfinkel, 1981). These disturbances have been considered a basic deficit in anorexia nervosa. Crisp (1977; 1980) has suggested that dieting in anorexia nervosa is a response to dissatisfaction with pubertal fatness and the symbolic meaning that it has for the individual. This particular sub-scale was made use of in this study as it was the most relevant in terms of evaluating the adolescent girls' satisfaction or dissatisfaction with their bodies. The EDI test format and scoring are similar to those for the EAT (Garner & Garfinkel, 1979). The most extreme response (always or never) earns a score of 3, the most adjacent response 2, the next response 1 and the last three 0. Scale scores are the summation of all item scores for that particular scale. The lowest score attainable on the body dissatisfaction scale is a 0, revealing high body satisfaction. The highest score attainable is 27, revealing a low body satisfaction.

#### 5.4.3.1 Reliability

The reliability of body satisfaction is reported in table 5..5.

#### 5.4.3.2 Validity

Convergent and discriminant validity has been established for the sub-scales of the EDI, by administering it to groups of normal weight bulimic women, obese women, and formerly obese women who had lost weight from a mean of 130% to 100% of average weight. Results reveal that it is an objective instrument in measuring the cognitive behavioural dimensions in anorexia nervosa and bulimia.

### 5.5 Data collection

Prior to the start of data collection procedures, the researcher approached a number of private schools both same sex and co-educational in the northern suburbs of Johannesburg requesting consent to be able to conduct research with their pupils. Once consent was given by the school principal's to the researcher, a letter of consent was handed to each pupil as well as her parent's requesting their consent to participate in the study. In January 2002, the questionnaires were handed to the pupils. Each set of questionnaires consisted of a biographical questionnaire, a copy of the sub-scales- self-esteem and family influences for the Personal, Home, Social, and Formal Relations questionnaire, and a copy of the sub-scale body dissatisfaction from the Eating Disorder Inventory. Participation in the research was voluntary, and anonymity and confidentiality were assured at all times. The questionnaires were no more than one page in length and were headed with brief, clear instructions. The questionnaires were handed to the participants by the researcher who in turn measured their height and weight. On completion, the questionnaires were returned by hand to the researcher.

## 5.6 Formulation of the hypothesis

With respect to the aims of the study which have been outlined in Chapter 1, paragraph 1.2, the following research hypothesis may be formulated:

**Body image satisfaction (BSI) (acceptable versus unacceptable) of adolescent girls in a private school setting is affected by age, time of body maturation, participation in physical activity, involvement in a romantic relationship, sibling constellation, family influences and schooling structure (same sex versus co-educational schools).**

## 5.7 Statistical procedures

As can be seen from the research hypothesis of this study, it is clear that the criterion variable (dependent variable) is dichotomous in nature in that it comprises two groups, namely those girls with an acceptable body image, and those with an unacceptable body image (acceptable versus unacceptable). Furthermore, it can be seen that the predictor variables (independent variables) are in some cases categorical (biographical variables) and in other cases they are continuous (self-esteem and family influences) in nature.

In this case it is possible to make use of a discriminant analysis. However, both Howell (2002) and Everitt (1996) agree that discriminant analysis does in fact have a number of limitations. In the first place, it is possible that a probability success can be produced that does not lie within the range of 0 and 1. Secondly, it is expected with discrminant analysis that the independent variables will lie on a normal distribution curve, which in some cases is unrealistic. As a result, both authors have reached the conclusion that **logistic regression** is the indicated technique, taking into consideration that it will give

1) Results in probabilities that lie within the range 0 and 1; and

2) That there are no restrictive assumptions regarding the normality of the independent variables, which may be categorical or continuous.

## 5.8 CONCLUSION

This chapter introduces the empirical section of the research study. In the following chapter, the results of the logistic regression analysis will be given, as well as the descriptive statistics (frequencies, means and standard deviations) of the predictor variables.

# CHAPTER SIX : RESEARCH RESULTS

## 6.1 INTRODUCTION

The following factors are incorporated and discussed in this chapter:
The descriptive statistics (frequencies, means and standard deviations) of the respective independent variables; the results of the stepwise logistic regression analysis; the results of the research as they pertain to the statistical procedures outlined in Chapter five.

## 6.2 Descriptive statistics

### 6.2.1 Frequency distributions

The frequency distribution of the independent variables measured on the nominal scale with respect to the biographical variables which form part of the predictor variables of the two groups namely acceptable and unacceptable will be presented in the following tables.

#### 6.2.1.1 Frequency distribution of the BSI of the research group

As mentioned in 5.2.1, only those girls who indicated that they were satisfied or dissatisfied with their body image were included in the study. Those who were neither satisfied nor dissatisfied with their body image were not used for the purposes of the study. In other words, those who did not have a score greater than half a standard deviation above the mean or less than half a standard deviation below the mean were not included in the study. The aforementioned group consisted of 47 girls (25,7% of the research sample) leaving the total number of girls included in the final group of research participants at 136. The 136 girls were divided according to their BSI (acceptable versus unacceptable) this is presented in table 6.1.

**Table 6.1: Frequency distribution of the BSI of the research group**

| BSI | Girls | |
|---|---|---|
| | N | % |
| Acceptable | 52 | 38,2 |
| Unacceptable | 84 | 61,8 |
| TOTAL | 136 | 100,0 |

It is clear from table 6.1 that more girls (62%) fall into the unacceptable group. In order to obtain an indication of how the acceptable and unacceptable groups were divided in terms of their BMI and body satisfaction, the information has been included in table 6.2.

#### 6.2.1.2 Frequency distribution of the BMI and body satisfaction of the research group

Table 6.2 will present the frequency distribution of the BMI of the research group.

**Table 6.2: Frequency distribution of the BMI and body satisfaction of the research group**

| BMI | Body image | | | |
|---|---|---|---|---|
| | Satisfied | | Dissatisfied | |
| | N | % | N | % |
| <20 underweight | 43 | 86,0 | 7 | 14,0 |
| >25 overweight | 3 | 15,8 | 16 | 84,2 |
| 20 – 25 normal weight | 29 | 43,3 | 38 | 56,7 |
| Total | 75 | 55,1 | 61 | 44,9 |

% in terms of row percentages

From table 6.2 it can be deduced that more girls who are underweight (86%) are satisfied with their bodies, while more girls who are overweight (84,2%) are dissatisfied with their

bodies. The group of girls whose BMI lies within the normal range (20-25) shows a more equal division between the group reporting satisfaction and the group reporting dissatisfaction with their body image.

### 6.2.1.3 Frequency distribution of weight, height and BMI of same-sex-school girls

The average current weight, average ideal weight, average height and average BMI of girls from the same sex schooling environment according to age is presented in table 6.3.

**Table 6.3: Average current weight, average ideal weight, average height and average BMI of girls from the same sex schooling environment according to age**

| Age | Average weight (kg) | Average ideal weight (kg) | Average height (cm) | Average BMI |
|---|---|---|---|---|
| 12 | 43,6 | 40,6 | 154,0 | 18,4 |
| 13 | 51,3 | 43,8 | 152,0 | 22,2 |
| 14 | 52,6 | 46,6 | 155,0 | 22,0 |
| 15 | 55,5 | 50,1 | 154,0 | 23,4 |
| 16 | 57,3 | 51,3 | 154,0 | 24,0 |

From table 6.3 it can be seen that for every age group, the girls nominate their ideal weight to be less that their current weight, despite the fact that they fall within the normal BMI range (20-25). Girls in the 12- year age group fall in the underweight category according to the BMI (less that 20) yet still consider their ideal weight to be less than their current weight.

Girls in the 13-year age group show the greatest deviation (51,3 – 43,8 = 7,5) between their current weight and their ideal weight, while girls in the 12-year age group show the lowest deviation (43,6 – 40,6 = 3) between their current weight and ideal weight.

#### 6.2.1.4 Frequency distribution of weight, height and BMI of co-educational-school girls

The average current weight, average ideal weight, average height and average BMI of girls from the co-educational schooling environment according to age is presented in table 6.4.

**Table 6.4: Average current weight, average ideal weight, average height and average BMI of girls from the co-educational schooling environment according to age**

| Age | Average weight (kg) | Average ideal weight (kg) | Average height (cm) | Average BMI |
|---|---|---|---|---|
| 12 | 53,5 | 46,5 | 151,0 | 23,5 |
| 13 | 44,6 | 40,5 | 150,0 | 20,0 |
| 14 | 53,6 | 49,5 | 158,0 | 21,5 |
| 15 | 51,7 | 48,2 | 160,0 | 20,2 |
| 16 | 57,0 | 52,8 | 162,0 | 22,0 |

From Table 6.4 it can be seen that for every age group, the girls nominate their ideal weight to be less that their current weight, despite the fact that they fall within the normal BMI range (20-25).

Girls in that 12 –year age group show the greatest deviation (53,5 – 46,5 = 7) between their current weight and their ideal weight, while girls in the 15 – year age group show the lowest deviation between their current weight and their ideal weight (51,7 – 48,2 = 3,5).

#### 6.2.1.5 Frequency distribution of the research group according to schooling structure

The frequency distribution of the research group according to the different schooling structures is presented in table 6.5.

**Table 6.5: Frequency distribution of the research group according to schooling structure**

| Schooling structure | BSI: Acceptable | | BSI: Unacceptable | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Same | 24 | 46,2 | 36 | 42,9 | 60 | 44,1 |
| Co-educational | 28 | 53,8 | 48 | 57,1 | 76 | 55,9 |
| Total | 52 | 38,2 | 84 | 61,8 | 136 | 100,0 |

From table 6.5 it is clear that the research sample is relatively equally distributed according to schooling structure. Within the acceptable group there is roughly an equal representation of girls in co-educational schools (53,8%) and same sex schools (46,2%). The same principle applies for the unacceptable group where 57,1% of the girls are from a co-educational school, while 42,9% of the girls are from a same sex school.

**6.2.1.6 Frequency distribution of the research group according to participation in physical activity**

In table 6.6, the frequency distribution of the research group according to participation in physical activity is presented. Due to the fact that different sports/activities are relevant, each one's descriptive statistics are individually calculated and presented in the table. The research participants were required to indicate on a four-point scale the capacity in which they participate in the particular sport/activity (1= never, 2=rarely, 3= sometimes, 4= often). In order to simplify the statistical calculations, the scale scores were combined into two groups each with a respective score/value, namely 0= rarely/never and 1= sometimes/often.

**Table 6.6: Frequency distribution of the research group according to participation in physical activity**

| Physical activity | BSI: Acceptable | | BSI: Unacceptable | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Netball Rarely/never | 33 | 63,5 | 45 | 53,6 | 78 | 57,4 |
| Sometimes/often | 19 | 36,5 | 39 | 46,4 | 58 | 42,6 |
| Hockey Rarely/never | 24 | 46,2 | 29 | 34,5 | 53 | 39,0 |
| Sometimes/often | 28 | 53,8 | 55 | 65,5 | 83 | 61,0 |
| Gym Rarely/never | 34 | 65,4 | 51 | 60,7 | 85 | 62,5 |
| Sometimes/often | 18 | 34,6 | 33 | 39,3 | 51 | 37,5 |
| Athletics Rarely/never | 40 | 76,9 | 56 | 66,7 | 96 | 70,6 |
| Sometimes/often | 12 | 23,1 | 28 | 33,3 | 40 | 29,4 |
| Cycling Rarely/never | 37 | 71,2 | 58 | 69,0 | 95 | 69,9 |
| Sometimes/often | 15 | 28,8 | 26 | 31,0 | 41 | 30,1 |
| Running Rarely/never | 34 | 65,4 | 40 | 47,6 | 74 | 54,4 |
| Sometimes/often | 18 | 34,6 | 44 | 52,4 | 62 | 45,6 |
| Swimming Rarely/never | 18 | 34,6 | 32 | 38,1 | 50 | 36,8 |
| Sometimes/often | 34 | 65,4 | 52 | 61,9 | 86 | 63,2 |
| Tennis Rarely/never | 28 | 53,8 | 50 | 59,5 | 78 | 57,4 |
| Sometimes/often | 24 | 46,2 | 34 | 40,5 | 58 | 42,6 |
| Volleyball: Rarely/Never | 43 | 82,7 | 66 | 78,6 | 109 | 80,1 |
| Sometimes/often | 9 | 17,3 | 18 | 21,4 | 27 | 19,9 |

From the information presented in table 6.6, it can be seen that the two activities that most girls participate in on a regular basis (sometimes/often), include swimming (63,2%) and hockey (61,0%). The two activities that most girls seldom or never participate in are volleyball (80,1%) and athletics (70,6%). The regression analysis took each individual sport into account.

### 6.2.1.7 Frequency distribution of the research group according to methods used to change body shape

In table 6.7, the frequency distribution of the research group according to attempts made to change body shape is presented. Due to the fact that different methods (including substance use and dieting) are made by girls in order to change their body shape, the descriptive statistics are calculated for each method used and can be seen in table 6.3. The participants could respond to the various methods used to change body shape on a five-point scale (5=using at present, 4=use often, 3= use sometimes, 2= use rarely, and 1= never use). In order to simplify the statistical calculations, the scale scores were combined into two groups with two values respectively, namely 0 rarely/never, and 1 sometimes/often/presently.

**Table 6.7: Frequency distribution of the research group according to methods used to change body shape**

| Methods used to change body shape | BSI: Acceptable | | BSI: Unacceptable | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Dieting Rarely/never | 33 | 63,5 | 62 | 73,8 | 95 | 69,9 |
| Sometimes/often/present | 19 | 36,5 | 22 | 26,2 | 41 | 30,1 |
| Exercise Rarely/never | 7 | 13,5 | 13 | 15,5 | 20 | 14,7 |
| Sometimes/often/present | 45 | 86,5 | 71 | 84,5 | 116 | 85,3 |
| App Supp Rarely/never | 44 | 84,6 | 78 | 92,9 | 122 | 89,7 |
| Sometimes/often/present | 8 | 15,4 | 6 | 7,1 | 14 | 10,3 |
| Laxatives Rarely/never | 50 | 96,2 | 83 | 98,8 | 133 | 97,8 |
| Sometimes/often/present | 2 | 3,8 | 1 | 1,2 | 3 | 2,2 |

The results in table 6.7 reveal that very few, if any of the research participants use laxatives to change their body shape. Only 14 (10,3%) of the 136 girls participating in the study made use of appetite suppressants. Due to the fact that so few girls make use of the

aforementioned substances, they are not included for purposes of further analysis. In contrast, it is clear that most girls use exercise in order to change their body shape (85,3%).

#### 6.2.1.8 Frequency distribution of the research group according to sibling constellation

Table 6.8 provides the frequency distribution of the research group according to sibling constellation

**Table 6.8: Frequency distribution of the research group according to sibling constellation**

| Sibling constellation | BSI: Acceptable | | BSI: Unacceptable | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Brothers: No | 26 | 50,0 | 30 | 35,7 | 56 | 41,2 |
| Yes | 26 | 50,0 | 54 | 64,3 | 80 | 58,8 |
| Sisters: No | 23 | 44,2 | 37 | 44,0 | 60 | 44,1 |
| Yes | 29 | 55,8 | 47 | 56,0 | 76 | 55,9 |

The two groups reveal a relatively equal comparison in terms of sibling constellation, particularly in terms of sisters in the family. The girls who have a brother or brothers are however more likely to fall in the unacceptable group (64,3%) than those who only have a sister or sisters (35,7%).

#### 6.2.1.9 Frequency distribution of the research group according to involvement in romantic relationships

Table 6.9 gives the frequency distribution of the research group according to involvement in a romantic relationship.

**Table 6.9: Frequency distribution of the research group according to involvement in romantic relationships**

| Involvement in relationship | BSI: Acceptable | | BSI: Unacceptable | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Never | 20 | 38,5 | 28 | 33,3 | 48 | 35,3 |
| Presently or previously involved | 32 | 61,5 | 56 | 66,7 | 88 | 64,7 |
| Total | 52 | 38,2 | 84 | 61,8 | 136 | 100,0 |

A slightly higher percentage of girls in the unacceptable group (66,7%) in comparison with the acceptable group (61,5%) are currently involved in a relationship or have had a relationship in the recent past.

The criterion variables that were measured on a continuous scale will now be discussed.

### 6.2.2 Means and standard deviations

The means and standard deviations with respect to the criterion variables measured on the continuous scale have been calculated by making use of the SAS-computer programme (SAS Institute, 1985) and are presented in table 610.

**Table 6.10: Means and standard deviations for the girls with acceptable and unacceptable BSI**

| Independent Variables | Acceptable | | | Unacceptable | | |
|---|---|---|---|---|---|---|
| | N | X | S | N | X | S |
| Age | 52 | 14,15 | 0,96 | 84 | 14,17 | 1,00 |
| Body maturation | 44 | 12,36 | 0,87 | 74 | 12,53 | 0,88 |
| Family influences | 52 | 25,98 | 7,90 | 84 | 28,02 | 7,30 |
| Self-esteem | 52 | 24,12 | 7,41 | 84 | 23,40 | 6,67 |

The sample's age and body maturation were measured via a biographical questionnaire and will therefore not be compared to the norms from any manual. It is clear from the above table that the mean age of the girls in the acceptable group is 14,15 years with a standard deviation of 0,96. The mean age of the girls body maturation in the acceptable group is 12,36, with a standard deviation of 0,87. The mean age of the girls in the unacceptable group is 14,17 years, with a standard deviation of 1,00. The mean age of body maturation for this group is 12,53 with a standard deviation of 0,88.

The norms indicated by the manual of the PHSF for this particular age group in terms of self-esteem, and family influences are as follows:

**self –esteem: raw score= 20-21; stanine =5**

**family influences: raw score= 29-31; stanine=5**

The mean for the acceptable group in terms of self-esteem (24,12) lies slightly above the norm, as does the mean self-esteem score for the unacceptable group (23,4). In terms of family influences, the mean for the acceptable group lies slightly below the norm, while the mean for the unacceptable group lies within the proposed norm range of the PHSF.

The results of the stepwise logistic regression analysis, with respect to the biographical variables as well as self-esteem and family influences is presented in the following section. A more detailed discussion hereof will also be given.

### 6.3 Stepwise logistic regression analysis

Logistic regression analysis is applicable when the dependent variable in question is dichotomous. In this study, BSI (Body Satisfaction Index) is the dependent variable, and for the purpose of the study, a code of 0 is assigned to a girl with an acceptable BSI, while a code of 1 is assigned to a girl with an unacceptable BSI. The analysis was done with the assistance of the SAS- program. It is important to note that SAS computes a model for predicting the lower value, which in this case is 0, or membership to the group with an acceptable BSI (Howell, 2002).

Each predictor variable considered in the study was entered into the statistical model of the stepwise logistic regression analysis. The model then calculates the most useful variables in the prediction of group membership, and reports these results.

The results of the stepwise regression analysis are presented in table 6.11.

**Table 6.11: Results of the stepwise logistic regression analysis for girls in a private school setting**

| Step | Variable | $\chi^2$ - test for the fit of the model | | | v | *p* |
|---|---|---|---|---|---|---|
| | | Without predictors | With predictors | Difference | | |
| One | Schooling structure | 87,839 | 65,034 | 22,805 | 1 | 0,0001 |
| Two | Family involvement | 87,839 | 51,189 | 36,650 | 2 | 0,0001 |
| Three | Dieting | 87,839 | 43,141 | 44,698 | 3 | 0,0001 |

During the first step of the analysis the variable *schooling structure* was added to the logistic regression equation. A $\chi^2$- value of 22,805 was obtained, when it was tested whether the fit of the model with predictors was significantly better than the fit of the model without predictors (87,839 – 65,034 = 22,805). At this stage, only one predictor was included in the model with the result that the degrees of freedom =1. The decrease in $\chi^2$ thus indicates that the variable (*schooling structure*) does indeed make a significant ($p$ = 0,0001) contribution to the prediction of girls' Body Satisfaction Index (BSI).

During step two, the variable *family influences* was added to the equation. Now two predictors formed part of the regression model, with the result that the degrees of freedom = 2. At this stage the decrease in $\chi^2$ is greater (87,839 – 51,189 = 36,65) than in the case where only one predictor was included in the model. As a result it can be accepted that the two predictors that, at this stage, form part of the regression model, both make a significant ($p$ = 0,0001) contribution to the prediction of girls' BSI.

Step three entailed the addition of the variable *dieting* to the equation. Now three predictors formed part of the regression model, with the result that the degrees of freedom = 3. After the addition of these three predictors to the regression model, the decrease in $\chi^2$ is 87,839 – 43,141 = 44,698. This decrease means that the three predictors forming part of the regression model at this stage, did indeed make a significant ($p$ = 0,0001) contribution to the prediction of BSI.

In order to test each predictor's contribution to the model, an analysis of maximum likelihood estimates was performed, the results of which appear in table 6.12.

**Table 6.12: Results concerning the maximum likelihood estimates**

| Variable | Coefficient | Standard error | Wald $\chi^2$ | $p$ |
|---|---|---|---|---|
| Intercept | 4,6353 | 1,8513 | 6,27 | 0,0123 |
| Schooling structure (ss) | -3,2435 | 0,9272 | 12,23 | 0,0005 |
| Family involvement (fi) | -0,1793 | 0,0681 | 6,93 | 0,0085 |
| Dieting (dt) | 2,3116 | 0,9078 | 6,48 | 0,0109 |

It is clear from table 6.8 that the optimal logistic regression equation is as follows:

$$\text{Log odds} = -3{,}2435\ \text{ss} - 0{,}1793\ \text{fi} + 2{,}3116\ \text{dt} + 4{,}6353$$

The regression coefficients of the three predictors indicates that:

(a) an increase of one point in *schooling structure* will reduce the log odds of an acceptable BSI by 3,2435 points. In order to work with odds, we simply exponentiate the coefficient. In this case it means that $e^{-3,2435}$ = 0,039, in other words an increase of 1 point in schooling structure (co-educational) multiplies the odds of an acceptable BSI by approximately 0,04, thus reducing them. It must be kept in mind that the odds of an acceptable BSI will be equal to inverse of the odds of an unacceptable BSI. Considering the fact that the predictor variable is dichotomous, it can be concluded, if all the other predictor variables remain the same, that a girl from a co-educational

school will be approximately 25½ times more likely to have an unacceptable rather than an acceptable BSI.

(b) an increase of one point in *family influences* will reduce the log odds of an acceptable BSI by 0,1793 points. In this case it means that $e^{-0,1793}$ = 0,836, in other words an increase of 1 point in family involvement multiplies the odds of an acceptable BSI by approximately 0,84, thus reducing them. Thus a girl with a high score on family influences is approximately 1 time more likely to have an unacceptable rather than an acceptable BSI.

(c) an increase of one point in *dieting* will increase the log odds of an acceptable BSI by 2,3116 points. In this case it means that $e^{2,3116}$ = 10,09, in other words an increase of 1 point in dieting multiplies the odds of an acceptable BSI by approximately 10. This predictor variable is also dichotomous, and it can therefore be concluded, if all other predictor variables were to remain the same, that a girl who uses dieting to change her body shape is approximately 10 times more likely to have an acceptable rather than an unacceptable BSI.

In conclusion, the association between the predicted probabilites and the actual responses can also be indicated. In table 6.13 the information, concerning the association between the predicted probabilities of group membership and the actual group membership (acceptable BSI) of the girls, after the addition of the three predictors (schooling structure, family involvement and dieting) to the logistic regression model, is provided.

**Table 6.13: Association of predicted probabilities and observed responses of the research group**

| Association | % |
|---|---|
| Concordant | 92,6% |
| Discordant | 7,3% |
| Tied | 0,1% |

Thus, with the use of the three predictors (schooling structure, family involvement and dieting) it was possible, in almost 93% of the cases, to successfully predict the same outcome (acceptable BSI) as what was actually attained.

## 6.4 CONCLUSION

This chapter has focussed on the results of the research study as they pertain to the chosen statistical procedures. The conclusions derived from the results will be discussed in the following chapter.

# CHAPTER SEVEN: INTERPRETATION OF RESULTS AND CONCLUSIONS

## 7.1 INTRODUCTION

In this chapter an attempt will be made to give possible interpretations of the results that were reported in Chapter six. It will also be attempted to explain these findings in terms of the theoretical overview offered in the literature review in chapters 2, 3 and 4. The shortcomings of the study as well as any recommendations that may be of use for further studies of this nature will also be discussed.

## 7.2 Conclusions of the research

The results reveal that **62%** of the research participants fall within the unacceptable group, **revealing a distorted body image**. Body image distortion perceiving oneself to weigh more or to be larger than actual measurements has been found common among adolescent females expressing dissatisfaction towards their bodies (Feldman, Feldman & Goodman, 1988).

The study reveals that the research participants **in all age groups** (12,13,14,15 &16) nominate their **ideal** weight to be **less than** their **current** weight **despite** being in the **appropriate BMI** range (20-25). Fallon and Rozin (1985), reported that a significant difference existed between females' perceived and actual body sizes. Typically, they expressed a desire to be thinner. Furnham and Greaves (1994), also found that body dissatisfaction showed no association with body mass index, but was instead highly correlated with self-esteem and locus of control.

A total of **86%** of the girls in the research sample who are **underweight** reveal **satisfaction** with their bodies. **While 56,7% of girls who are of normal weight** are **dissatisfied** with their bodies. This result is in accordance with Wardle and Marsland (1990), who found that as many as 50% of a sample of adolescent females aged between

11 and 18 perceived themselves as fat and wanted to lose weight. Lawrence and Thelen (1995), reported that a girls self-perception of her body weight is of even greater importance than her objective weight in developing maladaptive eating and dieting practices.

A total of **85,3%** of the research participants use **exercise** as a method to **change their body shape**. Fiscke (1987), also found that many individuals in today's society accept cultural patterns of constructing their bodies by making use of exercise.

A total of **64,3%** of the girls in the research sample who have a **brother or brothers** fall into the unacceptable group. A slightly higher percentage of girls in the **unacceptable group (66,7%)** in comparison with the acceptable group (61,5%) are currently involved or have been involved in a **romantic relationship with the opposite sex**. This result thus reveals that girls who have dated or who are dating are more likely to reveal a distorted body image than those who have not or are not dating. Both of these results reveal the influence of male/female interaction and the impact that this has on females' body image perception. Parker (1995), found that girls view being thin as important if they are to appear attractive to the opposite sex. If they are not thin, they are more likely to be dissatisfied with their body particularly when they start dating. In general, research indicates that women perceive their current body figure to be heavier than the figure they perceive as ideal or most attractive to men. (Cohn *et al.*, 1987; Rozin & fallon, 1988).

The predictor variables that were found to significantly contribute to the prediction of body image satisfaction included schooling structure, family influences and dieting behaviour. These will now be discussed in more detail.

The **schooling structure of the adolescent girl was found to influence body image satisfaction. Girls from a co-educational school are approximately 25,5 times more likely to have a distorted body image than an acceptable body image.** It is thus deduced that girls from a co-educational school environment stand a higher chance of belonging to the group with an unacceptable body image than do girls from a same sex schooling structure. This goes against Tiggemann (2001), whose study revealed no significant differences on the EDI sub-scales of Drive for Thinness or Body Dissatisfaction between same-sex and co-educational private school girls.

Girls who reported **more family influence** (indicating more involvement) were found to be **more likely to belong to the group of girls with an unacceptable body image** satisfaction than those who reported less family influence. Over involvement amongst family members has been reported to be factor that contributes negatively to the adolescents body image (Yager, 1982). When family relationships are too influential, there is often a lack of generational boundaries, resulting in parent- child coalitions and enmeshment. Factors of hierarchical disorganization, and overprotectiveness by parents have been found to be solid predictors of eating disorder symptomology resulting from a negative body image (Stierlin & Weber, 1989). Furthermore, over involvement in the family is often perceived by the adolescent as an additional pressure to perform and remain achievement oriented (Stern *et al.*, 1989). This result is supported by Minuchin, Rosman and Baker (1978) who attributed characteristics of enmeshment, rigidity, and overprotectiveness to anoretic families.

The adolescent girls **dieting behaviour** was also found to play a contributory role in predicting group membership. A girl who uses dieting to change her body shape is 10 times more likely to belong to the acceptable BSI group than the unacceptable BSI group. This result is in accordance with the sociocultural theory which proposes that societal standards for beauty continually emphasise thinness which often leads to women needing to attain this ideal resulting in them engaging in dieting behaviour (Rodin, Silberstein & Striegel-Moore, 1985). The strong emphasis in our contemporary society is such that we are supposed to control and alter our physical appearance and obtain the ideal look. Diets and physical activity are presented as the best way to have control over our bodies. Thus girls who believe that they are overweight or underweight and are dissatisfied are prone to use dietary measures in order to conform to societal demands (Fiscke, 1987). Hill, Oliver and Rogers (1992) also reported that body dissatisfaction is a correlate of dieting concerns among adolescent schoolgirls.

### 7.3 Shortcomings of the study

A variable that could not be considered in this study is that of the birth order of siblings and how this factor affects body image satisfaction. Dynamics such as middle child syndrome, or eldest child syndrome may too be of relevance in determining an individual's body image satisfaction.

Due to the limited sample size, the girls' relationship status (involvement or non-involvement in a romantic relationship) was not broken down according to specific age groups. It is in turn assumed that the younger research participants could have had less exposure to romantic relationships than the older research participants did. This could not be analyzed separately in this study.

Despite the fact that the results of the study revealed significant use of dieting in order to change body shape by the girls in the acceptable group, it was not established whether or not their dieting behaviours were carried out successfully or unsuccessfully. This could

contaminate the findings, as the researcher cannot be sure whether dieting is used as a healthy or an unhealthy method of changing body shape.

The self-esteem sub-scale of the PHSF did not show construct validity at either a 1% nor 5% level of significance. This in turn may have influenced the results of self-esteem as a factor in the prediction of body image satisfaction.

### 7.4 Recommendations

During the course of this study the researcher encountered a number of difficulties, and these must be kept in mind if any future research is done in this respect. The most prominent difficulty encountered in this study was the relatively small sample size obtained. Despite the fact that several schools were approached, co-operation on the part of school principals enabling the researcher to conduct research at their educational institutions was not easily obtained. The major reason given for this was time constraints within the school timetable. This could have negatively influenced the outcome of the study, as the sample reliability is directly dependent on the sample size. Furthermore, girls of only one co-educational private school and one same sex private school were included in this study. Due to the lack of effective representation of the population of private school girls (co-educational versus same sex), it is difficult to generalize the results obtained to the general population. In future this problem could be overcome if it can be arranged with the principal's that the pupils fill in the questionnaires at school, during a prearranged time. Unfortunately this was not possible during the present study, but it would enable a larger and more diverse sample size.

It is also important to keep in mind the fact that the factors, which were investigated in this study, form only a part of the total number of factors that exert an influence on body image satisfaction. Any additional factors should also be examined in more detail to explore the degree of influence that they exert over the body image satisfaction of adolescent girls.

This study was conducted over a limited period of time and thus did not allow for comparisons through time. A longitudinal study would allow for more certainty in terms of the factors responsible for body image disturbance and therefore validate the findings of this research.

The abovementioned shortcomings of this study should be borne in mind if a study of this nature is to be carried out in future.

Finally, an important issue, which has not been discussed in significant depth, is the factors that protect against the development of body image disturbance. In this regard it is recommended that factors which encourage healthy personality development and body esteem be given more consideration in future.

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# APPENDIX A

# BIOGRAPHICAL QUESTIONNAIRE

PLEASE READ THE FOLLOWING STATEMENTS AND CIRCLE THE NUMBER THAT BEST APPLIES TO YOU IN THE SPACE PROVIDED NEXT TO THE CORRESPONDING QUESTION

Record number.(for office use only) [ 0 | 0 | 5 | 4 ] 1-4

1. **AGE in years** [ | ] 5-6

2. **PRESENT WEIGHT in kilograms** [ | | ] 7-9

3. **PRESENT HEIGHT in centimetres** [ | | ] 10-12

4. **WHAT DO YOU CONSIDER YOUR IDEAL WEIGHT TO BE in kilograms?** [ | | ] 13-15

5. **HOW OFTEN DO YOU ENGAGE IN THE FOLLOWING PHYSICAL ACTIVITIES?**

| | OFTEN | SOMETIMES | RARELY | NEVER | |
|---|---|---|---|---|---|
| NETBALL | 4 | 3 | 2 | 1 | 16 |
| HOCKEY | 4 | 3 | 2 | 1 | 17 |
| GYM | 4 | 3 | 2 | 1 | 18 |
| ATHLETICS | 4 | 3 | 2 | 1 | 19 |
| CYCLING | 4 | 3 | 2 | 1 | 20 |
| RUNNING | 4 | 3 | 2 | 1 | 21 |
| SWIMMING | 4 | 3 | 2 | 1 | 22 |
| TENNIS | 4 | 3 | 2 | 1 | 23 |
| VOLLEYBALL | 4 | 3 | 2 | 1 | 24 |
| OTHER please specify | 4 | 3 | 2 | 1 | 25 |

6. **INDICATE YOUR INVOLVEMENT IN A ROMANTIC RELATIONSHIP WITH A MEMBER OF THE OPPOSITE SEX?**
**(CIRCLE THE NUMBER OPPOSITE THE ANSWER THAT BEST APPLIES TO YOU)** 26

| | |
|---|---|
| NEVER BEEN INVOLVED | 1 |
| INVOLVED FOR MORE THAN 6 MONTHS | 2 |
| INVOLVED FOR LESS THAN 6 MONTHS | 3 |
| PREVIOUSLY INVOLVED FOR MORE THAN 6 MONTHS, BUT NOT CURRENTLY INVOLVED | 4 |
| PREVIOUSLY INVOLVED FOR LESS THAN 6 MONTHS BUT NOT CURRENTLY INVOLVED | 5 |

7. **HOW MANY SIBLINGS (BROTHERS AND SISTERS) LIVE AT HOME WITH YOU?**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BROTHERS | 5 OR MORE | 4 | 3 | 2 | 1 | 0 | 27 |
| SISTERS | 5 OR MORE | 4 | 3 | 2 | 1 | 0 | 28 |

8. **AT WHAT AGE DID YOU GET YOUR FIRST MENSTRUAL CYCLE? In years** [ | ] 29-30

9. **WHICH OF THE FOLLOWING HAVE YOU USED OR ARE YOU USING TO CHANGE YOUR BODY SHAPE?**

| | OFTEN | SOMETIMES | RARELY | NEVER | |
|---|---|---|---|---|---|
| DIETING | 4 | 3 | 2 | 1 | 31 |
| EXERCISE | 4 | 3 | 2 | 1 | 32 |
| APPETITE SUPPRESSANTS | 4 | 3 | 2 | 1 | 33 |
| LAXATIVES | 4 | 3 | 2 | 1 | 34 |
| NOTHING | 4 | 3 | 2 | 1 | 35 |
| OTHER please specify | 4 | 3 | 2 | 1 | 36 |

This is a questionnaire and not a test. There are thus no correct or incorrect answers. All the questions are about things that everyone experiences. Some may feel that they always experience certain of these things while others may feel that they have never yet experienced them.
It is therefore necessary that you answer each question honestly according to your own feelings.

Example

How often.....

1) Do you use the telephone at home?

A ALWAYS
D OFTEN
S SOMETIMES
N RARELY/NEVER
Mark either A D S or N on your answer sheet

Give only one answer to each question
Answer all the questions
There is no time limit but work as quickly as possible since your initial reaction to each question is probably the most reliable.
Remember that you have to read the phrase "How often..........." before each question although it only appears at the top of each page.

## HOW OFTEN....................

1. Do you go out together as a family?
2. Do you try to spend your leisure time away from home?
3. Do members of your family make you unhappy?
4. Are you dissatisfied with conditions in your parent's home?
5. Are you satisfied with the way in which your family is composed?
6. Are you satisfied in the neighbourhood in which you live?
7. Do some of the habits of your family members irritate you?
8. Has there been discord in your family?
9. Do you feel that you have a happy home life?
10. Do you like doing something together with your family?
11. Do you discuss your problems with your parents?
12. Do you feel that your parents appreciate what you have been doing for them?
13. Do you feel that your parents are dissatisfied with you?
14. Do you feel that your parents are glad that you are their child?
15. Do you feel that your parents do not understand your needs?
16. Do you feel happy because you are more successful than others?
17. Do you feel satisfied with yourself?
18. Do you worry about something that has gone wrong for you?
19. Do you find fault with yourself?
20. Do you feel that you are bungling things?
21. Does it hurt when you are criticised
22. Would you like to be someone else?
23. Do you feel that there are only a few things you do well?
24. Do you feel happy because you do things better than others?
25. Do you feel that you posses good qualities?
26. Do you feel very bad when your bad qualities are revealed?
27. Do you feel that you posses more good than bad qualities?
28. Are you disappointed in yourself?
29. Do you feel that you compare very well with others?
30. Do you feel that you have a considerable number of talents?

1. A D S N
2. A D S N
3. A D S N
4. A D S N
5. A D S N
6. A D S N
7. A D S N
8. A D S N
9. A D S N
10. A D S N
11. A D S N
12. A D S N
13. A D S N
14. A D S N
15. A D S N
16. A D S N
17. A D S N
18. A D S N
19. A D S N
20. A D S N
21. A D S N
22. A D S N
23. A D S N
24. A D S N
25. A D S N
26. A D S N
27. A D S N
28. A D S N
29. A D S N
30. A D S N

THIS IS A SCALE THAT MEASURES YOUR ATTITUDE AND PERCEPTION TOWARDS YOUR BODY. THERE ARE NO RIGHT OR WRONG ANSWERS SO TRY VERY HARD TO BE COMPLETELY HONEST IN YOUR ANSWERS. RESULTS ARE COMPLETELY CONFIDENTIAL. READ EACH QUESTION AND PLACE AN X UNDER THE COLUMN THAT BEST APPLIES FOR YOU

| | **Always** | **Usually** | **Often** | **Sometimes** | **Rarely** | **Never** |
|---|---|---|---|---|---|---|
| I think my stomach is too big. | | | | | | |
| I think my thighs are too large. | | | | | | |
| I think my stomach is just the right size. | | | | | | |
| I feel satisfied with the shape of my body. | | | | | | |
| I like the shape of my buttocks. | | | | | | |
| I think my thighs are just the right size. | | | | | | |
| I think my buttocks are too large. | | | | | | |
| I think that my hips are just the right size. | | | | | | |
| I think that my hips are too big. | | | | | | |

January 2002

Dear Girls,

My name is Debbie and I am an intern psychologist. I am looking at how self esteem, relationships and schooling structure affects body image satisfaction among adolescent girls. I am asking you to help me with this study.

All you will have to do is complete a questionnaire. You will remain anonymous at all times. I would really appreciate your time and cooperation. Please fill in the attached consent form and return it to school by 31 January 2002.

Thank you for all your help.

Deborah Elliott

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I ------------------------------ do/do not volunteer to be part of this study.

Name ---------------------------
Signature ----------------------
Date ----------------------------

# APPENDIX E

Phone 082 929 0240
Fax 440 4002

January 2002

Dear Parents,

I am continuing a study investigating the effects of schooling structure on body image satisfaction among adolescent girls. In order for the data to be of use to the teachers, medical practitioners, and families, it is imperative that the private schooling structure is investigated.

Your daughter has been chosen by the school to take part in this study. Each participating girl will be asked to fill in a questionnaire. Participants will remain anonymous.

The results that are obtained from the study will be kept strictly confidential and will not be used by any other person for any other reason. Both you and your child are asked to provide consent to partake in this study. If either you or your child disagree to take part, she will not form part of the assessment group. Participation in this study is purely voluntary and your child may discontinue participation at any time.

Please complete the consent form and return it to the school by 31 January 2002. If you have any questions or comments feel free to contact me on (011) 440-4002. I thank you for your time and assistance.

Yours Truly,

Deborah Elliott

..........................................................................................................................................

I hereby do/do not give consent for my child ---------------- to take part in the proposed study.

Parent's Signature --------------------    Parent's Name -----------------------

W.V.S. BIBLIOTEEK