A CROSS-CULTURAL STUDY OF EATING DISORDERED BEHAVIOUR IN FEMALE UNIVERSITY RESIDENCE STUDENTS

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DECLARATION

I, Michele Fiona Geach, declare that this dissertation is my own original work and that all other sources of reference have been acknowledged.

This dissertation has not been submitted previously by me for a degree at this or any other university.

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ABSTRACT

The compilation of information on the incidence of eating disorders in South African university residence women has been identified as an urgent matter by the National Eating Disorders Co-ordinating Committee (NEDCC). This study was undertaken to determine the degree of eating disordered behaviour across cultures in female university residence students from the University of Natal, Durban and Pietermaritzburg campuses, and the University of Durban-Westville. The Eating Disorder Inventory (EDI) was completed by 39 black, 41 white, 6 Indian and 4 Coloured students.

It was hypothesised that white women would show higher rates of disordered eating; that black women in more advanced years of study ie. those who are more acculturated, would show more disordered eating behaviour than first year black students; that black females would demonstrate higher Body Mass Index (BMI) scores than white students; and that a positive relationship would be found between Socio-economic status (SES) and disordered eating.

The results of this study indicated that there was no significant difference in disordered eating among black and white female students. Degree of disordered eating did not increase with year of study. Although black students demonstrated significantly higher BMI scores than white students, there was no difference in body dissatisfaction scores. Furthermore there was no relationship found between SES and degree of disordered eating behaviour.

An attempt is made to explain these results by exploring the role of acculturation to Western appearance standards.

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CHAPTER 1

1.1 INTRODUCTION

In recent years increasing numbers of patients with anorexia and bulimia nervosa have been seeking treatment (Dolan & Ford, 1991) and Dolan (1991) notes that eating disorders are reaching "epidemic" proportions. Eating disorders are considered to be prime examples of gender-specific psychopathology, occurring predominantly in women. In addition, eating disorders have been traditionally viewed as being "Western" illnesses. However increasing numbers of non-White women are presenting at eating disorder clinics in South Africa (Ziervogel, 1995), and elsewhere in the world.

It is only recently that research into the incidence of eating disorders across cultures in South Africa has been initiated. A promising move has been the creation of the first National Eating Disorders Co-ordinating Committee (NEDCC). An urgent issue that has been identified is that of establishing the number of South African women suffering from eating disorders. The fact that certain environments appear to increase the risk of bulimia in women, i.e. boarding schools and university residences (Striegel-Moore, Silberstein & Rodin 1986; Yates 1989), suggests that female university residences are appropriate high risk environments within which to examine eating attitudes and behaviours. This thesis has therefore been undertaken to contribute towards the collation of data on eating disordered behaviour in South African women of all cultures in university residences.

The first section (2.1) of the literature furnishes a brief account of the history of eating disorders and the early symptomatology and etiologies thereof. The second section (2.2) examines the current diagnostic criteria for anorexia and bulimia nervosa. The theory of eating

disturbances existing on a continuum is introduced and the concept of "disordered eating" proposed. This is followed by a discussion (2.3) of the various conceptualisations of eating disordered behaviour in order to provide a paradigm for understanding the etiology of eating disorders. The fourth section (2.4) of the literature review orientates the reader towards the current international incidence and prevalence of eating disorders. The following section (2.5) describes the higher prevalence of eating disordered behaviour in women, relative to men, and explores the reasons why this prevalence exists. Female residence students are proposed to be a high risk group in terms of developing eating disordered behaviour, thus an attempt is made to explain this phenomenon (2.6).

The final section (2.7) is concerned with cross-cultural studies of eating disordered behaviour. The emphasis is on the role of acculturation pertaining to the Western ideal of a thin body shape for women and the development of eating disorders. It is hypothesised that through socialisation, black women experience conflict when they are confronted with new norms governing appearance. This conflict may increase their susceptibility to eating disordered behaviour as they endeavour to attain this thin ideal. Contradictory findings on eating disorders cross-culturally are presented in order to provide a useful backdrop against which to examine the findings of this present study.

CHAPTER 2

LITERATURE REVIEW

2.1 Historical Review on Eating Disorders

An historical overview of the clinical presentation of anorexia and bulimia nervosa is presented below. The current focus on cross-cultural research in the area of eating disorders is introduced.

In 1694 Richard Morton described the first case of a woman with anorexic-like symptoms in the medical literature. This patient displayed amenorrhea, inanition and a devotion to study; refusing all treatment, she eventually died. There was little reported on anorexia until 1873 when both Sir William Gull in England and Charles Lasegue in France described the refusal to eat, extreme weight loss, amenorrhea, constipation and low pulse rate typical of anorexia nervosa, in several patients. The intense commitment to exercise was also noted.

Bulimia, as an entity, was recognised as early as the second century A.D. by the Greek Physician, Galen. The disease was termed boulimis or "the great hunger". The hypothesis was that boulimis was caused by an acidic humour lodged in the stomach which produced intense but false signs of hunger (Yates, 1989). A further early account of bulimic behaviour can be found in the records of Ancient Rome where "vomitaria" were commonly employed in order to allow the rich and gluttonous the opportunity to eat compulsively for hours (Skidmore, 1985, cited in Thompson, 1993). While the core symptom, engorging food, has remained relatively constant since the early 1700's, the accessory symptoms and etiology of bulimia have changed over time (Stein & Laakso, 1988).

The distinction of the eating disorders as emotional disturbances, having possible psychodynamic and social roots underwent a varied development throughout the early 20th century. In the 1930's the move away from anorexia and bulimia nervosa being considered purely medical conditions, resulted in a resurgence of interest in the psychological basis for the eating disorders. The psychoanalysts in the 1940's proposed that anorexia was caused by unconscious fears of oral impregnation and an aversion to sexuality.

The 1960's saw a proliferation of eating disorder literature. The ethos of the 1970's placed the family as the crucible of anorexia. It was in 1981 that the International Journal of Eating Disorders was first published and research in the area of eating disorders has continued to flourish. The 1980's was marked by interest in the phenomenology of eating disorders with a view to review diagnosis and typology; the biobehaviourists began to search for neuroendochrine changes and markers for genetic vulnerability. The role of eating disorders in the organisation of the self became a focus of the analytic theorists. The focus of research in the late 1980's and early 1990's has shifted to cross-cultural issues and their impact on the development of eating disorders.

Thus it is clear that eating disorders have been observed in history for many centuries. Over time the clinical symptoms and etiologies of the eating disorders have been revised. Of particular significance to this study is the current trend towards and need for cross-cultural studies of eating disordered behaviours.

2.2 Definition of Anorexia and Bulimia Nervosa and Disordered Eating

In order to orientate the reader towards the type of symptomatology inherent in anorexia and bulimia nervosa, the following is a brief discussion of the core features specific to the eating disorders. The notion of eating disorders existing on a continuum is also presented.

Anorexia nervosa is associated with an exaggerated dread of weight gain and body fat to the detriment of other physical or psychological aspects of the individual's life. Anorexia nervosa, translated directly from Greek, means "without desire for food". This suggests that anorexic individuals experience a loss of appetite, choosing not to eat as they find food unappealing. This is however, not the case; anorexics are reported to experience an almost overwhelming appetite and interest in food. The control over their powerful appetites rather, is the central concern for anorexics in order to lose weight (George, 1992).

Bulimia has been referred to as "ox hunger"; a descriptive term of the voracious appetite of bulimics. Palmer (1979) also introduced the term "dietary chaos syndrome". Currently the syndrome of bulimia nervosa describes an eating disorder characterised by a pattern of uncontrollable episodic binge eating followed by low mood and self-deprecatory thoughts. This syndrome is usually accompanied by severe dieting, self-induced vomiting and/or laxative abuse to control weight. The fundamental psychopathology in bulimia relates to the individual's intense need to maintain her sense of self-worth through undue self-control in the area of weight control. The self-esteem of bulimics is highly bound to external standards and is strongly influenced by the attitudes of parents, peers and boyfriends towards them. Their propensity to conform to external standards explains in part how a particular cultural look or image can be carried to a pathological extreme.

The diagnostic criteria for both anorexia and bulimia nervosa will be considered according to the Fourth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-American Psychiatric Association, 1994). Anorexia nervosa is characterised by :

* refusal to maintain body weight at or above a minimally normal weight for age and height;
* intense fear of gaining weight or becoming fat, even though underweight;
* disturbance in the way in which one's body weight or shape is experienced;
* in post-menarcheal females, amenorrhea, ie. the absence of at least three consecutive menstrual cycles.

Two subtypes of anorexia nervosa are specified : the restricting type; and the binge/purging type.

Bulimia nervosa is diagnosed when the following behaviours are apparent :

* recurrent episodes of binge eating characterised by : eating in a discrete period of time an amount of food that is definitely larger than most people would eat during a similar period of time under similar circumstances; and a sense of lack of control over eating during the episode;
* recurrent inappropriate compensatory behaviour in order to prevent weight gain, such as self-induced vomiting, misuse of laxatives, diuretics or other medications, fasting or excessive exercise;
* the duration and occurrence of the above behaviours has been at least twice a week for a period of 3 months;
* self-evaluation is unduly influenced by body shape and weight;
* the disturbance does not occur exclusively during episodes of Anorexia nervosa.

There are 2 subtypes of bulimia nervosa specified : the purging type; and the non-purging type.

The diagnosis of bulimia and anorexia nervosa may be given concurrently. Patients who qualify for both disorders are thought to demonstrate the greatest psychopathology (Mickalide & Anderson, 1985, cited in Yates, 1989).

It is Hooper's (1994) contention that eating disturbance occurs on a continuum of severity i.e. a person can be "more or less disturbed" in terms of dieting concerns and behaviours. For the purpose of this study the term "disordered eating" will be used to describe individuals who have either anorexia or bulimia nervosa, or who show features of these disorders that are not sufficient to be classified as eating disorders (eg. frequent binge eating episodes, an overconcern with shape and weight etc.) (Grey, 1995). Due to the fact that a self-administered questionnaire was the only instrument used in this study, no accurate indication of the number of individuals with eating disorders could be given. Therefore this study is rather a measure of the degree of disordered eating across cultures in South African university women.

2.3 Overview of Psychological Theories of Disordered Eating

There have been several schools of thought regarding the psychodynamic etiology of eating disordered behaviour. The traditional psychoanalytic model inferred that eating was symbolic of sexual activity. This was soon challenged by feminist authors some of whom stressed the importance of situating eating disorders in a socially constructed context. Other authors have drawn on contemporary object-relations theory in order to validate their position. The following is a brief overview of the aforementioned conceptualisations of eating disorders.

The traditional psychoanalytic model holds that eating is viewed as being symbolic of sexual behaviour. Although Freud did not publish any case histories of anorexia nervosa, he did

suggest that a neurotic fear of sexual activity occurred in some girls around the age of puberty, and this manifested in a loss of appetite (Freud, 1964). Anorexia is viewed by the psychoanalysts as a rejection of femininity and a defence against oral impregnation; self-starvation was attributed to underlying oedipal conflicts. The refusal to eat is thus considered to be linked to a woman's conflicts about femininity arising from unconscious hostility toward the mother and unresolved conflicts from the pre-oedipal period. Bulimic behaviour is seen as a breakthrough of contradictory desires to become pregnant and bulimics have been described as having poor mastery of sexual and aggressive drives (Cantelon, Leichner & Harper, 1986).

Although Freud initially insisted that the pre-Oedipal stage in boys and girls was essentially the same, he noted that the girl's relationship with the mother was much more intense, conflicted and ambivalent than that of the boy and speculated on its implications for the psychology of adult women (Beattie, 1988). A number of considerations follow :

* There is more blurring of boundaries and identification with female than male children on the mother's side. Mothers are less able to see daughters as distinctly different from themselves and tend thus to be more controlling and possessive with them (Bernstein, 1983).

* Mothers are also more heavily invested in daughters as narcissistic extensions of themselves.

* If separation from the mother is more difficult for the daughter, individuation poses further problems.

* The anal phase is characterised in both sexes by a battle for the control of bodily functions, including feeding as well as elimination. Girls are more conflicted, being both more dependent on, and identified with the mother; and fearful and angry at the mother's intrusiveness. Out

of fear and guilt she turns her aggressive energies inwards to self-control thereby becoming cleaner and more docile than the boy. The high price paid is strong repression of pregenital messiness and sexuality and a lifelong tendency to view the body guiltily as an enemy to be controlled rather than a source of pleasure (Oliner, 1982).

The girl's ambivalent struggle for individuation and autonomy is revived intensely at puberty with its pressure towards physical and psychosocial maturation. The daughter's push towards independence frequently triggers the mother's unresolved conflicts over separation and loss derived from her relationship with her own mother (Beattie, 1988). As food is the most concrete possible symbol of the maternal object, through control of food intake and body shape a woman can act out almost every aspect of the ambivalent struggle with the actual and internalised mother. It can be a way of both demanding and rejecting nurturance, of denying her own passive-dependent cravings and defying her mother by being in absolute control of her own body. It is also a way of resisting identification with the mother (Beattie, 1988).

Earlier developmental problems in object relations are deemed by some researchers to be more critical in the development of eating disordered behaviour. Hilde Bruch, a renowned psychoanalyst who has worked extensively in the area of disordered eating, contends that the feeding situation is always an important interpersonal experience. The anorexic's refusal to eat is viewed as resulting from pathological interactional patterns occurring in early childhood (Bruch, 1984).

In this view, unempathic, intrusive or overprotective mothering may result in a child with an ego structure inadequate to the tasks of autonomy and self-regulation, with little capacity to monitor inner bodily states such as hunger and satiety, and with a resulting tendency to act out conflicts over independence and self-control via excessive control of the body and its food

intake. Furthermore the mother's refusal to allow the child separateness prevents the development of a sense of self and autonomy, laying the precursors for confusion about identity later in life. Consequently in adolescence the anorexic is "poorly equipped for the tasks of preparing themselves for self-sufficiency and independence and emancipation from the dependency on their mothers and families" (Bruch, 1984:103).

Chernin, a feminist author, locates eating disorders in the problems of mother-daughter separation and identification. She draws on the work of Melanie Klein, who asserts that infantile frustration, anger and also the positive emotions of nurturance and affection are directed at the mother, and experienced by the child, most forcefully at the mouth. When, at a developmental turning point, the child/woman is struggling to separate from her mother, she begins to experience the same frustration, rage and ambivalence she felt as a small child in the early acts of separation and union at the mother's breast. Crises in adulthood again find the woman turning to food as a means of expressing the separation struggle; "through her relationship to food she can live out the earliest bonding issues with the mother - the need to incorporate the mother and to remain one with her, and simultaneously in fantasy, to attack and destroy her as a symbolic means of making the separation possible" (Chernin 1986:130).

Orbach (1978) has offered a theory of the conflict women experience over accepting roles and behaviours traditionally designated as "feminine". According to Orbach, compulsive eating represented covert anger and frustration among women, who had been socially conditioned to stifle any open display of hostility or resentment. She suggested that, rather than openly express disagreement, anger or resentment, many women literally stuffed their mouths with food - particularly when interacting with male figures of authority, like fathers, husbands or male bosses at work. In this sense, Orbach defined compulsive eating and obesity among women as subconscious defiance, a rejection of the traditional female sex-role.

> "Anorexia reflects an ambivalence about femininity, a rebellion against feminization that in its particular form expresses both a rejection and an exaggeration of the image. The refusal of food which makes her extremely thin straightens out the girl's curves in a denial of her essential femaleness. At the same time, this thinness parodies feminine petiteness" (1978:165).

In a later work, Orbach (1986) argues that anorexia consists of two processes : the pursuit of thinness and the denial of emotional neediness. The denial of food and bodily control come to be symbolic of the denial and control of emotional needs. The anorexic woman "speaks with her body" :

> "Her body is a statement about her and the world and her statement about her position in the world. Living within prescribed boundaries, women's bodies have become the vehicle for a whole range of expressions that have no other medium. The body ... becomes her mouthpiece.... she speaks with her body" (Orbach, 1986:48).

Boskind-Lodahl (1976:85, in Schlesier-Stropp, 1984) disagrees with previous hypotheses suggesting that women who restrict their food intake and engage in bulimic behaviours do so as a rejection of femininity. Instead, Boskind-Lodahl indicates that these women are "trying desperately to fit themselves into a stereotyped feminine role by their relentless pursuit of thinness". Extreme eating disorders are in part determined by "normal" prescriptions of femininity taking on an obsessive meaning in the lives of these women. She places eating disorders within a socially constructed context and a continuum from "normal" to disordered eating posited as a consequence of the demands of sex-role stereotypes on women (Bear, 1990).

Several researchers have noted that, in contrast to anorexia nervosa, highly restrictive dieting among normal adolescent girls reflected an attempt to emulate and assume the prototypical female role (Garner & Garfinkel, 1980; Garner, Garfinkel, Schwartz, & Thompson, 1980). Thus in anorexic girls, the attitude to female roles may be one of rejection; among normative girls the attitude may be one of emulation (Squires & Kagan, 1985).

In summary, it is apparent that there has been a gradual evolution of thought regarding hypothesised psychodynamic etiologies for eating disordered behaviour. Initially, the focus was on the individual's instinctual drives with food being symbolic of sexual gratification. Thereafter, the interpersonal nature of food and feeding was proposed. Subsequently, indications that the conflict between dependence and autonomy from the mother played a central role in disordered eating, received some attention. Of particular relevance to this thesis, is the hypothesised role of the social construct of femininity and thinness in the development of eating disorders and the pressure and conflict women experience in their identification or emulation of the thin Western ideal.

2.4 Incidence and Prevalence of Eating Disorders

As previously noted (Section 1.1), eating disorders are reaching "epidemic" proportions (Dolan, 1991). The following is a presentation of the current incidence and prevalence rates of eating disorders. The role of acculturation to the thin Western ideal, and its hypothesised relation to the development of eating disordered behaviour, is introduced.

The incidence of eating disorders in recent years has reportedly been on the increase. An incidence figure from the 1960's reported 0.3 cases per 100 000; today figures approaching

4 cases per 100 000 are being documented (le Grange and Ziervogel, 1995). The percentage of female students meeting the criteria for bulimia nervosa increased from 1% in 1980 to 3.2% in 1983 (Pyle, Halverson, Neuman and Mitchell, 1986). Epidemiological studies suggest that 2-3% of adolescents today have anorexia or bulimia nervosa (Hodes, 1995).

In the Netherlands the prevalence of anorexia nervosa among young women is 0.3% whereas the prevalence of bulimia nervosa is approximately 1%. The incidence of anorexia nervosa in primary care has been documented at approximately 8 per 100 000 population per year, and of bulimia nervosa about 11 per 100 000 population per year (Hoek, 1995). The principal finding of Cooper et al. (1984) was that more than one-fifth of their general population sample of adult women in the United Kingdom reported that they had an eating problem. A study conducted by Nevo (1985) showed that binge eating, dieting and concern about weight are widely prevalent among university women. Caucasian women were found to score higher on problem eating (i.e. binge eating, dieting and weight concern) than Asian women. Nevo's prevalence rate was found to be between 4.6 and 11% of the total sample and between 6 and 14% of the Caucasian sample.

Szabo and Holland (1995) examined the eating attitudes of scholars at a private school in Johannesburg, South Africa. Their findings indicated that the overall prevalence of abnormal eating attitudes in this all-girl school was 22.6%. In the white sample, 20.67% displayed abnormal eating attitudes; of the black sample, 37.5% of the subjects endorsed abnormal eating attitudes. Of further interest was that abnormal eating attitudes were more prevalent in the upper standards of the school than the lower standards.

The aetiology of anorexia and bulimia nervosa is regarded to be multifactorial; the impact of Western culture on the presentation of eating disorders cross-culturally definitely warrants consideration. In a multicultural society such as South Africa the dominant culture's values

are likely to influence values held by the minorities. The predominantly Westernised culture which views slimness as desirable is hypothesised to place considerable pressure on individuals to conform to a slim body size. Thus, acculturation to a Western ideal of body size is hypothesised to result in an increased incidence of eating disordered behaviour across cultures in South Africa.

The abovementioned incidence and prevalence rates for disordered eating are of concern and certainly support the need for such rates to be investigated and statistically established in South Africa. Furthermore, the hypothesis that acculturation results in increased disordered eating requires further exploration.

2.5 Higher Incidence of Eating Disorders in Females

Research has shown that women have higher prevalence rates of, and greater vulnerability to eating disorders relative to men. Several studies investigating this phenomenon are presented.

Epidemiological studies indicate that eating disorders are not randomly distributed amongst the population; young women constitute the most vulnerable group (Hoek, 1995). The eating disorders are thus prime examples of gender-specific psychopathology. They occur predominantly amongst women, with ratios of approximately 9 or 10 females to every male (Beattie, 1988).

Rodin (cited in Nagel & Jones, 1992) found that in a random sample of male and female undergraduate students, weight and body shape concerns were the central determinants of

a female's self-perception of her attractiveness. This was not indicated in the male subjects. Additionally more bulimic behaviours and symptoms have been reported by female students than male students (Rand & Kuldau, 1992). Earlier studies by Halmi, Falk and Swartz (1981) found that in a normal university population, 19% of the women versus 5% of the men experienced all the major symptoms of bulimia as outlined in DSM-III. Pyle, Mitchell, Eckert, and Halverson (1983) found that amongst first year university students, 8% of women and 1.4% of men met the DSM-III criteria for bulimia. A salient sex bias related to the desire for and the pursuit of the thin ideal is therefore apparent.

Existing explanations for this phenomenon have focused mainly on the interaction between sociocultural and physiological factors.

> "Girls, in our culture, unlike boys, are socialised to gain a much higher proportion of self-esteem and social acceptance from their physical appearance than from physical activity and competence in the world.... women's attempts to diet and maintain unrealistically low weights in conformity with the dictates of fashion could lead to episodes either of self starvation or semifasting punctuated by food cravings and episodic binge eating" (Beattie, 1988).

There has been a gradual but definite evolution in the cultural ideal body shape for Western women over the past 30 years (Garner et al., 1980). The shift in the ideal standard is towards the thinner size. Research conducted by Wiseman et al. (1992) reveals that the cultural ideal for women's body size is becoming even thinner than it was ten years ago. However the index of women's "ideal" body image has stabilised at 13-19% below expected weight, as determined by the Society of Actuaries tables, which suggests a levelling off in ideal body size for women. One of the DSM-IV (APA, 1994) criteria for anorexia nervosa is a body weight 15% below that expected in terms of height; this indicates therefore that the expectation that

women's bodies be very thin may lead to the onset of eating disorders in some women. The drive for thinness and dissatisfaction with one's body size are suggested to be the main features of eating disorders which have been attributed to socio-cultural factors (Ford, Dolan & Evans, 1990). In Westernised countries thinness is equated with competency, self-control, success and beauty. Women at greatest risk for bulimia are those who have accepted and internalised most deeply the sociocultural standards about thinness and attractiveness (Striegel-Moore, Silberstein & Rodin, 1986). Woman of higher socioeconomic status are most likely to emulate closely the trendsetters of beauty and fashion and therefore exhibit greater weight preoccupation.

The fact that eating disorders occur predominantly in women infers a possible association between dieting, body dissatisfaction, gender and perhaps even sex-role orientation. One hypothesis following on from this is that body dissatisfaction and dieting behaviour will be more prevalent in sex-typed women i.e. women adhering to the stereotypical sex role will show greater body dissatisfaction. Sex-typed women are also seen to show more conformity in interpersonal situations than non-sex-typed women (Bem, cited in van Strien, 1989). This conformity may manifest itself in ceding to societal pressure to be thin and combined with low levels of body satisfaction, increase their susceptibility to the development of eating disorders.

The pursuit of thinness by women can thus be understood as both culturally bound and as incorporated in the female stereotype. The thin image is idealised by society and the media perpetuates this ideal with glamorous models epitomising the perfect woman.

> "The Western media provides many examples of the cultural role-stereotyping of slim and obese persons : lazy, sloppy, and dirty are associated with obesity; beauty, friendly, and intelligent are associated with slimness" (Staffieri, 1972, cited in Nagel & Jones, 1992:109).

In conclusion, it is clear that women are strongly subjected to cultural and societal norms regarding appearance. Women tend to define their self-concepts more in terms of relationship with others than do men. This fact suggests that positive valuing of thinness by society pressurises women to conform to this standard in order to gain acceptance. The relevance of this phenomenon to this thesis, resides in the import of such pressure on black women who traditionally come from a culture more accepting of heavier body weight. At this stage it is not certain whether acculturation to the Western ideal of a thin body shape will create conflict for black women and manifest itself in disordered eating behaviour.

2.6 University Residence Students as a High Risk Group

Certain environments appear to increase the risk of bulimia in women. Boarding schools and university residences have been thought to "breed" eating disorders such as bulimia (Striegel-Moore, Silberstein & Rodin 1986; Yates 1989). A discussion of residences or boarding establishments as high risk populations for the development of eating disorders will be discussed in the following section.

Bulimia has become an increasingly well known psychological disorder, especially amongst female university students (Fairburn & Beglin, 1990; Halmi et al.,1978; Schlesier-Stropp, 1984). Pyle et al. (1986) found a threefold increase in bulimia between 1980 and 1983 in a university student population. Several factors may account for this observation. Firstly, university campuses traditionally represent higher socioeconomic classes which, as previously discussed, are at greater risk for the development of eating disorders. Secondly, as stressful and semi-enclosed environments, campuses may serve to intensify the sociocultural pressures to be thin. Thirdly, several eating disordered individuals give accounts of prior contact with

bulimic sufferers, suggesting socially contagious behaviour (Nasser, 1986). The pressure of high achievement also seems to increase the risk of developing an eating disorder (Striegel-Moore et al., 1986). The student milieu may heighten conflicts between restrictive weight standards for being attractive and pressures to eat and drink (Rand & Kuldau, 1992).

There is substantially more binge eating and five times the incidence of bulimia in university women than among working women (Hart & Ollendick, 1985). Studies of female student populations (Pope & Hudson, 1989) have reported high prevalence rates ranging from 4% for anorexia and 19% for bulimia nervosa (Halmi, Falk & Swartz, 1981; Pyle, Mitchell, Eckert, & Halverson, 1983). Studies for non-student populations have estimated the prevalence of anorexia as being below 1% and bulimia nervosa between 1 and 2% of women. The incidence of bulimia nervosa in a university fresher population (1st year students) was found to be 4.2 cases per 100 women per year (Drewnowski, Yee & Krahn 1988).

Among black female university students at a private university, Gray et al. (1987) found that the prevalence of bulimia nervosa was rare, although dieting and binge behaviours were frequent. While black women do report body-image dissatisfaction they are less driven to achieve thinness than white women (Rand & Kuldau, 1990).

Thus, in order to determine degrees of disordered eating, much evidence points to university women in residences as being an appropriate subject sample as they have been identified as a high risk group and are therefore likely to exhibit more disturbed eating behaviours than the general population.

2.7 Cross-Cultural Studies of Eating Disorders

2.7.1 Eating Disordered Behaviour as a Culture Bound Syndrome

The concept of eating disorders being a culture-bound phenomenon is introduced. Black women are posited to be protected against the development of eating disorders by cultural factors inter alia a greater tolerance of extra weight.

From the literature it is clear that anorexia has increased considerably in the Western world in the last 30 years. However, fewer cases of anorexia and bulimia nervosa have been reported in black women than in white women (Anderson & Hay, 1985; Garner & Garfinkel, 1982). Women representing ethnic minorities including blacks, Hispanics, and Native Americans, particularly those from lower socioeconomic levels, are reportedly less susceptible than caucasian women to the development of eating disorders (Dolan, 1991; Gray, Ford & Kelly, 1987; Rosen et.al., 1988). One explanation for the lower incidence of bulimia in black university women, relative to caucasian students, may be the greater tolerance of excess weight among blacks. It is possible that there is a different ideal of beauty in the black community, one that does not emphasise thinness as much. With less emphasis on thinness, individuals would not have to employ such drastic measures to attain this thin ideal (Gray, et al., 1987). Further reasons proffered for this finding include an intracultural acceptance on the part of traditional ethnic groups of a larger body size and/or a tendency not to relate to the thin, female body image portrayed by the Western media (Hooper & Garner, 1986; Hsu, 1987).

While disordered eating is beginning to appear in other non-Western areas, these non-Western cases are appearing within the context of rapid Westernization (Prince, 1983). Many Asian countries, for example, are currently undergoing rapid social and economic change, with the

development of a consumer-oriented economy and a burgeoning advertising industry. Among the elite there is widespread adoption of Western styles, habits and attitudes (Mumford, Whitehouse & Choudry, 1992). Prince (1983) posits that anorexia nervosa is a Western culture-bound syndrome (i.e. a constellation of symptoms not found universally in human populations but rather restricted to a particular culture or group of cultures), which is rooted in Western cultural values and conflicts.

2.7.2 The Role of Acculturation

Eating disorders and "normal" dieting cannot be understood outside of the social pressures on women to conform to a thin ideal (Schefer, 1986). The etiology of eating disorders is often linked to the value placed on thinness in Western societies (Nasser,1988). The following is an overview of investigations into the part acculturation plays in the presentation of disordered eating in women of different cultures.

The etiology of anorexia and bulimia nervosa is, in part, attributable to the internalisation of particular cultural values and standards concerning the importance of thinness and beauty in females (Garner & Garfinkel, 1980; Rodin, Silberstein & Striegel-Moore, 1985, cited in Rand & Kuldau, 1990). Because in the past few years the increasing incidence of anorexia nervosa and bulimia has been associated with changing sociocultural variables, one should expect to find differences in the prevalence of eating disorders and abnormal eating attitudes in different ethnic and cultural groups, depending on the degree to which they subscribe to the Western ideals. It has been suggested by several researchers that as black females gain greater socioeconomic status and as they acculturate into mainstream society, they will be at more risk for developing anorexia and bulimia nervosa (Bulik, 1987; Hsu, 1987).

Mumford, Whitehouse and Choudry (1992) cite that it is the most Westernised females who would be more at risk of developing eating disorders. These authors found that in Pakistan, females with the highest Westernisation scores (as measured by the consumption of Western food and the speaking of English in the home) had the highest eating attitude scores and body dissatisfaction scores. This implies an association between Western influence with more concerns about food intake and weight as well as more preoccupation with body shape. Furthermore the effect of Westernisation on eating attitudes was mediated through greater dissatisfaction with body size.

Pumareiga (1986) found that the rate of eating disorder symptoms among American minorities was higher among those that were more acculturated. Minority women seem to be more at risk for developing eating disorders as they move away from the traditional values which may include comfort with extra weight. Nasser (1986) found that Arab women students were more at risk for developing bulimia in London than in Cairo. Kenyan women who had emigrated to Great Britain demonstrated body-perception similar to that of the British, rating large figures negatively; this being far removed from their culturally acceptable physique (Furnham & Alibhai, 1983).

Mumford, Whitehouse and Platts (1991) found, when comparing Asian females in Bradford (United Kingdom) with Asian females in Lahore (Pakistan), the Asian women in Bradford had a much higher prevalence of bulimia nervosa (3.4%) than in Lahore. They suggest that the Asian women in Bradford were demonstrating the effects of growing up in a Western culture and the resultant cultural stresses within their families.

Bulik (1987) notes the etiological importance of both the pressure to adapt to a new culture and the reorganisation of traditional family roles. It is suggested that attempts to adapt to a new culture can lead to an exaggerated overidentification with aspects of that culture, in this

instance, an overvaluation of slimness as desirable. Black women who endorse attitudes reflecting rejection of their black identity and idealisation of white identity are more likely to also endorse attitudes about body image and related dietary behaviours that are associated with eating disorders (Abrams et al.,1993).

Root (1990) similarly alleges that in a multicultural society each racial group is subjected to the standards of the dominant culture, particularly when the culture-of-origin is devalued by the dominant culture. It is possible that the pressure to act and look "perfect" may be increasing among ethnic groups, particularly within the context of upward social mobility in which acceptance is sought from the dominant culture. It is considered that the devaluation of non-Western originated groups has resulted in a stage within the ethnic identity development process that usually involves a rejection of the culture-of-origin during adolescence as an attempt to be accepted and valued by the dominant culture. The subsequent internalisation of white middle-class values may pressurise women of colour to conform to the standards displayed in fashion magazines in order for them to gain acceptance and credibility. Physical appearance as the ticket for acceptance may trigger the adoption of unhealthy eating and exercise practices by minority women (Root, 1990).

Acculturative stresses are considered to be key factors triggering disordered eating patterns in students relocated in a foreign culture (Mumford, Whitehouse, & Platts, 1991). Furukawa (1994) considers that there are two possibilities for acculturative stresses to be influential in triggering eating disordered behaviour. Firstly, "the emotional distress involved in any process of acculturation may be contributory in itself. Secondly, sociocultural pressure for weight awareness may be even greater in the cases where subjects moved from a non-Western culture in which concern about body shape is weak to a Western culture in which slimness is praised" (Furukawa, 1994:72).

Furukawa (1994) found that a substantial proportion of Japanese adolescents who had participated in an overseas exchange programme, reported abnormal eating attitudes during their stay overseas, thus implicating psychosocial and cultural factors in the etiology of eating disordered behaviour and attitudes. Furukawa concludes that although Japanese adolescents gain weight under the general stresses of acculturation, they do not respond with greater frequency of pathological eating attitudes. Rather, intra-individual characteristics such as personality and cognitive traits and perceived parental rearing emerged as predictors of future pathological eating patterns under stressful situations.

This view is supported by Mumford, Whitehouse and Choudry (1992:182) who suggest that "a cultural emphasis on slimness and dieting may well increase the risk of anorexia or bulimia nervosa, but these cultural pressures do not seem to be a necessary condition for developing an eating disorder".

2.7.3 Body Image and Acculturation

The role of body image as a social construct and the resultant impact on disordered eating is discussed in this section. Neither body image or cultural factors alone, account fully for the occurrence of disordered eating. However the interplay of both of these factors may well facilitate an explanation for disturbed eating behaviours and attitudes in women.

Positive valuing of slimness and perception of one's own and others' body shape is heavily influenced by social and cultural factors (Dolan, 1991; Furnham & Alibhai, 1983). The culturally different standards of attractiveness for female body shape and attitudes towards dieting have been indicated as major mediating factors in the prevalence of eating disorders

(Nasser, 1986, 1988). Western attitudes can contribute to a concern over body weight and have a possible pathogenic effect (Ford, 1992). The integration and internalisation of Western standards by black women may contribute to increased vulnerability for the development of eating disordered behaviours.

> "Body-image development clearly occurs in a cultural context. Cultures purvey gender-specific standards for physical attractiveness, body weight, and body shape... cultural standards shape the individual's body-image experiences and his/her adjustive behaviours (eg. dieting, exercising..etc) to manage these body-image experiences" (Rucker & Cash, 1992:292).

The salience and stringency of such standards for females in Western societies are often cited as important predisposing factors for the greater prevalence of eating disturbances among women than men (Garner & Garfinkel, 1980; Hsu, 1987; Rodin, Silberstein & Striegel-Moore, 1985, cited in Rand & Kuldau, 1990; Rosen, 1990). In non-Western societies that do not value or do not stigmatize plumpness, eating disorders seldom occur (Nasser, 1988).

In Thomas's study (1989) exploring body-image satisfaction among black women, a significant discrepancy between the women's current and ideal weights was noted, with a thinner standard viewed as ideal.

> "Women's satisfaction with their body image is influenced not only by physical characteristics but also by the way others react to them, a comparison of their physique to that of others in their immediate environment and a comparison to cultural ideals. Thus, although body weight may be a critical factor in body-image evaluation, other variables play a contributory role" (Thomas, 1989:108).

In addition, Thomas found that the black women's body weight was inversely correlated with their body-image satisfaction. Weight loss efforts and body dissatisfaction for black female students have been found to be significantly positively related to weight. In contrast, white female students were likely to adopt disordered eating attitudes and behaviours regardless of actual weight problems (Abrams et al., 1993).

Thus in summary, cultural influences together with self-dissatisfaction could give rise to a chronic pattern of restricted eating that, in turn, might increase one's risk for developing more pathological eating behaviour patterns. Strauman et al. (1991:954) posit that "thinness or attractiveness, as chronically accessible self-guides, will be activated by the social environment and will participate in determining perceptions of the environment. This mutual influence of self-evaluation and social and interpersonal factors would serve to increase the likelihood that the individual would encounter cues activating accessible self-standards for appearance, in turn increasing efforts at self-regulation. Over time, maladaptive eating behaviours could emerge from such a sequence of events."

2.7.4 The Role of Socioeconomic Status in the Development of Disordered Eating across Cultures

Several studies have been conducted to investigate the part that socioeconomic status (SES) plays in disordered eating. A review of SES and its relation to eating disorders follows.

It has been suggested by many investigators that a predisposition for anorexia nervosa and bulimia is correlated with increasing socioeconomic status. Most of the hispanic and black patients identified as eating disordered by Silber (1986) were children of professional upper

middle class parents. Anderson and Hay (1985) consider that increasing socioeconomic status confers increased vulnerability to these disorders. It is possible that it does so by increasing the exposure to sociocultural pressures for slimness. An inverse relationship between obesity and socio-economic status has been indicated; lower class women were found to be more obese than upper class women (Rand & Kuldau, 1990).

The literature is relatively clear about the increased vulnerability of higher SES women to the development of disordered eating behaviours. As black women in South Africa attain higher socio-economic standing, it is possible that their disordered eating may reach the same proportions as that of their white counterparts.

2.7.5 Contradictory Findings

2.7.5.1 Differences in Eating Attitudes and Behaviours across Cultures

The following two sections present contradictory findings relative to the presence of disordered eating across cultures. An attempt has been made to argue for the dissimilar accounts in each situation.

Results obtained by Abrams et al.(1993) support previous findings (Prince, 1983) that behaviours and attitudes related to eating disorders are culture bound. Black women were found to be less concerned about weight loss and made less effort to achieve a thin body than white women. Although the black female university students were heavier overall than the white female students, they were less likely to engage in characteristic eating disordered behaviours, that is, severe restrictive dieting, binging and purging.

> "Although black women may binge eat and may diet to manage their weight, they are not likely to engage in the extreme weight-loss behaviours that constitute an eating disorder, such as anorexia or bulimia nervosa" (Abrams et al., 1993:53).

It is suggested that there is less drive for thinness among young adult black women and efforts to lose weight are more realistic and less extreme whereas white women's concerns and dieting efforts are considered to be more about perceived weight problems (Abrams et al., 1993). According to feminist theorists, restrictive dietary measures and binge-purge behaviours may reflect a means of coping with conflict and anxiety about achieving independence. Therefore it is possible that,

> "for black university women, efforts to be thin may not develop into an eating disorder because such efforts are not linked to conflicts that white university women may have with respect to dependency issues.... Such an explanation, along with the greater acceptance of body weight within the black culture, would further explain why young adult black women are significantly less at risk for eating disorders" (ibid:56).

Thomas and James' (1988) findings indicated that although their sample of black women expressed some dissatisfaction with their body image and weight, they utilised moderate food restriction and exercise to control their weight. The authors suggest that although black women may perceive themselves as overweight, they may not feel the pressure to engage in extremely restrictive weight control behaviours as their white female counterparts. Possible reasons proposed are : black women's perception that black men do not view their heavier physiques as undesirable; their recognition that black women's make-up (body shape and bone size) is different from that of white women and thus may be unrealistic to emulate; and their

rejection of the media's ideal body type for women.

Rucker and Cash (1992) found that relative to whites, African-American university women possessed less disparaging body-image attitudes. Black women evaluated their overall appearance more positively, reported fewer negative thoughts about their body and displayed less concern about dieting and fatness. Black women held more moderate body size ideals than the thinner ideals of white women. It is considered by the authors that "Blacks' less internalisation of thin standards of beauty may lower their predisposition for anorexia and bulimia nervosa" (ibid:297).

Although obesity is more prevalent among black than white women it is not known if black women are more accepting of their weight. A lower prevalence of bulimic symptoms among black students may be partially attributable to the less restrictive weight standards held by black compared to white women (Rand & Kuldau, 1990). In Rand and Kuldau's epidemiological study (1990) on obesity, 46 percent of black women, 28 percent of black men, 18 percent of white women and 16 percent of white men were overweight. The white women also had self-imposed more restrictive weight standards than any other race group. White women, relative to other race groups are thought to experience the greatest societal pressures to be slim; they are the least overweight, they have the most restrictive standards for acceptable weight and obesity among white women is most closely associated with lower-class status (Rand & Kuldau, 1990).

In a study conducted by Hooper and Garner (1986) in Zimbabwe, it was found that white schoolgirls, scoring high on the Eating Disorder Inventory (EDI), were more weight preoccupied than the Mixed race group; the white group's scores on the *Drive for Thinness* and *Body Dissatisfaction* subscales of the EDI were higher than those of the Mixed race group. This study's results suggest that eating disturbance may occur on a "cultural continuum" with the

disorder more evident and evolved in the white group, less so in the black group and the Mixed race group falling somewhere between the two. The essential difference between the white and black groups was evident in the intensity of the dieting behaviour; the black subject was less driven. Hooper and Garner (1986) suggest that the black parents and peers are less demanding of slimness than those of their white counterparts. Of concern to the authors was the higher scores of the black group on the psychological dimensions of the EDI, namely *Interpersonal Distrust*, *Perfectionism*, *Interoceptive Awareness*, and *Maturity Fears*. It is suggested that the conflict arising from the erosion of traditional roles and values in Zimbabwe are reflected in the high scores on the psychological subscales of the EDI.

Chun et al's (1992) findings indicate that purging bulimia nervosa is rare in China. Possible explanations given by these authors to explain this include lower availability of the types of foods favoured for binge eating in China and perhaps differences in social pressures to maintain body weight in a certain range.

The above studies provide support for the adherence of white women to more restrictive standards of physical appearance. Various reasons are suggested for this phenomenon. For instance, conflict over dependence versus autonomy is considered more typical of white women than black women. Secondly, because disturbed eating behaviours were found to be less linked to actual weight problems for whites than blacks, it is possible that white women are more influenced by the Western media's portrayal of the thin body ideal. These results therefore suggest that black women are protected from eating disorders by cultural factors.

2.7.5.2 Similarities in Eating Attitudes and Behaviours across Cultures

In contrast to the aforementioned section, support for the similar presentation of eating disorders in different cultures is presented. Several reasons are submitted to explain the "apparent" lesser prevalence in non-Western women.

Mumford et al. (1992) posit that eating disorders should not be regarded as culture-bound syndromes because eating disorders have developed in cultures far removed geographically from their original Western setting. They found that the bulimic symptoms in Pakistani females were indistinguishable from the syndrome found in Western populations.

Silber (1986:125) cautions that the presentation and manifestations of anorexia nervosa in blacks and hispanics is not different from those described in caucasians, but rather a function of the "prevailing stereotype of the white middle class victim" that conspires against early recognition of disordered eating in black women.

Gross and Rosen (1988) noted that bulimia was much less common in black females, although not statistically significantly so. Their study further indicated that bulimia was equally likely to occur in any social class thus suggesting that the sociocultural influences which underlie bulimia have permeated all levels of the social hierarchy.

Smith and Krejci (1991:184) disclosed informative findings in their study of Hispanic and native American youth. They considered it "safe to conclude that the rate of disturbed eating patterns among native American as well as Hispanic youth is at least comparable to that of white adolescents". A disturbing finding of the above authors was the large number of individuals reporting extreme fear of weight gain and body dissatisfaction. A developmental study showed that adolescent girls with negative feelings about their bodies were at

significant risk of later developing an eating disorder (Attie & Brooks-Gunn, 1989). Furthermore, the fact that so many individuals responded to weight concerns with severe dieting is alarming given the evidence that restrictive dieting frequently precedes the onset of bulimic symptoms.

Women with high Body Mass Index (BMI) scores have been found to be more likely to use pathogenic weight-loss methods eg. fasting, vomiting, diuretics and laxatives. It was found that the goal of weight loss, and the subsequent use of dangerous methods to attain that goal, is not restricted to caucasian American and Western European women (Rosen et.al.,1988).

Therefore, disclosure of disordered eating by non-Western women may feel like capitulating to the symptoms of a stereotypically white problem, and thus may account for some of the reluctance by women of colour to seek help for psychological distress (Root, 1990).

The abovementioned findings refute the suggestion that black, Hispanic and Asian women are protected against eating disorders by cultural factors. The prevailing notion that eating disorders do not exist in women of colour needs to be challenged and an awareness generated about the incidence of disturbed eating behaviours in such women. Of particular interest again is the recognition of the prominent role that sociocultural factors play in the development of disordered eating.

2.7.6 Conclusion

The literature review has been undertaken as an attempt to orientate the reader to the motivation behind the current study. Firstly, the traditional view that eating disorders are a

culture-bound syndrome specific to Western cultures, has been challenged; this may in part contribute to the epidemic proportions that eating disorders are reaching internationally. Secondly, the higher prevalence of eating disordered behaviour in females, relative to males, suggests that an investigation of disordered eating behaviours and attitudes in women is appropriate; several hypothesised psychodynamic theories as to why women are more vulnerable to eating disorders are presented. Thirdly, the identification of university residence students as being at greater risk for the development of eating disordered behaviour motivates for this population being used as an appropriate high risk group. Fourthly, the contradictory findings on the presence of disordered eating behaviour in different cultures suggest that further cross-cultural research is required. The role of sociocultural factors in the development of eating disorders also needs further elucidation.

CHAPTER 3

METHODOLOGY

3.1 Aim and Design

The aim of this study was to determine, by the use of a self-report questionnaire, the Eating Disorder Inventory (Garner & Olmstead, 1984), the degree of eating disordered behaviour across cultures in South African female university residence students. In particular the following hypotheses were tested :

Hypothesis 1 : The degree of eating disordered behaviour in black women students in residence is significantly lower than that of white female students.

Hypothesis 2 : The black female students who are in advanced years of study, will exhibit more eating disordered behaviour than first year black female students, as determined by higher *Drive for Thinness* scores.

Hypothesis 3 : Black female students will exhibit higher Body Mass Index scores (i.e. height/weight^2 ratio will be higher) than white students.

Hypothesis 4 : There will be a positive correlation between high SES students and disordered eating, as measured by the *Drive for Thinness* subscale of the Eating Disorder Inventory (EDI), across cultures.

These hypotheses were derived from the literature review (refer Sections 2.6; 2.7.2; 2.7.3 and 2.7.4).

3.2 Method

3.2.1 Sample

The EDI has proved useful in identifying individuals with eating disorders in high risk groups. Residences or boarding establishments are considered high risk populations for the development of eating disorders (Striegel-Moore, Silberstein & Rodin 1986; Yates 1989), thus this measure is deemed suitable for this study.

For the purpose of this study the residences of 3 universities in the KwaZulu-Natal region were targeted as the sample population, namely : the University of Natal, Durban and Pietermaritzburg campuses, and the University of Durban-Westville. As a self-report questionnaire was chosen as the primary data collation instrument no sampling method was adhered to. The sample simply comprised those students who responded to the request for participation in this study.

3.2.2 Subjects

The subjects comprised those students who voluntarily completed the Eating Disorder Inventory (EDI) and demographic questionnaire. It was hoped that the sample size would consist of at least 100 female students from the residences of the University of Natal, Pietermaritzburg and Durban campuses, and the University of Durban-Westville.

The age of each subject was recorded together with the subject's current year of study at university. Other demographic details such as race, weight, height and socio-economic status were requested.

The Eating Disorder Inventory (EDI) was the measure used to determine the level of disordered eating for each subject. Individuals scoring at or above the 90th percentile, or above the cut-off scores, on each of the subscales, were categorised as having disordered eating attitudes and behaviours.

3.2.3 Instruments

The assessment instruments were as follows :

1. The Eating Disorder Inventory (EDI). This is a 64-item, self-report, multiscale measure with high reliability and validity, that assesses psychological and behavioural traits common to anorexia nervosa and bulimia (Crowther, Lilly, Crawford & Shepherd, 1992; Garner et al., 1983). The EDI consists of the following eight subscales measuring :

- *Drive for Thinness* (DT)
- *Bulimia* (B)
- *Body Dissatisfaction* (BD)
- *Ineffectiveness* (In)
- *Perfectionism* (P)
- *Interpersonal Distrust* (ID)
- *Interoceptive Awareness* (IA)
- *Maturity Fears* (MF)

The first three subscales (*Drive for Thinness*, *Bulimia*, and *Body Dissatisfaction*) assess attitudes and/or behaviours related to eating and body shape. The remaining five subscales measure traits which have been identified by clinicians as fundamental aspects of the

psychopathology of anorexia nervosa (Garner et al., 1983). These scales are labelled *Ineffectiveness*, *Perfectionism*, *Interpersonal Distrust*, *Interoceptive Awareness* and *Maturity Fears*.

The EDI has been shown to have an adequate reliability (Garner & Olmstead, 1984). The subscales were deductively derived and then validated with the aim that they differentiate between individuals with anorexia and bulimia nervosa from a university comparison group.

2. Demographic Questionnaire. The demographic questionnaire was used to record subject data that included age, year of study, degree being studied, body mass, height, and socioeconomic status (SES).

3.2.4 Procedure

A covering letter requesting participation in the study, together with the EDI questionnaire (Appendix A1), was placed in the letter boxes of females in the residences of the aforementioned universities. The subjects were not required to give their names and confidentiality was assured. The potential subjects were given written instructions with regard to the questionnaire and an envelope in which to seal the completed questionnaire was provided. The subjects were instructed to place completed questionnaires in the sealed collection box which was situated at the reception area in each residence.

The subjects were given two weeks in which to complete the questionnaires after which the boxes were recovered from the different residences. Once the questionnaires were collected they were hand-scored. The results were entered onto a spreadsheet by a statistician. The data were checked by the researcher to decrease the chance of error. The programme

Statgraphics was then used to facilitate the data analyses.

3.2.5 Data Analysis

a) EDI Subscales

Means and standard deviations for each race were calculated for the dependent variables i.e. the subscale scores of the EDI. T-tests were used to determine whether there were any significant differences between the black and white female students' scores on each of the EDI subscales. The numbers and percentage of subjects scoring above the cut-off scores (Hooper, 1986) on each of the EDI subscales were obtained. Then the number and percentage of subjects scoring above the 90 percentile on the *Drive for Thinness* subscale (as a measure of disordered eating) were derived. The percentage calculation is considered to be an informative measure to describe the distribution of disordered eating across races.

Fisher's Exact Probability tests were conducted on the above two samples (i.e. students above the cut-off scores and 90th percentile) to determine if there were significant differences between the proportions of black and white students with regard to disordered eating behaviours and attitudes.

Partial correlational analyses were undertaken to ascertain the relationships, if any, between the different subscales of the EDI.

b) Body Mass Index (BMI)

Means and standard deviations of the BMI scores for each race were calculated. A Kolmogorov-Smirnov two-sample test was conducted to determine whether there were significant differences between the BMI of black and white students.

A scattergram was drawn to determine whether there was a relationship between BMI and disordered eating (as determined by DT scores).

c) SES

A Chi-square analysis was conducted to determine if there was a significant difference between the SES of black and white female students.

An Analysis of Variance was undertaken on the SES scores and the *Drive for Thinness* subscale scores, to determine the relation between SES and disordered eating.

d) Acculturation and Disordered Eating

A T-Test was performed to investigate whether year of study (i.e. degree of acculturation) was related to degree of eating disordered behaviour. For this analysis, the sample was divided into two groups : Class 1 comprised students in their 1st and 2nd year of study; Class 2 included those students in their 3rd and 4th year of study.

CHAPTER 4

RESULTS

4.1 Introduction

The independent variables that were designated for this study included the following : race, income (SES) and Body Mass Index (BMI). The main dependent variables selected for statistical analysis were the eight subscale scores for the EDI.

Of the 400 questionnaires that were initially distributed, only 90 questionnaires were returned, thus representing approximately a 22.5% return rate. There were 20 students from UDW, 51 from UNP and 19 from UND. Thirty-nine students were black, forty-one students were white, six were Indian and four were Coloured. The age range of subjects was from 17 to 32 years with the average age being 20 years.

As noted above, the number of Coloured and Indian students that participated in this study were few (4 and 6 respectively). It was a concern of the researcher's that there were not large enough numbers in the sample to temper extremely high scores (outliers) which could invalidate the results. It is for this reason that comparative statistical analyses were only conducted on the black and white students.

4.2 EDI Subscale Results

4.2.1 Mean Scores and T-test Results

Table of Mean Subscale Scores for Black and White Students

(Indian and Coloured Students excluded)

Group	DT	B	BD	IN	P	ID	IA	MF
Black	6.9	1.5	9.6	2.9	*8.8	*4.8	3.5	*6.4
	(6.3)	(2.0)	(8.7)	(3.4)	(4.8)	(3.6)	(3.6)	(4.7)
White	6.2	1.9	13.1	2.8	3.8	3.2	2.9	2.4
	(5.5)	(2.7)	(8.3)	(3.7)	(3.1)	(3.3)	(2.8)	(2.7)
** C.C	5.1	1.7	9.7	2.3	6.4	2.4	2.3	2.2
	(5.5)	(3.1)	(8.1)	(3.8)	(4.3)	(3.0)	(3.6)	(2.5)

* significant difference (t-test; $p < 0.05$).

** Canadian Comparison sample scores

The only subscales on which there were significant differences, as determined by the t-test results, between black and white female students' scores, were *Perfectionism*, *Interpersonal Distrust* and *Maturity Fears*. On each of these, the black students had significantly higher mean scores than the white students (Appendices A2, A3, A4).

The mean subscale scores of the Canadian college students were included in the above table so as to provide a comparative sample. Of interest is that South African white students had higher mean scores than both the Canadian sample and South African black students on *Bulimia* and *Body Dissatisfaction*; South African black students had the highest *Ineffectiveness* scores.

4.2.2 Subjects scoring above the Cut-off Scores and 90th percentile

Table of Percentage of Students above the Cut-off and 90th Percentile

		DT		B		BD		IN		P		ID		IA		MF	
Group	No	Co	p	Co	p	Co	p	Co	p	Co	p	Co	p	Co	p	Co	p
Black	39	21	26	7	5	31	18	5	26	64	46	41	41	8	26	56	74
										*	*					*	*
White	41	10	12	15	12	49	24	7	22	12	7	24	24	2	29	12	27
Col	4	25	25	25	0	25	0	0	0	50	50	0	0	25	50	10	10
																0	0
Ind	6	17	17	17	17	50	17	17	17	33	17	33	33	33	33	17	17

* Significant difference between black and white students (Fisher's Exact test; $P<0.05$).

Significant differences were only noted on two subscales; on the subscales of *Perfectionism* and *Maturity Fears*, there were significantly more black students than white students scoring above the cut-off scores and 90th percentile.

4.2.3 Partial Correlation Analyses (PCA)

Partial Correlation Analyses were conducted on the EDI subscale scores of the whole sample to determine their relation to each other. The following is a presentation of the results yielded.

Partial Intercorrelations Between Subscales for the Whole Sample

	DT	B	BD	IN	P	ID	IA	MF
DT	-	*0.36	*0.25	-0.03	*0.38	-0.14	0.20	-0.06
B		-	0.09	0.07	-0.28	-0.13	*0.22	*0.21
BD			-	*0.28	-0.18	0.14	-0.08	-0.03
IN				-	-0.04	*0.40	*0.43	0.08
P					-	0.08	0.14	*0.37
ID						-	0.10	0.06
IA							-	0.08
MF								-

* significant correlations

The *Drive for Thinness*, *Bulimia* and *Ineffectiveness* subscales showed the highest number of correlations with the other EDI subscales. *Drive for Thinness* was correlated to *Bulimia*, *Body*

Dissatisfaction and *Perfectionism*. *Bulimia* was found to be positively correlated to *Drive for Thinness*, *Interoceptive Awareness* and *Maturity Fears*. *Ineffectiveness* was correlated to *Body Dissatisfaction*, *Interpersonal Distrust* and *Interoceptive Awareness*.

Partial Correlation Analyses were then done separately for black and white female students.

Partial Intercorrelations Between Subscales for Blacks and Whites

Black Students (n=39) (above diagonal)

	DT	B	BD	IN	P	ID	IA	MF
DT	-	0.23	0.23	-0.03	*0.41	-0.25	0.05	-0.03
B	*0.45	-	0.29	0.16	-0.31	-0.36	0.09	0.30
BD	0.29	-0.00	-	0.11	-0.25	*0.49	0.09	0.11
IN	-0.01	0.01	0.30	-	-0.03	0.29	*0.59	0.01
P	0.19	-0.12	0.05	0.16	-	0.16	0.21	*0.39
ID	-0.06	0.01	-0.03	*0.52	-0.27	-	-0.13	-0.05
IA	0.27	0.10	-0.09	0.18	0.21	0.24	-	-0.05
MF	-0.11	0.05	0.17	0.13	-0.09	0.02	0.04	-

White Students (n=41) below diagonal

* significant correlations

The PCA of the EDI subscales for black students found the following subscales to be correlated : *Drive for Thinness* with *Perfectionism*; *Body Dissatisfaction* with *Interpersonal Distrust*; *Ineffectiveness* with *Interoceptive Awareness* and *Maturity Fears* with *Perfectionism*.

The PCA of the EDI subscales for white students found : *Drive for Thinness* and *Bulimia* to be correlated; and *Ineffectiveness* and *Interpersonal Distrust* were correlated.

4.3 Body Mass Index Scores (BMI)

Table of BMI Scores

Group	N	Mean	Std.D
Black	39	*25.6	7.1
White	41	21.3	2.1
Coloured	4	18.9	1.0
Indian	6	19.6	1.4

* significant difference between black and white students (Kolmogorov-Smirnov)

The results of the Kolmogorov-Smirnov test support other research findings that black female students have significantly higher BMI scores than white female students.

The mean BMI for Coloured and Indian females was lower than that for blacks and whites. These results, as indicated earlier, need to be interpreted with caution because of the low numbers of subjects in these race groups. However on the basis of these results it would appear as if Coloured and Indian students had lower body weights than black or white students.

The results of the scattergram investigating the relationship between BMI scores and DT scores suggest that there is a positive relation between BMI and disordered eating (Appendix A5).

4.4 SES and Race

It was not possible to conduct a t-test on SES and race as it was found that the two variances of the two groups were not equal. The logarithm of SES yielded the same conclusion. As the t-test was not appropriate for this analysis, a chi-square test was conducted. The result of the analysis found that there was no significant difference between races on the independent variable of socioeconomic status. In other words, no race was represented to any greater or lesser degree than any other on a particular level of SES.

In order to determine whether there was a relationship between disordered eating (DT scores) and SES, an Anova was conducted. The results indicated that there was no relationship between disordered eating and SES for the whole sample or for black and white students analyzed separately.

4.5 Disordered Eating and Year of Study

The result of the t-test conducted on the whole subject sample to determine whether disordered eating increased per year of study, indicated that there was no significant difference between the disordered eating scores of 1st/2nd year versus 3rd/4th year students.

There was no significant difference found between 1st/2nd and 3rd/4th year black students with regard to disordered eating, as measured by the *Drive for Thinness* score.

Similarly there was no significant difference in the numbers of black women scoring above the 90th percentile on the DT subscale, in 1st/2nd year versus 3rd/4th year students.

CHAPTER 5

DISCUSSION

5.1. Introduction

As the EDI was validated on a western culture, it cannot be assumed that it has validity cross-culturally. However follow-up interviews conducted by Hooper (1986) found that high scores on the EDI are of value in detecting subclinical cases. For this reason the use of cut-off scores, and scores falling above the 90th percentile on the different subscales, were deemed useful for determining degrees of disordered eating behaviour across the different race groups in this study.

Eating disordered behaviour as reported by the EDI must be distinguished from clinical eating disorders (Garner, 1991). It is important to remind the reader that the EDI was only intended to be used as a screening instrument to give an indication of degrees of disordered eating across cultures in South Africa. However if we consider that eating disordered behaviour can be viewed as being on a continuum (Hooper, 1994), abnormal eating attitudes may represent subclinical or preclinical forms of eating disorders. Follow-up interviews with those individuals with elevated eating disordered scores could have confirmed the diagnosis of clinical conditions; this step was sacrificed in the interest of preserving anonymity, thereby hopefully increasing the validity and number of responses.

The results of this study will be discussed with reference to previous studies conducted in the area of disordered eating. An attempt is made to discuss reasons why contradictory results may have been obtained.

5.2 Degrees of Disordered Eating across Cultures

5.2.1 EDI Subscale Results

Because each dimension tapped by the EDI was originally conceptualised as a continuous trait, the issue of establishing cut-off points for high scores is somewhat problematic. However the authors of the EDI "provide as much information as possible ... in order to allow EDI users to make their own conceptual decisions" (Garner & Olmstead, 1984:6). For the purpose of this study the cut-off scores suggested by Hooper (1986), in his cross-cultural study of Zimbabwean schoolgirls, were employed. The numbers and percentage of subjects scoring above the cut-off scores on each of the EDI subscales were calculated. Thereafter the number and percentage of subjects scoring above the 90th percentile on each of the subscales of the EDI were derived.

This study's results suggest that there is no significant difference in the degree of disordered eating (as determined by the *Drive for Thinness* subscale score) between black and white female students. The lack of significant differences between black and white females on *Drive for Thinness*, *Bulimia* and *Body Dissatisfaction*, suggest that black females have a similar degree of disordered eating to that of white females.

Support for the above results is provided by Smith and Krejci (1991) who disclosed informative findings in their study of Hispanic and native American youth. Their results suggested that the rate of disturbed eating patterns among native American as well as Hispanic youth was at least comparable to that of white adolescents.

The current study also indicated that for high-scorers (i.e. subjects scoring at or above the 90th percentile on every subscale), more black females (but not significantly more) scored at

or above the 90th percentile than white females on the *Drive for Thinness* subscale. This finding is in a similar direction to the results obtained in a recent study conducted in Cape Town which found that black women scored higher on disordered eating behaviour than any other group (Sheward, 1994). In a Durban-based study, Grey (1995) was able to ascertain that black females had significantly more disordered binge eating than white or Indian female students. It is possible that had a larger sample been assessed in the current study, significant results could have been obtained.

On the *Bulimia* subscale, the present study's results suggest that more white women score at or above the 90th percentile than black women, although this difference was not significant. Analogous results were obtained by Rucker and Cash (1992) who noted that white women were found to report more frequent binging than blacks. Although Gross and Rosen (1988) found that bulimia was much less common in black females, their results indicated that it was not statistically significantly less common. It is possible that a reason for the lower binge eating reported by black women is that the types of food favoured for binge eating are less available to them. This is similar to the suggestion made by Chun et al. (1992) to explain the low prevalence of purging bulimia nervosa in China. However because the process of acculturation to a Western lifestyle is occurring, it is possible that the introduction of high calorie foods into black women's diets may contribute to an increase in binge eating and resultant purging in black women.

With reference to the *Body Dissatisfaction* subscale, more white females (but not significantly more) scored at or above the 90th percentile than black, Indian or Coloured women. In Grey's study (1995), white females were also found to have the highest body shape dissatisfaction of all the groups. This is supported by Rucker and Cash (1992) who found that relative to blacks, white women reported greater body dissatisfaction on the EDI.

The only discrepancy noted between the results of the cut-off scores and 90th percentile scores, was the reversal of the subscales of *Ineffectiveness* and *Interoceptive Awareness*. These two subscales are considered to overlap conceptually ie. confusion about one's internal state has been linked to feelings of ineffectiveness (Bruch, 1973, cited in Garner & Olmstead, 1984). Therefore these two measures (cut-off scores and 90th percentile results) are not considered incompatible and most likely support the results of each other.

In the current study significant differences were found between black and white women on the *Maturity Fears*, *Perfectionism* and *Interpersonal Distrust* subscales; these subscales are considered to be the "purely" psychological variables most often associated with disordered eating.

These results support those documented in Hooper's cross-cultural study of Zimbabwean schoolgirls (1986). Hooper suggests that the conflict arising from the erosion of traditional roles and values in Zimbabwe are reflected in the high scores on the psychological subscales of the EDI. It is possible that the same holds true for the black female students in South Africa who are subjected to acculturative stresses and the challenging of traditional values.

5.2.2 Subscale Correlations

The subscale correlations of the EDI subscales were quite different for black and white female students. For black females, there were several intercorrelations among the psychological variables (as noted in Section 5.2.1) and none among the clinical eating disorder subscales.

In contrast, among white students there was a strong correlation noted between the subscales of *Drive for Thinness* and *Bulimia*.

It is surmised that the association/interrelationships between the clinical eating disorder subscales is more entrenched for white students and less so for black students. However of concern is the higher level of psychological variables, associated with eating disordered behaviour, in black students. The adoption of restrictive (western) eating habits by black students, together with these predisposing factors of psychological distress, may accordingly trigger higher levels of eating disordered behaviour. Thus it is possible that the acculturative stresses black female students are currently being faced with, may increase their vulnerability to the development of eating disorders in future years.

5.3 BMI and Disordered Eating

Although the BMI of black women were significantly higher than those of white women, no significant difference was found between the two groups with regard to *Body Dissatisfaction* or *Drive for Thinness*. This would suggest that black women may not be protected against eating disorders because of greater tolerance of extra weight in their culture, as previously thought.

Sheward's study (1994) similarly found that the stereotypical view than blacks value a fat body shape was not confirmed. Although black students were slightly heavier in weight than their white and Coloured counterparts, their concerns about body shape and fear of fatness were comparable with those of Coloured and white women (Sheward, 1994).

The results of the current study suggest that a positive relationship exists between BMI and disordered eating (as measured by DT scores). Three relatively distinct groups were identified from the results and are described in terms of their defining characteristics. The first is an "anorexic" group which demonstrated low BMI scores and high DT scores. Interestingly this

"anorexic-like" profile group comprised both black and white females. The second group identified indicated that disordered eating increased as BMI increased, thus typifying the "normal" western approach to body size and dieting behaviour; there were both black and white females in this group. The third group demonstrated what can be termed the "traditional" african outlook ie. there was no increase in disordered eating or *Drive for Thinness* as BMI increased; black students were more highly represented than white students in this group. It is this last group that is allegedly protected against the development of disordered eating because of cultural factors, possibly indicating an increased acceptance of larger body shapes and sizes.

It is thus apparent that the western value of thinness and dieting, as an acceptable means of attaining the thin standard of bodily attractiveness, has pervaded non-Western cultures in South Africa to some extent. This is confirmed by the EDI subscale results discussed earlier (section 5.2.1) which suggest that there is no difference in disordered eating behaviour among black and white female students in South Africa.

5.4 SES and Disordered Eating

There was no significant difference found between the SES of black and white students. Furthermore no relationship was found to exist between SES and disordered eating. This is contrary to other research findings which indicate that black women from lower SES are less susceptible than white women to disordered eating (Dolan, 1991; Gray, Ford & Kelly, 1987; Rosen et al., 1988). Other researchers have suggested that as black females acculturate into mainstream society, they will be at greater risk for the development of anorexia and bulimia nervosa (Bulik,1987; Hsu, 1987).

A possible reason for this study's contrary findings is that a high SES may not be an indicator of acculturation. In other words, those individuals from a higher SES may not necessarily be more acculturated into western mainstream society than individuals from lower SES groups.

The aim of this study was to examine the phenomenon of disordered eating across cultures in female residence students rather than assessing its prevalence in the general population. Furthermore, as noted in Section 2.6, female residence students have been identified as being a high risk group for the development of eating disorders. However it is important to consider whether the rate of disordered eating in students is representative of the general South African population. It is suggested that the more upwardly mobile people from non-dominant groups who subscribe to the dominant Western cultural beliefs, are more likely to display elevated eating disordered behaviour rates than others of similar origin. Therefore caution needs to be exercised to prevent extrapolating these findings to rural black women and those from lower SES.

5.5 Acculturation and Disordered Eating

For this study, year of university study was hypothesised to be a measure of acculturation for black female students ie. it was thought that black students in more senior years of study would represent a more acculturated group. The level of disordered eating in this hypothetically greater acculturated group would accordingly be higher than the disordered eating in less acculturated groups (1st and 2nd year students), as suggested by several researchers (Furukawa, 1994; Mumford, Whitehouse & Choudry, 1992; Pumareiga, 1986; Root, 1990).

The results of this study indicate that there were no significant differences in disordered eating behaviours across different years of study for black female students. Support for these findings is provided by Gross and Rosen (1988) who also found no statistically different group differences between eating disordered (bulimic) girls and normal girls for SES, race, or grade.

A few considerations explaining the disparity between the current study's findings with those of other researcher's follow. It is possible that university students already represent an acculturated group and therefore differences in disordered eating within the sample would be minimal. In addition, perhaps the relatively small sample size of this study contributed to the lack of significant differences in disordered eating between different years of study. Furthermore although self-report information has the advantages of economy, actuarial scoring, and ease of administration, it is important to note that self-report instruments are vulnerable to distortion due to response set bias and inaccurate reporting by the subject.

An indication for further research into the phenomenon of acculturation and disordered eating would be to establish whether year of study is an effective measure of acculturation, and secondly to ensure that the sample size comprises at least 300-400 subjects so as to be able to generate significant results.

5.6 Summary and Conclusion

Eating disorders are unique because they represent a common type of psychopathology in which an environmental variable (culture) appears to be a major factor in determining the prevalence of the condition. The findings of this study suggest that there is no difference in disordered eating across black and white university residence students. This would suggest that the Western standard of a thin body ideal has influenced popularly held beliefs of black South African females accepting heavier body weights; it is possible that this has played a contributory role in the increased level of disordered eating behaviour exhibited by black female university residence students. If the cultural attitude promoting thinness could be modified, clearly not an easy task, the prevalence of these disorders could be dramatically reduced (Mitchell & Eckert, 1987).

It is hoped that the findings of this study, together with other national research findings, will alert mental health professionals to the increasing degree of eating disordered behaviour across cultures in South Africa and thus aid the early identification and treatment of eating disordered individuals. The co-morbidity of psychiatric disorders among eating disordered patients (eg. affective and personality disorders) also provides support for the need for early identification and subsequent treatment of these individuals. Preventative measures, primarily educative ones, aimed at specific high-risk populations (eg. student residences) may now be identified as priority undertakings. However the long-term effect of acculturation on the incidence of eating disorders still needs to be more fully elucidated thus indicating the need for further research in this area.

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A 26 item scale which measures a variety of attitudes, feelings and behaviours.
Some of the items relate to food and eating. Others ask you about yourself.
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 which applies best for you.
Please answer each question very carefully. Thank you.

ALWAYS	USUALLY	OFTEN	SOMETIMES	RARELY	NEVER	
☐	☐	☐	☐	☐	☐	1. I eat sweets and carbohydrates without feeling nervous.
☐	☐	☐	☐	☐	☐	2. I think that my stomach is too big.
☐	☐	☐	☐	☐	☐	3. I wish that I could return to the security of childhood.
☐	☐	☐	☐	☐	☐	4. I eat when I am upset.
☐	☐	☐	☐	☐	☐	5. I stuff myself with food.
☐	☐	☐	☐	☐	☐	6. I wish that I could be younger.
☐	☐	☐	☐	☐	☐	7. I think about dieting.
☐	☐	☐	☐	☐	☐	8. I get frightened when my feelings are too strong.
☐	☐	☐	☐	☐	☐	9. I think that my thighs are too large.
☐	☐	☐	☐	☐	☐	10. I feel ineffective as a person.
☐	☐	☐	☐	☐	☐	11. I feel extremely guilty after over-eating.
☐	☐	☐	☐	☐	☐	12. I think that my stomach is just the right size.
☐	☐	☐	☐	☐	☐	13. Only outstanding performance is good enough in my family.
☐	☐	☐	☐	☐	☐	14. The happiest time in life is when you are a child.
☐	☐	☐	☐	☐	☐	15. I am open about my feelings.
☐	☐	☐	☐	☐	☐	16. I am terrified of gaining weight.
☐	☐	☐	☐	☐	☐	17. I trust others.
☐	☐	☐	☐	☐	☐	18. I feel alone in the world.
☐	☐	☐	☐	☐	☐	19. I feel satisfied with the shape of my body.
☐	☐	☐	☐	☐	☐	20. I feel generally in control of things in my life.
☐	☐	☐	☐	☐	☐	21. I get confused about what emotion I am feeling.
☐	☐	☐	☐	☐	☐	22. I would rather be an adult than a child.
☐	☐	☐	☐	☐	☐	23. I can communicate with others easily.
☐	☐	☐	☐	☐	☐	24. I wish I were someone else.
☐	☐	☐	☐	☐	☐	25. I exaggerate or magnify the importance of weight.
☐	☐	☐	☐	☐	☐	26. I can clearly identify what emotion I am feeling.
☐	☐	☐	☐	☐	☐	27. I feel inadequate.
☐	☐	☐	☐	☐	☐	28. I have gone on eating binges where I have felt that I could not stop.
☐	☐	☐	☐	☐	☐	29. As a child, I tried very hard to avoid disappointing my parents and teachers.
☐	☐	☐	☐	☐	☐	30. I have close relationships.
☐	☐	☐	☐	☐	☐	31. I like the shape of my buttocks.
☐	☐	☐	☐	☐	☐	32. I am preoccupied with the desire to be thinner
☐	☐	☐	☐	☐	☐	33. I don't know that's going on inside me
☐	☐	☐	☐	☐	☐	34. I have trouble expressing my emotions to others.
☐	☐	☐	☐	☐	☐	35. The demands of adulthood are too great.
☐	☐	☐	☐	☐	☐	36. I hate being less than best at things.
☐	☐	☐	☐	☐	☐	37. I feel secure about myself.
☐	☐	☐	☐	☐	☐	38. I think about bingeing (overeating).
☐	☐	☐	☐	☐	☐	39. I feel happy that I am not a child anymore.

ALWAYS	USUALLY	OFTEN	SOMETIMES	RARELY	NEVER	
☐	☐	☐	☐	☐	☐	40. I get confused as to whether or not I am hungry.
☐	☐	☐	☐	☐	☐	41. I have a low opinion of myself.
☐	☐	☐	☐	☐	☐	42. I feel that I can achieve my standards.
☐	☐	☐	☐	☐	☐	43. My parents have expected excellence of me.
☐	☐	☐	☐	☐	☐	44. I worry that my feeling will get out of control.
☐	☐	☐	☐	☐	☐	45. I think my hips are too big.
☐	☐	☐	☐	☐	☐	46. I eat moderately in front of others and stuff myself when they're gone.
☐	☐	☐	☐	☐	☐	47. I feel bloated after eating a small meal.
☐	☐	☐	☐	☐	☐	48. I feel people are happiest when they are children.
☐	☐	☐	☐	☐	☐	49. If I gain a pound, I worry that I will keep gaining.
☐	☐	☐	☐	☐	☐	50. I feel that I am a worthwhile person.
☐	☐	☐	☐	☐	☐	51. When I am upset, I don't know if I am sad, frightened or angry.
☐	☐	☐	☐	☐	☐	52. I feel that I must do things perfectly or not do them at all.
☐	☐	☐	☐	☐	☐	53. I have thoughts of trying to vomit in order to lose weight.
☐	☐	☐	☐	☐	☐	54. I need to keep people at a certain distance (feel uncomfortable if someone tries to get too close).
☐	☐	☐	☐	☐	☐	55. I think that my thighs are just the right size.
☐	☐	☐	☐	☐	☐	56. I feel empty inside (emotionally).
☐	☐	☐	☐	☐	☐	57. I can talk about personal thoughts or feelings.
☐	☐	☐	☐	☐	☐	58. The best years of your life are when you become an adult.
☐	☐	☐	☐	☐	☐	59. I think my buttocks are too large.

ALWAYS	USUALLY	OFTEN	SOMETIMES	RARELY	NEVER	
☐	☐	☐	☐	☐	☐	60. I have feelings that I can't quite identify.
☐	☐	☐	☐	☐	☐	61. I eat or drink in secrecy.
☐	☐	☐	☐	☐	☐	62. I think my hips are just the right size.
☐	☐	☐	☐	☐	☐	63. I have extremely high goals.
☐	☐	☐	☐	☐	☐	64. When I am upset, I worry that I will start eating.

DEMOGRAPHIC INFORMATION

This study is to provide information on certain aspects of university populations. Confidentiality of responses is assured but it is not essential to give your name.

Please complete each question carefully. Mark your response with a cross, X, in the corresponding square or fill in the appropriate information where necessary.

1. Name (Optional) _____

2. Date of Birth _____

3. Are you :

Male	Female

4. What is your current marital status ?

single	married	divorced	widowed

5. Year of Study :

1st	2nd	3rd	4th+

6. Faculty :

	Agriculture
	Arts/Humanities
	Commerce
	Engineering
	Law
	Science
	Social Science
	Other - please specify

7. Accommodation :

	Residence
	Commune/Digs
	Family
	Rented Accommodation Alone
	Other (specify)

8. Ethnicity : Cultural Group

	Zulu
	Xhosa
	Sotho
	Indian
	"Coloured"
	White
	Other (specify)

This question is not meant to differentiate between races but rather to identify cultural variations.

9. What is your current weight ? _____

10. What is your current height ? _____

11. What is the least you have ever weighed at this height ?

_____

12. What is the most you have ever weighed at this height ?

_____

13. What would you consider to be your ideal weight ?

_____

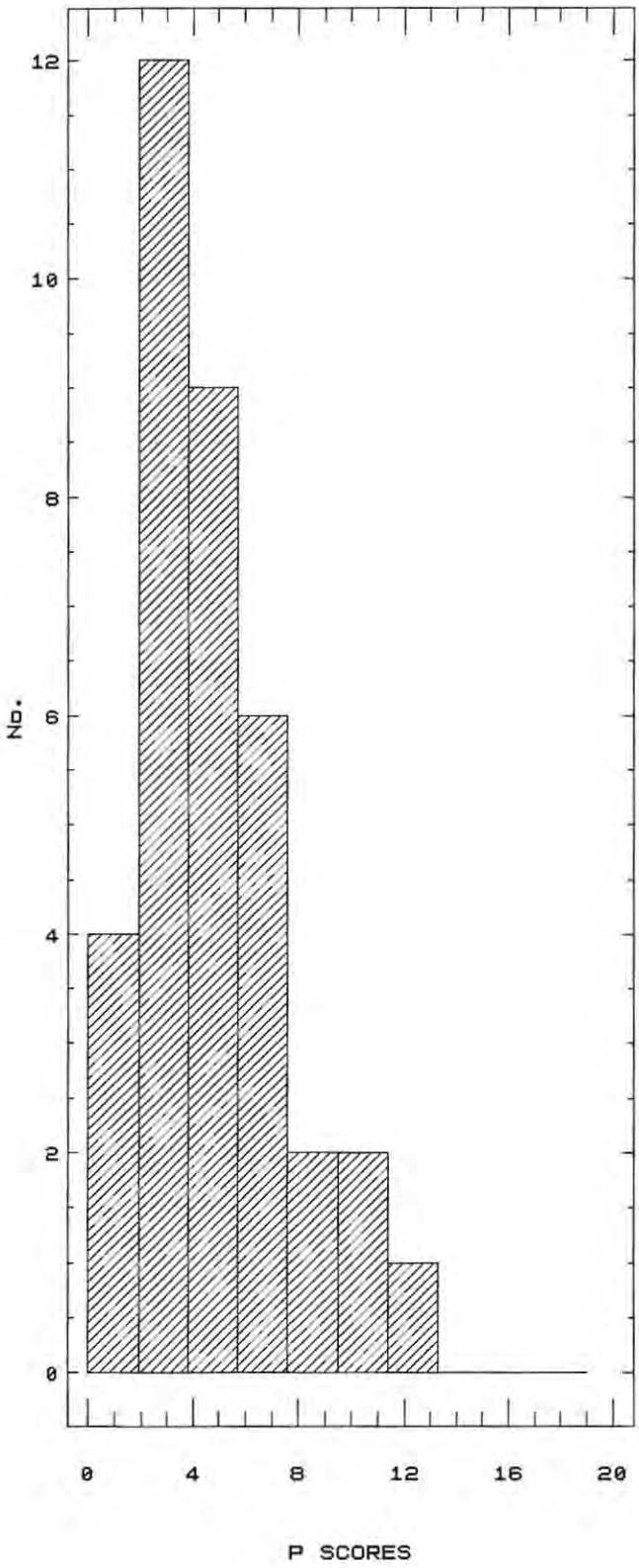
[illegible] of the following best represents your total family income in 1992, before tax ?

	No income - R999
	R1000 - R2999
	R3000 - R4999
	R5000 - R6999
	R7000 - R9999
	R10000 +
	Don't know

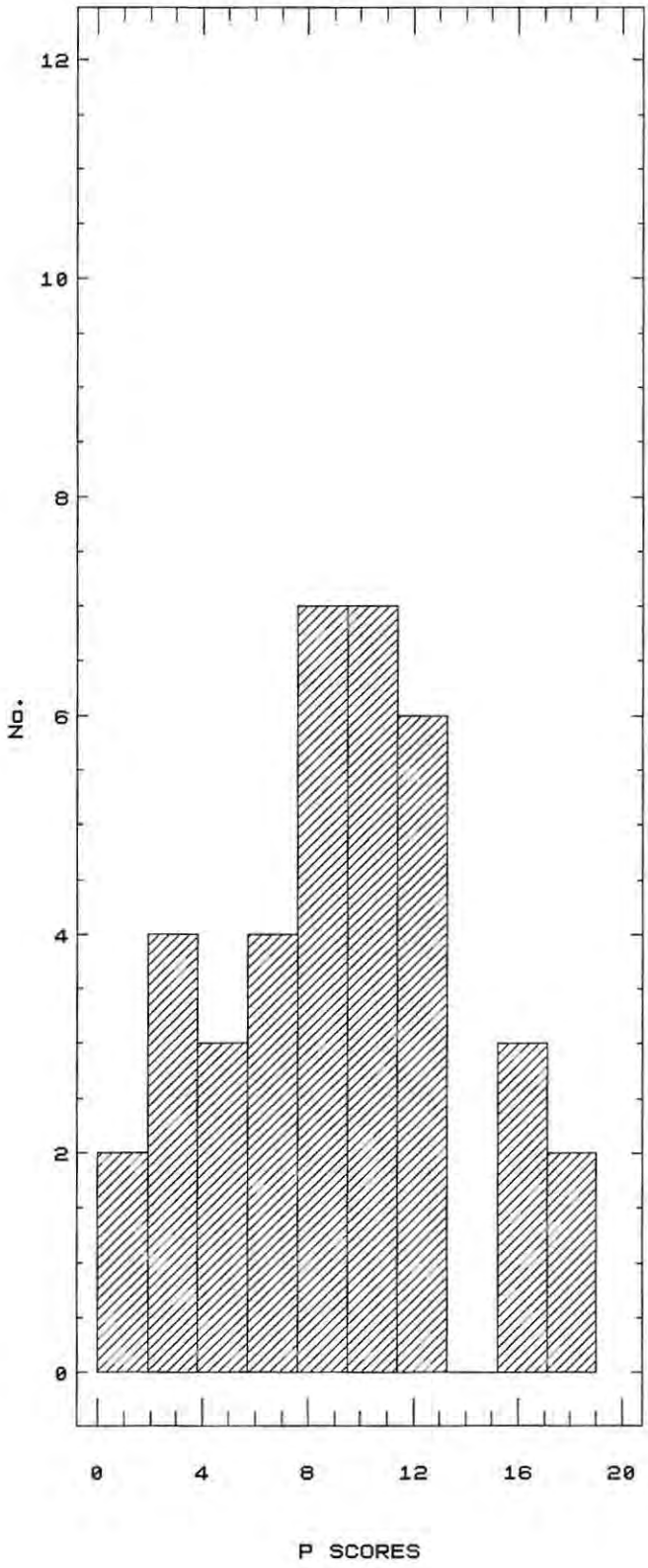
15. Father's Occupation : _____

Thank you for your participation.

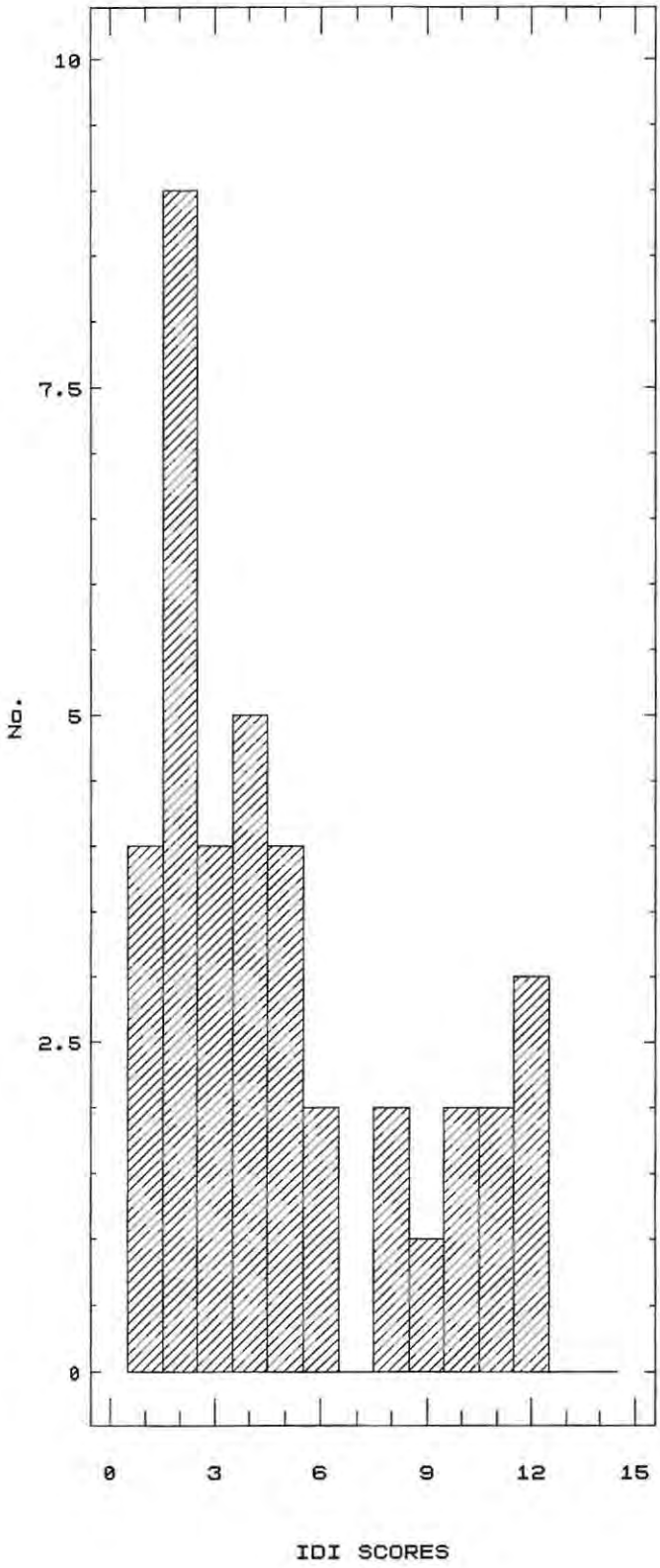
DISTRIBUTION OF P SCORES FOR WHITES



DISTRIBUTION OF P SCORES FOR BLACKS



DISTRIBUTION OF IDI SCORES FOR BLACKS



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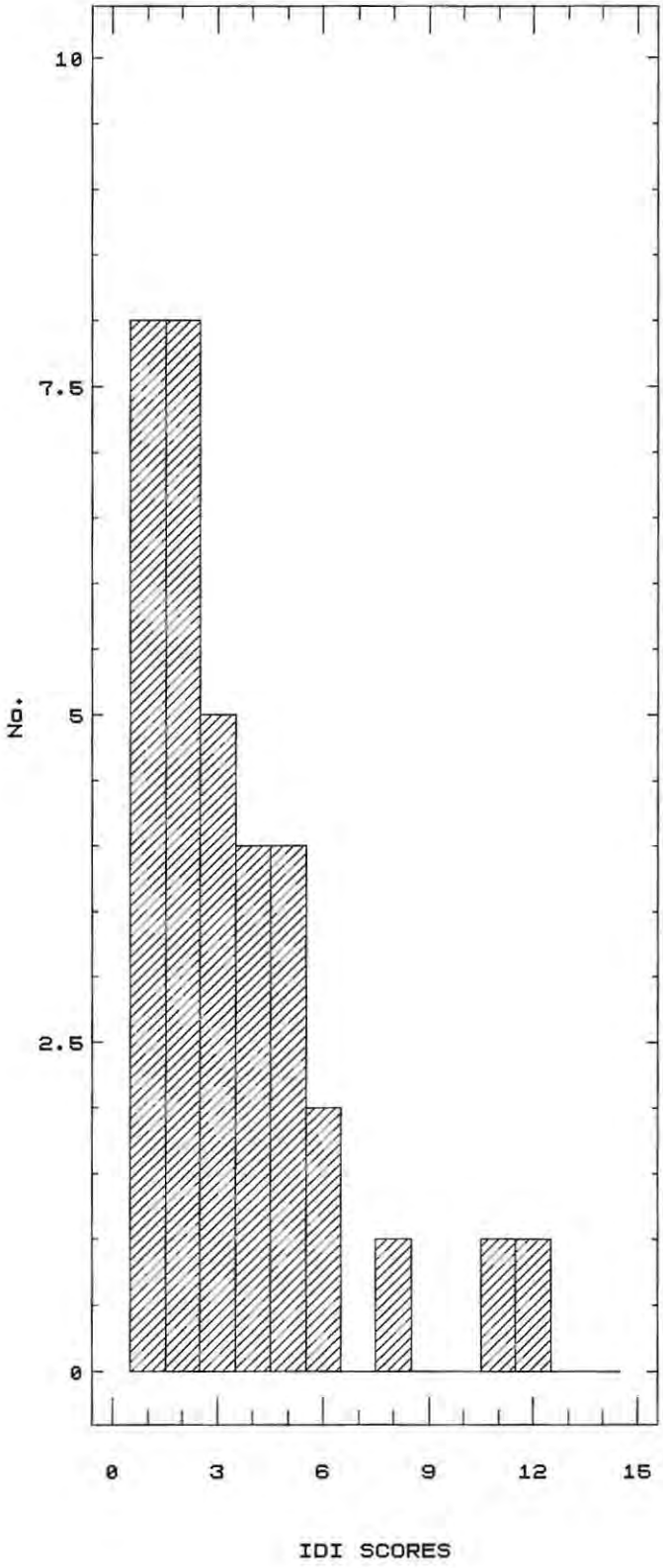

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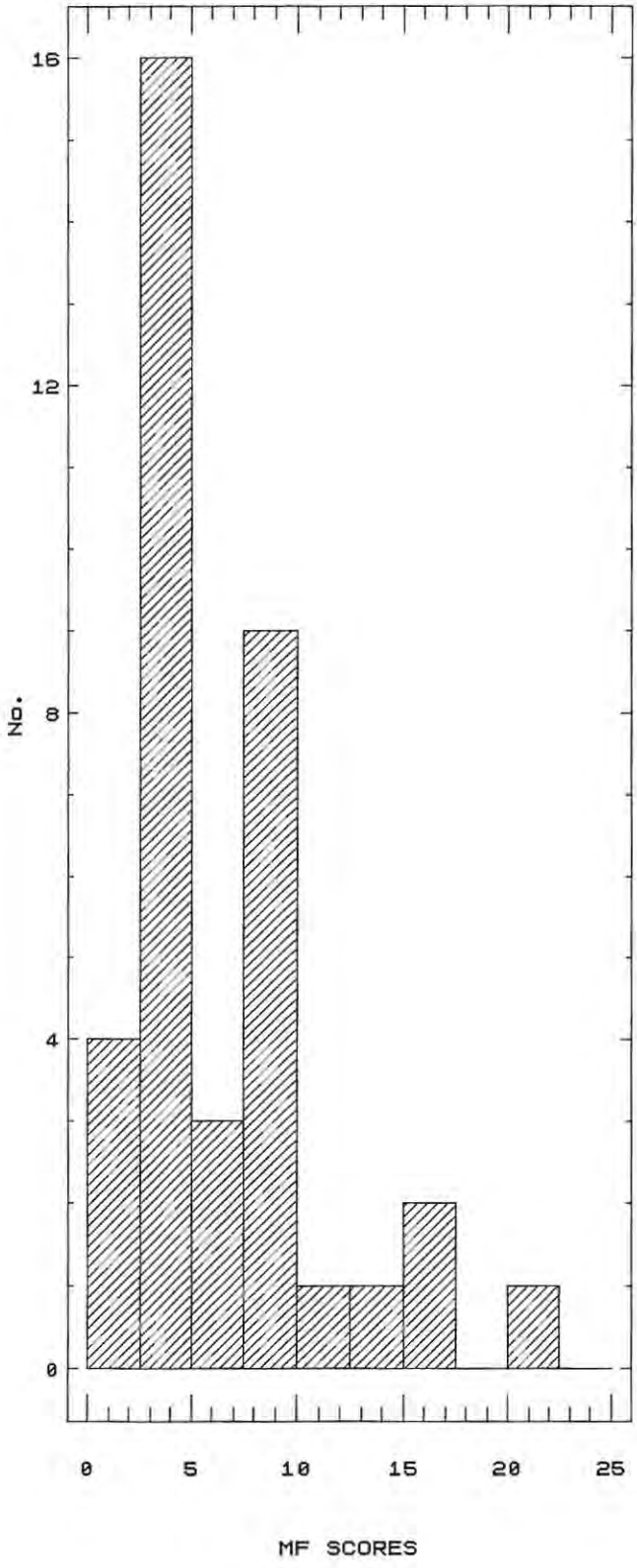

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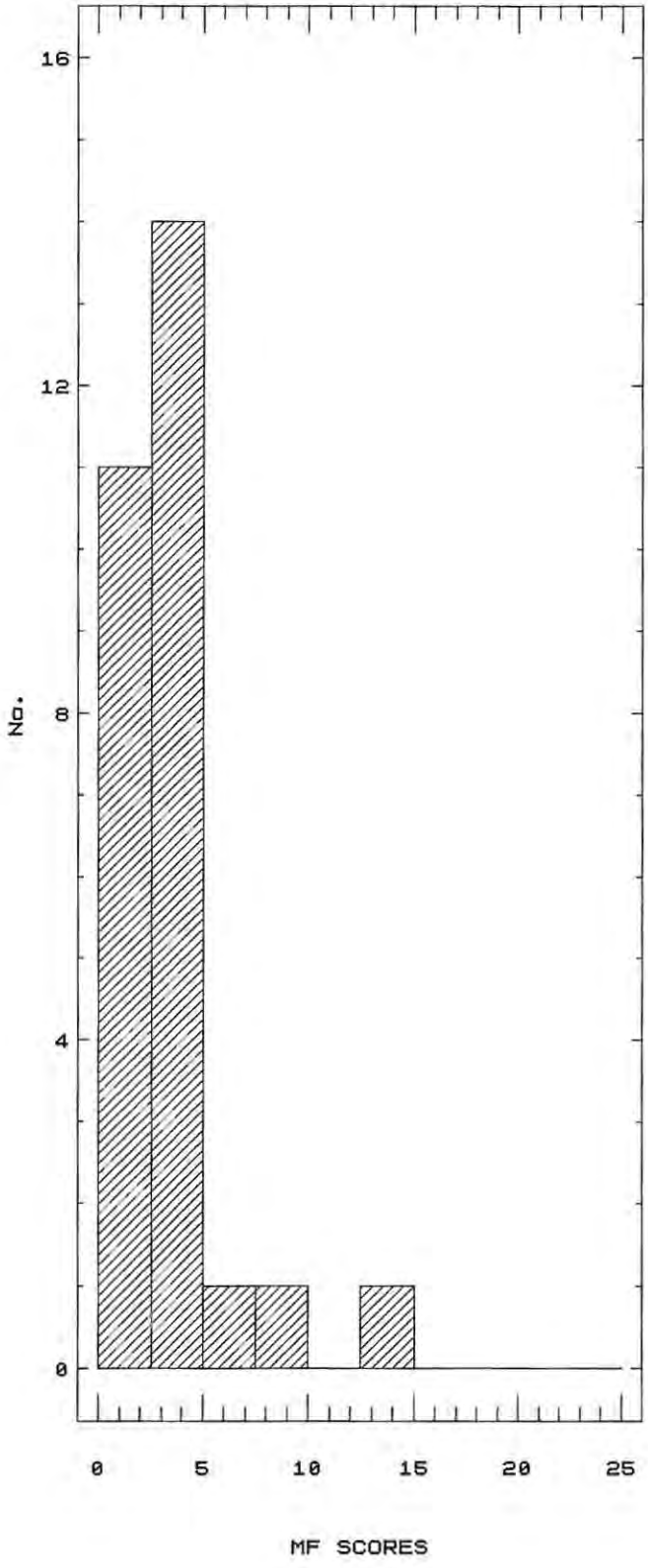

APPENDIX A5