

CHAPTER 1

INTRODUCTION

1.1 Introduction

The psychological literature relating to self-esteem has an extensive past; indeed the idea of the self is an ancient phenomenon. During the first half of the twentieth century studies of the self disappeared as the prevailing style in psychology was behaviourism. Since the end of World War II however, the concept of self was once again brought into importance and by 1980 self-esteem as a topic of study had been highly popularised (Walz & Bleuer, 1992).

In modern times interest has principally fixed on how having a body weight that differs from what is seen as normal may affect the self, especially the way in which people evaluate themselves i.e. their self-esteem. The need to be thin is the worry that has the most damaging implications for girls' views of their bodies and of their total selves (Tiggerman, 2001). This worry often results in dieting which seems to have a further adverse effect on the psychological well being of adolescents as it is coupled with poor body image leading to diminished self-esteem (Daee, Robinson, Lawson, Turpin, Gregory, & Tobias, 2002). Women are likely to judge themselves overweight when by objective standards they are not (Furnham & Calnan, 1998 cited in Furnham, Badmin & Sneade, 2002). "Because being thin is important for attractiveness and attractiveness is important for how women view themselves, many women may work hard to achieve the thin ideal and feel bad about themselves when they cannot achieve it" (Fredrickson & Roberts, 1997 cited in Jambekar, Quinn & Crocker, 2001).

1.2 Aims

The purpose of this study is to examine the relationship of actual and ideal Body Mass Index (BMI) on global self-esteem in samples of female adolescents. The subject population will consist of 100 English-speaking, multi-racial, middle class, average academic achieving adolescent females between the ages of thirteen and eighteen who attend Benoni High School. The following variables will be investigated: measured BMI, ideal BMI, global self-esteem, perception of a weight problem, menarcheal status, age, physical exercise, weight control behaviour and race.

A significance level of .05 as the criterion for significance will be used.

Hypotheses

1- Hypothesis relating to: The association between global self-esteem and perceived weight problem.

-Global self-esteem scores of the female adolescents who do not perceive themselves as having a weight problem will be significantly higher than those who perceive themselves as having a weight problem.

2- Hypothesis relating to: The association between global self-esteem and actual BMI.

- Global self-esteem scores of the female adolescents whose actual BMI falls into the normal weight group will be significantly higher than those who fall into the underweight and over-weight groups.

3- Hypothesis relating to: The association between global self-esteem and ideal BMI.

- Global self-esteem scores of female adolescents whose ideal BMI falls into the normal weight group will be significantly higher than those who fall into the underweight group.

4- Hypothesis relating to: The association between global self-esteem and menarcheal status.

- Global self-esteem scores of female adolescents who are pre-menarcheal will be significantly higher than those who are post-menarcheal.

5- *Hypothesis relating to:* The association between global self-esteem and age of menarcheal onset.

Global self-esteem scores will be significantly higher for adolescent females whose age of menarcheal onset was average or late, than those whose age of menarcheal onset was early.

6- *Hypothesis relating to:* The association between global self-esteem and physical exercise.

- Global self-esteem scores will be significantly higher for female adolescents who participate in physical exercise than those who do not participate in physical exercise.

7- *Hypothesis relating to:* The association between global self-esteem and weight control behaviour.

- Global self-esteem scores will be significantly higher for female adolescents who do not participate in any weight loss or healthy weight loss behaviours than those who participate in moderate and unhealthy weight loss behaviour.

8- *Hypothesis relating to:* The association between race and global self-esteem of overweight adolescent females.

- Global self-esteem scores will be significantly higher for an over-weight female adolescent whose racial identity is Black than those whose racial identity is White.

1.3 Rationale

Motivation for the choice of research topic was a wish to add to, or expand on the body of knowledge in the area of self-esteem and weight in adolescent females, with a particular interest in the South African population. Results of past investigations of this topic have been conflicting and this study has the potential to provide clarity into the strength of the association between self-esteem and weight. Past research has shown however that it is not actual body weight alone that impacts on self-esteem but

various other variables e.g. ideal body weight (Kim & Kim, 2001), dieting behaviour (Dae, 2002), puberty (O'Dea & Abraham, 1999) and race (Russell, 2003) that have a further impact on the association. This study attempted to include as many of these variables as was possible so as to gain as full a picture as possible.

Physical appearance evaluations are inextricably related to global self-esteem- it is the number one predictor of self-esteem in all ages (Baumeister, 1993). Since many societies have been portrayed as being fanatical with the topic of weight this is a principally prominent aspect of body image for psychologists to investigate (Abell & Richards, 1996). Obesity in adolescents has increased by seventy-five percent over the past thirty years and many eating disorders appear to start soon after puberty (Wadden & Stunkard, 2002).

It is felt that rigorous research is needed on the role that self-esteem plays in these clinical disorders. Childhood obesity has important implications for long-term health, as 80% of obese adolescents become obese adults and the physical health risks linked with obesity are well recognized (Must, Jarques & Dallal, 1992 cited in Cameron, 1999). Results of this study may have implications for interventions for treatment and prevention of eating disorders as well as increasing self-esteem, health education and efforts to reduce discrimination of the overweight. Understanding the socio-environmental determinants that are shared by both low self-esteem and deviant BMI may help inform the prevention and treatment of these conditions.

CHAPTER 2

LITERATURE REVIEW

2.1. Definitions of Self-Esteem

It is important that a clear definition be made when using 'self-esteem' as a term in research as self-esteem as a concept is widely used today, both in ordinary language and academic psychology which may lead to conceptual confusion. The Dictionary of Psychology defines self-esteem as "the degree to which one values oneself" (Reber, 1985, pg. 678 cited in Hartgill, 2003). Kernis et al (2000) cited in De Reuck (2002) purports that self-esteem levels represent people's general or typical feelings of global self-worth and liking. Self-esteem is the affective evaluative dimension of self-perception; the value one attaches to one's personality, which affects virtually every facet of life.

The self-concept is the sum of an individual's mental and physical characteristics and his evaluation of them; what the self is like as an experiencing and functioning individual. Self-concept develops in three areas: Self-image (what the person is), ideal self (what the person would like to be) and self-esteem (how the person feels about the discrepancy between the two) (Baumeister, 1999) Self-concept is the umbrella term under which the other three develop. Rogers (1969) cited in Purkey (1970) asserts that the self is a social product that develops through the experience of interpersonal relation and is largely dependent on regard from others (Krasner, 2002). Self-esteem is an indicator of the quality of one's social relationships i.e. the degree to which the individual is being included versus excluded by others (Baumeister, 1999). In other words self-esteem exists not fundamentally to maintain one's inner sense of self but motivates people to behave in ways that sustain their connections with other people. However Baumeister (1989) cited in Doyle et al. (1999), alternatively sees low self-esteem individuals as cautious and uncertain rather than highly maladjusted. Compartmentalisation of the self into several selves that may disapprove of one another engenders a negative self-evaluation (Bedner & Peterson, 1995).

Regardless of the exact definition or label one chooses, self-esteem is generally thought to be the evaluative component of a broad representation of the self, the self-concept being the most inclusive construct (Robinson et al., 1991).

Self-esteem is an enduring notion of how one values oneself which remains constant at least for a period of years (Jacoby, 1994). There are lapses in continuity when serious life events, such as a loss of a loved one, will temporarily alter an individual's self-appraisal (Baumeister, 1993).

Two well-known historical scholars of the self are William James and Thomas Cooley. James is accredited for providing much of the groundwork for theory and research in the area of self-esteem. James held that it was the individual's cognitive evaluation of one's adequacy in domains deemed important that resulted in a global concept of self; Cooley on the other hand believed that the origins of self were social in nature and that there was a pertinent link between one's perception of the approval given by others and self-esteem (Baumeister, 1993). James and Cooley's formulations together provide a powerful explanation for self-esteem displayed in older children and adolescents (Harter, 1987 cited in Baumeister, 1993). Brown (1993) cited in Hoyle et al. (1999) sees global self-esteem as existing separately from specific self-evaluations. Hoyle et al. (1999) ascribe to a bi-directional relationship existing between global self-esteem and specific self-evaluations e.g. physical appearance.

According to Doyle et al (1999) individuals with high self-esteem engage in self-promoting activities, view themselves as both worthwhile and valuable favour a coping style over avoidance and are comfortable with their weaknesses. Until recently, low self-esteem was seen to be associated with maladaptive cognitive, emotional and behavioural patterns (Harter, 1983 cited in Doyle et al., 1999).

2.2. The Development of Self-Esteem

The literature is contradictory with regards to the primary agents responsible for the formation of the evaluative component of self. Psychoanalytic, Object Relations and Ego Psychology all agree that differentiation of the self is one of the earliest tasks of

the infant. Development and growth allow the infant an increasing ability to conceptualise that part of the self, available for conscious attention. A good fit between caretaker and infant is vital as it lays the foundation for a healthy feeling of self-worth (Jacoby, 1994). Self-esteem emerges at two years of age in relation to the mother. An internal need to act out independence and autonomy as well as increasing competence with language facilities results in an increase in self-esteem (Hornbrook, 1988). Children as young as eight years old make judgements of global self-esteem that are distinguished from evaluation of specific characteristics. During this latency period practical and dependable methods for the preservation of self-esteem are evolved (Hornbrook, 1988). A child's self-esteem develops in response to the rejection or acceptance they receive from significant others- individuals value themselves, as they are valued (Coopersmith, 1981). Self-esteem develops and progresses through stages of increasing complexity. Early stages of self-esteem develop exclusively from the reactions others have towards the child. This first impression will form the seed of the child's feelings of self-worth (Clemes et al., 1990). According to Erickson's stage theory, adolescence is one of the most critical periods in life in terms of developing self-esteem; it is here that one gains a firm sense of identity (Cardwell et al., 2001). Benson et al (1998) found that pre-adolescent females and adolescent females are most at risk for developing low self-esteem. The decline in self-esteem found in preadolescence may be attributed to the transition from Primary school to High school (Prester, 2003). During adolescence the need for social acceptance is essential for self-esteem development to occur. The school child is not self-determined and is likely to be accepting of the ideal images provided by significant people around him. Extraneous influences lose their potency to the extent to which the individual becomes self-determined and develops defences, which protect the self-esteem. Maslow purported the necessity of high self-esteem as a prerequisite for self-actualisation (Hornbrook, 1988).

In the past one's own worth was linked to social standing, however with the coming of the enlightenment and moral idealism, the notion of individual self-worth has been transformed (Jacoby, 1994). Although both are clearly influential: internal evaluations play a more important role in the development of self-esteem than do external- "How

one perceives one self will always be more influential than how one is perceived by others” (Bednar & Peterson, 1995 p 201).

2.3. Self-Esteem and the Physical-Self

“To lose confidence in one’s body is to lose confidence in one’s self” (Wadden & Stunkard, 2002 p 480). The idea of the physical-self is an important component of self-concept and has long figured significantly in theories about the self and identity (Miller & Downey, 1999). The original impressions of self-image are mainly concepts of body image as parents remark on the shape and size of their child. Even adolescence, according to Paxton et al 1991, cited in Castle & Phillips (2002) rely on their parents for information regarding body image. Wood et al (1996), Williams & Currie (2000) & Blyth et al. (1981) cited in Castle & Phillips (2002) note that children’s body satisfaction is positively correlated with their self-esteem. Festinger (1954) cited in Castle & Phillips (2002) believed that self-esteem is lowered by social comparisons, particularly when there is the realisation that the ideal will never be met. The body image of adolescents revolves around the idea that all people are supposed to conform to some idyllic norm (Wolman, 1998). Norton et al. (2000) cited in Castle & Phillips (2002) show that one in every one hundred thousand females are able to achieve Barbie’s proportions. Studies done by Harter (1990) cited in Baumeister (1993) reveal a person’s self-perception in physical appearance, is inextricably correlated to general levels of self-esteem. In fact a merging of self-worth with appearance and body shape may lead to eating disorders (Newton, 1995). In this way self-esteem is easily woven into body satisfaction (Castle & Phillips, 2002). A study of 50 000 English girls found that appearance was their chief concern (Lightstone, 1999 cited in Hartgill, 2003). Females appear particularly vulnerable to standards of thinness portrayed in the media (Heatherton & Baumeister, 1991 cited in Hartgill, 2003). Baumeister (1993) found that at the end of High School girls develop severely lowered perceptions of physical magnetism (Baumeister, 1993). Lightstone (1999) cited in Hartgill (2003) states that ninety-eight percent of teenage girls are worried about body shape and eighty-six percent are dieting. Physical attributes have a marked consequence upon self-esteem, the adolescents self-concept is powerfully influenced by body-weight and perceived body-weight (Prester, 2003).

2.4. Effects of Racial Identity

It has been proposed that body-image-related concerns be well thought-out in terms of their cultural framework (Abood & Chandler, 1997 cited in Russell & Cox, 2003). Despite the fact that the path model derived from self-presentational theory (Leary & Kowlaski, 1995 cited in Russell & Cox, 2003) indicates that people with higher BMI would be expected to have greater social physique anxiety, African-American females have significantly lower social physique anxiety, body dissatisfaction, and higher self-esteem compared to Caucasian females. Thompson et al (1997) cited in Castle & Phillips (2002) found that African American girls idealised a heavier figure than did Caucasian girls. Some studies further show that non-Caucasians tend to have a more positive body image than Caucasians (Altabe, 1978 cited in Castle & Phillips, 2002). Thus ethnicity and race have been shown to be causative factors affecting body image (Abood & Chandler, 1997 cited in Russell & Cox, 2003). Ritenbaugh (1995) cited in Russell & Cox (2003) found African Americans showed more plasticity in ideal body images than Caucasian women, and more often report 'looking good' associated to public image and character, than weight. Rosenberg (1979) studying global self-esteem in minority groups found value standards of reference for social evaluation are typically based on their own minority group values not those of the majority (Russell & Cox, 2003). Each individual has a social body which is acquired through socialisation has been agreed upon within their specific culture. Some cultures are more flexible than others in their definition of an acceptable social body (Castle & Phillips, 2002).

Since bodily appearance is such a vital domain in Western culture and because meeting the requirements of the ideal of a thin, fit body is a central element of physical appearance, self-perceptions about being heavyweight and body satisfaction should be powerfully linked with global self-esteem (Miller & Downey, 1999). Steele (1997) suggested one way of coping with a devalued identity is to separate and not to identify with ideals of a prevailing culture, including perhaps the value Caucasian Americans place on thinness. Dis-identification protects self-esteem by waning the importance of a domain on which a group may not excel (Steele, 1997). In some cultures increased body weight can present an advantage, primarily in places where

food is not as plentiful as it is in the USA. Cultural values consequently play a crucial role in how stigmatising being overweight is, however it may be impractical to entirely misidentify with an important cultural value. Frederickson & Roberts (1997) cited in Jambekar (2001) found no differences between European and African Americans body dissatisfaction, self-esteem or discrepancies between actual and ideal weight when all participants were upper or middle class.

2.5. Self-Esteem and Body Weight

Physical appearance is the most obvious, immediately available part of the self. Body weight, particularly overweight, is a consistent predictor of lowered self-esteem and an important aspect of social acceptance (Strauss, 2000, French, Story & Perry, 1995 cited in Prester, 2003). Society conditions fat people that they are not entitled to self-esteem unless they are thin (Wadden & Stunkard, 2002). A variety of theoretical perspectives join and suggest that heavyweight people should have low self-esteem but data has been contradictory and reviewers disagree about the overall trend. Graziano & Framer, 1983, found no relation between weight and self-esteem, whereas Friedman & Brownell (1995) indicated heavyweight to be associated with relatively low self-esteem. Strauss (2000) cited in Goodman & Whitiker (2002) report that obesity may lead to low self-esteem among adolescents especially white females. Sheslow, Hassink, Wallace and Delancey (1993) cited in Miller & Downey (1999) found that obesity in adolescence might cause psychosocial problems such as lowered self-esteem. As others devalue them, heavyweight people may undervalue themselves, this is especially probable because people normally regard body weight as something that can be controlled through diet and exercise (Crandell & Biernat, 1990 cited in Miller & Downey, 1999). Overweight individuals are expected to have low self-esteem and so they do (Wadden & Stunkard, 2002). Some people may be heavy weight but not realise it or as Tiggermann & Rothblum (1988) cited in Miller & Downey (1999) found, woman and girls may experience themselves as heavy weight when in fact they are not. In studies, woman who report a greater desire for a thinner body have lower self-esteem (Abell & Richards, 1996). Low Self-esteem is pervasive in clients with anorexia and bulimia (Baird & Sights, 1986). Being thin is important

for attractiveness and attractiveness is important for how a woman views herself (Pliner, Chaiken & Flett, 1990 cited in Kim & Kim, 2001).

Beliefs about whether one is overweight are more powerfully related to self-esteem than tangible weight. Results show that a perception of a weight difficulty, not actual Body mass Index (BMI), contributed significantly to the prediction of level of self-esteem (Kim & Kim, 2001). A distorted perception of one's body is among the determinants of disturbances in self-esteem. An emphasis on thinness is linked to body dissatisfaction, disordered eating and global self-esteem (Tiggermann, 2001). Field, Wolf & Hertzog (1993), cited in Cameron (1999) found that although girls are preoccupied with appearance in adolescence, this occurs independent of weight. Slenderness is the worry that has the most damaging consequences for girls' views of their bodies and of their total selves (Mendelson, 2001). Roughly sixteen percent of adolescents are mildly overweight while nine percent of adolescents are severely overweight. Eighty-three percent of an adolescent girl sample sought to loose weight while sixty-two percent of them were within the normal range for body weight (Storz & Greene 1983 cited in Daee et al., 2002). In a study in Taiwanese female college students only sixteen percent were in fact overweight, yet fifty-one percent perceived themselves as such (Wong, 1999 cited in Daee et al., 2002). Blaming an outside cause for the increased weight rather than themselves allows children to diminish the importance of domains in which they are less competent (Cameron, 1999). This may go some way in explaining the variations in the results of studies in this area of research (Gardner et al. 1999).

2.6. Self-Esteem and Gender

“Right from the beginning girls and boys tend to march to different drummers” (Friedman, 2000 p 5). Girls are praised for being nurturing, co-operative and most especially pretty. Friedman states that girls develop their sense of self in the context of their relationships thereby developing a ‘self-in-relation’ as apposed to a ‘self-in-separation’. “As girls look outside for self-definition, many find it in the numbers on the scale” (Friedman, 2000 p35). Research on the relationship between body dissatisfaction and self-esteem in both genders has produced differing results,

although a relationship between body dissatisfaction and self-esteem has been documented for both (Furnham & Badman, 2002). Both males and females report a positive association between overall body image and self-esteem (Abell & Richards, 1996). Girls have poorer body image and are more dissatisfied with their weight than are boys (O'Dea et al., 1996). In studies of Australian (Marsh, 1989) and American (Harter, 1988) adolescents, gender differences in several aspects of self-concept were found. (O'Dea et al., 1996). Furnham, Badman & Sneade (2002) found only girls associated body dissatisfaction with the notion of self-esteem and male students in general have superior self-esteem than do female students. Males are rewarded and praised for performance in school and sports whereas females are rewarded for appearance. They are treated as if their identity is equivalent to their body shape. This de-emphasis of other aspects of their personality may lead to a skewed development and problematic conduct with food (Newton, 1995). Whereas males during adolescence develop more muscles; females develop fatty deposits in their breasts, hips, buttocks and thighs (Newton, 1995), Girls' self-esteem drops further than does boys during adolescence and although self-esteem stabilises during late adolescence when a coherent self is formed-girls self-esteem never catches up to that of a boys (Friedman, 2000).

2.7. Self-Esteem and Chronological Age

People have a tendency to gain weight as they age; this suggests that heavyweight is more stigmatising for children and adolescents than for adults. Faust (1982) and Freedman (1986) have written about how the longing for a very thin pre-pubertal look can affect the self-esteem of women (Odea & Abrahams, 1999). Adolescence is a time for establishing one's own identity, with concomitant increase in self-awareness, self-consciousness, fixation with image, and with concern of social acceptance (Harter, 1999, Fabiant & Thompson, 1989 cited in Prester, 2003). Moore (1988) found that dissatisfaction with body weight and shape was highest among females aged 12 through 23 (Kim & Kim, 2001). Pubertal status was found to be significant in the adolescent's self-concept, which was highest in post pubertal males and lowest in postmenarcheal females. Thus puberty has the reverse effects on self-esteem of

male and female students (O Dea & Abraham, 1999). Contrarily to this Tiggerman (2001) showed global self-worth subscale scores revealed that males and females of differing pubertal status and body weight did not differ significantly. Early maturing girls are usually exposed to socially disadvantageous situations but the effect there of usually disappears and they are able to make adequate social adjustment (Wolman, 1998). Williams & Currie (2000) cited in Castle & Phillips (2002) found that girls who entered puberty earlier reported lower self-esteem. Girls who develop early don't have the cognitive capacity to understand the physical changes that occur which leads to feelings of isolation and deviance (Rosenblum & Lewis, 1999 cited in Castle & Phillips, 2002). Most adolescents develop an increasingly defined ideal self that they compare to the actual self. Wolman (2000) claims that it is the discrepancy between the biological and psychological development in adolescents that is responsible for many of the problems that emerge at this time. Appearance is very important to all adolescents who are overly self-conscious and self-critical (Newton, 1995). Adolescence involves the move from dependence to autonomy (Newton, 1995). The central question of adolescence involves identity (Erikson, 1950 cited in Castle & Phillips, 2002). During puberty adolescents gain 20% of their adult height and 50% of their adult weight. There is an increase in skeletal mass and organs double in size. Growth patterns are quite irregular with peripherals such as the hands, feet and nose growing first. This may lead to an awkward appearance and difficulty in being coordinated (Newton, 1995) Weight gain slows down in early childhood, is relatively constant in middle childhood, accelerates in early adolescence and declines in late adolescence (Wolman, 1998). Until girls begin puberty they generally feel good about themselves and their abilities (Friedman, 2000). Adolescence involves much self-scrutiny regarding the changes the body undergoes and that is the reason why most body eating disorders begin during this time (Thompson, 1992 cited in Castle & Phillips, 2002). Brodie et al. (1994) cited in Castle & Phillips (2002) report that there is no significant difference between pre and post adolescence self-esteem. That in fact body image and self-concept may be firmly developed prior to puberty. Children are exposed to cultural standards of beauty long before they reach puberty and thus they have incorporated societal messages of body ideals.

2.8. Self-Esteem and Weight Loss Behaviour

Greater global self-esteem and physical self-esteem is found in adolescent females who participate in sports or physical exercise (Salakun, 2000 cited in Prester, 2003 & Friedman, 2000). Conversely involvement in weight management programmes can put children at risk for lower self-esteem. Adolescents with a distorted perception of body weight may set impracticable goals or choose detrimental behaviours to control their weight (Felts, Tavasso, Chenier, & Dunn, 1992 cited in Kim & Kim, 2001). Sensible dieting has been found to be related to negative self-esteem in some adolescence (Dae et al., 2002). Approximately sixty percent of adolescent's females have dieted at some point in their lives (Dae et al., 2002), as a way of dealing with the changes in their bodies (Friedman, 2000) and this may have a significant impact on their psychological well-being. Female adolescents diet as a means of improving their self-worth (Newton, 1995).

2.9 Summary

Self-esteem as a topic of psychological research has been widely studied in the past. A variety of definitions are offered which are incongruous at times and cause some confusion, however despite this, there is agreement that self-esteem is broadly speaking the evaluative component of the self (Robinson et al., 1991). Further there are a variety of theoretical perspectives with regards to the development of self-esteem. Its association with the physical self in general and body weight specifically has become ever more prevalent with the move in society towards a very thin role model.

Results of studies exploring the association of self-esteem and weight have been inconsistent. The majority of explorations show that it is a perception of a weight problem that is more powerfully related to self-esteem than actual body weight. Although research has explored this relationship in both genders, it appears that the association is stronger with females (Richards et al., 1990 cited in Abell & Richards, 1996). From very early on, appearance is important and is a part of self-evaluation however the central question of adolescence is identity and it is during this time that

humans gain the large majority of there adult weight and thus it appear that the impact weight has on self-esteem is at its highest during this stage of development (Newton, 1995). It follows that large percentages of adolescents, even those of normal weight, diet at some time and thus it is not surprising that the majority of eating disorders begin in adolescence.

CHAPTER 3

METHODOLOGY

3.1 Sample

Sampling procedure is a way in which you choose which members of the population will be included in the study (Arkava & Lane, 1983 cited in Hofmeyer, 2004). Sampling was carried out due to the fact that the whole population (universe) could not be realistically investigated, and therefore only a sample of the population is researched in order to obtain the necessary information (Collins, 1987 cited in Hofmeyer, 2004). Systematic Sampling was employed for the purposes of this study in the following way:

A possible *sample* of 200 adolescent females was drawn from each of the five grades at Benoni High School. The study was conducted at this school for reasons of accessibility and practicality. It is a co-ed ex model C school of 1300 learners. Learners pay school fees of R6500 per year. A list of average academic female learners was obtained from the school, based on their first term school performance. Every fifth name on the list was selected and a detailed letter explaining the nature of the study as well as a request for consent for participation in the study was sent home to parents via their daughters (Appendix A). Of the 200 learners given subject information and consent forms the final sample consisted of 90 learners who returned consent forms giving permission to participate in the study. Data was collected over two days in August 2004.

Participants ranged in age from 13 years 3 months –18 years 7 months. The following is a breakdown of the numbers of participants per grade: Grade 8=17; Grade 9=22; Grade 10=23; Grade 11=20 and Grade 12=8.

3.2 Measures

•*Body Mass Index (BMI)* was calculated based on measured weight and height (weight in kilograms divided by the square of height in meters) to determine which females are underweight, normal weight, and overweight. In order to ensure validity of results BMI was measured even though research shows that self-reported weight and height are highly correlated with measured weight and height and that people do not claim the best possible weight they claim the best credible weight (Stevens, Keil, Waid & Gazes, 1990 cited in Kim & Kim, 2001). Participants were asked about their ideal weight and height so as to calculate ideal BMI. They were divided into three groups according to BMI: less than 18 (underweight), 18-24.99 (normal weight), and 25 or above (overweight). Weight discrepancy scores were their actual BMI minus their ideal BMI.

•*Perception of a weight problem:* Self-perception of having a weight problem was evaluated by a single question: “Do you see yourself as having a weight problem?” (Stotland & Zuroff, 1990 cited in Kim & Kim, 2001). Responses were selected from four statements ranging from *not at all* to *serious problem*.

•*Age:* Three age groups were used, 12-14years (early adolescence), 14-16 years (mid adolescence) and 16-18+ years (late adolescence) (Newton, 1995).

•*Socio-economic status:* based on the cost of the school fees it was assumed that the sample was one of middle class socio-economic status but in order to double check that the sample were in fact from middle-class homes the Hall-Jones Scale of occupational prestige was used to group SES.

•*Global self-esteem:* Self-esteem was measured using the Rosenberg Self-esteem Scale (SES) (Rosenberg, 1965 cited in Kim & Kim, 2001) that consists of 5 positively worded items and 5 negatively worded items. Each item is rated on a 5-point scale, and responses are summed to produce a total self-esteem score (negatively worded items are reversed scored before summing). Scores range from 10 to 50, with higher scores indicating more positive self-esteem. Rosenberg (1965) cited in Kim & Kim

(2001) reported a reliability coefficient of .92 among adolescents. The Rosenberg Self-esteem Scale was chosen for several reasons. Unlike other widely used self-esteem measures such as the Tennessee Self-Concept Scale, the Rosenberg Self-esteem Scale does not contain body-esteem subscales or items that relate to body shape satisfaction. The Rosenberg Self-esteem Scale thus allows for a more appropriate comparison of self-esteem and body weight as separate constructs (Abell & Richards, 1996). Given the ultimately subjective nature of self-esteem, the direct self-report route is the most pragmatic. However high self-esteem is socially desirable and so scores may be inflated which is a limitation of the study. In order to gauge the validity of the individual reports and to get a look at overt behavioural indices of esteem to, homeroom teachers of each participant were asked to assign each of the learners in their homeroom class a score of global feelings of self-worth or self-acceptance ranging from 10 to 50, with higher scores indicating more positive self-esteem. There are undoubtedly momentary, situational limited shifts in self-esteem, but these are not the concern of the present study.

- The *exercise* variable in this study is participation in physical exercise, thus participants were asked in the Information sheet to indicate whether they regularly engage in aerobic exercise. Further to specify what type of exercise they engage in as well as how often and how long each exercise session lasts.

- Pubertal status* was defined by self-reported menarcheal status as menarche occurs midway through pubertal development (Newton, 1995). Females were categorised as postmenarcheal if menstruation has commenced and premenarcheal if menstruation has not commenced. There is widespread variation in the age of onset of menstruation. Ninety-five percent of black and white American girls begin menstruation between the ages of 10 and 16 years, over fifty percent begin between the ages of 12 and 14 years (Wolman, 1998). Many studies cite 12 years 8 months as the average age for menstruation to begin (Newton, 1995). African American girls have been found to have a later onset of menarche than their Caucasian counterparts (Newton, 1995). It should be noted that nutritional deprivation, certain illnesses and extreme emotional stress can cause delayed onset of pubertal growth. For the purposes of this study onset between the ages of 12 and 14 years will be considered

average and anything before 12 years *early onset* and later than 14 years *late onset* of menarche.

- *Weight control behaviour* was self-reported. Females were asked in the Information sheet to indicate whether they engage in any of the following weight control behaviour: a. use of diet pills, b. laxative or diuretics; c. decreased calorie intake; d. skipping meals; e. participation in weight loss groups; f. fasting; g. vomiting; h. exercise and i. fat burners. Weight loss methods were grouped into the following: 1. *Healthy weight loss methods (c & h)*, 2. *Moderate weight loss methods (d & e)* and 3. *Dangerous weight loss methods (a, b, f, g & i)* (Robinson et al., 2002).

- *Racial* categories were based on self-identified membership to one of the following groups: Black, Coloured, Indian, White or other. This was part of the required demographic information and it was specified that these categories were being used solely for research purposes and were not meant to be offensive.

3.3 Procedure

As the study was being carried out in a host organisation access was granted to the researcher and support of the study was acquired (Appendix E). Prior to data collection the purpose of the study was described along with the letters of consent that were sent to parents. Written assent was attained from participants prior to their participation in the study. Anonymity and confidentiality was assured as the researcher employed a coding system in order to protect the identity of respondents with the list of names and corresponding subjects' numbers being only accessible to the principal investigator. Subjects were called from their classrooms in groups of five, following which they were weighed and measured individually in absolute privacy in the school foyer. Hereafter, Information sheets were completed at desks spaced generously apart. Participants were asked to put their responses in a sealed envelope and in a box made available to them at the rear of the hall. The entire process took less than a half an hour. Participants were informed that should the procedure

inadvertently awaken any negative feelings participants could contact The Johannesburg Parent and Child Counselling Centre for necessary support.

3.4 Research Design

The research employed a quantitative design, using descriptive and inferential statistics to analyse responses to the Information sheet and Rosenberg Self-esteem Scale (SES). In addition, a qualitative paradigm involving content analysis was used.

The extraneous variables which were controlled for by being held constant were:

- (a) Age-which was held constant by selecting only subjects who were between the ages of 13 and 19 years. In addition an equal number of possible subjects from each Grade were given the opportunity to participate in the study. “Female adolescents are more preoccupied with physique and appearance than are those in other age groups”. (Bruch, 1981 cited in Kim & Kim, 2001 p 315).
- (b) Socio-economic status- which was held constant by limiting the study to an ex Model C school which charges fees seen to be affordable to middle-class families. Garner et al. (1983) and Duncan et al. (1985) cited in Abel & Richards (1996) found that females from upper class families were more preoccupied with thinness than are females from families of lower socio-economic status.
- (c) Sex- which was held constant by selecting only female subjects. Furnham, Badmin & Sneade (2002) found only girls associated body dissatisfaction with the notion of self-esteem. Richards et al. (1990) cited in Abel & Richards (1996) found the relationship between body shape and self-esteem to be stronger for females than males.
- (d) Academic achievement-which was held constant by only selecting subjects who fell in the average achieving group in each grade. Filozof, Albetin, Jones, Steme, Myersand & McDermott (1998) cited in Desai (2003) have shown that academic performance influences self-esteem.

The extraneous variables which were controlled for by building them into the design were:

- (a) Whether the participants have recently experienced a negative event in their life. Self-esteem can be briefly altered by the impact of a serious life event (Baumeister, 1993).
- (b) Whom they see as being responsible for their weight. Cameron (1999) found that blaming an outside cause for increased weight rather than oneself lessens the impact on self-esteem.

TYPES OF DATA YIELDED

- a) Biographical data were yielded including the grade, age, race and socio-economic status of each participant.
- b) Quantitative data, in the form of the *Rosenburg Self-Esteem Scale* (SES) scores and BMI scores were obtained.
- c) From the Information Sheet, both quantitative and qualitative data were gathered:

Quantitative data included: perception of a weight problem, weight loss methods and participation in physical activity.

Qualitative data/descriptive data were obtained from open-ended questions and included some of the personal experiences of the sample group. These questions were as follows:

- *In your opinion, does how much someone weighs affect their self-esteem? Give reasons for your answer.*
- *Do you feel that your weight influences how you feel about yourself? Give reasons for your answer.*

METHODS OF DATA ANALYSIS AND THE WAY IN WHICH THE DATA WERE USED TO TEST THE HYPOTHESES

The biographical information from the Information sheet was compiled for each participant, using the information she provided on her age, grade, race and parents' occupations. This was used for describing the sample of the study.

Descriptive statistics were used to describe the participants' BMI scores (both actual and ideal), pubertal status (menarcheal status), self-esteem scores (own and teachers' scores), biographical information, exercise routines, weight control behaviour and whether they have experienced a profound negative event in their life recently.

Statistical Analysis System (SAS) version 8 was utilized to conduct statistical analyses. The Kolmogorov-Smirnov test of goodness of fit was conducted to determine the distribution of the Self-Esteem scores as perceived by learners and teachers. Although a normal distribution was yielded, parametric tests could not be employed due to small number ($n = 30$) of the sub-variables.

Statistical tests employed were the Kruskal Wallis Test (which is a test used to determine the existence of significant difference between groups, and is conducted when parametric assumptions were not met) and the Analysis of Covariance (which is used to control the effects of the variable related to the variable under investigation).

CHAPTER 4

RESULTS

The results chapter has been divided into two sections. The first part presents the quantitative results. The second part of the results section is a brief qualitative analysis of the themes identified in the open-ended questions that were asked.

3.1 QUANTITATIVE RESULTS

3.1.1 Descriptive Statistics

Descriptive statistics were conducted to summarise the information from the Information Sheet and SES of the sample (n= 89).

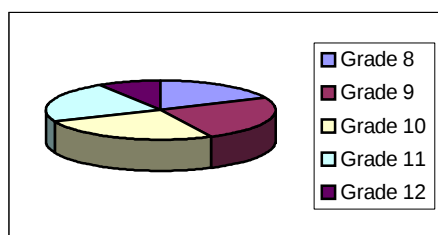
The following information is presented by giving the count (n) and the converted percentage (%) of participants' responses.

3.1.1.1 GRADE

Table 3.1 School Grades of Participants

<i>Grade</i>	<i>n</i>	<i>%</i>
Grade 8	16	19%
Grade 9	22	24%
Grade 10	23	26%
Grade 11	20	22%
Grade 12	8	9%

Figure 3.1 Pie-graph of School Grades of Participants



3.1.1.2 AGE

The youngest participant was 13 years 3 months and the oldest was 18 years 7 months with a mean of 15 years 9 months and a range of 5 years 4 months.

Table 3.2 Age of Participants

<i>Stage of Adolescence</i>	<i>n</i>	<i>%</i>
Early Adolescence	10	11%
Mid Adolescence	41	46%
Late Adolescence	39	43%

3.1.1.3 RACE

Race groups (Whites and Indians) were collapsed into a Non-African group because of the small number of participants within the Indian race group. Further, due to there being only one participant within the coloured race group, she was not included in the analysis for statistical reasons.

Table 3.3 Race and Self-esteem

		Learner Self-Esteem			Teacher Self-Esteem			
Variable	Sub-variables	N	%	Mean	SD	N	Mean	SD
Race	Non-African	69	78	35.31	5.6	69	35.53	6.5
	African	20	22	38.25	6.7	20	36.30	7.6

3.1.1.4 RECENT NEGATIVE LIFE INCIDENT

Changes in self-esteem occur in response to serious life events (Baumeister, 1993). Therefore it was deemed important to control for the impact this would bear on the results of the present study.

Have you had a serious negative incident in your life recently?

Thirty-six participants, that is, 40% responded YES while fifty-three participants, that is, 60% responded NO.

3.1.1.5 PUBERTAL STATUS

Eighty-seven participants, that is, 97% responded that they are postmenarcheal and two participants, that is, 3% responded that they are premenarcheal.

The earliest onset was 4 years 4 months and the latest was 17 years with a mean of 12 years 3 months and a range of 13.

Table 3.4 Age of onset of Menstruation and Self-esteem

		Learner Self-Esteem			Teacher Self-Esteem		
Variable	Sub-variables	N	Mean	SD	N	Mean	SD
Menstrual Age	Early	12	36.66	5.4	12	35.83	7.0
	Average	68	35.67	5.8	68	35.94	7.0
	Late	7	37.14	8.1	7	33.85	4.9

3.1.1.6 BODY MASS INDEX (BMI)

Table 3.5 Actual and Ideal BMI and Self-esteem

		Learner Self-Esteem				Teacher Self-Esteem		
Variable	Sub-variables	N	%	Mean	SD	N	Mean	SD
BMI-A	Underweight	22	24	35.40	5.7	22	32.77	6.1
	Normal	55	62	36.34	5.8	55	36.65	6.2
	Overweight	12	14	35.33	7.1	12	36.75	9.1
BMI-I	Underweight	54	62	35.62	5.8	54	35.38	7.1
	Normal	35	38	36.51	6.2	35	36.20	6.4
	Overweight							

The lowest Actual BMI score was 15.2 (Underweight category) and the highest was 28 with a mean of 20.69 (Normal weight category)

The lowest Ideal BMI score was 12.3 (Underweight category) and the highest was 24 (normal weight category) with a mean of 17.7 (Underweight category) and a range of 11.7.

3.1.1.7 SELF-ESTEEM SCORES (SES)

Table 3.6 SES (Self-esteem Scores)

	<i>Mean</i>	<i>Highest</i>	<i>Lowest</i>	<i>Range</i>
<i>Participants' Ratings</i>	35.9	50	24	26
<i>Teachers' Ratings</i>	35.8	50	15	35

3.1.1.8 EXERCISE

Table 3.7 Exercise and Self-esteem

		Learner Self-Esteem			Teacher Self-Esteem			
Variable	Sub-variables	N	%	Mean	SD	N	Mean	SD
Exercise	Yes	62	69	36.79	5.3	62	36.01	6.5
	No	27	31	34.11	6.9	27	35.00	7.3

The mean number of exercise sessions per week was 3 which met the minimum frequency guideline as proposed by the American College of Sports Medicine (ACSM, 1998) and the mean length in minutes per session was 1 hour 12 minutes.

3.1.1.9 WEIGHT CONTROL BEHAVIOUR

Table 3.8 Weight control behaviour

		Learner Self-Esteem			Teacher Self-Esteem			
Variable	Sub-variables	N	%	Mean	SD	N	Mean	SD
Dieting	No diet	20	22	36.55	5.8	20	35.30	6.3
	Healthy diet	39	44	36.71	5.9	39	35.69	6.8
	Moderate diet	17	19	34.05	5.6	17	35.11	5.5
	Dangerous	13	15	35.38	6.8	13	37.15	9.2

3.1.1.10 PERCEPTION OF A WEIGHT PROBLEM

Note: Due to the small number of subjects in the ‘serious problem’ group, the four groups were collapsed into three for statistical analysis.

Table 3.9 Perception of weight problem

		Learner Self-Esteem			Teacher Self-Esteem			
Variable	Sub-variables	N	%	Mean	SD	N	Mean	SD
Weight Problem	Not at all	27	30	38.85	4.3	27	36.29	5.1
	Small problem	36	40	35.75	6.3	36	35.77	6.8
	Average problem	26	30	33.30	5.8	26	35.00	8.2

3.1.2 Tests of Significance

Statistical tests employed are the Kruskal Wallis Test (which is a test used to determine the existence of significant difference between groups, and is conducted when parametric assumptions were not met) and the Analysis of Covariance (which is used to control the effects of the variable related to the variable under investigation).

The assumptions for a Kruskal-Wallis test was met in that the subjects were randomly chosen and variables were theoretically continuous and ordinal in kind (McCall, 1970, pg. 302). It tests the hypothesis that all samples were taken from similar populations and is especially sensitive to differences in central tendency (Howell, 2002).

Analysis of covariance was conducted where significant differences were yielded. The purpose of the simple analysis of variance is to determine the probability that the means of several groups of scores deviate from one another merely by sampling error (McCall, 1970 pg 224).

3.1.2.1 PERCEIVED WEIGHT PROBLEM

Table 3.10 Analysis of Variance: Perceived Weight Problem and Self-esteem

		Learner Self-Esteem		Teacher Self-Esteem	
Variable		DF	Sig.	DF	Sig.
Weight Problem	Not at all	2	10.81**	2	NS
	Small problem				
	Average problem				

* $p < 0.05$

** $p < 0.01$

NS = Not Significant

Hypothesis one supported

Statistically significant difference between the learners with no weight problem and those with average weight problem as a function of self-esteem was found in favour of the not at all group. On the teacher self-esteem, a non-significant difference was found between the three groups.

3.1.2.2 BODY MASS INDEX

Table 3.11 Analysis of Variance: Actual and Ideal BMI and Self-esteem

		Learner Self-Esteem		Teacher Self-Esteem	
Variable		DF	Sig.	DF	Sig.
BMI-A	Underweight	2	NS	2	5.80*
	Normal				
	Overweight				
BMI-I	Underweight	1	NS	1	NS
	Normal				
	Overweight				

* $p < 0.05$

** $p < 0.01$

NS = Not Significant

Hypothesis two supported but not three

No statistically significant difference between the Actual BMI groups (Underweight, Normal and Over-weight) was found as a function of learner self-esteem. However, statistically significant difference between the groups as perceived by teachers was yielded in favour of the Normal and Over-weight groups. This implies that no significant difference was observed between the Normal and Over-weight groups. On both the actual and ideal self-esteem, no statistically significant difference between the Ideal BMI groups was demonstrated.

3.1.2.3 ONSET AGE OF MENSTRUATION

Table 3.12 Analysis of Variance: Onset age of Menstruation and Self-esteem

		Learner Self-Esteem		Teacher Self-Esteem	
Variable		DF	Sig.	DF	Sig.
Menstrual Age	Early	2	NS	2	NS
	Average				
	Late				

* $p < 0.05$

** $p < 0.01$

NS = Not Significant

Hypotheses four and five not supported

On both the dependent variables, i.e. learner self-esteem and teacher self-esteem, non-significant results were yielded.

3.1.2.3 EXERCISE

Table 3.13 Analysis of Variance: Participation in exercise and Self-esteem

		Learner Self-Esteem		Teacher Self-Esteem	
Variable		DF	Sig.	DF	Sig.
Exercise	Yes	1	NS	1	NS
	No				

* $p < 0.05$

** $p < 0.01$

NS = Not Significant

Hypothesis six not supported

No statistically significant difference between participating and non-participating groups in exercise as a function of learner self-esteem and teacher self-esteem.

3.1.2.4 WEIGHT CONTROL BEHAVIOUR

Table 3.14 Analysis of Variance: Weight Control Behaviour and Self-esteem

		Learner Self-Esteem		Teacher Self-Esteem	
Variable		DF	Sig.	DF	Sig.
Dieting	No diet	3	NS	3	NS
	Healthy diet				
	Moderate diet				
	Dangerous				

* $p < 0.05$

** $p < 0.01$

NS = Not Significant

Hypothesis seven not supported

No statistically significant difference between the groups (no diet, healthy, moderate and dangerous diet) was demonstrated on both the actual self-esteem and self-esteem as perceived by teachers.

3.1.2.5 RACE

Table 3.15 Analysis of Variance: Race and Self-esteem

		Learner Self-Esteem		Teacher Self-Esteem	
Variable		DF	Sig.	DF	Sig.
Race	Non-African	1	4.99*	1	NS
	African				

* $p < 0.05$

** $p < 0.01$

NS = Not Significant

Hypothesis nine supported

Statistically significant difference between the African and Non-African learners was found as a function of self-esteem in favour of the Africans. In contrast, no significant difference between these groups on self-esteem as perceived by teachers was found.

3.2 QUALITATIVE RESULTS

In addition to the quantitative results, qualitative data based on the personal responses of participants to two open-ended questions included in the Information Sheet was collected. It was felt that a thematic analysis of these answers could expand on the understanding of the quantitative results and thus provide further insight into the influence that body weight has on self-esteem. It afforded the researcher the opportunity to establish not only whether a relationship between body weight and self-esteem exists, but also the reasons why this relationship does or does not exist.

Answers were divided up into two groups: those who answered 'yes', i.e. participants who felt that a relationship between self-esteem and weight does exist; and those who answered 'no', i.e. participants who felt that there is no relationship between self-esteem and weight. Following this answers were analysed for prominent or frequently recurring answers. Similar and related answers were then grouped and labelled as common themes.

3.2.1 *In your opinion, does how much someone weighs affect their self-esteem? Give reasons for your answer.*

3.2.1.1 'yes': THEMES

- *Depressed Mood*- Many of the participants felt that being overweight caused people to feel negative, hopeless, worthless and possibly even suicidal. "My friend once tried to commit suicide because she thought she was fat- now she's bulimic".

- *Self-effacing Disposition*- A large majority of adolescent girls believe that being overweight causes a loss of self-confidence which leads to self-doubt, feeling 'less than others' and unattractive. "If I were fat I don't think I would cope. Sometimes I have nightmares about being big".

- *Social-Withdrawal*- Being overweight causes people to feel very self-conscious, reserved and withdrawn.

- *Socially Ridiculed and Judged*- People who are overweight are laughed at, teased, unaccepted, unpopular and therefore not befriended. They are further seen as being unable to wear certain clothes, as they do not conform to the 'perfect body' portrayed by the media.

3.2.1.2 'no': THEMES

- *Availability of Social Support*

- *Individual Personality Traits and Values*- people with 'strong' personalities will be unaffected, as will those who do not see weight as influencing who they or others are.

- *Locus of Control*- some people blame their genes or others for their weight

- *Reasons for being overweight*- some people are just 'big-boned'.

3.2.2 *Do you feel that your weight influences how you feel about yourself? Give reasons for your answer.*

3.2.2.1 'yes': THEMES

- *Depressed Mood*- Concern, guilt and worry about being overweight.
- *Lack of Self-confidence*- Lowers self-confidence: one feels useless, 'a fat blob of nothing'.
- *Socially Ridiculed and Judged*- Feeling embarrassed, self-conscious and uncomfortable. It affects the type of clothes one can wear e.g. short and tight are out and the types of activities you can engage in e.g. swimming. It leads to comparisons with others which makes you feel like the 'odd one out'. Being overweight leads to being teased, picked on and stared at and ultimately not wanting to go out and be around others.
- *Results in Dieting*

3.2.2.2 NO: THEMES

- *Locus of Control* -Weight is not something one can control; some people are naturally fat.
- *Individual Personality Traits and Values*- They are happy with both their weight and who they are. What matters is what's on the inside; 'I am more than just my weight'. 'I will always value myself regardless of what I weigh'.

Qualitative results thus corroborate with the quantitative hypotheses that proved to be significant. In addition it provides insight into why having a weight problem leads to a lower self-esteem.

CHAPTER 5

DISCUSSION

This section discusses the research findings in relation to the aims, which motivated the research study. This study explored the association between global self-esteem and, actual and ideal Body Mass Index (BMI) scores, in adolescent girls, investigating differences in perceived weight problems, racial identity, physical exercise, weight-control behaviour and stage of pubertal development. The research was guided by a particular set of hypotheses, which pertained to each of the variables specified above. The measures used were the *Rosenburg Self-Esteem Scale* and the *Information Sheet*. The discussion draws heavily on the literature review discussed in Chapter Two in considering the extent to which the research findings either support or disconfirm theory and research. Thereafter the general implications of the study are examined, and the limitations and suggestions for future research are outlined.

5.1 Interpretation and Implications of findings

The first hypothesis suggested that global self-esteem scores in adolescent girls (as measured by the Rosenberg Self-esteem Scale) are significantly related to the perception of having a weight problem. Indeed, the results indicated that girls who saw themselves as having no weight problem at all had significantly higher subjective self-esteem scores. The present study therefore replicates the findings of Harter (1990) cited in Baumeister (1993), Kim & Kim (2001), Tiggerman (2001), Furham et al. (2003) and Prester (2003) - a perception of a weight difficulty contributes significantly to the prediction of level of self-esteem. Results show that a perception of a weight difficulty, not actual BMI, contributed significantly to the prediction of level of self-esteem. Ninety one percent of the adolescent sample sought to loose weight despite the fact that only fourteen percent of them were actually overweight. The most generally acknowledged and empirically held justification for high levels of discontentment with body weight is offered by the socio-cultural theory which suggests that societal standards of beauty overemphasize the prestige of thinness and that this ideal of thinness is taken on by most women, although it is not possible to

achieve (Tiggerman, 2001). This result may be explained by the current societal ideals of thinness, which require a BMI that is well underweight. The pressure to be thin has the most detrimental impact on females' perception of their bodies and their self-esteem (Mendelson, 2001). However this difference was not found when using the objective self-esteem scores allocated to the learners by their educators. This discrepancy could be explained by the fact that this hypothesis was dealing with a perceived weight problem not an actual weight problem which educators may not be aware of and therefore would not have impacted on their rating of learners self-esteem.

The second hypothesis proposed that adolescent females whose actual BMI fell into the normal weight group would have significantly higher self-esteem scores than those whose BMI fell into the over and underweight group. Results revealed that statistically significant differences between the groups were found as perceived by the educators' objective self-esteem scores in favour of the normal and overweight groups but not by the learners' subjective scores. This supports theory that states that individuals who are underweight and are suffering from an eating disorder endure low self-esteem. However, it contradicts French, Story & Perry (1995) cited in Prester (2003), Miller & Downey (1999) and Strauss (2000) who found that being heavy weight is negatively correlated with self-esteem. However these studies did not take into account the influence of race or culture, which may account for the significant results of the current study. In addition this result may support studies that have shown it is the belief about whether you are over weight that is more powerfully related to self-esteem than actual body weight (Kim & Kim, 2001). This supports results found by Field, Wolf & Hertzog (1993) cited in Cameron (1999) that although adolescent girls are preoccupied with appearance in adolescence, this occurs independently of weight.

The significant association found when using the educators' self-esteem scores may be understood by taking into account the possibility that they may believe that adolescents who are underweight have fallen prey to the emphasis society places on thinness and would thus feel these girls have less self confidence and lower self-esteem. Contrary to Guin et al. (1997) and Tiggerman (2001) the current study found

that actual BMI did help predict the level of self-esteem and that females of differing weight do have significantly different self-esteem scores.

According to the third hypothesis, global self-esteem scores would be significantly higher for those learners whose ideal BMI was in the normal weight group than those whose ideal BMI fell in the underweight group. However, results did not support this hypothesis and previous studies that show that females who report a greater desire for a thinner body have lower self-esteem (Abell & Richards, 1996 and Tiggerman, 2001). This discrepancy could be because the girls who wish to be underweight see themselves as conforming to the standards of thinness portrayed in the media and thus it in fact impacts positively on their sense of a self-worth as they feel they will attain the ideal weight. Newton (1995) claims that in fact girls seek to achieve an underweight BMI as a way of enhancing their self-worth and thus the more weight control behaviours one uses the better one's sense of self would be. In the same way girls who are of normal weight may perceive themselves to be overweight relative to the role models provided by society, which would thus impact negatively on their self-esteem.

The fourth and fifth hypothesis suggested that girls who were premenarcheal or those who started their menstruation at an average age would have significantly higher self-esteem scores than those who were postmenarcheal and had late or early onset of menstruation. On both the dependent variables i.e. learner (subjective) self-esteem and educator (objective) self-esteem scores, non-significant results were yielded. These results support Wolman's (1998) and Tiggerman's, (2001) findings that females of differing pubertal status showed global self-esteem scores that did not differ significantly and further that the negative effects of early maturation disappear and girls are able to make adequate social adjustment. It further supports claims made by Brodie et al. (1994) cited in Castle & Phillips (2002) that body image and self-concept are firmly developed prior to puberty as children are exposed to cultural standards of beauty long before they reach puberty and thus have incorporated societal messages of body ideals. However this does not explain why most eating disorders begin during adolescence and not earlier (Beaumont & Touyz, 1985 cited in Tiggerman, 2001). The current study does not support results found by O'Dea &

Abraham (1999) and Williams & Currie (2000) cited in Castle & Phillips (2002). Differences may be explained by the use of different methods to establish pubertal status. The current study defined pubertal status by self-reported menarcheal status, which may be susceptible to false in inaccurate reports.

The sixth hypothesis proposed that adolescent girls who participate in physical exercise would have significantly higher self-esteem scores than those who did not. However, the results of analyses demonstrate that there is no statistically significant association between these two variables. This may be explained by the rather simplistic method of merely asking 'Do you participate in any physical activity or exercise' in order to assign participants to the exercise and non-exercise groups. A more detailed analysis of the type of exercise done, number of exercise sessions per week and duration of exercise sessions may have yielded a more accurate result. Furthermore, the reason for the non-significant result may also be that the motivation for exercising was not established. Exercising for weight control and attractiveness may produce a negative self-esteem whereas exercising for mood, health, enjoyment and to reduce stress levels is associated with positive self-esteem (Furnham et al., 2002).

According to the seventh hypothesis girls who use unhealthy weight control behaviour will have lower self-esteem scores than those who do not use any weight control behaviour or those who use only healthy methods to control their weight. No statistically significant differences between the groups were demonstrated on both dependent variables. The current results do not support those found by Friedman (2000) and Daee et al. (2002) but may be explained by claims made by Newton (1995) that in fact female adolescents diet as a means of improving their self-worth and thus the more weight control behaviours one uses the better ones sense of self would be. Once again methods of weight control were self-reports from participants, which is open to inexact reports that may have influenced the outcome of this hypothesis.

The eighth hypothesis explored the association between race and global self-esteem of overweight adolescent females. Statistically significantly higher self-esteem scores

were found for African adolescents. This supports results found by Altabe (1978) cited in Castle & Phillips (2002), Thompson et al. (1997) cited in Castle & Phillips (2002), and Cox (2003). These findings sustain ideas that in some cultures, increased weight can be seen as a benefit, principally in places where there is a shortage of food and that racial variables play an important role in how stigmatising being heavyweight is (Miller & Downey, 1999). In the African culture there appears to be greater flexibility in the definition of the so-called ideal body and that 'attractiveness' is more closely related to public image and character traits than to weight (Russell & Cox, 2003). Additionally African females may also be discontent with their bodies but that they are less at risk to self-presentation concerns, possibly because they have not taken on the stereotype and internal benchmark of the ideal body of the Western culture (Cox, 2003). Lastly one's global self-esteem is the result of evaluations of one's adequacy in various areas deemed important. Body weight may not be an important domain to African females.

There is little consensus in the literature and conflicting results in past investigations of the association between self-esteem and weight with the exception that the large majority have shown that it is not actual body weight but ideal body weight that has the significant impact on self-esteem (Kim & Kim, 2001). In a similar vein the perception of being overweight impacts more negatively on one's global self-esteem than actually being overweight. The current study indicated that a perceived weight problem was a strong predictor of low self-esteem. However it did not show a relationship between ideal BMI and self-esteem, which contradicts several studies where it was found to play a major role. Instead actual BMI that was normal or overweight was predictive of a higher self-esteem than those females whose actual BMI was underweight. A significant differences in self-esteem scores of African and non-African participants who were overweight were found in favour of the African participants.

CHAPTER 6

CONCLUSIONS

6.1 Summary of Findings

A synopsis of the results of the present study show that despite the fact that only 14% of the sample was overweight a staggering 62% had an ideal weight that was in fact underweight. Significant relationships were found to be present between having a perceived weight problem, actually being underweight and belonging to the non-African race and having a lower self-esteem. However, age of onset of menstruation, participation in exercise regimes and use of weight control behaviour were not found to have a significant impact on global self-esteem scores.

6.2 Limitations and Shortcomings of the Study

6.2.1 Measures used

Despite the anonymity of the study some participants may wish to provide a false impression of their self-esteem, as high self-esteem is socially desirable, which places a question mark as to the reliability of self-reported data. Although this limitation was partially addressed by the educators scoring learners self-esteem, it would increase the reliability of results if self-esteem scores were collected in many ways. The Rosenberg Self-esteem Scale does not find many people with low self-esteem scores, which has lead to suspicions that participants may be marking the acceptable not accurate options (Hoyle et al., 1999).

Little attention has been paid to group and cultural biases and differences in value systems in self-esteem assessment (Robinson et al., 1991). It remains to be seen if the Rosenberg Self-esteem Scale has robust construct reliability and validity when used on a South African sample (Krasner, 2003). Lastly, unlike other measures of self-

esteem the Rosenberg does not have a sub-scale that accesses respondents' feelings about their physical self and appearance.

6.2.2 Conceptualisation of Self-esteem

It may be that there is more to self-esteem than merely whether it is high or low. Individuals who score high on a self-esteem scale are not all the same (Hoyle et al., 1999). It may be that the Rosenberg Self-esteem Scale is only assessing the explicit self-esteem i.e. that which the individual is conscious of possessing and does not take into account the implicit non-conscious self-esteem. In addition Hoyle et al. (1999) purport that people have both a defensive and genuine self-esteem and that current measures of self-esteem may not tap into the genuine self-esteem. Hoyle et al. (1999) further argue against the concept of a stable self-esteem, insisting rather that feelings of worth are intertwined with experiences making it instable. However positive or negative experiences may also not be a sufficient predictor of global self-esteem as two people in a similar situation may experience very different levels of self-esteem (Kernis, 1995). Pelham & Swann (1989) emphasize that it is not just the content of ones beliefs but how they are organised that influences ones reactions. Thus it is important to take into account the relative importance of different domains of self for each individual. A high self-esteem may signify a healthy acceptance of self or a haughty arrogance (Campell, 1990 cited in Baumeister, 1999). Inflated self-esteem can be linked to maladjustment patterns and interpersonal problems.

6.2.3 Sample

It would have been beneficial to have had a larger sample of participants from the Indian and Coloured race groups so as not to have had to collapse the groups which would have provided more specific results and would have allowed the use of parametric tests of significance which would provide more information about the interactions in the analysis of variance. It is also generally accepted that parametric methods have a greater power efficiency than do non-parametric methods i.e. there is a higher probability that the test will reject the null hypothesis when the hypothesis is in fact true (McCall, 1970).

The results of the present study are based on primarily middle class adolescent females and may not generalise to other samples. Despite possible limits to their generalizability, the results of the study are still significant because although it is not clear how exactly the body image relates to overall feelings of self-worth, females from upper class families are more preoccupied with thinness than are females from families of lower socio-economic status Garner et al. (1983) cited in Abell & Richards, 1996).

The large number of participants who reported having recently experienced a negative life event limits the reliability of results as the current study does not allow for the differentiation of the impact of body weight and the impact of life events that on participants' self-esteem.

6.2.4 Direction of Causality

It is impossible to establish the direction of causality through this study i.e. is it low self-esteem that causes adolescents to be overweight or is it being overweight that leads to the low self-esteem.

6.3 Suggestions for Further Research

6.3.1 Although there is no widely accepted method currently in use, future research should assess self-esteem indirectly by examining individuals' emotional or non-verbal reactions in order to tap into implicit and genuine levels of self-esteem. Projective techniques, dichotic listening tasks, sub-threshold measures and priming procedures are suggested by Kernis (1995) as procedures that may be useful in tapping into both implicit and explicit self-esteem.

6.3.2 It would be beneficial to investigate the relationship between narcissism and self-esteem, as this would provide a more objective appreciation of the payback and expenses of holding a favourable view of oneself (Baumeister, 1999).

6.3.3 Structuring future studies so that the direction of causality can be established in the relationship between weight and self-esteem.

6.3.4 Cognitive evaluation of one's adequacy in domains deemed important results in a global concept of self (Baumeister, 1993). Possibly it would be more useful to use a measure of self-esteem that has a subscale, which can access respondents' feelings about their physical self and appearance in addition to providing a global self-esteem score as the use of a global self-concept measure may disguise the variation that would be spotted by a multidimensional tool (Kimm, Sweeney & Janosky, 1991 cited in O'Dea & Abraham, 1999). This would also allow for the ranking of the importance of various aspects of the self-concept by adolescent participants.

6.3.5 More precise measures of pubertal status such as a checklist of characteristics of puberty that participants have experienced may provide a more accurate evaluation and therefore categorisation of pubertal status.

6.3.6 There is a need for rigorous research on the role of low self-esteem in Anorexia and Bulimia (Baird & Sights, 1986).

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APPENDIX A & B

19 July 2004

Dear Parent

I am presently completing my Masters degree in Educational Psychology at the University of the Witwatersrand. I am conducting research on the relationship between self-esteem and body weight. In order to do this I intend to weigh and measure heights of participants (this will be done individually in absolute privacy behind closed doors) as well as administer a 20-minute questionnaire, to which there are no right or wrong answers. Your daughter has been selected from a group of learners in her grade as a possible participant. I wish to invite you to grant permission for your daughter to participate in the group. The questionnaire consists firstly of a Information sheet asking for: age, race, socio-economic status (by asking about her parent's profession), ideal weight and height, whether she sees herself as having a weight problem, whether she participates in physical activity, whether she has begun to menstruate and if so, at what age she started and methods she uses to lose weight. Secondly a self-esteem questionnaire designed to measure global feelings of self-worth or self-acceptance. The questionnaire asks for no identifying data and contains items that will not be harmful to your child. I intend using the responses obtained to determine group trends only. Confidentiality and anonymity are assured.

This entire process should not take more than 30 minutes and will be conducted with the permission of the school in a time specified by the school. Participation in this study is voluntary and not compulsory. Should you choose not to provide your consent there will be no further consequences for you or your child. She will thus not participate in the research and you will not have to respond to this letter. Learners who will not participate will be involved in normal school activity during the time allocated to administer the questionnaire to participating learners. Should you grant consent, I ask you to please complete and return the form overleaf. In addition your daughter has the right to choose not to participate or to withdraw from the study at any time.

This is a project under the auspices of the University of the Witwatersrand and is not affiliated to the school in anyway. Apart from my supervisor and myself no one else will have access to the data. On completion of my research report the school will be given a feedback sheet that you and your daughter will receive on finalization of this study. Since only group trends will be considered, I will not provide individual feedback. However a once off group feedback that is in no way compulsory will be offered during a time arranged with the school. If participation in the study inadvertently awakens any negative feelings or there is concern regarding an individual, participants will be referred to The Johannesburg Parent and Child Counselling Centre (011-4841734) for appropriate support if they so wish.

I would appreciate your consent for your child to participate, since this study will provide valuable insight into the problems of self-esteem and body weight in the South African female, adolescent population. Once more, I assure you that all responses are confidential and anonymity is assured. All questionnaires will be destroyed after I have analyzed them. Should you have any questions please do not hesitate to contact me. My details appear below.

Thanking you in anticipation

Bronwyn Webber (Miss)

Cell: 083 27 949 73

E-mail: manager@cooklaw.co.za

.....
(Please tear off this part and return via your daughter to Mrs Potgieter at the front office no later than the **26th July**)

I have read and understood the information provided in this consent form and I _____ grant permission for my daughter _____ Grade ____ to take part in a study considering the relationship between self-esteem and body weight.

Signed _____

Date _____

Dear learner

27 July 2004

My name is Bronwyn and I am currently completing my Masters in Educational Psychology at the University of the Witwatersrand. I am conducting my research on the relationship between self-esteem and body weight. You have been selected from a group of learners in your grade as a possible participant in this research. I would appreciate it if you would participate in this study by allowing me to record your weight and height (this will be done individually behind closed doors) and by completing a self-esteem questionnaire designed to measure global feelings of self-worth or self-acceptance. I require 30 minutes of your school time.

Participation in this study is **VOLUNTARY** and not compulsory and you may withdraw your responses at any stage. Should you choose not to participate or to withdraw your responses there will be no negative consequences. Please note that if you participate, all responses will be treated in strictest confidence. Under no circumstances will any of your responses be shown to anyone except the researchers involved in the study. Your anonymity will be ensured in that you are not required to provide any identifying data. Only group trends will be determined, from which it will be impossible to identify any particular person.

Given understanding of anonymity and confidentiality, I will ask you to please respond as openly and honestly as possible. There are no right or wrong answers. Instead I am trying to determine **YOUR** responses to each item. A once-off group feedback session will be offered during a time arranged with your school in addition to a report of group trends that will be given to both you and your parents. If participation in the procedure inadvertently awakens any negative feelings or there are particular concerns you may be referred to The Johannesburg Parent and Child Counselling Centre for appropriate support if you so wish (011-4841734). Should you require further information or feedback on the results of this study please feel free to contact me. My details appear below.

Should you grant me permission to use your responses I request that you fill in the informed consent form below.

Last but by no means last, **THANK YOU** for reading this.

Yours sincerely

Bronwyn Webber
Cell: 083 27 949 73
e-mail: manager@cooklaw.co.za

.....
I _____, Grade ____ do hereby grant Bronwyn Webber a Masters student at the University of the Witwatersrand permission to use my responses in her research concerning self-esteem and body weight. I understand that participation in this research is voluntary and that my anonymity and confidentiality will be maintained. I also accept that I may withdraw my responses at any time.

Signed

Date

APPENDIX C & D

GRADE ____ No ____

Information sheet

1) Age: _____ years _____ months

2) What is your father's occupation? _____

3) What is your mother's occupation? _____

4) Race: (These categories are used solely for research purposes and are not meant to be offensive)

Black	Coloured	Indian	White
Other	(Please specify) _____		

5) How tall would you like to be? _____ Meters _____ Centimeters.

6) How much would you like to weigh? _____ Kilograms.

7) Do you see yourself as having a weight problem?

Not at all	A small problem	An average problem	A serious problem
------------	-----------------	--------------------	-------------------

8) Do you regularly participate in any physical activity or exercise?

YES	NO
-----	----

If you answered YES, on average how many times per week? _____

On average how long is each exercise session? _____

Please state what type of exercise you do:

9) Have you started menstruating (your period)?

YES	NO
-----	----

10) If YES, at what age did you start menstruating? _____ Years _____ Months old.

11a) Weight loss methods you currently use:

Diet pills e.g. Thins	Exercise	Vomiting	Fasting	Laxatives e.g. Laxador
Participation In a weight-loss group	Skipping meals	Decreased Calorie intake	Diuretics e.g. Aldactone	Fat burners
				None

11b) On average how often do you use these weight loss methods?

Daily	Weekly	Monthly
-------	--------	---------

Self-Esteem Scale (Rosenburg, 1965)

12) I feel that I am a person of worth, at least on an equal basis with others.

STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
-------------------	-------	---------	----------	----------------------

13) I feel that I have a number of good qualities

STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
-------------------	-------	---------	----------	----------------------

14) All in all, I am inclined to feel that I am a failure

STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
-------------------	-------	---------	----------	----------------------

15) I am able to do things as well as most other people

STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
-------------------	-------	---------	----------	----------------------

16) I feel I do not have much to be proud of.

STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
-------------------	-------	---------	----------	----------------------

17) I take a positive attitude towards myself.

STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
-------------------	-------	---------	----------	----------------------

18) On the whole, I am satisfied with myself.

STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
-------------------	-------	---------	----------	----------------------

19) I wish I could have more respect for myself.

STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
-------------------	-------	---------	----------	----------------------

20) I certainly feel useless at times.

STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
-------------------	-------	---------	----------	----------------------

21) At times I think I am no good at all

STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
-------------------	-------	---------	----------	----------------------

22) Have you had a serious negative incident in your life recently? E.g. death of a loved

one or parental divorce.

YES	NO
-----	----

please specify _____

23) Who or what is responsible for your weight?

YOURSELF	SOMEONE ELSE OR SOMETHING ELSE
----------	---

24) In your opinion, does how much someone weighs affect their self-esteem?

25) Do you feel that your weight influences how you feel about yourself?
