

**AN EXPLORATION OF THE DEMOGRAPHIC PROFILE
OF A SAMPLE OF HOSPITALISED ANOREXIA NERVOSA
PATIENTS**

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the degree of Master of Education (Educational Psychology),
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DECLARATION

Unless otherwise indicated in the text, this dissertation represents my own work.

This thesis has not been presented or submitted in any form to any other university for the purpose of a higher degree.

Signature .....

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ABSTRACT

This retrospective exploratory study examined demographic variables in a sample of anorexia nervosa patients hospitalised from January 1987 to December 1996. The researcher undertook an extensive literature review of the history and epidemiology of anorexia nervosa, and found that, while changes in the demography of anorexia nervosa patients are evident in industrialised and developing countries, there is a paucity of equivalent data for South Africa.

The archival records of 254 anorectics admitted for the first time to an in-patient tertiary referral centre were reviewed. Descriptive and inferential statistics were computed to determine the demographic profile of the sample, to ascertain changes in demographic variables over the ten-year period of study, and to explore the relationships between these variables.

Results reflect the typical anorectic admitted to the hospital of study as a white, female, between the ages 15 to 20, and from the upper to middle social classes. The mean weight at admission for the sample was 39.24 kilograms, while the mean body mass index was 14.78 kilograms/metre². While no significant increase in admission rates within the ten-year period was found, a marked increase in admission rates is seen when the present study's findings of 254 first admissions over ten years (averaging 25 admissions per year) is compared to a previous study's findings of 54 admissions over a three-year period (averaging 18 admissions per year) at the same institution. Over the ten-year period of study, no significant trends or relationships were found with regard to the following variables: sex; race; age at admission; and socioeconomic status. However, a significant decreasing trend in weight and body mass index was found from 1987 to 1996, and a significant relationship was found between mother's socioeconomic status, and subject's weight and body mass index, respectively. Results also show evidence of an increasing number of males, Indians, children, and individuals over the age of 40 becoming vulnerable to anorexia nervosa. The extent to which these findings are generalisable to a broader-based South African cohort are questionable, due to the fact that the study was conducted in a single setting, and due to the influence of the historical context of the setting.

CHAPTER 1: INTRODUCTION

1.1 Rationale for the study

Epidemiological and clinical studies suggest that the incidence and prevalence rates of anorexia nervosa, as well as other eating disorders, have increased so dramatically in recent years that they can be described as reaching epidemic proportions (Ash & Piazza, 1995; Beumont, Al-Alami & Touyz, 1987a; Bryant-Waugh, 1993; Nasser, 1997). In addition, while earlier clinical reports characterised anorexia nervosa as a disorder affecting white, teenage, upper and middle class females (Brumberg, 1988; Nasser, 1997), recent research suggests that the demographic characteristics are becoming increasingly more heterogeneous. Anorexia nervosa is now consistently being found among all socio-economic strata (Gard & Freeman, 1996; Szabo, Ganter & Terre Blanche, 1995; Ziervogel, 1995), an increasing number of males (Andersen, 1993; Winship, 1996), children between the ages of 10 and 14 (Al-Alami, Beumont & Touyz, 1987; Lask & Bryant-Waugh, 1993), an increasing percentage of individuals over the age of 40 years (Beck, Casper & Andersen, 1996; Hall & Driscoll, 1993), more minority groups in western societies, and an increasing number of 'non-western' societies (Bryant-Waugh, 1993; Lee, 1996; Mumford, Whitehouse & Choudry, 1992; Nasser, 1997).

No incidence or prevalence studies of anorexia nervosa are available for the South African population (Swartz & Sheward, 1995), and there is also a lack of exploratory research documenting possible changes in the demographic profile of the South African anorectic, changes that are consistently being documented globally. Studies of the eating disordered behaviours and attitudes of students at South African universities suggest that eating pathologies are currently affecting sub-groups of the population previously considered immune, i.e. males, blacks, and individuals from lower social classes (Grey, 1995; Sheward, 1994; Winship, 1996; Zahoul, 1996). However, the extent to which the student population is representative of the wider community is questionable. Retrospective studies of clinical samples are therefore needed to ascertain whether the changes or trends in the epidemiology of anorexia nervosa, documented globally and suggested by the South African university studies, are apparent among South African

anorectics. Such changes would naturally hold dire implications for the early detection, prevention, and treatment of anorexia nervosa.

1.2 Aims of the study

The aim of this exploratory study is to discern whether changes or trends have occurred in the demographic characteristics of hospitalised anorectics at a Gauteng tertiary referral centre from 1987 to 1996 (inclusive). Attempts to isolate relationships between demographic variables will also be undertaken, in an effort to suggest explanations for any observed changes. The findings will be discussed in light of feminist-sociocultural theories of etiology which have been suggested as providing the strongest argument for the etiology of anorexia nervosa, as well as for the documented global changes in the disorder discussed above (Brumberg, 1988; Lawrence, 1995; MacSween, 1993; Nasser, 1997).

1.3 Definition of terms

1.3.1 Anorexia nervosa - definition and diagnostic criteria

Anorexia nervosa is one of the three eating disorders recognised as a mental disorder in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), the other two being bulimia nervosa and eating disorder not otherwise specified (APA, 1994).

Anorexia nervosa is characterised by a profound concern with body weight and image, and the pursuit of thinness, often to the point of starvation (Kaplan, Sadock & Grebb, 1994). The DSM-IV (APA, 1994), details four diagnostic criteria for anorexia nervosa. The core criterion is the persistent refusal to maintain body weight at or above a minimum weight expected for age, height and sex. Expected weight is often computed using life insurance tables or pediatric growth charts. People with anorexia nervosa also typically experience pervasive fear of becoming fat, even when drastically underweight, and they tend to exhibit a disturbance of body image, i.e. they feel fat and often deny their emaciation. To be diagnosed with anorexia nervosa, postmenarchal females must have an absence of at least three consecutive menstrual cycles (amenorrhea).

The DSM-IV example of the degree of weight loss necessary for a diagnosis of anorexia nervosa is a weight less than 85 percent of expected weight (APA, 1994). A somewhat stricter guideline is that used in the ICD-10 Diagnostic Criteria for Research which requires that the individual have a body mass index (see below for discussion of body mass index) equal to or below 17.5kg/m^2 to be diagnosed with anorexia nervosa. The index is derived from the formula: weight (kilograms) divided by the square of height (metres).

The DSM-IV has added a sub-classification of anorexia nervosa that was absent from the DSM-III-R (Alexander-Mott, 1994; Kaplan et al., 1994). In the restricting type, the individual restricts food intake but does not regularly engage in binge eating or purging by vomiting or using laxatives or diuretics. In the binge eating/purging type, the individual regularly engages in binge eating or purging.

Often, in the literature on anorexia nervosa, the terms 'anorexia' and 'anorexia nervosa' are erroneously used as synonyms when in fact they have distinct meanings (Lask & Bryant-Waugh, 1993). For the purposes of this study, 'anorexia' will refer to loss of appetite while 'anorexia nervosa' refers to that disorder characterised by a determined decrease in normal body weight. The same distinction will apply to the words 'anorexic' and 'anorectic': a person with anorexia nervosa is described as 'anorectic' while someone with a loss of appetite is 'anorexic'.

1.3.2 Culture, race and ethnicity

According to Haralambos & Holborn (1991), the concept 'culture' refers to the way of life of the members in a society; the collection of ideas, beliefs, values, and aesthetic perceptions which they learn, share and transmit from generation to generation. However, Nasser (1997) regards culture as an elusive term for which no agreement has yet been reached regarding its interaction with variables like race, nationality, social class, or religion. The trend in the study of psychopathology and culture has been to divide the world into 'western' and 'non-western' cultures, with the former

corresponding to Europe and North America, while the latter is synonymous with the rest of the world (ibid). For the purposes of this study, this distinction, albeit an extremely problematic one, has been adopted in discussions around cultural aspects of anorexia nervosa.

The term 'race' is defined as "any one of the major distinctions of mankind, each having distinctive physical characteristics and a common ancestry" (The World Book Dictionary, 1989). Four race groups are identified in South African history, (i.e. black, white, Indian, and coloured), and the labelling of these groups is fraught with problems as they are rooted in this country's apartheid past. However, for the purposes of establishing the demographic profile of the South African anorectic, these racial group labels will be used in this study.

'Ethnicity' is a term often used interchangeably with race, but is generally defined as a socially constructed phenomenon implying shared traditions maintained between generations and leading to a sense of group identity (Nasser, 1997).

1.3.3 Socio-economic status and social class

Socio-economic status (SES) is defined as the degree of "social honour", prestige or esteem accorded to groups of individuals in a society, being based on variables such as occupation, race grouping, religion, or lifestyle (Haralambos & Holborn, 1991, p. 43). For the purposes of this study, SES will be calculated on the basis of occupation. The five SES categories utilised in this study are as follows:

1. Professional occupations
2. Managerial and technical occupations
3. Skilled occupations
4. Partly skilled occupations
5. Unskilled occupations

(Office of Population Censuses and Surveys, 1991)

These occupation categories have been selected in such a way as to bring together, as far as possible, people with similar levels of occupational skill.

'Social class' refers to the division of social groupings in societies along the lines of their relationship to the means of production: in capitalist societies, for example, the capitalist class is usually found to own the means of production, while the working class own only their labour which is hired out to the capitalist class in return for wages (Haralambos & Holborn, 1991). Modern societies can generally be seen as being divided into the upper, middle, and working classes, with membership of these classes indicating, among other variables, the degree of relative wealth, ancestry, educational attainment, occupational prestige. In this study, no attempt has been made to differentiate the middle from the upper class; rather, SES categories 1 to 3 (listed above) are defined as the upper and middle classes, and SES categories 4 and 5 are considered the working class.

1.3.4 Body mass index

Beumont, Al-Alami & Touyz (1988) suggest Quetelet's Body Mass Index (BMI) as a better approach to the documentation of the extent of undernutrition than reference to standard body weight tables. The index is derived from the following formula: weight (measured in kilograms) divided by the square of height (measured in metres). The Australian Nutritional Foundation (ibid) suggests the following BMI ranges:

- above 30 kg/m²: obese
- 25 to 30 kg/m²: overweight
- 20 to 25 kg/m²: healthy weight range
- 18 to 20 kg/m²: underweight
- below 18 kg/m²: very underweight

1.4 Overview of the study

The literature review in Chapter two begins with a discussion of the historical development of anorexia nervosa, and is followed by a review of this disorder within a continuum of eating disturbances. Thereafter, the epidemiological

variables of anorexia nervosa will be discussed. The research methodology and procedures employed in this study will be set out in Chapter three. The study's findings are detailed in Chapter four and are discussed, in light of the issues raised in the literature review, in Chapter five.

CHAPTER 2: LITERATURE REVIEW

2.1 The historical development of anorexia nervosa

It was long believed that anorexia nervosa is a recently developed syndrome, coming into existence in the late 19th century when it was described almost simultaneously by Lasegue in France and Gull in England in 1873 (Bemporad, 1996). However, recent publications indicate that various forms of self-starvation had been practiced long before the 19th century (Bemporad, 1996; Beumont, Al-Alami & Touyz, 1987b; Brumberg, 1988; MacSween, 1993; Seid, 1994). The form that such eating disorders took in different historical eras appears to have varied, as, it appears, did the motivation behind the behaviour. Nasser (1997) suggests that, with the passage of time, phenomena that are considered culturally acceptable become increasingly more abnormal and begin to assume morbid proportions. To illustrate, she relates how vomiting and the use of purgatives, dating back to the time of Ancient Egypt, were widely accepted and common behaviours prescribed by physicians to rid the body of disease.

Cases of prolonged fasting and self-starvation, recorded in ancient Greek, Egyptian and Eastern cultures, appeared to have served as a means of penance or purification, to atone for prior transgressions, and as a means of supplication to superior powers. In early Christianity, the ascetic doctrine, practiced almost entirely by men, held that bodily needs or desires were a source of evil and were to be restricted (Bemporad, 1996). During Europe's Dark Ages, between the 5th and 10th centuries, few cases of self-starvation were reported. Siege, famine and plague ensured that hunger was rampant for a long time. For Bemporad (ibid), then, it appears that only when food is abundant can voluntary self-starvation serve a psychological purpose.

In medieval Europe, particularly between 1200 and 1500, many women engaged in restrictive eating and prolonged fasting, to the point of death, as a way to express religious ideals of suffering and service to other people (Brumberg, 1988; Nasser, 1997). Other possible reasons suggested include the ability to escape from an arranged marriage, and the avoidance of childbirth and child-rearing (Bemporad, 1996). These "holy anorexics" received an official stamp of approval from the

powerful Christian Church and were elevated to sainthood (ibid, p. 222). At this point in Western history, a phenomenon not dissimilar from modern anorexia nervosa began to exhibit itself. Self-starvation continued beyond the Renaissance, but the rate of occurrence decreased as harsh ascetic practices were increasingly discouraged, and as women were slowly excluded from the ranks of the Church's intellectual elite.

The 17th and 18th centuries (Age of Reason or Enlightenment), involved a shift from uncritical acceptance of religion and authority to the reliance on reason and scientific methods to organise knowledge. Since it was believed that human nature could be scientifically studied, prolonged abstinence from food became viewed as more linked to organic causes (for example, the abnormal condition of the blood or the brain's insensitivity to messages from the stomach) and was regarded as an illness to be resolved by medical intervention (Bemporad, 1996; Beumont et al., 1987b). [More recent biomedical factors postulated to contribute to the etiology of anorexia nervosa include genetic factors, hypothalamic dysfunction, malnutrition, and disorders of gastric emptying (Blinder & Chao, 1994; Wren & Lask, 1993)]. For Brumberg (1988) the 19th century was a crucial divide in the history of female fasting behaviour. During those hundred years food refusal was transformed from an act of personal piety into a symptom of disease, and by 1910, the expression of religious ideals had disappeared entirely from classifications of malnourished individuals. The locus of appetite control thus moved from the religious realm into the secular.

In the 19th century, medical description became more precise with symptoms being clustered together to produce a syndrome. Anorexia nervosa was named and identified in the 1870's (Bemporad, 1996; Brumberg, 1988). The 'birth' of this disease appeared related not only to increased medical sophistication in the identification and classification of diseases, but also to changes in the larger society that had consequences for young women. The number of anorexia nervosa cases increased considerably as the industrial revolution created a rise of the middle class, a new style of family, and a new status for women (Bemporad, 1996). Middle class families began to be distinguished by their declining size and the way they nurtured their children: the period of dependency for children

(adolescence) became prolonged, children received more parental attention, protection, and closer scrutiny, and young females were proudly set apart from market activity and wage labour (Brumberg, 1988; Seid, 1994). At this time, with the rapid spread of factories, women (and young females) were becoming increasingly admitted to the labour force. For Bemporad (1996), this was a possible creation of conflict for women – the traditional and entrenched picture of women as wives and mothers became inconsistent with economic realities. Lasegue (Beumont et al., 1987b) was the first 19th century physician to suggest that anorectic women came from families willing and able to expend emotional and financial resources on them, that food refusal constituted a form of intrafamilial conflict during the adolescent's transition to adulthood, and that the intensification of parent-child relations could generate its own psychopathologies. [Family systems theorists like Minuchin and Selvini-Palazzoli, in the 1970's, drew on similar ideas in suggesting that over-involved and over-protective family systems encourage passive modes of defiance, like eating disorders, making it difficult for members to assert their individuality (Blinder & Chao, 1994; Wren & Lask, 1993)]. In the face of increasing educational and social opportunities for women, prolonged dependency on and protection by her parents are held to have been possible causes of frustration for the young middle class female (Brumberg, 1988). Restricted by the strict Victorian decorum for women, the anorectic female chose food refusal from the repertoire of symptoms available to her: "food refusal, while an emotionally charged behaviour, was also quiet, discreet and ladylike" (ibid, p. 140).

Food refusal also complemented the ideal of 'thinness' which was becoming increasingly apparent in the 19th century (Seid, 1994). Thinness began to be positively perceived as representing a kind of spiritual beauty, as can be seen in the romanticisation of the thin, consumptive and pale look in 19th century literature and poetry (Nasser, 1997). This change in aesthetic values, with increased admiration for the thinner female figure, was quickly endorsed by the fashion industry and the middle class, who were able to purchase this look. It is therefore not surprising that early literature on anorexia nervosa highlights an over-representation of this disorder among the upper socio-economic classes (Bemporad, 1996; Seid, 1994).

For Nasser (1997), it is interesting to note that, at the time anorexia nervosa was named and identified, it was thought to be a manifestation of hysteria, at that time considered a product of a sexually repressive society. Lasegue, for example, called the syndrome *anorexie hysterique*, and Gull in 1874 gave it the name *apepsia hysterica* (Bemporad, 1996). For traditional psychodynamic theorists in the early 1900's, anorexia nervosa, like hysteria, was rooted in a link between oral and libidinal anxieties, the result of unresolved Oedipal conflicts reactivated in adolescence (Blinder & Chao, 1994; Brumberg, 1988; Wren & Lask, 1994). Anorexia nervosa was further thought to represent a rejection of femininity and a fear of oral impregnation (ibid). For Nasser (1997), however, both conditions can be seen as statements in reaction to social conditions where freedom and repression of sexuality and appetite are concerns. With the rise of the occurrence of anorexia nervosa, the incidence of hysteria appeared to decline, leading Russell (1985) to argue that current eating disorders, like anorexia nervosa, represent a shift in symptom choice of vulnerable individuals who, in the past, might have presented with hysteria, anxiety states, or other forms of neurosis. All these disorders thus appear to be different expressions of neurotic distress shaped by the prevailing culture. The cultural forces shaping these disorders could thus be considered pathoplastic, i.e. influencing the content, colouring, and form of the illness (ibid).

By the last decades of the 19th century, a thin body had come to symbolise a sign of social status: elite society appeared to prefer its women thin and frail as a symbol of their social distance from the working class (Brumberg, 1988). However, in the times of scarcity during the Great Depression and World War II (as during the period of the Dark Ages), voluntary self-starvation had little efficacy as an emotional strategy, and anorectic women were a relative rarity in American clinical practice. As illustration, Selvini-Palozzoli (1985) cites the war period in Italy (1939-1945) of dire food restrictions when no patients were hospitalised for anorexia nervosa. Post-World War II affluence, however, seemed to bring with it an advent of anorexia nervosa hospitalisations. The post-World War II phenomenon of dieting, informed by both the fashion and health industries, appears to have been one of the major 20th century contributing factors to the

increasing incidence of anorexia nervosa (Brumberg, 1988; Marx, 1994; Nasser, 1997; Seid, 1994). The glamorisation of thinness in fashion spread through the industry's introduction of 'ready-to-wear' standard sizing for women, thus pressurising women to pursue thinness (Seid, 1994; Marx, 1994). Coinciding with this trend in fashion toward a thinner body, the medical establishment began paying increasing attention to body weight, and introduced charts for standard body weights for height (Nasser, 1997). This increased attention to weight stemmed largely from the recognition of the possible health risks associated with obesity. Obesity increasingly became stigmatised and associated with negative attitudes like laziness and incompetence, while thinness began to be seen as aesthetically beautiful and associated with valued attributes like achievement and success (ibid).

The overview of the historical development of anorexia nervosa lays bare the fact that today's anorectic is one of a long line of women throughout history who have used control of appetite, food and the body as a focus of their symbolic language. Although anorexia nervosa is a relatively modern disease, self-starvation is obviously not a new behaviour. For Brumberg (1988, p. 16), the story of anorexia nervosa highlights the extent to which the disease is a "cultural artifact", serving as illustration of fundamental historical transformations. However, although self-starvation is a behaviour that occurs across time, it does not necessarily mean that it has the same etiological basis, that it is biologically based, or that it serves the same purpose. Even a basic human instinct like appetite is transformed by social and cultural systems and is given different meanings in different eras (Macswiney, 1993; Brumberg, 1988). Anorexia nervosa can perhaps thus be seen as symbolising the distress and social confusion experienced by the vulnerable individual, who uses the metaphor of thinness in an attempt to resolve these inner conflicts (Nasser, 1997).

2.2 Anorexia nervosa in a continuum of eating disturbances

The symptoms of anorexia nervosa are seen to revolve around fear of fatness and a strong desire to be thin. According to Nasser (ibid), these symptoms can easily be conceived of as extensions of culturally acceptable behaviours and preoccupations: it is normal for individuals in Western society to desire to be thin and thus engage in periods of dieting. Researchers investigating the link between

dieting and eating disorders thus found that frequent dieters have an increased potential risk of developing an eating disorder at a later stage (Clarke & Palmer, 1983; Szabo, 1998). For this reason, dieting is increasingly considered to be a necessary if not sufficient factor for the development of anorexia nervosa (Nasser, 1997). Polivy and Herman (1987), however, draw attention to the fact that the normal dieter and the anorectic pursue thinness for different reasons. With the anorectic, it is important to also take into account the individual's psychosocial functioning, in addition to the dieting behaviour.

The prevalence of young women with some symptoms of anorexia nervosa, but who do not meet the diagnostic criteria, is estimated to be close to five percent of the Western population (Kaplan et al., 1994). The presence of these subclinical forms and the frequency of their occurrence, as well as the suggested links between dieting and anorexia nervosa, suggest the possibility that eating pathology behaves on a continuum of severity (King, 1986; Nasser, 1997; Polivy & Herman, 1987; Smolak & Levine, 1994). Dieting behaviours are seen as representing one end of the spectrum and the extreme forms of disordered eating, like bulimia and anorexia nervosa, represent the other. Garner, Olmstead, Polivy and Garfinkel (in Winship, 1996) argue that although there is no simple continuum of eating pathology, individuals with eating disorders and dieters do share some pathological behaviours and attitudes: drive for thinness; concern with dieting, weight and appearance; binge eating; and dissatisfaction with one's body. They maintain, however, that ego deficits and perceptual disturbances are only seen in those individuals with clinically diagnosed eating disorders.

For Lawrence (1995), the fact that dieting and eating disorders are overwhelmingly female problems is not unrelated to the assertion that *all* women experience difficulties with eating issues. Women have, and always have had, a complex relationship with food in terms of its supply, production, and preparation. At the same time, they are pressured by the fear of fatness and by the vast 'slimming' industry to be thin. It is small wonder then that food related problems appear to be problems for all women. In a similar vein, Bear (1990) cites South African prevalence studies which show that the eating experiences of the average woman are not unrelated to the behaviours and attitudes associated with eating disorders.

Shefer (1986) highlights the following similarities between the behaviours and attitudes of 'normal' women and, and those of eating disordered individuals: guilt about eating; preoccupation with food and diet; concern about control of food intake; 'good' and 'bad' splits concerning food; ambivalence towards food; and the idea that there is a strong and immediate correlation between food and body shape.

The studies mentioned above appear to support the suggestion of a continuum of eating pathology. For Zahoul (1996), the premise of a continuum of risk for eating disorders provides a basis for considering how the predisposing psychological, familial, and socio-cultural vulnerabilities interact with precipitating stressors and perpetuating factors, thus providing a more in-depth understanding of disordered eating. According to Nasser (1997), the fact that weight consciousness and the thinness ideal appear all along the eating pathology continuum is strong argument for the socio-cultural causation of eating disorders.

2.3 Epidemiology

2.3.1 Incidence And Prevalence Rates

Epidemiological and clinical research suggest that the incidence and prevalence of anorexia nervosa, in certain societies, has increased dramatically in recent years, to the point that it is described as reaching epidemic proportions (Ash & Piazza, 1995; Beumont, Al-Alami & Touyz, 1987a; Bryant-Waugh, 1993; Brumberg, 1988; Dolan, 1991; Nasser, 1997). The prevalence and incidence rates discussed in this section refer predominantly to studies carried out in the United States of America and Britain, the sites of most current epidemiological research on the subject of anorexia nervosa. No incidence or prevalence studies of anorexia nervosa have been conducted in South Africa (Swartz & Sheward, 1995), thus there exists a pressing need to establish the number of South Africans with eating disorders as clinical experience shows that individuals from all communities are at risk (Winship, 1996).

Anorexia nervosa and related eating disorders are among the most commonly diagnosed disorders in adolescent girls and young women in the

middle to upper classes of the western world, leading researchers and clinicians to describe this as a 'high-risk' group for anorexia nervosa (Bryant-Waugh, 1993). Anorexia nervosa is held to occur 10 to 20 times more often in females than males (Kaplan et al., 1994). While incidence and prevalence rates tend to differ with different populations (i.e. race, sex, age and socio-economic class), the DSM-IV (APA, 1994) cites an overall prevalence of anorexia nervosa of 0.5% - 1% for adolescent females.

le Grange and Ziervogel (1995) report an increase in the incidence of anorexia nervosa from 0.3 cases per 100 000 in the 1960's to figures approaching 4 cases per 100 000 in more recent estimates. Ash and Piazza (1995) researched demographic changes in eating-disordered children and adolescents at an American children's hospital over the last three decades. They found that the diagnosis of anorexia nervosa increased significantly from 27 cases in 1979 to 62 cases in 1990, with a peak of 97 cases in 1988. Two South African studies at an in-patient institution further highlight the documented increase in anorexia nervosa diagnoses: Norris (1979) reported 54 admissions over a three-year period in the 1970's (averaging 18 admissions per year), while Szabo, Ganter and Terre Blanche (1995) reported 186 admissions over a five-year period (1989 to 1993) (averaging 37 admissions per year).

In Britain, the incidence of anorexia nervosa, calculated from case register and hospital records data, was shown to be in the range 2 to 4 per 100 000 (Nasser, 1997). Epidemiological research carried out in the community to obtain more reliable information revealed a prevalence figure of 1% for anorexia nervosa and a rate in the region of 2% to 5% for the subclinical syndrome (ibid).

As mentioned before, no South African prevalence or incidence studies of anorexia nervosa have been conducted. However, if there exists a continuum of eating pathology, it might be possible to draw an association between disordered eating attitudes and vulnerability to eating disorders. Zahoul (1996), in a study of the eating attitudes and behaviours of 1105

students at three South African universities, found that approximately 10% of females (N=727) and 2% of males (N=378) could be identified as having a possible eating disorder. Zahoul (ibid) maintains that these findings are consistent with those reported by Connors and Johnson in their 1987 study which summarised the findings of 17 studies and related that the prevalence of eating disorders ranged from 5% to 20% in females and 0% to 5% in males. A 1994 study by Sheward (cited in Swartz & Sheward, 1995) also found that disordered eating patterns among South African students of all races were as common as among students in Western countries. The South African studies investigating prevalence rates of eating disturbances, however, have largely been confined to universities, and the reports of high rates of disordered eating patterns suggest that, as is the case on campuses in Western countries, intense academic and social pressures may increase the likelihood of such disturbances in the student population (Zahoul, 1996).

In the United States, Britain and Western Europe, the rapid growth of anorexia nervosa over the past three decades is held to be due in part to "diagnostic drift": the increased awareness, diagnosis and reporting on the part of doctors and families (Brumberg, 1988, p. 13). The increase in the number of anorectics can also be explained by the amount of media attention paid to the disorder. For Brumberg (ibid) anorexia nervosa can currently be conceived of as an 'in' disorder among affluent young women, reminiscent of what Hilde Bruch once called the 'me-too' (or copycat) anorectic phenomenon. This phenomenon naturally adds confusion to the statistical assessment of anorexia nervosa.

A further complication to epidemiological research on anorexia nervosa is the use of different diagnostic criteria. At the same time as anorexia nervosa appears to increase in prevalence in the last three decades, its diagnostic criteria have been changed by the psychiatric profession. In the 1987 revision of the DSM-III, the American Psychiatric Association changed the weight loss diagnostic criterion from 25% of original body weight (DSM-III) to 15% below expected body weight (DSM-III-R) (Lee, 1996). Due to

this change in diagnostic criteria, patients in recent years may more readily be diagnosed as anorectic and admitted for treatment, where previously they may not have received the diagnosis of anorexia nervosa.

For Bryant-Waugh (1993) a further factor contributing to the impression of a rapid increase in the incidence of anorexia nervosa is that of re-admission. She maintains that since many studies of anorexia nervosa may not differentiate between first and subsequent admissions, incidence rates may appear higher than in reality as some individuals may be included more than once. This may merely reflect the chronicity of the disorder, rather than a rapid increase in incidence rates.

Incidence and prevalence studies on anorexia nervosa, and other eating disorders, are thus fraught with many complicating factors. However, although the total number of actual anorectics is hard to assess, incidence of the disorder is without doubt higher today than at any other time since the discovery of the disorder over a century ago (Brumberg, 1988; Nasser, 1997). This therefore necessitates increased attention to the disorder and those who appear to be at risk.

2.3.2 Age at onset (and at admission)

It is generally believed that the most common ages of onset of anorexia nervosa are the mid-teenage years, and up to 5% of anorectics have the onset of the disorder in their early 20's (Blinder & Chao, 1994; Bryant-Waugh & Kaminski, 1993; Kaplan et al., 1994). Al-Alami et al. (1987) report that earlier studies generally found similar ages of onset: two 1954 studies found that anorexia nervosa began in most of the studies' patients between the ages of 16 and 20, and 11 and 20, respectively. Al-Alami et al. (ibid) cite a further 1974 study by Halmi who reported that onset of anorexia nervosa occurred before 10 years in 8% of her cases, between 10 and 15 years in 31%, between 16 and 25 years in 47%, and after 25 years in 13%. In a South African study tracking demographic changes in hospitalised anorectics from 1989 to 1993, Szabo et al. (1995) found that, at admission, 2% of the sample was 13 years old and younger, 87% was

between 14 and 28 years old, and 11% was older than 28 years old (N = 94).

For Lask and Bryant-Waugh (1993), the results of such studies provide cause for concern that the childhood onset of eating disorders has increased over the years, and that a further increase in childhood onset can be anticipated. They maintain that in the context of a recent increase in dieting behaviour in children (defined as the 8 to 14 year old age group), and given the belief that the prevalence of eating disorders in a specific population is likely to be directly proportional to the prevalence of dieting behaviour in that population, a further increase in the childhood onset of eating disorders can be anticipated. Szabo (1998) highlights recent research which suggests that between 30 to 60% of teenage females engage in dieting behaviours at any given time, and that up to 80% of teenage females diet at some point during adolescence. According to Szabo (*ibid*), South African research has yielded similar findings.

While Bryant-Waugh and Kaminski (1993) cite a number of recent reports which have described series of young patients with anorexia nervosa from as young as age eight upwards who fulfil widely accepted diagnostic criteria for the disorder, they maintain that the eating disorder literature relating to childhood onset remains sparse. There are thus no reliable incidence estimates of anorexia nervosa in childhood populations (*ibid*). Problems related to epidemiological research in this context add further complications. For example, in studies where diagnostic criteria have been used that require the presence of amenorrhea, premenarcheal girls have been excluded from consideration (Bryant-Waugh, 1993). Furthermore, there are great inconsistencies in reported incidence and prevalence rates of childhood onset anorexia nervosa, due in part to the use of different assessment methods, the lack of homogeneity in surveyed groups, and the use of different diagnostic criteria. What can be concluded at this stage is that, while it is fair to say that there are far fewer eating disorder patients aged between 8 and 13 than there are in the age span of 14 to 19, the

incidence of anorexia nervosa in children is almost certainly *not* decreasing (ibid).

With regard to late-onset eating disorders, the available literature is extremely sparse, with only four case series and a few isolated single case reports published to date (Beck, Casper & Andersen, 1996). A 1991 study by Joughin, Cris, Gowers and Bhat (ibid) found that later-onset anorectics constituted 2% of the sample, while Beck, Casper and Andersen (ibid), in their 1996 review of eating disorder admissions to three university hospital programs, found that approximately 1% of all cases had first onset of an eating disorder after age 40 and as late as 77, with an average onset of 56 years. The authors thus maintain that anorexia nervosa and bulimia nervosa are not restricted to the young and that truly late-onset cases do occur, challenging etiological theories requiring adolescent age of onset, premenopausal endocrine functioning, or adolescent psychodynamic conflicts. Late occurring onset cases require an understanding of psychological themes pertinent to this age group, such as bereavement or unresolved body image issues, and are held to occur whenever self-starvation or binge-purge behaviours become entrenched as sustaining behaviours for dealing with psychodynamic conflicts, mood disorders, or interpersonal stress (ibid; Hall & Driscoll, 1993).

Reviewing the age profile of the anorectic, then, it can be seen that the majority are young with the commonest age of onset at 15. However, as can be seen, it is not uncommon for older women to develop anorexia nervosa. For Lawrence (1995) the time when people's difficulties with food begins is not so much related to age as to when they become caught up in a struggle for autonomy with which they feel unable to cope. Since adolescence is a time when an identity crisis is most likely to occur, this helps to explain the common teenage-onset of anorexia nervosa (ibid). Smolak and Levine (1994) maintain that normal developmental transitions, such as puberty and pregnancy, increase the salience of three issues: body shape and weight, social demands for thinness, and achievement. For

these reasons, early adolescence and college transitions are held to be important given the modal ages for onset of eating disorders.

2.3.3 Sex

Anorexia nervosa is estimated to occur in about 0.5% to 1% of adolescent females, making it one of the most common psychological disorders affecting women in the Western world (APA, 1994; Kaplan et al., 1994; Lawrence, 1995; Nasser, 1997). The prevalence of young women with some symptoms of anorexia nervosa but who do not meet the diagnostic criteria is estimated to be close to 5% (ibid). It is generally believed that females are fifteen to twenty times more likely to be diagnosed with anorexia nervosa than are males, and that in clinical samples, only 5% to 10% of eating disorder patients are male (Kaplan et al., 1994). Andersen (1993), researching more than 1500 anorectic patients, found a 1:10 male to female ratio. However, he maintains that the current diagnostic criteria for anorexia nervosa are gender-biased – while a criteria of three months of amenorrhea is necessary to diagnose anorexia nervosa in females, there is no analogous criteria for males even though abnormal reproductive hormone function in males can be documented. Andersen (ibid) thus states that males with eating disorders are frequently misdiagnosed by being overlooked.

In a 1990 study comparing the clinical features of female and male anorectics, Crisp and Burns (in Marx, 1994) found that male and female anorectics were similar in terms of premorbid characteristics, illness features, and prognosis. Similarities included social class backgrounds and ages of onset of the disorder. One difference found between male and female anorectics appeared to be that bulimia and vomiting to avoid weight gain were not associated with a poor prognosis in the males. A second 1990 comparison of 20 males who met the DSM-III-R criteria for anorexia or bulimia with a matched female sample found that the male patients had significantly lower scores on the Dieting and Drive for Thinness scales used (ibid). The authors thus speculated that these differences could represent

a culturally dependent difference between female and male attitudes toward dieting behaviours.

Since anorexia nervosa is overwhelmingly a women's problem, it would be tempting to wonder whether it is necessary to be female to develop the disorder, as was the assumption of psychodynamic theorists in the early 1900's. For Lawrence (1995), however, we are now in a position to conclude that any theory couched in terms of the unique biology or psychology of women appears flawed, since we do see anorectic men. Anorexia nervosa, however, remains a problem to which women are very much more vulnerable than men.

Explanations for the greater incidence of anorexia nervosa among women appear best explained by feminist-sociological theory. In patriarchal societies, women's self-image, their social and economic success, and even their survival is still largely determined by their physical beauty. Women are more often portrayed as sexual objects of pleasure to men rather than vice versa, and they are under pressure to meet unreasonable body weight standards seen as desirable for women (Haralambos, 1991; Nasser, 1997; Seid, 1994). To illustrate the greater cultural pressure for thinness among females compared with males, Andersen (1993) cites a study which showed that the ratio of advertisements and articles promoting thinness in magazines most commonly read by women aged 18 to 24 versus advertisements in magazines read by males in the same age group was exactly 10:1. In the same vein, Zahoul (1996) reports on research which analysed Playboy magazine playmate centrefolds, and the contestants in Miss America pageants from 1959 to 1978: the mean weight of both samples of female subjects were found to be significantly less (13% to 19% below expected weights) than the population weight means published by the Society of Actuaries for each year. (This finding assumes increased significance when one considers that a DSM-IV criterion for anorexia nervosa is a body weight that is 15% below that expected). Zahoul (ibid) further states that this study's findings do not reflect a decrease in average body weights over the twenty year period; rather, a comparison of actuarial

norms of 1959 with those of 1979 revealed that the average weight of women below age 30 was consistently heavier in 1979 than in 1959. The average weight of the American female population could thus be seen as increasing parallel to the increasing pressure for thinness.

* For Lawrence (1995) and MacSween (1993), in order to begin to understand how and why women develop eating disorders, it is necessary to consider the vast complexities of the organisation of food production and food consumption that women in general are caught up in. Eating, in the Western world, is no longer a matter of subsistence, and every aspect of eating supports a vast consumer industry manufacturing its specialist products. Since food in most societies is considered the responsibility of women, women are generally the prime and exclusive targets of all food propaganda, and they also spend large amounts of time thinking about food, planning meals, shopping, considering nutritional levels, and trying to reconcile these with other people's preferences (ibid). Food is the medium through which women demonstrate love and concern for their families, thus symbolic nurturing through feeding is a powerfully recurring theme in women's lives. However, although women take responsibility for food in the family, food is very seldom a source of pleasure for them (MacSween, 1993). As illustration, when Lawrence (1995) asked a group of women at a workshop how often they bought and cooked food they really like to eat, the answer from all the women was almost never. They tended to avoid having their favorite foods in the house for fear that they would eat too much and therefore put on weight.

As mentioned previously, women more than men fear fatness and therefore engage in more dieting behaviours (Marx, 1994; Nasser). The reason for this appears to be rooted in Western society's demand for thinness, the negative attitude toward fatness, and the gender stereotyped socialisation of children (Gremillion, 1994; Lawrence, 1995; MacSween, 1993; Nasser, 1997; Perlick & Silverstein, 1994; Wolf, 1994). Male children are more likely to be encouraged to directly express their feelings of anger and rebellion than are females. Females, behaving in a socially acceptable

manner by not being as aggressive as males are allowed to be, may therefore tend to 'communicate' these feelings indirectly, for example, through their eating habits (Kaplan, 1986; Silverstein, Perdue, Peterson, Vogel, & Fantini, 1986). Female children are also socialised to rely to a great extent on the approval of other people, and the female self-esteem thus becomes based to a large extent on the opinion of others. Tyrannised by society's 'thin' ideal for women, overweight women are unlikely to maintain a positive image of themselves, and it is small wonder that the 'slimming' industry finds a ready market among them (Lawrence, 1995; Wolf, 1990). The fear of fatness and dieting behaviours engaged in by women thus appear to render them more vulnerable than are men to developing eating disorders in response to dealing with a crisis of identity, autonomy or independence (ibid; Smolak & Levine, 1994).

✱ Drawing on this idea, Perlick and Silverstein (1994) maintain that the key to the development of anorexia nervosa in women is the feeling of ambivalence about their gender. As social and educational opportunities increase for women, they strive to achieve in these areas that have traditionally only been available to men. However, even during these periods of female 'liberation' and gender equality, women realise that being female places them at a distinct disadvantage since there is little support for females in nontraditional roles, and that the traditional female roles of wife, mother and homemaker remain unrespected (Shisslak & Crago, 1994). Furthermore, the 'new' woman is expected to be a mother, a wife, have a career, but also be independent and remain in control of all these roles, i.e. the 'superwoman' ideal (Nasser, 1997). The resulting conflict between traditional and nontraditional female roles, fuelled by feelings of lack of autonomy and independence, is thus another socio-cultural factor blamed for the recent increase in eating disorders among women (ibid). Timko, Striegel-Moore, Silberstein and Rodin (1987) thus suggested that women who internalised the 'superwoman' ideal and felt driven to fulfil both the female and male stereotypical gender roles were the ones who developed vulnerabilities to eating disorders.

Traditional gender roles, however, are increasingly being challenged, and boundaries between female and male characteristics and behaviours are becoming more blurred. Furthermore, there is increasing pressure, fuelled by the media and the 'body-beautiful' health and fitness movement, for males to fit ideal standards of beauty as well. It is thus possible that these changes could render males more vulnerable to eating disorders in the future. In South African universities, evidence of such a vulnerability is emerging: Winship (1996) found a significantly high level of binge eating among male students, and Zahoul (1996) reported that dieting and bulimic behaviours (for example, using diet pills, vomiting, and bingeing) were practiced by a substantial percentage of male students. These findings, however, need to be viewed with caution insofar as the purging behaviours of the black students in the samples are related to traditional body cleansing practices amongst black South Africans.

2.3.4 Socioeconomic Status

Since Fenwick over a hundred years ago made the observation that anorexia nervosa was more commonly found in the wealthier classes of society than amongst the working class, the prevailing opinion is that there is an increased prevalence of eating disorders in the higher socioeconomic groups (Gard & Freeman, 1996; Garner & Garfinkel, 1980; Lee, 1996). However, Rogers, Resnick, Mitchell and Blum (1997) maintain that although previous research has demonstrated a relationship between socioeconomic status (SES) and weight, the research has not been consistent regarding the relationship between SES and eating disorders. Analysing self-report health surveys of 17 571 adolescent girls, Rogers et al. (ibid) found that while there was a positive relationship between SES and some unhealthy eating behaviours, there was no relationship between SES and self-report of clinically significant eating disordered behaviours.

This view is consistent with the findings of Pate et al. (1992) who argue that fat phobia and eating disorders are evident in virtually all socioeconomic strata and ethnic groups in Western societies, and the findings of Lee (1996) who points to the increased prevalence of similar attitudes and

weight control behaviours in the different SES groups in the Far East. In South Africa, Geach (1995) and Winship (1996) found no relationship between SES and disordered eating behaviour among females at university. Ziervogel (1995) further reported that many Indian, Coloured and black women presenting at eating disorder clinics are from working class backgrounds. However, Szabo et al. (1995), in a demographic study of hospitalised anorectics over a five-year period, found that while the majority of their sample were located in the middle and upper classes, an increase in lower class admissions over the five-year period was apparent.

To assess the validity of the stereotype that SES is positively related to eating disorders, and to examine the ways in which this stereotype was created, Gard and Freeman (1996) reviewed articles on eating disorders written between the early 1970's and the early 1990's which included assessment of socioeconomic status. Between 1973 and 1985, eight studies found an increased prevalence of anorexia nervosa in high socioeconomic groups, but the researchers held that the methodological problems of these studies made the findings difficult to interpret and generalise from. From the mid 1980's to the present, thirteen studies have failed to find a relationship between SES and eating disorders, and of these, five studies have found the opposite to be true, i.e. finding comparative prevalence rates of anorexia and bulimia nervosa in the lower SES groups and among the homeless. Gard and Freeman (ibid) conclude that the existence of the stereotypical relationship between SES and eating disorders can partly be explained by the influence that clinical impression exerts on the formulation of diseases. They hold that health care professionals may fail to recognise eating disorder symptoms in groups in which they do not expect to find them, for example, lower SES groups, males, and children. Methodological problems with earlier studies, and the varied methods of SES classification employed by researchers, are also held to have further perpetuated the stereotype (ibid).

Lawrence (1995) suggests that the documented preponderance of eating disorders in high SES groups may reflect a confusion in the literature

between social class and educational achievement. In a study of 75 anorectic women, she found that almost all the women, regardless of class, had done well academically. For Lawrence (ibid), since middle class individuals are more likely to perform well academically than are individuals from the lower classes, there is a tendency to confuse educational success with middle class status. Since Lawrence's sample consisted of a large number of women who came from working class backgrounds in which they were the first to do well at school, this led her to postulate that women who came from backgrounds not particularly encouraging of educational achievement are more likely than other women to develop anorexia nervosa if they are successful academically. For Lawrence (ibid), then, the question should be why *educated women*, not middle class women, are more likely to develop anorexia nervosa than women who do not succeed academically. As answer, she points again to the gender-stereotypical socialisation of children – since young females are socialised into an identity centred on motherhood, to strive academically conflicts with the injunction that motherhood is the primary component of female sexuality. Females who do well academically often face a bewildering array of contradictions, and are thus vulnerable to the development of an eating disorder in the face of a critical identity crisis.

It is evident from the literature that the relationship between SES and eating disorders is not a clear-cut one, but is in fact impacted upon by other factors, like educational achievement. For Gard and Freeman (1996), the traditional association between SES and eating disorders needs to be questioned, as must theories of etiology which rely on this stereotype. This is important not only because etiological theories guide and inform research, but also because these theories are frequently translated into theories of treatment.

2.3.5 Race

Until relatively recently, anorexia nervosa had been associated with people of white ethnic origin predominantly confined to the United States, Western Europe, Japan, and other areas experiencing rapid urbanisation (Ash &

Piazza, 1996; Brumberg, 1988; Bryant-Waugh, 1993). The disorder was found to be less common among specific minority groups in the West, and did not appear evident in developing countries of the Third World (Crago, Shisslak & Estes, 1996; Dolan, 1991). This fact led to the classification of anorexia nervosa as a “culture-bound syndrome”, or “a pattern of behavioural deviance that is generated and sustained by certain Western cultural values, expectations and social organisations” (Lee, 1996, p. 21). For Prince (1983), anorexia nervosa and bulimia nervosa are culture-bound syndromes related to specific cultural attitudes towards body shape, weight and dieting. Gordon (1990), in a theoretical exploration of eating disorders as ‘culture-bound syndromes’, suggests the concept of an ‘ethnic disorder’ (see section 1.3.2 for definitions) as an appropriate model for understanding eating pathology, based on the following key elements:

- The dynamics and symptoms of the disorder are exaggerations of normal behaviours and attitudes (which are often highly valued) within the culture.
- Psychological tensions and conflicts that are pervasive in the culture are expressed through the disorder.
- The disorder serves as a common pathway for the expression of a variety of personal problems, and is a widely imitated model for the expression of distress (ibid).

One of the major aspects of the culture specificity of eating disorders is their assumed rarity in ‘non-western’ societies (Nasser, 1997). Non-western cultures have long been perceived as relatively immune from developing eating disorders for, among others, the following reasons:

- Ideals and standards of attractiveness which do not overvalue thinness, and possibly associate fatness with positive attributes of wealth, fertility and femininity.
- These countries have developing economies and are therefore considered protected from disorders commonly associated with affluence and an abundance of food.

- Gender roles in these societies are thought to be clearly defined, and therefore women should not in theory have the conflicts over gender definition that is viewed by feminist theorists to be at the heart of western womens' vulnerability to eating disorders.
- Hysteria, which has already been discussed as having possibly been replaced by anorexia nervosa in developed societies, is still apparent in other, more sexually repressive, societies. It can therefore be expected that, in non-western societies, hysteria will continue to be the expression of distress among women from poorer socio-economic backgrounds, while eating disorders will be expressed by the relatively rich (ibid).

However, as new epidemiological evidence points to the emergence of eating disorders, and disordered eating attitudes and behaviours, in individuals from different ethnic backgrounds in the United States, Europe, Africa, South America, the Middle East and the Far East (Bryant-Waugh, 1993; Crago et al., 1996; Dolan, 1991; Lee, 1996; Mumford et al., 1992; Nasser, 1997; Pate, Pumariega, Hester, & Garner, 1992; Swartz & Sheward, 1995), the ethnic- or culture-bound argument for eating disorders becomes increasingly challenged.

Minority groups in the USA and Britain

It is commonly reported that eating disorders are less common among minority groups, such as blacks, Hispanics, Native Americans and Asian Americans, in the United States of America (Dolan, 1991; Hsu, 1987). However, reliable prevalence rates of eating disorders in these groups are difficult to ascertain due to the effects of referral biases, biases in clinical impression, and the differences in service availability and usage among minorities (Dolan, 1991; Gard & Freeman, 1996). In an attempt to clarify the extent of eating disturbances and disorders among American minority groups, Crago et al. (1996) reviewed 50 studies published between 1982 and 1994 which related to this issue. In general, they found that eating disturbances appear to be less frequent among black women than among

their Caucasian counterparts, due perhaps to black womens' greater weight tolerance, less body dissatisfaction, and less reliance on restrictive dieting and self-induced vomiting for weight control. Black adolescent girls were also found to have higher self-esteem than Caucasian girls, which could also be seen as a protective factor against eating disorders. Compared to Caucasian females, eating disturbances appear to be equally common among Hispanic females, more frequent among Native American females, and less frequent among Asian American females. Crago et al. (ibid) suggest that risk factors for eating disorders appear to be greater among minority females who are younger, heavier, well-educated, and more identified with white middle-class values. Wilfley, Schreiber, Pike, Striegel-Moore, Wright and Rodin (1996), in a study comparing eating disturbance and body image in a sample of 538 adult black and white women, also maintain that initial data suggests that the more black women are assimilated into the dominant (white) culture, the more likely they are to report eating disturbances and body image concerns. However, both groups of authors hold that further studies of eating disturbances in American minority groups are required before firm conclusions can be drawn about eating disorders prevalence and risk factors in these groups.

In Britain, Mumford, Whitehouse and Platts (1991) found a higher prevalence of eating disorders among South Asian schoolgirls living in Britain than among their British counterparts. Furthermore, they found that it was the girls from the more traditional families (as determined by Asian dress and language) who were most at risk for the development of eating disorders. Similar results were indicated by Dolan, Lacey and Evans (1990) who reported that British women from Asian (Indian/Pakistani) backgrounds demonstrated more abnormal eating attitudes than Caucasian or Afro-Caribbean females. The researchers proposed that the females most at risk for developing eating disorders appear to be those from the more traditional families whose values are in conflict with those of the dominant culture (Dolan et al., ibid; Mumford et al., 1991). While the less traditional families easily adopt western values, young females from traditional families appear to experience internal conflict around developmental identity issues

as they grow up with opposing sets of cultural norms. Mumford et al. (1992) view such intergenerational conflict (centering around patterns of family relationships, patterns of marriage, and liberation of women) as a significant contributory factor in the development of eating disorders among Asian girls in Britain and among girls in Asian countries adopting western values.

The Far East

Lee (1996) reports a growing number of anorexia nervosa cases over the last decade in Asian societies such as China, Taiwan, Malaysia, Japan and Singapore. In Japan, surveys of abnormal eating attitudes among students suggest that concern with weight and disordered eating patterns are emerging in Japanese society (Nasser, 1997). In addition, the level of urbanisation was found to affect the incidence of anorexia nervosa - incidence levels were higher in cities than in rural areas. In China, eating disorders are still comparatively rare, and Lee, Chiu and Chen (1989) maintain that this can be explained on the basis that Chinese women are slim anyway, if not underweight by western standards. However, cases of anorexia nervosa were still reported among Chinese women, with a higher level of urbanisation and affluence being related to onset. Furthermore, recent surveys of Hong Kong and Chinese students revealed that, contrary to traditional notions, no subject considered fatness as a sign of prestige or attractiveness (Lee, 1996). In a study of Indian anorectic patients, Gandhi, Appaya and Machado (1991) also found that slimness was increasingly being viewed by adolescents as a requisite for attractiveness, and the authors pointed out that some of their anorectic patients demonstrated fat phobia, again contrary to traditional Indian ideals of attractiveness.

The Middle East

To determine the relationship between exposure to western cultural norms in connection to weight and vulnerability to eating disorders, Nasser (1986) compared the eating attitudes of two matched groups of Arab female students attending London and Cairo universities. Morbid concern over weight was found in 12% of the Cairo group and 22% of the London group.

Six cases of bulimia nervosa were identified in the London group, but none in Cairo. In a later study of the eating attitudes of Arab schoolgirls in Israel, it was again found that the level of disordered eating depended on the degree of exposure to western body ideals and the presence of conflict between what is modern and traditional in relation to the female role (Nasser, 1997).

Africa

Reviewing the cross-cultural literature on anorexia nervosa and bulimia, Dolan (1991) found only two reports of African women with anorexia nervosa, and of these, one of them had been raised in England before returning to her native Zimbabwe. However, in a 1992 study conducted among high school and college students in Nigeria, it was found that the prevalence of disordered eating attitudes was comparable to that of western countries (Lee, 1996). A further study of the eating attitudes of black, white and mixed race adolescent Zimbabwean females revealed that the pursuit of thinness was evident in all three racial groups, with students of mixed race identified as having the highest bulimic tendencies (Hooper & Garner, 1986). The authors suggested that the competitive academic environment in these schools, and the sociocultural changes in Zimbabwe at large, fostered a westernised perception of body weight and shape among the black students. Furnham and Baguma (1994) investigated the cross-cultural perceptions of male and female body shape of Ugandan and British university students, and found that the stigma of fatness as ugly is not a universal norm. The Ugandans tended to rate the obese female figure as more attractive than the British subjects, leading the researchers to hypothesise that for the Ugandan subjects who came from a relatively poor country where food is scarce, the fatter figure represented wealth, health, fertility and status. As food was more available in the west, and since the west adopts thinner ideals of attractiveness, the British subjects rated the fatter figure as unhealthy and unattractive.

As mentioned previously, no incidence or prevalence studies of eating disorders have been conducted in South Africa, and Swartz and Sheward

(1995) contend that the extent to which these disorders may be present but not brought to the attention of health services is not clear. Available studies in the area of eating disorders have largely focused on the disordered eating attitudes and behaviours of school and university students. In general, these studies reveal that disordered eating patterns among South African students maintain the well-established higher prevalence among females, and were at least as common as such problems among students in western countries (Grey, 1995; Sheward, 1994; Winship, 1996; Zahoul, 1996). These studies also contradicted the stereotypical view that blacks value a fatter shape than other race groups, and that they are protected against eating disorders by cultural factors. Rather, it was found that black South African female students exhibit at least similar, or higher, levels of disordered eating behaviours and attitudes than white or Indian female students.

There is little doubt, from the studies discussed above, that eating disorders are increasingly becoming a global phenomenon and are no longer confined to one particular society or culture. Furthermore, the global emergence of eating pathology appears linked to the degree of identification with western cultural norms in relation to weight and shape preferences for women (Crago et al., 1996; Dolan et al., 1990; Lee, 1996; Mumford et al., 1992; Nasser, 1997; Wilfley et al., 1996). This phenomenon of identification is frequently referred to in the eating disorder literature as 'acculturation', or culture change which results from continuous first-hand contact between two distinct cultural groups (Berry, in Winship, 1996). This phenomenon is held to occur both at the group and individual levels, the latter referring to behaviour and personality changes in the individual whose cultural group (usually non-dominant) is undergoing acculturation as a result of influence from the dominant group (ibid).

For Nasser (1997), this process of acculturation is related to the impact of an increasingly global media, worldwide increased rates of obesity, as well as the impact of immigration and intergenerational conflicts. Intergenerational conflict has been discussed above as a significant

contributory factor in the development of eating disorders among Asian girls in Britain and among girls in Asian countries adopting western values (Mumford et al., 1992). These girls were found to experience conflicts in their attempt to adjust to a culture that is different from their parents', such conflict being further exacerbated by perceived rejection and lack of acceptance by the dominant group (the British) because of skin colour. Exposure, through migration, to different value systems with regard to weight and feminine beauty is further held to increase the individual's vulnerability to eating disorders (Bulik, 1987; Nasser, 1997).

The increased prevalence of *obesity* in non-western societies, due in part to rapid modernisation, increased food consumption, reduced activity, and the increased mechanisation of domestic work, also appears to coincide with an increased incidence of eating disorders (Nasser, 1997). While average weight is on the increase, dissatisfaction with body weight, once considered absent in non-western societies, appears to be becoming increasingly common. For Lee (1996) the globalisation of fat phobia is largely due to the 'cultural shrinking' of the world by virtue of mass communication technology - access to western media, which actively disseminates the thinness ideal, has considerably increased in recent years through the spread of satellite channels and the like. The tendency to adopt the western style and look that is perceived as popular appears to be most common among youth (Nasser, 1997). In an attempt to explore this issue, a pilot study was carried out on a diverse population of students at an international hostel in Germany (ibid). Almost all nationalities as well as the three major religions, Judaism, Christianity and Islam, were represented. Students were administered a questionnaire which covered concepts related to religion, family structure, achievement orientation, and the need for group affiliation as opposed to asserting one's own individuality. The results tentatively showed that the western value system is likely to be the general value system adopted by the majority of students all over the world, regardless of religion or nationality. It is interesting to note here that the student population is consistently shown to be the segment of any society most preoccupied with body weight dissatisfaction, and most at risk of

developing an eating disorder (APA, 1994; Bryant-Waugh, 1993; Kaplan et al., 1994).

What appears clear is that the argument for the culture boundedness of anorexia nervosa is no longer convincing, since culture is never stationary but continuously changing. For Lee (1996, p. 23)

inasmuch as AN (anorexia nervosa) develops in response to a complex orchestration of sociocultural elements including industrial capitalism, urbanization, immigration, abundance of food, rising population weight norms, advanced information technology, proliferation of body-oriented advertisements, decreased birth rate and changing social roles of women, the condition may be considered to be bound to the culture of 'modernity' rather than to specific geographical sites. In this deeper sense, AN is still a CBS (culture bound syndrome), albeit not necessarily a 'Western' one by locality.

2.4 Summary of literature review

The historical overview of anorexia nervosa highlights the fact that voluntary self-starvation is not a recent phenomenon, but one that was apparent throughout history (Bemporad, 1996; Blinder & Chao, 1994; Brumberg, 1988; Macsween, 1993). Furthermore, it appears that changing historical and cultural contexts resulted in various meanings being given to the symptom of non-eating, lending credence to Brumberg's (ibid) contention that anorexia nervosa is fundamentally linked to historical transformations.

The literature on anorexia nervosa further highlights epidemiological transformations in this eating disorder over the last three decades, which have been documented globally (Bryant-Waugh, 1993; Nasser, 1997). Clinical research and community studies show that the incidence and prevalence of anorexia nervosa in western societies has increased over the last decade to almost epidemic proportions (Ash & Piazza, 1995; Dolan, 1991; Nasser, 1997). Furthermore, the stereotype of anorexia nervosa as a disorder affecting only adolescent girls and young women in the middle to upper classes of the western world is increasingly being challenged, as recent research documents cases of the eating disorder in males, children, older individuals, the lower social classes, and

minority groups and 'non-western' societies (Beck et al., 1996; Bryant-Waugh & Kaminski, 1993; Crago et al., 1996; Gard & Freeman, 1996; Lee, 1996; Mumford et al., 1992; Winship, 1996). The changing demographic profile of anorexia nervosa is held to provide a strong argument for socio-cultural etiological explanations for eating disorders (Brumberg, 1988; Lee, 1996; Nasser, 1997).

CHAPTER 3: RESEARCH METHODOLOGY AND PROCEDURE

3.1 Aims of the study

The current study undertakes a retrospective exploration of a sample of anorectics hospitalised over a period of ten years (1987 to 1996, inclusive), to discern:

- 3.1.1) the demographic profile of the sample
- 3.1.2) possible changes or trends, over the ten-year period in the following variables:
 - race
 - sex
 - socio-economic status (SES)
 - weight and body mass index (BMI)
 - age at admission
 - number of admissions per year
- 3.1.3) the relationship between SES and race, sex, weight, BMI, and age at admission, respectively
- 3.1.4) the relationship between weight and race, sex, and age at admission, respectively
- 3.1.5) the relationship between BMI and race, sex, and age at admission, respectively
- 3.1.6) the relationship between age at onset and race, sex, SES, weight and BMI, respectively

3.2 Research design

An ex post facto quasi-experimental research design was selected for this study for the following reasons:

- the primary goal of research was to explore the distribution of particular variables in the population of interest (Judd, Smith & Kidder, 1991)
- as the research took place in a 'natural' setting (i.e. a hospital), the researcher was unable to randomly assign subjects to the different levels of independent variables, and could thus not effect the control which is characteristic of true experiments (Farman, 1980; Huysamen, 1994)

- a further goal of research was to explore possible relationships between variables, without any planned intervention, and to attempt to infer causality about the effects of an independent variable on a dependent variable (Judd et al., 1991)
- the large sample (N=254), including all anorectics hospitalised for the first time at the institution of study from 1987 to 1996, necessitated the use of a quasi-experimental research design (ibid)

Quasi-experimental research is appropriate in the study of large samples in natural settings, and it is suggested that external validity may be more easily accomplished in these designs than in randomised experimental designs (ibid). However, when attempting to establish causal relationships between variables, the internal validity of quasi-experimental research designs is threatened by a host of other variables which could have influenced the observed relationship, but which have not been taken into account (Farman, 1980; Huysamen, 1994). (This issue will be discussed further in 5.7).

3.3 The sample

The research sample consisted of the total population (N=254) of 'anorexia nervosa' and 'eating disorder not otherwise specified' patients hospitalised, for the first time, at an in-patient tertiary referral centre in Gauteng from 1987 to 1996 (inclusive). (NOTE: Bulimia nervosa patients were deliberately excluded from this study). As the demographic information of the subjects constitutes the nature of enquiry of this study, this information will be presented, in detail, in the results section.

Although desirable, it was not possible to obtain demographic information regarding the general hospital population, to serve as a basis for comparison to the research sample. This was due to administrative record constraints.

3.4 Data collection procedures

A research proposal was submitted to, and approved by, the Research Committee, and the Ethics Committee, at the hospital of study. The researcher

signed documentation regarding patient confidentiality, and ethical and academic standards for researchers at the hospital. The researcher was subsequently assigned a hospital supervisor, and granted an honorary appointment at the institution to conduct the research. (See Appendix A for documentation regarding approval of the research project).

Data collection involved the survey of archival records of all individuals admitted to the hospital from January 1987 to December 1996, and diagnosed with either anorexia nervosa or eating disorder not otherwise specified. Archival records have the advantage of (1) strong external validity as subjects are unaware of the research or its aims, (2) making possible the analysis of trends over time, and (3) being well suited to the investigation of large-scale social or natural phenomena that are not amenable to study in other ways (Judd et al., 1991). The disadvantages inherent in the use of archival data for research purposes will be discussed in section 5.7.

NOTE: To protect the identity of patients, the researcher has not included specific demographic details of the 254 patients included in the sample.

The research sample was limited to first admissions only, and individuals hospitalised during the period in question (1987 to 1996), but whose first admission fell before 1987, were omitted from the sample. The sample was restricted to first admissions only so as to eliminate the influence of chronicity of the eating disorders on the results.

The following records were surveyed in each subject's hospital file:

1. Initial Functioning Assessment (W.P/5) which contained demographic data
2. Case summary and referral sheets (TH/663; GES 2/49; TH/83)
3. Weight record
4. Social work department Face Sheet (TH/1)
5. Identifying Data

The following information on subjects was obtained: date of first admission to the hospital; age at admission; age at onset of the disorder; weight and height at admission; sex; race; subject's occupation, and occupations of mother, father and/or spouse. The reliability of the 'age at onset' information was found to be questionable due to family's subjectivity, and thoroughness of the history-taking.

3.5 Data analysis procedures

Socio-economic status of the subject, mother, father, and/or spouse was determined from their occupations. Since a South African occupational classification system could not be obtained, the British Standard Occupational Classification system was used (Office of Population Censuses and Surveys, 1991). This system arranges groups of occupations into a small number of broad categories called social classes. The categories are as follows:

- 1) Professional occupations (for example, civil engineer, pharmacist, and lawyer)
- 2) Managerial and Technical occupations (for example, computer programmer, sales manager, and teacher)
- 3) Skilled occupations (non-manual and manual) (for example, draughtsperson, photographer, and secretary)
- 4) Partly skilled occupations (for example, tyre fitter, sewing machinist, and mine workers)
- 5) Unskilled occupations (for example, messengers, domestics cleaners, and road maintenance workers)

Each subject, and mother, father, and/or spouse of the subject, was assigned to one of these five categories based on their occupations. Single subjects who had occupations were assigned a category which constituted their final SES. The final SES of unemployed subjects, or subjects who were still students, financially supported by their parents, was derived from obtaining the higher SES of the two parents. The final SES of the married subjects was derived from the spouse's SES (if the patient was unemployed), or the higher SES of the subject and spouse.

The body mass index of each subject was calculated by dividing weight (in kilograms) by the square of height (in metres).

To classify and summarise the data, descriptive statistics (frequencies, percentages, means, and standard deviations) were calculated for the following variables: number of admissions per year; year of admission; age at admission; age at onset; race; sex; SES of subject, father, mother, and/or spouse; weight; and BMI.

To determine the strength and the direction of the relationship between pairs of the above-mentioned variables, the Pearson product-moment correlation coefficient (r) was computed. The correlation coefficient r can take on values between -1.0 and +1.0 inclusive, the plus sign indicating that the relationship is positive and the minus sign that the relationship is negative (Cohen & Holliday, 1982). The absolute value of r indicates the magnitude of the relationship, i.e. an r value of +.10 or -.10 indicates that there is little, if any, relationship between the variables, whereas an r value of +.90 or -.90 indicates a strong relationship (ibid). However, while a high value of r indicates a strong relationship, it does not necessarily mean that scores on one variable are caused by scores on the other variable, as a third variable or a combination of other variables may be influencing the observed correlation (Hinkle, Wiersma & Jurs, 1988). This necessitates the cautious interpretation of the results of quasi-experimental correlational research.

One-way analyses of variance (ANOVAs) were computed on the variables yielding significant relationships, or relationships approaching significance, in the Pearson intercorrelation matrix. ANOVA was computed to determine if changes in the dependent variables could be presumed to be the result of changes in the independent variables (ibid).

Trend analyses were computed on the following variables which correlated significantly, or which approached significant correlation: admission year by weight and BMI, respectively; and SES-mother by weight and BMI, respectively. Trend analyses are computed when the independent variable in ANOVA (for example, admission year and SES-mother) is quantitative, and are computed to determine

the functional relationship between the levels of the independent and dependent variables (ibid).

The level of significance adopted for the ANOVAs and the trend analyses was $\alpha = .05$.

Two post hoc multiple comparison tests, the Tukey and Scheffe methods, were computed to identify significant mean differences between groups after a significant, or approaching significance, F ratio was found in the ANOVAs and trend analyses. The level of significance adopted for the post hoc tests was $\alpha = .05$.

A detailed description of subjects, and the results of the statistical analyses, will be undertaken in Chapter 4.

CHAPTER 4: RESULTS

The results are presented in five sections. Firstly, a detailed description of the subjects are furnished. Thereafter, the four aims of the study are addressed (refer to page 38 for a detailed list of the study's aims).

4.1 A detailed description of subjects

A total of 254 anorexia nervosa and eating disorder not otherwise specified patients, admitted for the first time at the tertiary referral centre from 1987 to 1996 (inclusive), constituted the sample.

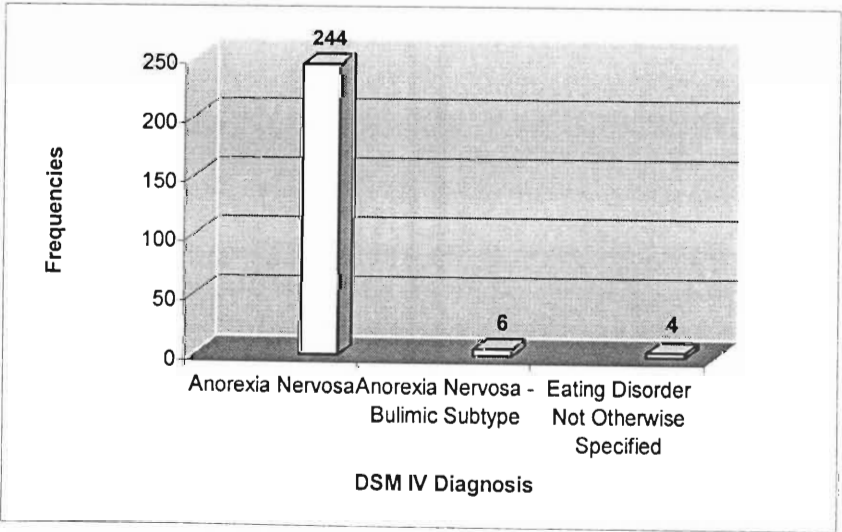
4.1.1 DSM Diagnosis

The subjects were diagnosed with one of the three following eating disorders according to DSM III-R and DSM IV diagnostic criteria:

- 244 subjects (96%) were diagnosed with anorexia nervosa,
- 6 subjects (2.4%) were diagnosed with anorexia nervosa-bulimic subtype, and
- 4 subjects (1.6%) were diagnosed with eating disorder not otherwise specified

Figure 4.1 presents the frequencies for each of the three above-mentioned diagnoses.

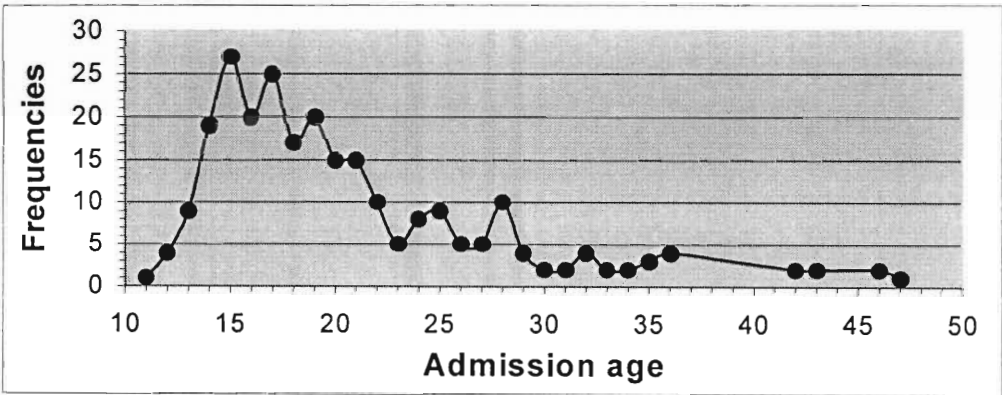
Figure 4.1: Frequencies for the DSM IV diagnoses



4.1.2 Age at admission

The mean age at admission to the hospital for the total sample was 20.66 years (SD = 6.9). The admission age range was 11 - 47 years. 13% (n = 33) of the sample fell between the 11 - 14 age range, 67% (n = 171) between the 15 to 25 age range, 17% (n = 43) between the 26 to 39 age range, and 3% (n = 7) between the 40 to 47 age range. Figure 4.2 presents the frequencies for age at admission.

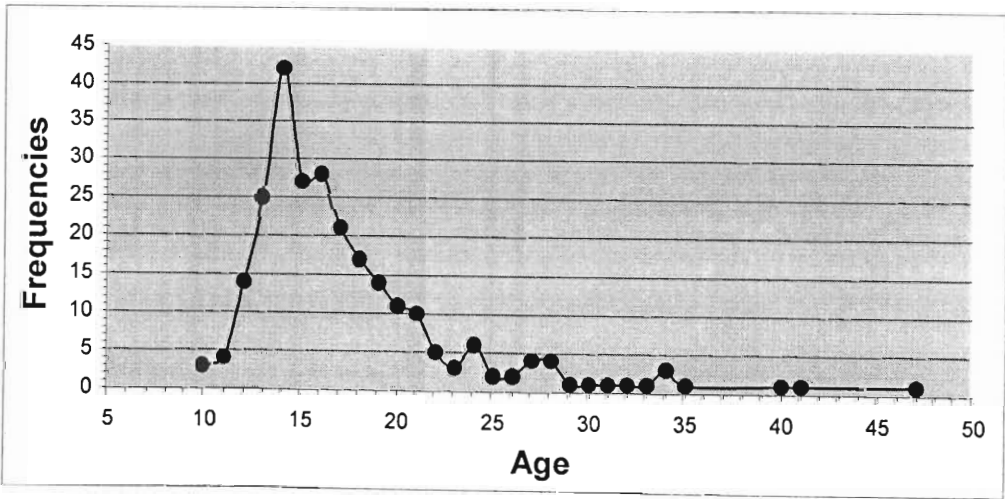
Figure 4.2: Frequencies for admission age



4.1.3 Age at onset

The mean age at onset of the eating disorder for the total sample was 17.45 (SD = 5.52). The onset age range was 10 - 47 years. 34.6% (n = 88) Of the sample fell between the 10 - 14 age range, 56.7% (n = 144) between the 15 - 25 age range, 7.4% (n = 19) between the 26 to 39 age range, and 1.3% (n = 3) between the 40 to 47 age range. Figure 4.3 graphs the frequencies for age at onset.

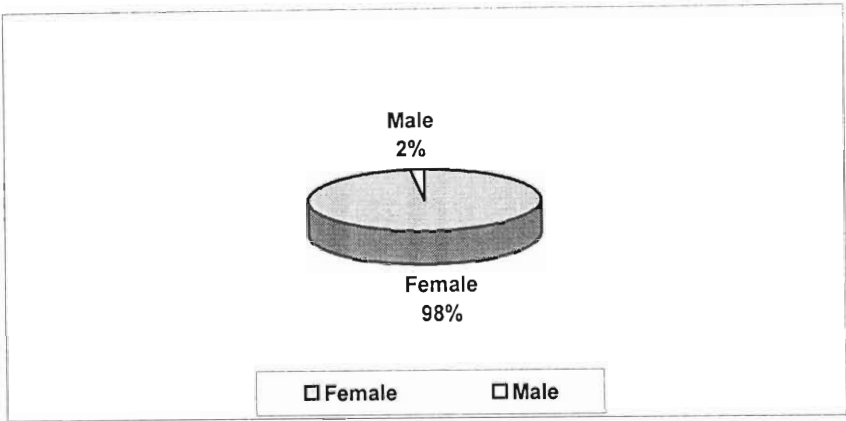
Figure 4.3: Frequencies for onset age



4.1.4 Sex

Females comprised 98% (n = 249) of the sample, and males comprised 2% (n = 5) Figure 4.4 presents the frequencies for the variable sex.

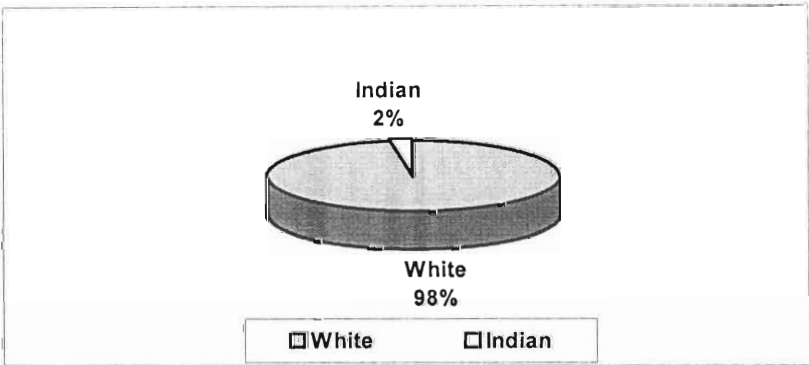
Figure 4.4: Frequencies for sex



4.1.5 Race

Samples from the following two racial groups were obtained: 248 (98%) white subjects; and 6 (2%) Indian subjects. 5 Of the white subjects were male, and the 6 Indian subjects were female. The frequencies for race are shown in Figure 4.5.

Figure 4.5: Frequencies for race



4.1.6 Socio-economic status (SES)

The SES of subjects, and their mothers, fathers, and/or spouses, was derived from their respective occupations (refer to 3.5 for procedure). The means, standard deviations, and sample populations are as follows:

- mean subjects' SES = 2.62 (managerial and technical occupations) (SD = .81; n = 39)

- mean subjects' fathers' SES = 1.97 (professional occupations) (SD = .73; n = 209)
- mean subjects' mothers' SES = 2.45 (managerial and technical occupations) (SD = .67; n = 102)
- mean subjects' husbands' SES = 2.06 (managerial and technical occupations) (SD = .73; n = 18)
- mean subjects' final SES = 2.07 (managerial and technical occupations) (SD = .78; n = 254)

The vast majority of subjects, and their mothers and husbands, fell into the first and second SES groups (i.e. professional, managerial and technical occupations). Father's SES group can be seen as falling into both the first and second groups (i.e. professional, and managerial and technical, occupations). The mean final SES group for subjects was the second SES group. The SES frequencies for subjects and their mothers, fathers, and/or husbands, as well as frequencies for final SES, are presented in Table 4.1.

Table 4.1: Frequencies - Socioeconomic status

SES CATEGORY	FREQUENCY				
	SELF	FATHER	MOTHER	HUSBAND	FINAL
1. Professional Occupations	4	54	4	4	58
2. Managerial & Technical Occupations	10	111	52	9	127
3. Skilled Occupations (manual and non-manual)	23	40	44	5	65
4. Partly Skilled Occupations	1	4	0	0	1
5. Unskilled Occupations	1	0	2	0	3
Missing cases*	215	45	152	236	0
TOTAL	254	254	254	254	254

4.1.7 Weight

The mean weight of the sample was 39.24 kilograms (kg) (SD = 6.60). The weight range was 22kg - 59.10kg. Table 4.2 outlines the mean weight per admission year for the sample.

Table 4.2: Mean weight per admission year

ADMISSION YEAR	MEAN WEIGHT IN KILOGRAMS	N
1987	40.56	16
1988	41.59	27
1989	37.57	33
1990	40.71	19
1991	39.52	28
1992	40.60	31
1993	38.91	27
1994	38.10	31
1995	37.02	19
1996	38.30	23
TOTAL	39.24	254

Visual inspection of the above table would seem to indicate a downward trend in mean body weight from 1987 to 1996. This trend will be discussed further in 4.2.6.

4.1.8 Height

The mean height of the sample was 1.63 metres (m) (SD = .07). The height range was 1.37m - 1.78m. Table 4.3 outlines the mean height per admission year for the sample.

Table 4.3: Mean height per admission year

ADMISSION YEAR	MEAN HEIGHT IN METRES	N
1987	1.63	16
1988	1.63	27
1989	1.63	33
1990	1.65	19
1991	1.63	28
1992	1.62	31
1993	1.63	27
1994	1.61	31
1995	1.64	19
1996	1.62	23
TOTAL	1.63	254

As height did not vary significantly over the ten-year period under study, no further statistical analyses are computed on this variable. The height means are presented here as they are used in the calculation of body mass index.

4.1.9 Body mass index (BMI)

The mean BMI of the sample was 14.78 kilograms/metre² (kg/m²) (SD = 2.04). The BMI range was 9.04 kg/m² - 21.71kg/m². Table 4.4 outlines the mean BMI per admission year for the sample.

Table 4.4: Mean body mass index per admission year

ADMISSION YEAR	MEAN WEIGHT IN KILOGRAMS/METRE ²	N
1987	15.29	16
1988	15.51	27
1989	14.19	33
1990	14.90	19
1991	14.91	28
1992	15.45	31
1993	14.56	27
1994	14.67	31
1995	13.81	19
1996	14.48	23
TOTAL	14.78	254

As with weight, visual inspection of Table 4.4 would seem to indicate a downward trend in mean BMI from 1987 to 1996. This trend will be discussed further in 4.2.7.

4.2 Exploration of the effect of year of admission on dependent variables

This section presents the results of statistics exploring possible changes in the following variables over a period of ten years (1987 to 1996, inclusive):

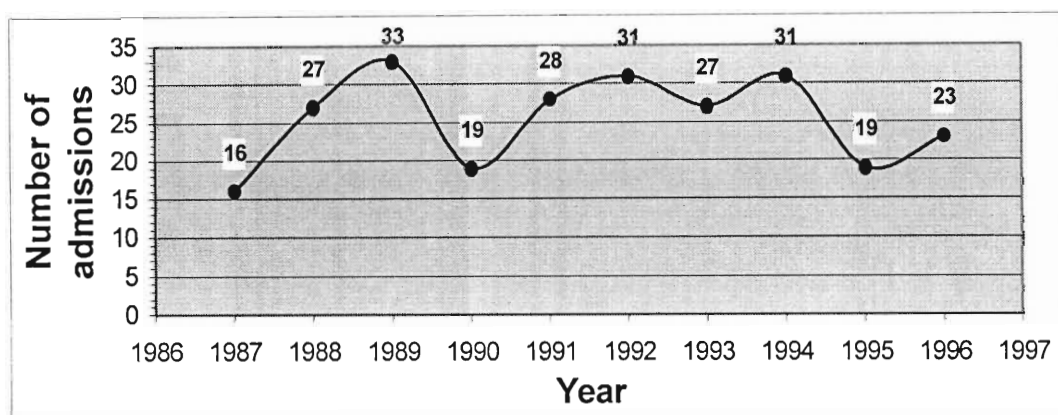
- number of admissions per year
- race
- sex

- age at admission
- SES of subject, subject's mother, subject's father, subject's husband, and final SES
- weight
- BMI

4.2.1 Number of admissions per year:

An analysis of variance computation revealed no significant changes in the number of admissions of anorexia nervosa or eating disorder not otherwise specified from 1987 to 1996. However, visual inspection of Figure 4.6, which presents the number of admissions per year, shows fluctuations in admission rates from 16 to 33 over the ten-year period of study. The overall mean admission rate was 25.

Figure 4.6: Number of admissions per year



4.2.2 Sex:

No statistical analyses were computed to determine the sex trend over the ten-year period as there were too few cases of male admissions ($n = 5$). While there were no significant changes in admissions by sex from 1987 to 1996, the admission of males is seen to be more frequent in the latter half of the time frame ($n = 4$) than the former half ($n = 1$). Table 4.5 presents the number of male and female admissions by year.

Table 4.5: Admissions by sex

YEAR	MALES	FEMALES	TOTAL
1987	0	16	16
1988	1	26	27
1989	0	33	33
1990	0	19	19
1991	0	28	28
1992	0	31	31
1993	2	25	27
1994	1	30	31
1995	1	18	19
1996	0	23	23
TOTAL	5	249	254

4.2.3 Race:

No statistical analyses were computed to determine the trend in admissions according to racial grouping over the ten-year period as there were only 6 cases of Indian admissions, and no coloured or black admissions. While there were no significant changes in admissions by race from 1987 to 1996, the admission of Indians is seen to be twice as frequent in the latter half of the time frame ($n = 4$) than the former half ($n = 2$). Table 4.6 presents the number of Indian and white admissions by year.

Table 4.6: Admissions by race

YEAR	INDIANS	WHITES	TOTAL
1987	0	16	16
1988	1	26	27
1989	0	33	33
1990	0	19	19
1991	1	27	28
1992	0	31	31
1993	0	27	27
1994	2	29	31
1995	1	18	19
1996	1	22	23
TOTAL	6	248	254

4.2.4 Age at admission:

The Pearson product moment correlation coefficient between year of admission and age at admission (see Table 4.7 for coefficients) was not significant ($r = .0337$; $P = .296$; $\alpha = .01$). The one-way analysis of variance computed on year of admission and age at admission also yielded an insignificant value of F ($F = .458$; $df = 9$; $P = .902$; $\alpha = .05$). However, it is interesting to note that only two anorectics over 40 years old were admitted prior to 1992, while five were admitted after 1993. The number of anorectics admitted to the hospital, aged 14 and below, were roughly the same throughout the ten-year period of study. Table 4.8 presents the mean admission age per year, from 1987 to 1996.

Table 4.8: Mean admission age per year

ADMISSION YEAR	MEAN AGE	N
1987	21.19	16
1988	21.22	27
1989	19.55	33
1990	21.21	19
1991	20.39	28
1992	19.45	31
1993	21.15	27
1994	20.00	31
1995	22.11	19
1996	21.87	23
TOTAL	20.66	254

(Table 4.7 overleaf/...)

Table 4.7: Pearson product moment correlation coefficient matrix depicting relationship between admission year and age at admission, SES, weight, and BMI, respectively

Variable	Admission Year	Admission Age	SES - subject	SES - father	SES - mother	SES - husband	Final SES	Weight	Body Mass Index
Admission Year (P)	1.0000 (.)	.0337 (.296)	-.1539 (.175)	.0880 (.103)	.0228 (.410)	.3295 (.091)	.0957 (.064)	-.1210 (.027)	-.1171 (.031)
Admission Age (P)	.0337 (.296)	1.0000 (.)	-.0752 (.325)	-.0691 (.160)	-.0138 (.445)	-.2179 (.192)	.0738 (.121)	.0606 (.168)	.0026 (.483)
SES - subject (P)	-.1539 (.175)	-.0752 (.325)	1.0000 (.)	.3860 (.051)	.3043 (.145)	.0000 (.500)	.8432** (.000)	.1417 (.195)	.0896 (.294)
SES - father (P)	.0880 (.103)	-.0691 (.160)	.3860 (.051)	1.0000 (.)	.1028 (.179)	.0000 (.500)	.8468** (.000)	-.0462 (.253)	.0230 (.370)
SES - mother (P)	.0228 (.410)	-.0138 (.445)	.3043 (.145)	.1028 (.179)	1.0000 (.)	. (.)	.4699** (.000)	-.2946* (.001)	-.2468* (.006)
SES - husband (P)	.3295 (.091)	-.2179 (.192)	.0000 (.500)	.0000 (.500)	. (.)	1.0000 (.)	.9516** (.000)	-.1942 (.220)	-.1308 (.302)
Final SES (P)	.0957 (.064)	.0738 (.121)	.8432** (.000)	.8468** (.000)	.4699** (.000)	.9516** (.000)	1.0000 (.)	-.0689 (.137)	-.0150 (.406)
Weight (P)	-.1210 (.027)	.0606 (.168)	.1417 (.195)	-.0462 (.253)	-.2946* (.001)	-.1942 (.220)	-.0689 (.137)	1.0000 (.)	.8652** (.000)
BMI (P)	-.1171 (.031)	.0026 (.483)	.0896 (.294)	.0230 (.370)	-.2468* (.006)	-.1308 (.302)	-.0150 (.460)	.8652** (.000)	1.0000 (.)

N of cases: admission year; admission age; final SES; weight; BMI = 254
SES-self = 39
SES-father = 209
SES-mother = 102
SES-husband = 18
1-tailed significance: *- .01 **-.0

4.2.5 Socio-economic status:

The Pearson product moment correlation coefficient was computed between admission year and subject's SES, father's SES, mother's SES, husband's SES, and final SES, respectively (see Table 4.7 for coefficients). The correlation coefficients were found to be insignificant for all five SES variables [$(r = -.1539; P = .175)$; $(r = .0880; P = .103)$; $(r = .0228; P = .410)$; $(r = .3295; P = .091)$; $(r = .0957; P = .064)$ respectively; $\alpha = .01$]. One-way analyses of variance computed on the five SES variables also revealed an insignificant effect by admission year [$(F = 1.346; df = 9; P = .257)$; $(F = 1.639; df = 9; P = .106)$; $(F = 1.125; df = 9; P = .353)$; $(F = 1.102; df = 7; P = .430)$; $(F = .987; df = 9; P = .451)$ respectively; $\alpha = .05$]. Table 4.9 outlines the means for each of the five SES variables by admission year (the n value for each category is provided in brackets).

**Table 4.9: Mean SES (subject, mother, father, husband, and final) per year
(n values in brackets)**

ADMISSION YEAR	SES - SUBJECT	SES - FATHER	SES - MOTHER	SES - HUSBAND	SES - FINAL
1987	2.67 (3)	1.88 (16)	2.00 (4)	0 (0)	2.00 (16)
1988	3.29 (7)	2.00 (19)	2.38 (13)	2.00 (1)	2.19 (27)
1989	1.00 (1)	1.80 (30)	2.64 (14)	1.80 (5)	1.88 (33)
1990	2.50 (4)	2.07 (15)	2.67 (6)	1.50 (2)	2.11 (19)
1991	2.50 (4)	1.63 (24)	2.67 (12)	2.00 (1)	1.82 (28)
1992	2.25 (4)	2.19 (26)	2.13 (16)	0 (0)	2.03 (31)
1993	2.50 (4)	2.24 (25)	2.55 (11)	2.00 (1)	2.15 (27)
1994	2.60 (5)	2.00 (27)	2.30 (10)	2.50 (2)	2.19 (31)
1995	2.25 (4)	1.80 (10)	2.50 (6)	2.75 (4)	2.11 (19)
1996	3.00 (3)	2.06 (17)	2.60 (10)	1.50 (2)	2.30 (23)
TOTAL	2.62 (39)	1.97 (209)	2.45 (102)	2.06 (18)	2.07 (254)

4.2.6 Weight:

The Pearson product moment correlation coefficient computed for admission year and weight was negative, and approached significance ($r = -.1210; P = .027; \alpha = .01$). (See Table 4.7 for coefficient values). Although the one-way analysis of variance did not find a significant relationship between the two variables, ($F = 1.357; df = 9; P = .209; \alpha = .05$), a significant downward linear trend for weight

was revealed ($F = 4.379$; $P = .037$). Refer to Table 4.2 for the mean weights per admission year.

Neither the Tukey nor the Scheffe post hoc analyses found any two groups significantly different at the .05 level of significance.

4.2.7 Body Mass Index:

The Pearson product moment correlation coefficient for admission year and BMI was negative, and approached significance, as was the case with weight ($r = -.1171$; $P = .031$; $\alpha = .01$) (refer to Table 4.7 for coefficient values). The one-way analysis of variance for BMI by admission year found a value of F approaching significance ($F = 1.817$; $df = 9$; $P = .066$; $\alpha = .05$). Trend analysis also revealed a significant downward linear trend for BMI by admission year ($F = 4.768$; $P = .030$). The mean BMI values by admission year are presented in Table 4.4.

The two post hoc tests did not find any two groups differing significantly at the .05 level of significance.

4.3 Exploration of the relationship between socio-economic status and race, sex, weight, body mass index, and age at admission, respectively

No statistical analyses were computed to determine the relationship between SES and race or sex since there were too few cases of Indians ($n = 6$) and males ($n = 5$) in each category, respectively.

The Pearson product moment correlation coefficients computed for admission age and the five SES variables (refer to Table 4.7) revealed no significant relationships.

No significant values of r were found for the correlation of subjects' weight and BMI, and the following SES variables: subject's SES, father's SES, husband's SES, and final SES (Table 4.7). However, the correlation coefficient was significant for mother's SES by subject's weight and BMI [$(r = -.2946$; $P = .001$); ($r = -.2468$; $P = .006$) respectively; $\alpha = .01$]. The analysis of variance computed on

weight by mother's SES revealed a significant F value ($F = 2.931$; $df = 3$; $P = .037$; $\alpha = .05$), and a significant downward linear trend ($F = 6.835$; $P = .010$). A cautionary note to be added to this result, however, is that the number of cases in the five SES levels, with regard to mother's SES, are extremely uneven: SES group 1 = 4; SES group 2 = 52; SES group 3 = 44; SES group 4 = 0; and SES group 5 = 2 (for analysis of variance purposes, the two latter groups were combined). Table 4.10 shows the mean weights and BMI's for each of these SES groups.

Table 4.10: Mean weight and BMI per mothers' SES groups			
SES GROUP	MEAN WEIGHT (KG)	MEAN BMI (KG/M ²)	N
1: Professional occupations	44.96	16.74	4
2: Managerial & technical occupations	39.90	14.93	52
3: Skilled occupations	38.04	14.58	44
4: Partly skilled occupations and 5: Unskilled occupations	34.10	12.89	2
TOTAL	39.24	14.78	102

The analysis of variance computed on subject's BMI by mother's SES revealed an F value approaching significance ($F = 2.370$; $df = 3$; $P = .075$; $\alpha = .05$), and a significant downward linear trend ($F = 6.518$; $P = .012$). As was the case with weight, however, these results need to be viewed cautiously as the number of cases in each SES group are very uneven. Table 4.10 presents the mean BMI for each SES group.

For both weight and BMI by mother's SES, neither the Tukey nor the Scheffe follow-up tests found any two groups significantly different at the .05 level.

4.4 Exploration of the relationship between weight and race, sex, and age at admission, respectively

No statistical analyses were computed to determine the relationship between weight and race or sex since there were too few cases of Indians ($n = 6$) and males ($n = 5$) in each category, respectively.

The Pearson product moment correlation coefficient computed to determine the relationship between subjects' weight and age at admission was found to be insignificant ($r = .0606$; $P = .168$; $\alpha = .01$) (refer to Table 4.7).

4.5 Exploration of the relationship between body mass index and race, sex, and age at admission, respectively

No statistical analyses were computed to determine the relationship between BMI and race or sex since there were too few cases of Indians ($n = 6$) and males ($n = 5$) in each category, respectively.

The Pearson product moment correlation coefficient computed to determine the relationship between subjects' BMI and age at admission was found to be insignificant ($r = .0026$; $P = .483$; $\alpha = .01$) (refer to Table 4.7).

Subjects' weight and BMI can thus be seen to have no significant relationship to subjects' age at admission.

4.6 Exploration of the relationship between age at onset and race, sex, SES, body mass index, and weight, respectively

No statistical analyses were computed to determine the relationship between age at onset of the eating disorder, and race or sex since there were too few cases of Indians ($n = 6$) and males ($n = 5$) in each category, respectively.

No significant values of r were found for the correlation of subjects' age at onset of the eating disorder, and the following SES variables: subject's SES, father's SES, husband's SES, and final SES (see Table 4.11 for values of r and P).

The correlation matrix also revealed an insignificant relationship between age at onset and subjects' BMI: ($r = .0734$; $P = .122$; $\alpha = .01$) (refer to Table 4.11).

The relationship between weight and age at onset can be seen to be approaching significance: ($r = .1337$; $P = .017$; $\alpha = .01$) (Table 4.11). This finding, however, is explained by the natural increase in weight as age increases.

Table 4.11: Pearson product moment correlation coefficient matrix depicting the relationship between onset age and the SES variables, weight, and BMI, respectively

VARIABLE	SES - Subject	SES - Father	SES - Mother	SES - Husband	SES - Final	WEIGHT	BMI
Onset age (<i>P value</i>)	-.0637 (.350)	-.0805 (.123)	-.0703 (.241)	-.0628 (.402)	.0395 (.265)	.1337 (.017)	.0734 (.122)

4.7 Summary of results

The results reflect the typical anorectic admitted to the hospital of study as white, female, between the ages 15 to 20, and falling into the second socioeconomic status category, i.e. characterised by managerial and technical occupations. The mean weight at admission for the sample was 39.24 kilograms, while the mean body mass index at admission was 14.78 kilograms/metre².

Over the ten-year period of study, i.e. 1987 to 1996, no significant trends were found with regard to the following variables: number of admissions per year; sex; race; age at admission; and socioeconomic status. However, a significant downward linear trend was found for weight and body mass index over the ten years.

No relationships of significance were found between socioeconomic status and sex, race, and age at admission, respectively. A significant relationship was, however, found between mother's SES, and subject's weight and body mass index, respectively. As mother's SES decreased, subject's weight and BMI was seen to decrease.

No significant associations were found between: weight and the variables race, sex, and age at admission, respectively; body mass index and the variables race, sex, and age at admission, respectively; and age at onset and the variables race, sex, socioeconomic status, and body mass index, respectively.

These results will be discussed, in light of the literature review, in Chapter 5.

CHAPTER 5: DISCUSSION

This section provides a discussion of this study's results in light of the issues discussed in chapter two. The limitations and implications of the study, including implications for further research, will also be discussed.

5.1 Admission rates (1987 to 1996)

Although the number of anorectics hospitalised at the institution for the first time fluctuated from 16 to 33 per year over the ten-year time period under study (1987 to 1996 inclusive), no significant changes in the admission rate was found. This finding is consistent with that of Szabo et al (1995) who studied a sample at the same institution over a five-year period (1989 to 1993), and reported an insignificant pattern in the number of admissions. The present study's mean admission rate for the ten-year period was 25, while Szabo et al (ibid) found an average of approximately 37 admissions per year. The higher average reported in the latter study is attributed to the fact that re-admissions were also included in the sample, while the present study focussed on first admissions only, to control for the influence of chronicity.

Although no significant increase in admission rates within the ten-year period was found, when these findings are compared with Norris' 1979 study of hospitalised anorectics in the same setting, a significant increase is evident. Norris (ibid) found an average of 18 admissions per year over a three-year period in the 1970's. Given the fact that the present study constituted only first admissions, the findings of an average of 25 admissions per year points to a definite increase in admission rates at the hospital over the last three decades. Such a finding is consistent with that of Ash and Piazza's (1995) report of dramatic increases in anorexia nervosa admissions at a children's hospital from the 1970's to the 1990's.

This supports the contention that anorexia nervosa appears to be affecting more people, and seems to be diagnosed more frequently, in the 1990's than was the case in the 1970's. These reported increases in admission rates can be attributed in part to increased awareness of the disorder, and therefore increased reporting and diagnosis, as well as the change in diagnostic criteria over the last

three decades. However, there is little doubt that the incidence of anorexia nervosa is presently higher than at any other time in its history, possibly signifying the increased use of this disorder as a symbol of psychological distress and the social confusion experienced in society (Nasser, 1997).

5.2 Age at onset and admission

The overall mean age at onset, and at admission, was found to be approximately 17 and 20, respectively. As regards age at onset, the mean age per year, from 1987 to 1996, fluctuated between 16 and 19 years. The mean age at admission over the ten-year period fluctuated between 19 and 22 years. These findings appear consistent with the literature which highlights the 15 - 20 year range as the commonest age range for the onset of anorexia nervosa (Blinder & Chao, 1994; Bryant-Waugh & Kaminski, 1993; Kaplan et al., 1994; Al-Alami et al., 1987).

Of particular concern is the finding of a large percentage of childhood-onset anorexia nervosa: at onset of the disorder, 34.6% fell between the 10 - 14 age range, while at admission, 13% were between the ages of 10 and 14. The age at onset percentage is consistent with that reported by Al-Alami et al. (1987). Although no significant trend with regard to onset or admission age was found over the ten-year period under study, the results point to an increase in the number of children admitted to the hospital in the last two decades, in comparison with Norris' 1979 study in which an age range of 13 to 28 was reported. This finding highlights concerns about certain South African children who may develop a disorder thought to most commonly affect adolescents and young adults - it appears childhood is not necessarily a protective factor against the social pressures for thinness, beauty, fitness and dieting behaviours, along with various other developmental conflicts thought to contribute to the onset of anorexia nervosa. The higher incidence of childhood onset anorexia nervosa recently being reported could perhaps also be related to changes in family structures within the society at large. In their explorative study of the demographic changes in eating disorder patients from 1970 to 1990, Ash and Piazza (1995) found that the number of patients from intact families had decreased significantly over the last three decades, and also found significant changes in the number of patients coming from homes where the mother worked outside the home.

With regard to older-onset and older-admission anorexia nervosa, the present study's findings of 1% to 3% of the sample appears consistent with the rates reported in the literature (Beck et al., 1996). While no significant trend for older onset and admission over the ten-year time period was found, a considerable increase in the number of age 40+ anorectics admitted to the hospital was found after 1993 when compared to the period 1987 - 1992. While not all the age 40+ anorectics admitted developed the disorder in their 40's, these findings seem to indicate an increase in the number of older-onset and older-admission anorectics over the last decade, challenging stereotypical views of anorexia nervosa as an adolescent disorder. While the increase in later-onset could be explained by the fact that health professionals are more likely to diagnose an eating disorder in an older patient than was likely a decade ago, the increase may also be explained by the entrenchment of pathological eating as a sustaining behaviour for dealing with life stressors and conflicts (ibid; Hall & Driscoll, 1993).

5.3 Sex findings

Females comprised 98% of the sample of anorectics, while males constituted 2%. This striking discrepancy in the prevalence of anorexia nervosa between female and male subjects is substantiated by the findings of numerous studies in the literature on the disorder (Andersen 1993; Lawrence, 1995; Nasser, 1997).

While the findings showed no significant increase in the number of male anorectics admitted to the hospital in the ten years under study, it is interesting to note that, after 1992, four times the number of males were admitted as compared to the five years prior to 1992. It is possible that, with growing awareness about anorexia nervosa and thus decreased subscription to the stereotype that it is only a female disorder, males who may have been overlooked in the past are now being diagnosed. Also, as traditional gender roles become increasingly challenged, and as the fitness industries and the media focus more attention on the male body, it stands to reason that more males may be rendered vulnerable to eating disorders as body image concerns develop.

This study's findings, however, confirms that anorexia nervosa is still overwhelmingly, although not exclusively, a female disorder. This fact appears best explained by the differential socialisation processes of young females and males, in addition to the various familial and social pressures impacting on females in modern societies (see section 2.3.3 of the literature review).

5.4 Racial findings

With regard to race, 98% of the sample's anorectics were white, while 2% were Indian. No black or coloured anorectics were admitted to the hospital from 1987 to 1996. This finding is not consistent with global trends showing an increasing prevalence of anorexia nervosa, and other eating disorders, in non-western countries and among minority groups in western societies (Bryant-Waugh, 1993; Crago et al., 1996; Dolan, 1991; Lee, 1996; Mumford et al., 1992; Nasser, 1997; Pate et al., 1992). Furthermore, given that the black population in South Africa is the majority, and not a minority racial group, the fact that no black anorectics were admitted in the ten-year period is surprising.

This finding could partially be explained by the fact that, until the early 1990's, most South African hospitals were segregated along racial lines, the legacy of an apartheid governing policy. In keeping with the changing political climate at the start of this decade, the institution under study, along with most others, began admitting people from all race groups, although this was done unofficially. The lack of black anorectics in the sample could thus reflect the inaccessibility of tertiary health institutions to the black South African population because of these institutions' segregated histories. Informal enquiries have shown that black South Africans have been diagnosed with anorexia nervosa; they just do not seem to have been presenting at the institution of study between 1987 and 1996.

However, the finding that the majority of the Indian anorectics were admitted to the hospital after 1992, as compared to prior to 1992, suggests that as South Africa moves further away from an apartheid past, patient profiles will become more representative of the wider community. Furthermore, with increased awareness of anorexia nervosa, it is possible that black anorectics, who are perhaps being

overlooked because of the stereotypical view of anorexia nervosa as a 'white' disorder, will be more likely to be diagnosed correctly.

Naturally, in light of these findings, it is tempting to maintain that, within the South African context, anorexia nervosa is still very much a "culture-bound syndrome" (Lee, 1996, p. 21), and that because of cultural differences, the black population is largely protected from this disorder (see section 2.3.5 of the literature review). However, studies carried out at South African universities, examining the eating attitudes and behaviours of students, have shown that disordered eating is equally prevalent among females from *all* race groups (Grey, 1995; Sheward, 1994; Winship, 1996; Zahoul, 1996). Such findings, however, need to be viewed cautiously, as it cannot be claimed that the student population accurately represents the wider community; the student population constitutes a unique sub-grouping in society, impacted on by issues of academic achievement and various developmental issues. These findings could reflect the fact that black students, because they are influenced to a greater degree by western values through modern education and popular media more so than their elders, are rendered more vulnerable to eating disorders through the process of acculturation (Berry, in Winship, 1996; Crago et al., 1996; Dolan et al., 1990, Lee, 1996; Mumford et al., 1992; Nasser, 1997; Wilfley et al., 1996). If so, in agreement with Lee (1996, p. 23), anorexia nervosa could thus be considered a disorder bound to the "culture of modernity" rather than to specific cultures of geographical sites.

5.5 Socio-economic status (SES) findings

The vast majority of anorectics in this sample were found to fall within the first, second and third socio-economic categories, comprised predominantly of professional, managerial, technical, and skilled occupations. These three groups of occupations can be seen as roughly synonymous with what is termed the "upper" and "middle" classes in sociological terms (see 1.3). Only three individuals in the sample of 254 were from the fourth and fifth SES groups, i.e. partly skilled and unskilled occupations. No trends regarding SES were apparent from 1988 to 1996: throughout the ten-year period, the mean SES group calculated for the subject, the subject's mother, father, and husband, fluctuated between the first and third SES group, i.e. the upper and middle classes.

These findings are inconsistent with current findings which indicate no relationship between socio-economic status and eating disorders, and which suggest that fat phobia and eating disorders are evident in virtually all socio-economic strata in western societies (Lee, 1996; Pate et al., 1992; Rogers et al., 1997). Two studies at South African universities further showed no relationship between SES and disordered eating behaviour among female students (Geach, 1995; Winship, 1996). The stereotypical relationship between SES and anorexia nervosa found in this study, (established since the mid-19th century when anorexia nervosa was first seen as a disorder of the wealthier classes, and associated with affluence) is further discrepant with recent global findings of the disorder in lower SES groups. Gard and Freeman (1996) hold that the stereotype is largely perpetuated by clinical impression and failure of health care professionals to recognise eating disorder symptoms in groups in which they do not expect to find them, for example, among the working class, males, and the elderly.

A further finding of interest in this study was the significant relationship between mother's SES and subject's weight and body mass index (BMI), i.e. as mother's SES decreased, the subject's weight and BMI was seen to decrease. This relationship between weight and SES is not consistent with previous findings in the literature (Rogers et al., 1997). An explanation for these findings might be that anorectics from the lower SES groups in society may attain the attention of the health profession only at the stage of severe and visible emaciation, perhaps due to the latter's stereotypical view of anorexia nervosa as an 'upper-class' disorder. However, the possibility that decreased weight among 'lower-class' anorectics may also be related to the effects of poverty and undernutrition cannot be overlooked. A cautionary note must be added to these suppositions: given that there existed no means to control for the impact of various other variables in this study's quasi-experimental design, the finding of a correlated relationship between weight and mother's SES does not necessarily imply causality (Huysamen, 1994). It is likely that this finding could have been influenced by a variety of other factors, for example, educational levels of both subjects and parents, the intactness of the family, and whether or not the mother worked outside the home - the latter two factors were found by Ash and Piazza (1995) to

be increasingly important variables apparent among anorectics admitted into hospitals within the last two decades.

5.6 Weight and body mass index findings

Over the ten-year period under study (1987 to 1996), the weight of the sample was found to decrease, although this finding approached, but did not reach, significance. The same result was found with regard to body mass index, which takes subject's height into account, and thus provides a more reliable method of determining the degree of undernutrition (Beumont et al., 1988). The overall mean BMI for the sample was 14.48 kg/m², while the range from 1987 to 1996 was approximately 14 to 16 kg/m². The extent of undernutrition of the study's subjects becomes apparent when one considers that a BMI between 18 and 20 kg/m² is considered underweight, and a BMI below 18 kg/m² is considered very underweight (ibid) (see 1.3.4).

The decreasing trend in weight and BMI found in this study can perhaps be explained by global trends towards the idealisation of an increasingly thinner female figure (Andersen, 1993; Lawrence, 1995; Wolf, 1990). These trends, fuelled by the clothing, health, and fitness industries, seem to place great pressure on those vulnerable to eating disturbances, rendering them more likely than most individuals to lose large amounts of weight. The decreasing trend in weight among this sample's anorectics cannot be explained by decreasing weight trends in the greater population; rather it appears that average population weights are increasing, along with the parallel social pressures for thinness (Winship, 1996).

5.7 Limitations of the study

A limitation inherent in any research focussing on a sample in a single setting is that the setting may not be reflective of the larger population, due to locality, history, or a number of other factors. Furthermore, given South Africa's apartheid past, this limitation takes on added significance with regard to the present study - such a history would naturally impact on the past and present patient profiles at the hospital, the accessibility of the hospital to the majority of the population, and referrals made by health care professionals to this tertiary health centre.

Furthermore, due to the fact that this study concentrated on an in-patient sample, the findings may not be generalisable to a community-based cohort.

A disadvantage in the use of archival data for research purposes is that the data may be subject to various sources of unreliability, bias, and gaps in record-keeping (Judd et al., 1991). Changes in record-keeping over the ten-year time period of study could have impacted on the manner of initial data collection, thus influencing the final analysis. Also, on reviewing the patient files, gaps were apparent with regard to data on the occupations of subjects, their parents, and spouses. Another variable of questionable reliability is that of age at onset: due to subjects' and parents' subjectivity as to when the subject developed anorexia nervosa, this variable can, at best, only be a rough estimate.

The calculation of socioeconomic status (SES) based only on occupational information is also held to be a limitation of this study. To obtain reliable SES information, it would perhaps be more useful to take into account factors like educational attainment, earnings, and/or place of abode.

A final limitation to be noted is one that is inherent in the very nature of the quasi-experimental design adopted, that of the lack of control over 'nuisance' variables (Huysamen, 1994). Although correlations were found between pairs of variables in this study (for example, between weight / BMI, and mother's SES and year of admission, respectively), the inferring of causality has to be undertaken with extreme caution as there are likely to have been a host of variables influencing those under study.

5.8 Implications of the study

This study's findings point to the emergence of a slightly more diverse demographic profile of anorexia nervosa than was previously considered. Of great concern is the large percentage of children who are developing the disorder. As dieting behaviours in children have been documented as increasing at an alarming rate, and as dieting is consistently linked to the development of eating pathologies (Lask & Bryant-Waugh, 1993; Szabo, 1998), it seems necessary that health care workers, educators and caregivers be alerted to these early signs of

eating disturbances. The finding that anorectics appear to be getting thinner, together with evidence that social pressures for thinner and fitter bodies, largely perpetuated by the media, are increasing even while the average body weight of the population appears to increase (Andersen, 1993; Zahoul, 1996), calls for the establishment of local lobbying groups to ensure that the media is made more accountable for the body image messages sent to young people.

Of vital importance to the diagnosis, treatment, and perhaps prevention of anorexia nervosa, is the need for health care workers to be alert to the growing emergence of the disorder in populations previously thought to be immune, i.e. lower socioeconomic groups, blacks, males, older individuals, and children. The relationship between mother's low socioeconomic status and the anorectic's decreased weight and body mass index, hinted at in this study, highlights the importance of increased vigilance on the part of the health profession. Although this study has not found *conclusive* evidence of an increased prevalence of anorexia nervosa in the above-mentioned populations, global and local trends appear to point in the direction of a larger spectrum of anorectics than was previously considered.

5.8.1 Implications for further research

While this study's findings appear to largely perpetuate the stereotype that anorexia nervosa is still very much a young, white, middle or upper class female disorder in South Africa, it is of vital importance to question whether these findings are reflective of the actual state of anorexia nervosa in the country. In light of the global trends discussed in previous sections, further research in private practices and larger hospital settings is fundamental to discern a reliable demographic profile of the South African anorectic, and to isolate those who appear to be at risk for the onset of anorexia nervosa. Studies conducted over more than one decade could also provide more reliable data.

Further research could consider other variables documented in the literature as possibly influencing the variables under analysis in this study, for example, family structures and educational status (Ash & Piazza, 1995).

In light of correlated relationships, causal inferences could thus be attempted with a greater degree of certainty than was the case in the present study.

Finally, a qualitative approach to researching the demographic profile of the anorectic is likely to yield a richer store of information than is the case in quantitative research, limited as it is by the information that is available, and by the setting.

5.9 Summary and conclusion

Anorexia nervosa can be seen to be affecting more people, and to being diagnosed more frequently in the 1990's than was the case in the 1970's: at the institution of study, 54 admissions (not only first admissions) were recorded during a three-year period in the 1970's as compared to the present study's finding of 254 *first* admissions over ten years (1987 to 1996). These findings can perhaps be attributed to increased awareness of the disorder, and therefore increased reporting and diagnosis. However, it is also possible that there is an increasing prevalence of the development of anorexia nervosa as a sustaining behaviour for coping with stressors.

While the findings largely reflect the stereotype of the anorectic as young, white, female, and from the upper socioeconomic brackets in society, findings also point to the possible emergence of the disorder in populations previously thought to be protected. With approximately 35% of the sample developing anorexia nervosa in childhood, and approximately 1.3% developing the disorder after age 40 years, it is apparent that the disorder can no longer be seen as restricted to teenage-onset. In the same vein, the diagnosis of anorexia nervosa among males and blacks in South Africa is likely to become more prevalent than it currently is, given the rapidly changing gender roles and increased identification with western ideals of increasingly thinner bodies.

The weight and body mass index of the anorectics in the present study were found to be related to mother's socioeconomic status, and were also found to be decreasing, albeit not significantly, over the ten-year period of study. These

findings highlight the importance of addressing those social pressures impacting significantly on the development of eating pathologies, as well as addressing the capacity of caregivers and health professionals to correctly identify the disorder.

Although the present study did not find conclusive evidence of changes in the stereotypical demographic profile of anorectics at the hospital under study, the emergence of the disorder outside stereotypical parameters, over a ten-year time period, is evident.

Since the beginning of the decade, in the wake of the advent of a democratic governing system, South African society is in the process of rapid political and social change. The shifts in employment opportunities, increased exposure to technology and the mass media, aspirations to 'western' values and lifestyles, the rise of affluence in diverse sectors and the changing social roles of women, are all examples of elements of a country accelerating into industrial capitalism. In keeping with global trends, it is thus likely that the current demographic profile of South African anorectics will change. Further research among clinical and community-based samples, including qualitative studies, should provide a more accurate picture of the demographic profile of the South African anorectic.

It may be argued that there are more urgent research imperatives in a country racked by high levels of crime, abuse of women and children, poverty, unemployment and similar social dysfunctions. However, the continued study of eating disorders remains of critical importance in a developing country such as South Africa because these disorders appear to be anchored in the concept of 'industrial development', "bound to the culture of modernity" (Lee, 1996, p. 23). The impact of anorexia nervosa is only just beginning to reveal its broader dimensions. The lessons emerging from continued research on eating disorders can only assist in elucidating the complexities of a society in transition and how these impact on its members.

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APPENDIX A

Documentation regarding approval of the research project

ATT: Ms Bernice B. Gabriel,

RE: Proposal **“An Exploration of the Demographic Profile of Anorexia Nervosa Patients”**

The above proposal was discussed today at the Research and Education (R&E) Meeting held at . The R&E Committee serves as the P&T Committee and has approved your proposal under the conditions set out in the document “Attention Researchers”.

The elected Hospital Supervisor will be .

The Committee wishes you well for this proposal and we look forward to some interesting findings.

Sincerely,

***NOTE:** Identifying information has been omitted in the interests of confidentiality

ATTENTION RESEARCHERS:

In order to maintain academic and ethical standards at _____ you are requested to abide by the following:-

1. ✕ Apply in writing to the Medical superintendent requesting to carry out research at _____ Hospital. Forward this letter with a copy of your proposal, patient information sheet, questionnaires, etc. and patient consent form to _____ at least 2-3 weeks before the meeting at which you are to present your proposal.
N.B. State your registration with the relevant professional body and Academic Institution.
2. Contact _____ ext 2168 to establish when the next Research and Education Committee meeting is to be held. Make arrangements to be included on the Agenda for that meeting for the presentation of your proposal.
3. Having presented your proposal at the Research and Education (R&E) Committee meeting, providing that the committee approved your proposal, you may submit it to the Ethics committee of the Health Sciences Faculty. (Medical School)
4. Before commencing the research you must ensure that you have -
 - ✕ • applied for an honorary appointment to _____. This may only be approved by the Medical Superintendent.
 - ✕ • signed the forms 'UNDERTAKING RE PATIENT CONFIDENTIALITY' _____
'UNDERTAKING WITH REGARD TO RESEARCH AT _____',
 - ✕ • returned the above documents, completed, with your Ethics Committee approval to _____
 - been introduced to the elected Hospital Supervisor and that he/she is aware of your proposal.
 - received a letter from _____ authorising your research.
5. Keep the Research and Education Committee informed of your progress and any difficulties you may encounter.
6. When you have completed your research and it is passed, you are to present your thesis at a R & E Committee meeting and provide a bound copy to be placed in the Medical Library.
7. Any article that may be published from the research must first be approved by the Medical Superintendent of _____.
The hospital supervisor is to be acknowledged as co-Author in such publication.

***NOTE: Identifying information has been omitted in the interests of confidentiality**