ATTITUDES TO FOOD AND WEIGHT : A SURVEY IN A WOMEN'S RESIDENCE AT THE UNIVERSITY OF CAPE TOWN

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A thesis submitted in partial fulfilment of requirements for the Degree of Master of Arts in Clinical Psychology.

University of Cape Town
July 1986

ACKNOWLEDGEMENTS

I would like to thank the following people who have contributed in different ways to this thesis:

- Leslie Swartz, who encouraged me to undertake this research and gave guidance and careful supervision during the process of writing the thesis
- Ruby MacDonald, who typed this final draft with great speed, efficiency and good humour
- The students who agreed to participate in my research, and particularly those who allowed me to interview them
- And finally, to Lilian, whose constant companionship and encouragement sustained me throughout this period : thank you for everything.

The H.S.R.C. provided financial assistance, but the views expressed here are those of the author alone and not those of the H.S.R.C. or any other organisation.

ABSTRACT

Epidemiological research in the past decade has indicated that clinical and subclinical eating disorders are widespread amongst the female population of many Western countries. Following an introductory overview of some of the literature on anorexia nervosa and bulimia, highlighting the lack of diagnostic clarity in this area, previous epidemiological findings are reviewed. The eating attitudes and dietary behaviour of a female student population in a residence at the University of Cape Town are then detailed.

The sample comprised 123 women, shown to be a representative sample of the residence population, and data were collected by means of the Eating Attitudes Test (Garner and Garfinkel, 1979). Results indicate that 13.8% of the sample population scored above the threshold score of 30 on this test; results are discussed with particular focus on specific attitudes and behaviours possibly indicative of anorexic or bulimic symptomatology, and which are elicited by EAT responses.

Clinical interviews were conducted with those women who scored over 30 and who supplied their names (9 students); qualitative data obtained from these interviews augment the quantitative analysis of the EAT data, particularly with respect to the phenomenon of binge-eating behaviour.

Findings of the present study accord overall with results obtained elsewhere amongst similar populations. The study does, however, call into question presently held assumptions about the nature of binge-eating, and the diagnostic criteria for anorexia nervosa and bulimia.

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CHAPTER ONE

EATING DISORDERS : A GENERAL OVERVIEW

1.1 INTRODUCTION

This chapter will very briefly outline some of the literature on anorexia nervosa and bulimia and will assess the current state of knowledge in the field of eating disorders, while highlighting the apparent lack of diagnostic clarity in the area. Brief clinical pictures and some general aetiological considerations for anorexia nervosa and bulimia will also be presented.

1.2 OVERVIEW OF EATING DISORDERS

It seems quite possible that cases of anorexia nervosa have been known for centuries, with the first detailed description being that of an English physician, Richard Morton, in 1689 (Palazzoli, 1985). Anorexia nervosa emerged as a clinical entity during the second half of the nineteenth century with Lasègue's 1873 description of "hysterical anorexia" and Gull's 1874 report on "apepsia hysterica" which he later changed to "anorexia nervosa" (Bruch, 1973; Palazzoli, 1985), and by the turn of the century it was widely accepted that anorexia nervosa was a mental illness. However, with the discovery of the link between cachexia and pituitary insufficiency by Simmonds in 1914, it seems that cases of anorexia nervosa were often confused with Simmonds' disease, and seen within the context of this primary endocrine illness for about 25 years. The confusion regarding the status of anorexia nervosa continued with the Bliss and Branch (1960) assertion that it should be regarded as a non-specific diagnosis relating to weight

loss from any emotional cause (in Garfinkel 1981).

It was with the work of Russell (1970), Feighner (1972) and Bruch (1973) that anorexia nervosa came to be recognised as a clinical syndrome, with the major criteria used in the field at this time being those delineated by these three researchers.

Several researchers have sub-divided anorexia nervosa. Bruch (1973) emphasises the distinction between primary and secondary anorexia nervosa, with the former reflecting an active pursuit of thinness while the secondary forms of the disorder occur where weight loss is secondary to another defined psychiatric illness (e.g. depression, schizophrenia). Dally (1969) differentiated three groups amongst anorexics: an obsessional group (O), an hysterical group (H) and a group of mixed aetiology (M), with these categories being an extension of Janet's 1903 distinction between obsessional and hysterical forms of anorexia nervosa, based in part on the presence or absence of hunger.

Vomiting and/or purging has been referred to in the literature on anorexia nervosa as one method sometimes employed by patients to restrict their weight. In 1976 Beumont, George and Smart published a retrospective study on the records of 31 patients admitted to their unit with a diagnosis of primary anorexia nervosa. They divided these patients into two groups : "dieters" who lost weight solely through dieting, and "vomiters and purgers" who lost weight through self-induced vomiting, excessive use of purgatives

or the abuse of diuretics (or a combination of these methods). The only statistically significant differences between the groups were that the "vomiters and purgers" were more likely to have had a premorbid history of obesity, and were more likely to have had a greater absolute loss of weight. It was also noted, from clinical observations, that "dieters" tended to be more obsessional, intense, introverted and socially withdrawn, whereas the "vomiters and purgers" were generally more "normal" in their social and sexual interactions although tending to be more extroverted and histrionic. The authors considered that the behaviour of the "vomiters and purgers" represented a more extreme form of dieting in women who had always had weight problems, and considered their prognosis to be worse than that of the "dieters".

Also in 1976, Boskind-Lodahl published an article in which she coined the term "bulimarexia" to describe a pattern of alternate binge-eating and starvation, and argued that this pattern be understood in the same way as anorexia nervosa. Boskind-Lodahl argues from a feminist perspective that these women become overconcerned with their appearance in an attempt to "fit into the glass slipper" (p 342) of society's role for them.

It is interesting to note that Boskind-Lodahl's emphasis is on binge-eating which is not mentioned by Beumont et al (1976), but the roughly simultaneous publication of these two papers marked the beginning of wider interest in the symptoms of binge-eating, vomiting and purging, and the debate as to

whether this triad of symptoms could be classified as a separate psychiatric syndrome.

An increasing number of papers began to document evidence of a high and growing number of women in western societies who seem to have disturbed eating patterns and attitudes to food, often associated with overvalued ideas relating to weight and physical appearance (e.g. Palmer, 1979; Russell, 1979; Garner & Garfinkel, 1980a; Crisp, 1981; Fairburn, 1982; Chiodo and Latimer, 1983). It also became clear that binge-eating and/or vomiting and purging were not only associated with anorexia nervosa or obesity, but that these symptoms also occurred amongst normal weight women (Boskind-Lodahl and White, 1978; Halmi et al, 1981), suggesting that these symptoms may indicate a different syndrome in some cases.

1.2.1 Terminology and diagnostic criteria

In 1979, Russell suggested that bulimia nervosa was "an ominous variant of anorexia nervosa" and provided three criteria for its diagnosis:

i) Powerful and intractable urges to overeat

ii) Avoiding the fattening effects of food by inducing vomiting or abusing purgatives, or both

iii) A morbid fear of becoming fat.

Russell argued that this disorder is closely related to anorexia nervosa and may often be a sequel of anorexia nervosa, and his three criteria have since been used frequently by other researchers in the area. Many other

researchers agree that the symptom cluster of binge/vomit/purge justifies separate labelling as bulimia, but this is frequently regarded as a sub-classification of anorexia nervosa (e.g. Garfinkel et al, 1980; Casper et al, 1980; Vandereycken and Pierloot, 1983).

The publication of the widely-used diagnostic manual, the DSM-III, published by the American Psychiatric Association in 1980, distinguishes two separate syndromes in anorexia nervosa and bulimia, but in fact seems to have added to the confusion in this field. A review of the DSM-III diagnostic criteria is necessary at this point:

Anorexia Nervosa:

A. Intense fear of becoming obese, which does not diminish as weight loss progresses.
B. Disturbance of body image, e.g. claiming to "feel fat" even when emaciated.
C. Weight loss of at least 25% of original body weight, or, if under 18 years of age, weight loss from original body weight plus projected weight gain expected from growth charts may be combined to make the 25%.
D. Refusal to maintain body weight over a minimal normal weight for age and height.
E. No known physical illness that would account for the weight loss.

(APA, 1980, p.69)

Bulimia:

A. Recurrent episodes of binge-eating (rapid consumption of a large amount of food in a discrete period of time, usually less than two hours).

B. At least three of the following:

1) Consumption of high-caloric, easily ingested food during a binge;

2) Inconspicuous eating during a binge;

3) Termination of such eating episodes by abdominal pain, sleep, social interruption, or self-induced vomiting;

4) Repeated attempts to lose weight by severely restrictive diets, self-induced vomiting, or use of carthartics or diuretics;

5) Frequent weight fluctuations greater than ten pounds, due to alternating binges and fasts.

C. Awareness that the eating pattern is abnormal and fear of not being able to stop eating voluntarily.

D. Depressed mood and self-deprecating thoughts following eating binges.

E. The bulimic episodes are not due to Anorexia Nervosa or any known physical disorder.

(APA, 1980, pp 70-71)

The DSM-III also differentiates bulimia from anorexia nervosa by stating that in bulimia, weight loss, if it occurs, is never to the extent of 25% of original weight. However, the DSM-III also states that in rare instances anorexia nervosa does occur in individuals with bulimia, in which case the DSM-III recommends that both diagnoses be made. There is thus an obvious contradiction: it is clearly stated that weight loss of 25% cannot occur with bulimia, yet the manual states that anorexia nervosa, which has an explicit diagnostic criterion of weight loss exceeding 25%, can occur together with bulimia.

The possible inferences to be drawn from the DSM-III categorisation are thus:

1. There are patients who qualify for a diagnosis of anorexia nervosa;
2. There are patients who qualify for a diagnosis of anorexia nervosa and who also may have episodes of binge-eating;
3. Some patients with bulimia may develop anorexia nervosa (despite the fact that the DSM-III designates anorexia nervosa and bulimia to be mutually exclusive);
4. There are patients who qualify for a diagnosis of bulimia alone.

(Swartz, 1982)

There are also apparently conflicting claims for the primacy of anorexia nervosa as a syndrome when considered in relation to bulimia, as Swartz (1982) delineates : in the (impossible)

instance of anorexia nervosa and bulimia co-existing, bulimia is presented as being primary to anorexia nervosa, implying that anorexia nervosa may or may not occur in a patient with the syndrome of bulimia, but may also occur in one without. However, the final criterion for a diagnosis of bulimia is that the bulimic symptoms may not be due to anorexia nervosa, implying that anorexia nervosa is primary.

It is thus apparent that the DSM-III does not provide clearly defined and mutually exclusive diagnostic categories, possibly reflecting some of the problems in this field although also possibly contributing to some of them. Some of the confusion seems to lie in differentiating the syndrome bulimia from the symptom of bulimia (binge eating) which may occur in individuals of any weight. It must be noted that vomiting and/or purging are not necessary criteria for a DSM-III diagnosis of the syndrome bulimia, although almost all the literature makes reference to at least two of the binge/vomit/purge triad occurring in association. It is for this reason that Russell's 1979 classification of "bulimia nervosa" (previously outlined) which is clearly defined, has been frequently used by others working in this field despite its apparent overlap with both the DSM-III's diagnoses of anorexia nervosa and bulimia.

However in Russell's most recently published criteria (in Rutter and Hersov, 1985) he appears to have sacrificed some of the previous clarity of definition, by more closely associating bulimia nervosa with anorexia nervosa. He has as his

criteria for anorexia nervosa:

1) Marked loss of weight that is self-induced, usually through a systematic avoidance of "fattening" foods (e.g. high-carbohydrate foods) and excessive exercise. Self-induced vomiting and purging are less frequent (cf. bulimia nervosa).
2) A specific psychopathology; an overvalued idea that fatness is a dreadful state to be avoided at all costs.
3) A specific endocrine disorder. In the female: amenorrhoea is an early symptom. In the male: there is a loss of sexual interest and potency.

(1985, pp 629-630)

The criteria for bulimia nervosa are:

1) Preoccupations with food associated with episodes of gross overeating.
2) Devices aimed at counteracting the "fattening" effects of food ingested: especially self-induced vomiting or purging or alternation with periods of starvation.
3) The psychopathology of anorexia nervosa : fatness is so dreadful as to be avoided at all costs.
4) In "true" bulimia nervosa there is a history of a previous episode of anorexia nervosa, possibly of minor severity. However, other forms of bulimic disorder may arise de novo.

(1985, p 631, his emphasis)

Thus within this framework Russell firmly places bulimia nervosa as a sequel to anorexia nervosa "in a proportion

of patients who do not recover" (1985, p 631) implying that it is a possible end-stage of anorexia nervosa. He refers to "the two forms of symptoms" (1985, p 631) further indicating that he regards bulimia nervosa as having different symptomatology, but not as a different syndrome, from anorexia nervosa.

Further clarification in this regard is obviously necessary, but for the purposes of this thesis I will adopt the DSM-III criteria for anorexia nervosa and bulimia, and empirical data will be discussed within this framework. I will use the term bulimia to refer to the syndrome and the terms bingeing or binge-eating when referring to the symptom.

1.3 CLINICAL PICTURES

Before continuing to briefly discuss aetiological considerations, the common presenting features of both anorexia nervosa and bulimia will be detailed.

1.3.1 Anorexia Nervosa

The central feature of anorexia nervosa is the individual's marked pursuit of thinness allied to a firmly held conviction that her body is too large. The initially stated intention is often one of "normal" dieting; however, when a weight goal is attained the anorexic still feels overweight and further restricts her food intake. This may often be an insidious process over a few months, reaching a point eventually where she will stubbornly refuse to eat normal amounts of food. This drive for thinness is ego

syntonic: the anorexic does not want help to change her eating pattern and she does not perceive herself as abnormal (Theander, 1970). This denial of illness or abnormality is often an important early feature of the disorder.

The disturbance of body image is linked to the pursuit of a thinner body, and has been well documented in the literature (Bruch, 1973; Garfinkel and Garner, 1982; Button et al, 1977). In spite of severe weight loss and physical emaciation, many anorexics deny that they are thin or unhealthy. This perceptual disturbance "is an overvalued idea and is of near or actual delusional proportions" (Garfinkel and Garner, 1982, pp 3-4). However, research findings in this area have been contradictory and inconclusive (Button et al, 1977; Garner et al, 1976; Halmi et al, 1977; Bruch, 1973) leading Hsu (1982) to suggest the removal of body image distortion as a diagnostic feature of anorexia nervosa.

The actual eating behaviour becomes increasingly rigid, usually with an avoidance of many foods, and some anorexics will eat the same foods every day for months, e.g. cottage cheese, salads, fruits. Most anorexics begin to practice deception in attempts to hide extreme dieting from others, making excuses not to eat or secretly disposing of food wherever and however possible. Laxative abuse and vomiting after meals to prevent weight gain are not uncommon. This deception may frequently antagonize parents, friends or medical staff, often resulting in the characteristic intense struggle for control so typical of the anorexic picture.

It seems that, despite the lack of clarity regarding diagnoses of eating disorders detailed earlier, there does exist a sub-group of patients suffering from anorexia nervosa who have periods of binge-eating alternating with extreme dieting, maintaining their weight at a level lower than 75% of pre-morbid level throughout. (The literature in this area makes frequent reference to "restricting anorexics" and "bingeing anorexics" although it appears that the criteria for diagnosing anorexia nervosa in the latter category are often not strictly applied.)

Although the term "anorexia" implies a loss of appetite, this usually does not occur until quite late in the starvation process (Theander, 1970; Garfinkel and Garner, 1982). Mostly, the hunger is resisted as a sign of self-discipline.

It is also a feature of the condition that anorexics often enjoy boundless energy until late in the illness. The exercise is in part aimed at burning up calories and losing weight, but with time frequently becomes another issue of self-discipline with a rigorous exercise routine being followed fanatically.

The rigidly adhered to weight limits of the anorexic are indicative of the dichotomous thinking characteristic of the disorder : exceeding the limit by even one pound is equal, in her mind, to being totally out of control. (Garner and Bemis, 1982). Anorexics appear unable to recognise "in-betweens", everything being assessed as either black or white with no shades of grey.

As the illness progresses the anorexic gradually narrows her interests, often restricting activities to schoolwork, exercise and dieting. They have often been "model" children pre-morbidly, and frequently continue to study hard and overachieve academically despite restricted interest in other areas. Many anorexics become socially isolated and withdrawn, losing interest in friends and relationships which often leads to loneliness and a sense of social inadequacy, accentuating worries about self-worth and control.

Moods of anorexics are variable. Initially there is a denial of all problems, often in conjunction with a "stubborn defiance about most matters" (Garfinkel and Garner, 1982, p 8). Depression and lability of mood are frequently experienced when the disorder becomes chronic, and obsessional traits are also common.

1.3.1.1 Physical characteristics.

As may be expected, a variety of physical complications can accompany anorexia nervosa, in addition to emaciation. Amenorrhea is a virtually constant feature in female anorexics, being required as a symptom for a formal diagnosis of the disorder by many investigators (Russell, 1970; 1985; Garrow et al, 1975, cited in Garfinkel and Garner, 1982). Fries (1974) observed that for about 70% of women amenorrhea developed after weight loss, although for another group, possibly more than 20%, amenorrhea appeared to precede the weight loss, this latter observation also being documented by Bemis (1978). Thus it seems that amenorrhea, although

almost universal in anorexic women, may not necessarily be the product of weight loss and starvation and may be triggered by emotional distress or independent hypothalamic dysfunction.

The anorexic normally has a dry cracked skin and may suffer hair loss from the head, while lanugo hair, a fine downy growth, over the face, neck, forearms and thighs is common. Hands and feet are often cold and blue with cyanosis extending to the nose and ears. Hypothermia, hypotension and bradycardia also occur regularly in anorexia nervosa, and severe dehydration may occur in some cases. Peripheral oedema is not uncommon and may also develop when a severely malnourished patient is rapidly refed. The physiological effects of starvation, particularly the fluid and electrolyte imbalances which often occur, are potentially life-threatening to the anorexic, with estimates of mortality rates varying between 5 - 15% (Minuchin et al, 1978).

1.3.2 Bulimia

The principal complaint of the bulimic is that she has lost control over eating, and many attitudes of the bulimic resemble those of the anorexic. There is an extreme sensitivity to any change in body weight or shape, often accompanied by a profound fear of weight gain. However, there is not the same pursuit of thinness characteristic of anorexia nervosa - some bulimics strive to lose weight, but many are content to maintain their weight at a stable level. However, because of their poor control over eating, many bulimics fear becoming

obese and may weigh themselves several times daily. There is often a preoccupation with body shape and/or weight, and increase in weight or shape (often measured by tightness of clothes) will often precipitate a period of extreme dieting. The disorder is often precipitated in fact by a conscious decision to diet in response either to a traumatic event, loss, change in life circumstances, developing interest in the opposite sex, or comments on their weight (Casper et al, 1980; Pyle et al, 1981; Wardle and Beinart, 1981; Abraham and Beumont, 1982).

The eating habits of bulimics are frequently grossly disturbed, with attempts at dietary restriction disrupted by bouts of uncontrolled eating. For these bouts to be regarded as binges, the individual should regard the amount of food eaten as excessive, and the episode should be experienced as outside their control (Fairburn, 1983). Thus the subjective experience of the episode is more important than the amount of food consumed. Most bulimics are able to distinguish a binge from overeating (Abraham and Beumont, 1982).

Binge-eating is most often secretive or done alone and most often occurs late in the day or at weekends. Binges are usually planned, and the rate ranges from daily to a few times a month, with the average binge lasting one to two hours (Wardle and Beinart, 1981; Pyle et al, 1981; Fairburn, 1983; Fairburn and Cooper, 1984a). Binges are often

precipitated by feelings of depression, anxiety, boredom, loneliness, an adverse event or the breaking of self-imposed dietary rules (Fairburn, 1983). Preferred foods tend to be soft sweet foods easy to swallow and to vomit up again, often food the bulimic does not allow herself to eat at other times, although the amount, type and nutritional content of food eaten varies widely within and between individuals (Abraham and Beumont, 1982).

Although the initial stages of the binge may be enjoyable and serve to allay the dysphoric feelings precipitating it, as gorging continues the bulimic often experiences an unpleasant sense of being out of control. Feelings of panic, helplessness, disgust and guilt are commonly experienced, as are the physical concomitants of anxiety; some bulimics also report depersonalisation and derealisation, dissociation and an altered state of consciousness during binges (Abraham and Beumont, 1982; Johnson and Larson, 1982). Binges are usually terminated by abdominal discomfort, physical exhaustion, lack of food supplies, interruption by others or self-induced vomiting. After binges patients frequently experience strong feelings of guilt and depression, and thoughts of suicide are common (Abraham and Beumont, 1982; Fairburn, 1983).

Compensatory behaviour in the form of self-induced vomiting or laxative abuse is common in bulimics although not all bulimics also vomit and/or purge - some simply abstain from eating between binges. Self-induced vomiting tends to be

secretive and be performed as soon as possible after bingeing. Vomiting is usually achieved by inducing the gag reflex with fingers or spoons, and about 20% of this population are eventually able to vomit merely by flexing their abdominal or thoracic muscles (Abraham and Beumont, 1982; Fairburn, 1983). Vomiting seems to become habit forming as it relieves the abdominal discomfort associated with bingeing, and yet encourages overeating as the individual discovers that it is easier to vomit when the stomach is full, thus setting up a vicious circle of dependency on vomiting to compensate for an increased food intake (Fairburn, 1983). Vomiting also relieves negative feelings of guilt and shame at the "out of control" eating behaviour, by restoring a sense of alertness, control and adequacy plus a reduction in anger (Johnson and Larson, 1982).

Laxative abuse is often an accompanying or alternative method of compensatory behaviour although occurring less frequently than vomiting. Laxatives fail to provide an immediate sense of relief after bingeing, and their use does not seem to affect food intake to the same extent as vomiting. Nevertheless, abuse of laxatives can become a habit, with some bulimics using more than 10 times the recommended daily dosage. Bulimics who abuse laxatives and weigh themselves daily discover that a rebound phenomenon exists where if they stop taking laxatives their weight increases, with the result that they continue taking the drugs (Fairburn, 1983).

Weiss and Ebert (1983) report that bulimics present with psychiatric symptoms more severe than those of anorexics. Although often maintaining an outwardly coping appearance, this is frequently a surface adjustment masking marked social, financial or personal distress (Russell, 1979; Pyle et al, 1981). Particularly marked are depressive features usually manifesting as subjective feelings of guilt and gloom, suicidal thoughts, irritability, decreased libido and initial insomnia (Russell, 1979; Pyle et al, 1981; Johnson and Larson, 1982; Fairburn and Cooper, 1984b). Anxiety-related symptoms are also common and some bulimics experience marked mood swings within short time periods (Fairburn, 1983). Concentration is frequently impaired either as a depressive symptom, or because the bulimic is preoccupied with thoughts of food, calories and her own body shape or weight.

Bulimics have also been reported as presenting with a range of symptoms and behaviours suggestive of an impulse disorder : kleptomania, alcohol/drug abuse, suicide attempts and self-mutilation (Casper et al, 1980; Pyle et al, 1981; Weiss and Ebert, 1983). Alcoholism and drug abuse have been noted as affecting 24 - 40% of the bulimic population as opposed to 10% of the normal population (Banaszynski, 1981, cited in Neuman and Halvorson, 1983). However these findings were not supported by Fairburn and Cooper's (1984b) findings: in their sample there was no evidence of increased vulnerability to drug or alcohol dependence in either the bulimic or her family.

Sexual and interpersonal relationships tend to be transient and unsatisfactory, often characterised by extreme swings from intimacy to withdrawal, from idealisation to rejection. Bulimics manifest passivity, dependence and unassertiveness in their intimate relationships, often unsuccessfully seeking for the ideal, secure relationship, which leads to personal devaluation and anger (Garfinkel, 1981; Garfinkel and Garner, 1982; Rost et al, 1982).

Dichotomous thinking appears to be common in bulimics : they view themselves as "in control" or "out of control", food is either "forbidden" or "allowed", they feel "fat" or "thin" (Fairburn, 1983), and body-image misperception is sometimes present.

1.3.2.1 Physical characteristics.

Many bulimics report long-standing weight problems. Often they have been previously overweight or obese (Garfinkel et al, 1980; Halmi et al, 1981; Abraham and Beumont, 1982; Fairburn and Cooper, 1984a; 1984b). Fairburn and Cooper (1984b), for example, found that 54% of their sample had at some time weighed more than 115% of population average for their age and height, compared with 24.5% of the general population. Similar findings were obtained in two community studies (Fairburn and Cooper, 1982, 1984a), suggesting that bulimics may have to exercise high degrees of restraint on food intake in order to attain and maintain an appropriate weight for height.

Many bulimics report marked weight fluctuations especially since the onset of the disorder (Pyle et al, 1981; Abraham and Beumont, 1982), while a minority have been previous sufferers of anorexia nervosa (Johnson and Larson, 1982; Fairburn and Cooper, 1984b).

Bulimics who engage in vomiting or purging are at risk of serious physical complications. Excessive vomiting and laxative abuse result in potassium loss and the subsequent hypokalaemia can lead to fatal cardiac arrhythmias. Other physical problems resulting from electrolyte imbalances consequent upon vomiting/purging behaviour and dehydration include muscle weakness, lethargy, headaches, dizziness, hypothermia, tetany and convulsions, anaemia and renal damage. Repeated vomiting can cause throat damage and chronic hoarseness as well as erosion of dental enamel, while laxative abuse can damage the colon and inhibit the ability to evacuate naturally. Amenorrhea or menstrual irregularities are also extremely common even in patients whose weight remains relatively stable at around an appropriate weight for height. (Russell, 1979; Pyle et al, 1981; Abraham and Beumont, 1982; Neuman and Halvorson, 1983; Fairburn, 1983).

1.4 BRIEF THEORETICAL CONSIDERATIONS

The main focus of this thesis is epidemiological with a qualitative approach to the data gathered, and it is thus not intended to discuss the various theories or possible aetiologies of eating disorders in any great depth.

However, a brief discussion of possible aetiological factors in anorexia nervosa and bulimia is necessary in order to provide a clearer understanding of the development of the two disorders.

While acknowledging the valuable contribution made by psychodynamic theorists towards an understanding of eating disorders, an adequate discussion of complex psychodynamic theory is not within the scope of this thesis. The following discussion on aetiology will centre on predisposing, precipitating and maintaining factors and will adopt an eclectic approach including an analysis of behavioural, affective and cognitive aspects of the symptoms, while also containing some psychodynamic terms.

1.4.1 Predisposing factors.

It is generally agreed that in the families of both anorexics and bulimics circumstances exist which make it difficult for the children to achieve adequate autonomy and a sense of personal identity. It seems that disturbed transactional styles and poor subsystem boundaries often exist within these families (Palazzoli, 1985; Minuchin et al, 1978) which do not provide the context for appropriate development of initiative nor ability to monitor and interpret bodily and emotional cues in the child (Bruch, 1973). This results in the child's inability to identify and trust her own feelings, and in feeling "under the influence and direction of external forces ..... the product of other people's influences and actions"

(Bruch, 1973, p 55). This results in impaired ego-strengths with blurred personal identity and permeable ego boundaries, low self-esteem and a sense of ineffectiveness with marked field dependency and an external locus of control (Bruch, 1973; Palazzoli, 1985; Hood et al, 1982).

In childhood this often manifests as compliance, obedience and striving for high achievement, often masking a need for acceptance (Casper et al, 1980; Russell, 1979; Slade, 1982).

At adolescence these children's resources often prove inadequate to cope with the age-appropriate developmental task of establishing a secure and separate personal identity. They are likely to be very vulnerable and sensitive to the cultural expectation on women to be thin, making the body a likely arena for the expression of anxieties and conflicts concerning effectiveness, control and identity (Boskind-Lodahl, 1976; Crisp, 1981; Halmi et al, 1981; Swartz, 1982; Cooper et al, 1984).

1.4.2 Precipitating factors.

There does not appear to be a single precipitant of eating disorders, although separation and losses have repeatedly been documented as being important in their development (Garfinkel and Garner, 1982). Precipitating events involving change or loss, although not more frequent for eating disorders than any other psychiatric illnesses, appear to have more significance as they threaten an already fragile sense of self-esteem and control.

The need for control becomes focused on body weight and shape - one area they can control when their environment changes or appears uncontrollable (Crisp, 1981). Thus they turn to dieting which gives them a sense of self-control and also enhances their sense of self-worth.

The anorexic, who has a higher internal locus of control than the bulimic, defends against her sense of ineffectiveness and impotence by denial, rigid control over the body, obsessionality and an overaccentuation of the boundary between herself and others (Sugarman and Quinlan, 1982).

Bulimics appear to turn to methods other than simple food restriction in an attempt to gain control of their weight. They often experience a sense of boredom or emptiness arising from a fragmented core identity and a vagueness in identifying feeling states; in addition, their tendency to anxiety, tension or anger, consequent on low self-esteem and often poor interpersonal relationships, make them more likely to in fact turn to food to assuage these dysphoric mood states (Johnson and Larson, 1982).

The bulimics' inadequate impulse control, difficulty tolerating negative affect and a greater external locus of control, accompanied by an inability to delay gratification, makes their mastery over eating as well as sexual and aggressive drives more erratic than that of the anorexic (Garfinkel and Garner, 1982). This erratic impulsive style which also characterises other areas of functioning and is frequently reflected in their "either/or" cognitions, makes them more vulnerable to dietary habits alternating between bingeing

and fasting or purging. The fasting or purging behaviour which may often be learned through the media, popular literature or peer identification (Chiodo and Latimer, 1983) serves to reduce anxiety and prevent weight gain, undoing the effects of bingeing.

It is interesting to note that several researchers have documented a link between dietary restraint and overeating even in people without the previously mentioned vulnerabilities of the bulimic (Spencer and Fremouw, 1979; Wardle, 1980). It is postulated that dietary restraint can lead to bingeing as the result of physiological deprivation and the fact that cognitive responsiveness to external cues is increased by restraint. Bulimics who are often unable to accurately identify internal body cues and for whom control is equated with the eating of "safe" foods, are likely to have extreme reactions to a perceived loss of control - thus the ingestion of even a small amount of forbidden food can lead to panic and the feeling that they might as well carry on eating now that they have apparently lost control (Wardle and Beinart, 1981).

1.4.3 Maintaining factors

The anorexic maintains her severely restrictive eating pattern because of the sense of gratification she obtains from the extreme control she exerts over her body. All her energy is devoted to maintaining thinness: while initially bound to external phenomena for her self worth, the anorexic turns inward to her personalised weight-related value system. As

her weight declines, feelings of self-control and success positively reinforce dieting behaviour, which is seen as a "successful behaviour in the context of perceived failure in all other areas of functioning" (Slade, 1982, p 173). The syndrome then becomes self-perpetuating through positive self-reinforcement of successful weight loss and through phobic avoidance of weight gain (Garner and Bemis, 1982; Garfinkel and Garner, 1982). This avoidance behaviour is itself reinforcing : when the individual's anxiety is raised by the presence of the feared object (food) but is reduced by avoiding that food, the anxiety reduction itself is a reinforcer that serves to perpetuate the behaviour (Garfinkel and Garner, 1982).

Thus it seems that the anorexic's pursuit of thinness serves as a powerful anxiety-reduction technique as well as a means of gaining and maintaining self-esteem and self-control.

Maintaining factors in the bulimic appear somewhat different. Loro and Orleans (1981) emphasise the compulsive nature of the binge/vomit cycle from which the individual cannot easily escape despite its negative consequences in terms of shame and guilt. Although the bulimic often admits that she initially considered bingeing and vomiting disgusting, she continues with the behaviour because it serves as powerful negative reinforcement in the form of relief from negative emotional states. The binge/purge cycle begins to take up more time and attention, often increasing in frequency and duration in proportion to the growing number of antecedents likely to precipitate a binge. These antecedents now

include not only the anxiety-producing situations or cognitions, but also feelings of guilt and self-deprecation and preoccupation with food - ironically all consequences of the binge/vomit cycle (Chiodo, in press).

The DSM-III focuses on the bingeing as being the primary symptom, while writers such as Johnson and Larson (1982) argue that it is the vomiting which brings relief and serves an integrative function by undoing the effects of bingeing. However, it is difficult to isolate the primary component as each reinforces the other : shame and guilt at the binge/purge behaviour leads to feelings of despair and hopelessness together with resolutions to restrict food intake and retain control, thus setting the stage for the next binge - the excessive concern for food being central. The secondary depression which often accompanies the bingeing and purging can easily be understood in the light of the sense of despair and lack of control experienced by the bulimic as the binge/purge cycle gains a hold.

1.5 PROGNOSIS

Sours (1974) suggests that bingeing and vomiting is a good prognostic sign in anorexia nervosa. However, most other researchers regard bingeing and vomiting as poor prognostic factors (Crisp et al, in Vigersky, 1977; Russell, 1979; Hsu, 1980; Garfinkel and Garner, 1982). No satisfactory outcome or follow-up studies comparing anorexics with bulimics have been reported (Halmi, 1983) although it does appear generally accepted that good prognostic indicators for eating

disordered individuals are early onset, no previous psychiatric treatment, good premorbid school/career adjustment, and present employment.

1.6 SUMMARY

In summary, a brief overview of some of the literature on anorexia nervosa and bulimia was presented, emphasising the current lack of diagnostic clarity in the area particularly with regard to bulimia. Clinical pictures of anorexia nervosa and bulimia, and general aetiological considerations in the development of these disorders, were reviewed.

The following chapter will undertake a general review of much of the epidemiological research in the field of eating disorders, and attention will then be turned more specifically to the survey which was conducted for this thesis.

CHAPTER TWO

PREVIOUS RESEARCH INTO THE PREVALENCE OF EATING DISORDERS

2.1 INTRODUCTION

This chapter will deal primarily with results of previous investigations into the prevalence of actual eating disorders, (as defined by the DSM-III), or of specific symptoms of those disorders. This data will also be presented in tabular form in Tables I to IV. Attention will also be focused on the possible role of sociocultural factors in the development of particular eating patterns.

There is an interesting viewpoint proposed by many investigators in the field of eating disorders (e.g. Garfinkel and Garner, 1980b; Button and Whitehouse, 1981; Clarke and Palmer, 1983), that sociocultural factors may influence many young women to become preoccupied with weight-related issues and to seek thinness in order to conform with a cultural ideal; this argument will be briefly outlined before the previous epidemiological research findings are discussed in some detail.

2.2 SOCIOCULTURAL FACTORS

The twentieth century has seen various shifts of preferences with regard to the female figure : a buxom look was popular in the early part of the century, followed by the flat-chested "flappers" of the 1920's and then the return of the bust and the hourglass figure of the 1950's, with the recent preference since the 1970's being for thinness in women.

The possible reasons for the recent trend are complex and not within the scope of this thesis to discuss. However, it is apparent that a "look" has evolved which has come to be associated with other positive attributes, and this look or image has been capitalised upon and promoted by the media, so that thinness has now become associated with self-control and success (Garfinkel and Garner, 1982).

The shift in the idealised concept of feminine beauty during the 1970's is illustrated by a survey conducted at Madame Tussaud's London Wax Museum (Wallechinsky et al, 1977; in Garfinkel and Garner, 1982). In 1970 Elizabeth Taylor was voted the most beautiful female figure on display by visitors to the museum, but by 1976 the model Twiggy was receiving most votes.

Garner et al (1980a) attempted to document and quantify the apparent shift in cultural standards for feminine beauty and the consequent pressure to diet, by collecting data from several sources including Playboy magazine, Miss America competitions, and diet articles from popular women's magazines. They found that amongst Playboy centrefold models there had been a significant decrease in average weight for age and height, and a significant increase in actual height in the 20 years 1958-1978. Other significant changes were that bust measurements became smaller, waists larger and hips smaller. Analysis of the data on Miss America contestants for the same time period reveals an average decline in weight of the contestants : before 1970

mean weight for contestants was 87,6% of population average for height and age, compared to 84,6% since 1970. Moreover, since 1970 the competition winners have weighed significantly less than other contestants, with mean weight of winners being 82,5% of the matched population average weight.

These findings seem to indicate a gradual shift in the preferred shape for women toward a thinner size, with the Playboy data indicating a trend toward a more tubular less curvaceous form, and the data on Miss America contests clearly indicating that since 1970, particularly, winning has been associated with being thinner.

At the same time, the recently revised actuarial statistics indicate that the average woman under 30 years old has in fact become heavier during the same 20-year period, probably due to improved nutrition. Thus while high-profile models seem to have been getting thinner the average woman has been getting heavier, indicating a certain tension between biological forces determining weight and the cultural ideal (Garfinkel and Garner, 1982).

Garner et al (1980a) also examined five popular women's magazines from 1959 to 1978 and documented the increased emphasis on dieting in these magazines. Excluding advertisements and promotions, they found that the yearly mean for the first 10 years was 15.6 diet articles compared to 22.9 for the second decade - representing a significant increase in these articles during the period under review.

The possible effect of this apparent cultural preference for thinness in women is reflected in several studies which indicate that dieting among young women seems to be widespread. Heunemann et al (1966) reported that between 63-70% of high school girls were dissatisfied with their bodies and wanted to lose weight while approximately 20% were actively trying to diet. In a study of the attitudes of high school seniors towards their weight, Dwyer et al (1969) found that 80% of women wanted to weigh less and 30% were actively dieting at the time of the survey. In contrast are the figures for men in both these studies : Heunemann et al found that high school boys actually wanted to gain weight; Dwyer et al found that less than 20% of men wanted to weigh less and only 6% were currently dieting. Jakobovits et al (1977) found that 11% of college women were actively dieting while a further 75% were consciously trying to limit their food intake.

Further to these studies, a large number of researchers have found a widespread existence of other weight control methods such as self-inducing vomiting, laxative abuse, bingeing and starving among young women. These studies will be the focus of the next section of this chapter.

2.3 DEFINITIONS

Before discussing the findings of previous epidemiological studies in the field of eating disorders, it is necessary to clearly define two terms frequently used and misused in the epidemiological literature. These two terms are "prevalence"

and "incidence".

The prevalence rate describes a given group or population at a certain point in time, and can be represented in the following way:

$$\text{Prevalence rate} = \frac{\text{number of persons with a disease}}{\text{total number in group}}$$

The incidence rate, however, describes the rate of development of a disease in a given group or population over a period of time, and this time period is included in the denominator. In contrast to prevalence, which refers to all cases at a given moment, incidence describes the continuing occurrence of new cases over time. Incidence can be represented in the following way:

$$\text{Incidence rate} = \frac{\text{number of persons developing a disease}}{\text{total number at risk}} \quad \text{per unit of time}$$

Friedman (1980)

These two terms are clearly not interchangeable, and this thesis will use the definitions given here when referring to either incidence or prevalence.

2.4 PREVIOUS EPIDEMIOLOGICAL STUDIES

2.4.1 Introduction

With the increasing public and medical interest in dieting and in eating disorders, a number of different studies have

attempted to document the prevalence of eating disorders in particular populations. In the years preceding 1980 these investigations concerned themselves solely with anorexia nervosa, as bulimia was not yet a recognised syndrome.

Epidemiological studies seem to indicate that anorexia nervosa has become more common although it is also possible that increased recognition and reporting of cases, due to a growing awareness of the disorder in the past decade, has to some extent accounted for this apparently increased prevalence. It is more difficult to make estimates concerning the possibly increasing incidence of bulimia, as in many cases initial prevalence figures are still being established and compared across populations.

2.4.2 Anorexia Nervosa

2.4.2.1 Case registry studies

Case registry studies have shown an increase in patients with anorexia nervosa presenting to the psychiatric services. These studies will be outlined below, and their results are presented in Table I.

Theander (1970) documented the cases of 94 female patients in Sweden over a 30-year period and calculated the overall incidence of anorexia nervosa in women to be 0.24 per 100 000 population per year, noting a sharp rise in incidence in the final 10 years of his study (1951-1960), to 0.45 per 100 000 per year.

TABLE I

INCIDENCE OF ANOREXIA NERVOSA:

CASE REGISTRY STUDIES

THEANDER (1970):		
1951-1960	South Sweden	0.45*
KENDELL et al (1973):		
1960-1969	Monroe County	0.37
1965-1971	Camberwell	0.66
1966-1969	N-E Scotland	1.60
JONES et al (1980):		
1960-1969	Monroe County	0.35
1970-1979	Monroe County	0.64
WILLI & GROSSMAN (1983):		
1956-1958	Zurich Canton	0.38
1963-1965	Zurich Canton	0.55
1973-1975	Zurich Canton	1.12

*All figures represent cases per 100 000 population per year.

Kendell et al (1973) studied case registries from three areas: Monroe County (New York), Camberwell (London), and North-East Scotland, and found comparable incidence figures to those established by Theander (1970). Figures reported by Kendell and his colleagues (1973), all representing incidence rate per 100 000 population per year, were 0.37 in Monroe County, 0.66 in Camberwell and 1.6 in North-East Scotland.

It is unfortunately not possible to compare these figures nor draw accurate conclusions from them with respect to the possible differences they reflect in the incidences of anorexia nervosa in the three areas, as the figures reported were not established in the same years or even over the same number of years (Table I). It is, however, of interest to note that Kendell et al also report that in all three areas the actual number of cases reported in the second half of the respective time spans (ranging from 4-10 years) was greater than in the first half : 20 vs 10 in North East Scotland, 15 vs 9 in Monroe County, and 8 vs 0 in Camberwell.

In a more recent study, Jones et al (1980) used hospital records from a major general hospital to estimate the incidence of anorexia nervosa in Monroe County over two time periods, 1960-1969, and 1970-1976. Their estimate over the first decade was 0.35 per 100 000 population per year (very similar to the figure obtained by Kendell et al, 1973), rising to 0.64 per 100 000 population per year in the second period. The most significant increase occurred in women in the 15-24 age group (0.55 to 3.26 per 100 000 per year).

Willi and Grossman (1983) report on a case registry study of the canton of Zurich, Switzerland during three randomly selected sampling periods from 1956 to 1975. The annual incidence of anorexia nervosa increased significantly : from 0.38 per 100 000 population (1956-1958) to 0.55 (1963-1965) to 1.12 (1973-1975) - figures comparable with those of the other studies cited above.

It must be noted that the case registry method of case detection has limitations : primarily that it requires the individual's identification as a psychiatric or medical patient. Since many anorexics receive no treatment or are treated by non-medical personnel (psychologists, dieticians) or non-psychiatric physicians, it is likely that the real incidence of anorexia nervosa in the general population is higher than that estimated by epidemiological studies employing the case registry method (Garfinkel and Garner, 1982; Jones et al, 1980).

2.4.2.2 Early survey findings.

Nylander (1971) made an extensive study of dieting behaviour among adolescents in Sweden. He found that 50% of 14-year old girls "felt fat" and that this figure reached 70% in 18-year olds, accompanied by a corresponding increase in dieting behaviour. Nylander reported a prevalence of "serious cases" of anorexia nervosa of one per 155 females surveyed ($\pm$ 0.66%), but estimated that anorexic-type behaviour was present in about 10% of all girls studied.

Crisp et al (1974) conducted a detailed survey in nine schools in London during 1972-1974, making painstaking efforts to be accurate in their identification of cases of anorexia nervosa according to the criteria of several other researchers (Russell, 1967; Dally, 1969; Theander, 1970 - reported in Crisp et al, 1976). They calculated the prevalence in the independent schools (British "public" schools) to be 4.6 per thousand or 0.46% of all girls surveyed. For girls under the age of 16 years, 0.17% were anorexic, while in the over 16 age group the figure was substantially higher: 0.95%. The prevalence in these schools was considerably higher than in the two comprehensive schools studied, where only 1 case of anorexia nervosa was identified - this finding lends support to the hypothesis that anorexia nervosa affects girls mainly from the higher social classes. Crisp et al, whose prevalence findings are comparable with those of Nylander (1971), also make mention of the fact that their investigation "emphasised the number of girls who, while not suffering from severe and clearcut primary anorexia nervosa, nevertheless went through times when their behaviour in some ways resembled the condition" (Crisp et al, 1976, p 551).

Having completed their study, and on the basis of clinical data of 86 patients studied by Crisp and Stonehill (1971), Crisp et al (1976) suggest that they may have found more evidence of the disorder if they had studied a slightly older age group, and make the suggestion that the prevalence of anorexia nervosa is probably higher amongst university students than school girls.

Duddle (1973), while not providing prevalence figures within the general population, indicates a dramtic increase in the number of anorexics (diagnosed according to Dally's 1969 criteria which only require a weight loss of 10% of previous body weight) presenting for treatment at Manchester University Student Health Centre over a 5-year period: in 1967, there were no reported cases of anorexia nervosa; in 1968 there was one; 2 in 1969; 7 in 1970, and 13 in 1971. The total number of referrals each year to the Health Centre remained fairly constant over this time, with anorexia nervosa accounting for 1% of referrals in 1968 and 13% in 1971 - a very considerable increase in the absence of a changed pattern of presentation amongst other diagnoses in the same time period.

2.4.3 Bulimia

2.4.3.1 Introduction

With the publication of Russell's 1979 paper on bulimia nervosa, as he called it, as a possible variant of anorexia nervosa, and the publication of the DSM-III in 1980 wherein bulimia was accorded recognition as a syndrome separate from anorexia nervosa, considerable interest was focused on the existence and prevalence of bulimia in various populations, both as a syndrome and as a symptom (i.e. binge-eating).

Also in 1979, Garner and Garfinkel published "The Eating Attitudes Test : an index of the symptoms of anorexia nervosa". This test, the EAT, has been used by many

researchers investigating the prevalence of eating disorders and/or abnormal eating attitudes, and forms the basis for data collection for this thesis. As such, a full analysis of the EAT, and results obtained by different investigators using it, will be presented.

However, for the sake of clarity and simplicity, I will first discuss the findings of those researchers who have specifically investigated the prevalence of bulimia by methods other than the use of the EAT, before returning to the more complex issues relating to the EAT itself.

2.4.3.2 University and college populations.

i) Stangler and Printz (1980), in an investigation at the University of Washington Psychiatric Clinic, found that of 500 consecutive referrals to the Clinic, eating disorders (as diagnosed by DSM-III criteria) accounted for 4.4% of these referrals (22 cases). Bulimia was diagnosed in 19 of those 22 cases, representing 3.8% of all referrals and 86.4% of the eating disorders. Clearly in this particular sample, anorexia nervosa occurred significantly less frequently than bulimia, accounting for only 0.6% of all psychiatric referrals.

This finding contrasts with that of Duddle (1973), previously quoted, who found that anorexia nervosa accounted for 11% of referrals to a Manchester University Health Clinic in 1971. However, it seems likely that the diagnostic criteria for anorexia nervosa used by Stangler and Printz (1980)

were more stringent, particularly with regard to weight loss (25% to Duddle's 10%) and this would possibly account for the difference in the figures obtained in the two studies.

This study by Stangler and Printz provides us with revealing information, in that it was their experience that bulimia presented approximately seven times more frequently than anorexia nervosa. While we cannot with any certainty generalise from this psychiatric population to the general population, their study indicates that bulimia may well be more common than anorexia nervosa among the general student population.

ii) Hawkins and Clement (1980) investigated binge-eating among undergraduates at the University of Texas while attempting to develop and validate a self-report measure of binge-eating tendencies. They found that 79% of female students and 49% of males reported binge-eating occurrences, with one third of this bingeing population admitting to bingeing at least weekly. However, it is not clear what percentage of these reported binges would satisfy the DSM-III criteria for binge-eating - nonetheless the symptom appears widespread. Vomiting after bingeing was reported by only 4.9% of those who admitted to bingeing, all female students. No males consistently feared they would "go out of control" during a binge, nor did any males feel depressed after bingeing, nor experience consistent "unwanted thoughts" of food at other times, while varying numbers of women did experience these symptoms.

The authors conclude that binge-eating is a particular source of concern and discomfort for young women, and on the basis of establishing a relationship between binge-eating, restrained eating and dissatisfaction with body image, lend their support to those who are concerned that "many American young women are greatly influenced by socio-cultural pressures to seek a very slender "ideal" body weight"(1980, p 224).

iii) Halmi et al (1981) carried out an extensive survey among 355 college students who had registered for a summer session at a liberal arts campus of the State University of New York. This "college" population had a diverse age range as it encompassed many non-students who registered for summer courses. Their sample population's age range was 14-67 years with mean age 25.6 years. Halmi et al administered a questionnaire to the students, aimed at eliciting information regarding age, height and weight variables, and at eliciting symptoms of bulimia according to DSM-III criteria.

Of the 355 respondents to the original questionnaire, 25% considered themselves binge-eaters (7.8% of males and 35.0% of females). Thirteen per cent of the total population replied "yes" to all the bulimia symptoms. Of these, 87% were female and 13% males which accords with Stangler and Printz (1980) who found 89% females and 11% males among their bulimic population. This overall prevalence figure of 13% established by Halmi et al suggests a much higher prevalence of bulimia than that previously reported,

occurring in 19% of women and 5% of men who responded to the questionnaire - a pervasiveness not previously documented.

Halmi et al provide figures and correlations on various factors elicited in their survey. They found that 9.9% of the total sample reported self-induced vomiting (6.1% of males and 11.9% of females) although only 1.6% reported vomiting one or more times per week. The large majority of the vomiters (84.9%) reported vomiting less than once a month. Laxative use was reported by 4.8% of the total sample with 0.3% using laxatives once or more per week; figures very similar to those established for use of diuretics.

In addition to the above, 4.5% of the total population used exercise, 8.1% used some form of diet, and 8.5% used diet pills, reportedly as weight control measures.

Halmi et al note that all the symptoms of bulimia as listed by the DSM-III and confirmed by their own factor analysis, had significant relationships with self-induced vomiting. They thus suggest that those individuals who report self-induced vomiting are very likely to be suffering from bulimia as defined by the DSM-III. Laxative abuse was significantly correlated with vomiting, and Halmi et al suggest that laxative use coupled with vomiting indicates a more severe form of the disorder.

Further analysis of their results indicates very strong interrelationships among the other symptoms of bulimia as defined by the DSM-III (which does not include vomiting/purging as diagnostic criteria). Their results seem to

indicate that although vomiting may be present in bulimia it is not a necessary part of the syndrome; where it is present, this may be indicative of a "severe form of bulimia" (Halmi et al, 1981, p 708).

Halmi et al's study also provides interesting data concerning their subjects' weight history. They found that those individuals who experienced the symptoms of bulimia had a history of higher weight than those who did not have bulimic symptoms. Only one of those with bulimia indicated an anorexic history, and she had been a "binger and vomiter" while in the anorexic weight range. Halmi et al also failed to establish a significant relationship between vomiting and weight history, thus reporting no positive relationship between binge-eating and vomiting and a history of abnormally low weight.

This detailed investigation by Halmi and her colleagues thus provides useful prevalence data as well as illustrating much of the conflict and debate discussed in Chapter I. Crisp et al (1976) established a prevalence of anorexia nervosa of approximately 1% in schoolgirls over the age of 16 years. Even allowing for the difference in population samples, if bulimia were simply a sub-type of anorexia nervosa then Halmi et al's findings would be incompatible with those of Crisp et al. Furthermore, Halmi et al's failure to establish a significant relationship between bulimic symptoms and a history of low weight tends to confirm the DSM-III's recognition of bulimia as a distinct eating disorder and is contrary to the opinions of those authors who consider

bulimia a symptom of anorexia nervosa or a sub-class within anorexia nervosa (Beumont et al, 1976; Boskind-Lodahl and White, 1978; Russell, 1979; White and Boskind-White, 1981).

iv) Pyle et al (1983) report the results of a questionnaire survey administered to 1355 college freshmen at a State university in the mid-west of America. Their questionnaire was also designed to identify respondents meeting DSM-III criteria for bulimia. Fifty-six students (45 females and 11 males) met these criteria, accounting for 4.1% of the total population (9.8% of females and 1.4% of males surveyed). When Pyle et al added the additional criterion of weekly binge-eating, these figures were reduced to 2.1% of the total population (4.5% of females and 0.4% of males). However, when applied to the bulimic population, the figures indicate that 56% of female bulimics binge at least weekly and 27% of male bulimics do likewise. They also established that 0.6% of the total sample met DSM-III criteria, plus weekly bingeing as well as weekly self-induced vomiting or laxative abuse (0.5% of males and 1% of females).

Pyle and his colleagues thus identify a prevalence of bulimia, according to DSM-III criteria, approximately one-third as great as Halmi et al (1981), i.e. 4.1% vs 13%. Pyle et al feel that this variation may reflect a difference between the two populations, with Halmi's selected to represent a cross-section of the general population in a large

TABLE II

PREVALENCE OF BULIMIC SYMPTOMS AMONG WOMEN IN SIX STUDENT POPULATIONS

	POPE et al (1984) SCHOOL A	POPE et al (1984) SCHOOL B	POPE et al (1984) SCHOOL C	HAWKINS & CLEMENT (1980)	HALMI et al (1981)	PYLE et al (1983)
MEAN AGE (APPROX.)	22	22	17		25	19
CLINICAL BULIMIA	12.6%	18.6%	6.5%		18.9%	7.8%
BINGE-EATING				79%	68.1%	60.6%
WEEKLY BINGE-EATING	10%	12.9%	5.6%	33%		
SELF-INDUCED VOMITING				4.9%	11.9%	1.4%

metropolitan area, while theirs consisted of first-year students in a midwestern state university. This may be so, but also highlights the problems of making diagnoses on the basis of self-report questionnaires alone. Furthermore, Halmi's sample had an average age of 25 years, probably 6 years older on average than Pyle's, and this age discrepancy may have allowed more cases of bulimia to develop in the older sample.

Pyle et al also provide data concerning the prevalence of binge-eating episodes in the general population, comparable with the data elicited by Hawkins and Clement (1980). Pyle et al established that 41.8% of all males and 60.6% of all females surveyed admitted to bingeing (although again a clear definition of what is meant by "bingeing" is lacking), somewhat lower than Hawkins and Clement's figures of 49% males and 79% females, but still indicative of a widespread phenomenon.

v) Pope et al (1984a) administered a questionnaire to three samples of students, totalling 1060 individuals at two colleges and a secondary school. Their survey aimed at identifying cases of both anorexia nervosa and bulimia according to DSM-III criteria. It is possible to separately identify prevalence data for the two disorders from the results of their study, as well as cases where students have a mixed bulimic/anorexic history.

No male students satisfied criteria for either eating disorder, a finding in contrast to that of other studies

previously quoted. Amongst women surveyed, the prevalence of bulimia alone varied from 12.6% to 18.6% to 6.5% in the three different populations. Of those 65 students fulfilling DSM-III criteria for bulimia, (representing 11.9% of the total female population surveyed), 72.3% reported binge-eating at least weekly and 56.9% reported self-induced vomiting or laxative abuse on at least some occasions.

The prevalence of anorexia nervosa in the same three female student populations was 2.1%; 0% and 1.9%, and those indicating a previous history of both anorexia nervosa and bulimia (which were unable to be delineated temporally by the questionnaire) numbered 2.1%; 1% and 1.9%.

Overall results of this study by Pope et al indicate that 15.4% of their female respondents fulfilled DSM-III criteria for a major eating disorder. These results, comparable with those obtained in other studies "suggest alarmingly high prevalence rates of eating disorders ..... these rates suggest that both anorexia nervosa and bulimia may currently represent major public health problems in the United States" (Pope et al, 1984a, p 50).

2.4.3.3 Community populations

Pope et al (1984b) conducted a questionnaire survey at a shopping centre in Boston, using a similar questionnaire to that used in their previously discussed survey of student populations. Three hundred women ranging in age

from 12 to 65 years completed questionnaires anonymously. They established that 31 individuals (10.3%) had fulfilled DSM-III criteria for bulimia at some time in their lives, with 14 of these being actively bulimic at the time of the study, representing 4.6% of the total population polled. When a more narrow definition of bulimia was applied, incorporating bingeing at least weekly plus self-induced vomiting and/or laxative abuse, nine women (3.0%) met these criteria, including four currently involved in this behaviour (1.3% of total population sampled). Women in the 13-20 year old age bracket reported a history of bulimia significantly more frequently than those in any other age group, with 45% of those women reporting bulimia falling in this age group. The 21-30 year age group accounted for 32% of the bulimics in this sample.

Pope et al state that the age distribution of their respondents roughly paralleled that of the 1983 female population between ages 13 and 40. Assuming their sample to be representative, they estimate that 7.6 million American women will have fulfilled DSM-III criteria for bulimia at some time in their lives, with 2.2 million meeting their "narrow" criteria. About half of these women would be expected to be currently ill, findings which "augment the already alarming findings of student surveys and suggest that bulimia is a major public health problem " (1983, p 293).

2.4.4 Studies using the Eating Attitudes Test (EAT)

Following the development and validation of the Eating Attitudes Test by Garner and Garfinkel (1979), several other researchers have used this instrument to investigate the prevalence of abnormal eating attitudes in specific populations, and it is to these studies to which attention will now be turned.

The EAT and its validity as a psychometric instrument will be more fully discussed at the beginning of Chapter 3. Briefly, it is a 40 item self-report instrument designed to measure a broad range of symptoms characteristic of anorexia nervosa (see Appendix I). Garner and Garfinkel (1979) suggest that a minimum cut-off score of 30 on the EAT will eliminate false negatives for the recognition of anorexics amongst "normals", and would allow a false positive rate (identification of normal subjects with eating concerns comparable to those in anorexia nervosa i.e. scores above 30) of $\pm$ 13% amongst the "normal" population.

i) Garner and Garfinkel (1980b) in an attempt to address the subject of socio-cultural factors involved in the development of anorexia nervosa, administered the EAT to groups of dance students, fashion models, music students, and "normal" controls who were 2nd and 3rd year undergraduates within 10% of average weight for height and age.

TABLE III

PREVALENCE AND SYMPTOMS OF ANOREXIA NERVOSA

From Garner and Garfinkel, 1980b

	N	% DEVIATION FROM AVERAGE BODY WEIGHT	MEAN EAT SCORE	% SCORING 30 + ON EAT	CASES OF ANOREXIA NERVOSA IDENTIFIED
DANCE STUDENTS	183	- 13.3	25.6	38	7%
MODELLING STUDENTS	56	- 11.9	21.8	34	7%
MUSIC AND OTHER STUDENTS	116	- 3.7	14.7	9	0

Their survey revealed the following results: 69 of the 183 (37.7%) dance students scored higher than the cut-off score of 30 on the EAT, with the overall mean score for the total sample being 25.6. The high scoring students were interviewed and 12 cases of primary anorexia nervosa were identified (according to Feighner et al (1972) criteria), representative of 6.7% of the dancers surveyed. Amongst the modelling students, 19 of 56 students (33.9%) scored higher than 30 on the EAT and of these, 4 cases of anorexia nervosa were identified at interview, representative of 7.1% of the models surveyed. Although 11 of the 116 normal control group and music students combined scored higher than 30, no cases of anorexia nervosa were identified. (Table III)

From their results, Garner and Garfinkel conclude that cases of anorexia nervosa and "possibly milder variants of the disorder" (1980b, p 655) are over-represented amongst dance and modelling students, supporting their hypothesis that individuals who focus increased emphasis on a thin body are at higher risk for developing anorexia nervosa and diet-related problems.

ii) Button and Whitehouse (1981) used the EAT to investigate a large population of 578 students at a College of Technology in Britain. These researchers make a number of valid observations about the EAT itself which will be dealt with more fully in Chapter 3.

Only 28 students scored more than 32 on the EAT (the

cut-off score used by Button and Whitehouse) representing 6.3% of the total population sampled. These 28 students, all women, were interviewed, and only one student was found to fulfil Feighnerian criteria for anorexia nervosa, and a further 2 fulfilled the less stringent Dally (1969) criteria. These figures would indicate a prevalence of 1 case among 220 females according to Button and Whitehouse (0.45% of the female population), which they feel is not inconsistent with Crisp et al's (1976) findings considering that the present sample may be regarded as intermediate between Crisp's two samples in terms of social class.

Button and Whitehouse found that 5 of the 28 students scoring over 32 were "normal dieters" while the rest all manifested a number of symptoms of anorexia nervosa, including considerable concern about weight. They note that 39% of this high-scoring group had indulged in self-induced vomiting and 18% in laxative abuse (comparable figures for an anorexic control group were 46% and 46%), and felt that these "vomiters and purgers", particularly those classified as "abnormally preoccupied with weight", share many features of anorexia nervosa although failing to fulfil diagnostic criteria for this diagnosis in terms of weight loss. It seems likely, however, that some of these "vomiters and purgers" described by Button and Whitehouse would have satisfied diagnostic criteria for bulimia had these been specifically investigated, especially as 18%

of their high-scoring group reported binge-eating. However, it is possible that this study was completed before the DSM-III was published, and once again the confusion and debate over the classification of eating disorders is evident. Garner and Garfinkel regarded bulimic symptoms as part of anorexia nervosa and consequently included several questions relating to bulimia in their questionnaire which was ostensibly measuring a range of anorexic symptomatology. However, if there was insufficient weight loss to satisfy that particular criterion for a clinical diagnosis of anorexia nervosa, subjects who evidenced weight preoccupation, bingeing and/or purging behaviour could not be classified easily until the recognition of bulimia as a separate syndrome in 1980. Button and Whitehouse in fact write: "What seems clear, therefore, is that many young women experience the preoccupation with weight and the forms of behaviour associated with anorexia nervosa without being extremely emaciated. There seems to be no completely satisfactory term to embrace these varying manifestations: we have chosen the term 'subclinical anorexia nervosa' more for convenience than out of precision" (1981, p 514).

Button and Whitehouse conclude that their data suggest that at least 5% (excluding normal dieters) of young females experience psychological problems associated with weight, and that cases of anorexia nervosa which fulfil strict diagnostic criteria may in fact be only the tip of the

TABLE IV

DATA, INCLUDING EAT SCORES, FROM 6 FEMALE STUDENT POPULATIONS TO WHOM THE EAT WAS ADMINISTERED

		MEAN EAT SCORE	% SAMPLE ABOVE 30 ON EAT	a) PRESENT WEIGHT (% MPMW)	b) "IDEAL" WEIGHT (% MPMW)	c) LOWEST WEIGHT (% MPMW)	d) HIGHEST WEIGHT (% MPMW)	% SAMPLE BINGEING	% SAMPLE VOMITING	% SAMPLE LAXATIVE ABUSE	% SAMPLE EXERCISE TO CONTROL WEIGHT
Garner & Garfinkel 1980b	e) AN:	58.3	94								
	f) NC:	14.7	9.5								
Garner & Garfinkel 1982	AN:	52.9									
	NC:	15.4									
Thompson & Schwartz 1982	AN:	56.8						58	50	56	
	"AN-LIKE"	36.4						52	52	20	
	NC;	5.7						23	3	3	
Clarke & Palmer 1983	NC;		11.5					13.5	0	1.2	
Button & Whitehouse 1981	AN:	43.1	(Above 32) 61.5	32+: 107	96	95		18	39	18	
	NC:	14.5	6.3	32-: 107	99	102		0	0	0	
Cooper et al 1983,1984	NC;	11.4	6.5	98	91.5	90.3	108.3	20.9	2.9	4.9	7.3

NOTE: a) MPMW reflects Matched Population Mean Weight, assessed according to general population weight norms for age and height.
b) Reflects weight seen as ideal for self, as expressed by respondents.
c),d) Reflects weights since puberty.
e) AN reflects anorexic patients.
f) NC reflects normal controls.

iceberg as far as excessive weight concern among young women is concerned.

iii) Thompson and Schwartz (1982) investigated the life adjustment of primary anorexics, college women manifesting "anorexic-like" behaviour, and asymptomatic college women controls. Their "anorexic-like" group were those women who scored 25 or higher on the EAT and whose weight was within 10% of the expected range for height, age and build; the asymptomatic control group were those women who scored 10 or less on the EAT and whose weight was within 10% of the expected range.

Thompson and Schwartz report a "dramatic finding" (1982, p 52) in their study : the prevalence of what they term "anorexic-like behaviour" among normally functioning college women. Included under this umbrella is the act of binge-eating, which they found to be a widespread phenomenon. Fifty-eight per cent of the anorexics reported severe or moderate bingeing; 52% of the anorexic-like women and 23% of the normal control group did likewise. They also found that self-induced vomiting was common, with 50% of anorexics reporting voluntary vomiting for weight control, 52% of anorexic-like women and only 3% of normal controls. Laxative abuse was reported by 56% of anorexic women, 20% of anorexic-like women and 3% of the normal control group. The authors also found that dieting was so pervasive across the whole population sample "that it was impossible to rate meaningfully" (1982, p 53).

The prevalence of these particular symptoms detailed by Thompson and Schwartz again indicate that apparently abnormal eating and dietary behaviour appears widespread among young women who are apparently functioning normally in other respects. Again, these authors concentrate on "anorexic-like" behaviour without attempting to differentiate anorexia nervosa from bulimia - in view of the high percentage of women in the "anorexic-like" group who binge, vomit and abuse laxatives, it seems likely that a number of these women were in fact bulimic rather than normal, but "anorexic-like" women.

iv) Mann et al (1983) used the EAT as part of a wider study amongst an unselected population of 262 15-year old schoolgirls in South London. They used the EAT-26, a shorter version of the original EAT-40, and discovered that 6.9% of the population (18 girls) scored above the suggested cut-off point of 20 on this test (Garner et al, 1982). However, on interview no cases of anorexia nervosa were found although the researchers felt that 8 girls (3.1% of the population) evidenced a "partial syndrome of anorexia nervosa" (1983, p 575) including a major preoccupation with weight and a distressing concern about eating, often having the essential psychopathology of anorexia nervosa without the accompanying 25% weight loss or amenorrhoea.

These figures are in accord with the findings of Button and Whitehouse (1980), in whose study 6.3% of female students scored above the cut-off point, with 3.9% showing signs of

"subclinical" anorexia nervosa comparable with the 3.1% in Mann et al's study showing the "partial syndrome" of anorexia nervosa. Mann et al also feel that the absence of any case of anorexia nervosa in their sample is in agreement with Crisp et al's (1976) findings which indicated a prevalence of between 0.2% and 1% among different school populations, while also acknowledging that their sample may have tapped a population below the peak age of onset of anorexia nervosa, tending to underestimate the actual prevalence of the disorder.

v) Clarke and Palmer (1983) also used the EAT to investigate eating attitudes amongst university students in Leicester. They found that no males out of the 120 who completed the EAT scored above 30; whereas 11.5% of the 156 women scored 30 or more. Of the 18 high-scorers, 11 attended for interviews requested by the researchers and five were thought to show disorders of "clinical severity" (1983, p 303). This gives a minimum prevalence of about 3% for eating disorders amongst this population, although Clarke and Palmer suggest that the figure may be much higher, taking into account those who did not attend for interviews.

Clarke and Palmer report that only one woman scoring over 30 was more than 10% below her expected weight and she did not fulfil diagnostic criteria for anorexia nervosa. This leaves us to make the assumption that those women with eating disorders of "clinical severity" may have been bulimic, although this is not clearly spelled out by the

authors who do not indicate their criteria for diagnosis or assessment. They do indicate that 17 women (10.9% of the female population) report frequent bingeing, two report laxative abuse and none regular vomiting, with the latter two figures, particularly, proving to be lower than many other studies previously discussed, although their estimated prevalence of eating disorders of about 3% is in broad agreement with that of Button and Whitehouse (1980).

vi) Cooper and Fairburn (1983) and Cooper et al (1984) report on the same study of 369 women, consecutive attenders at a family planning clinic in southern England. This study tapped a wider population sample than many of the others discussed : mean age of this sample was 24.1 years and only 24.4% were either students or scholars. The authors compared this student population with the remainder of their sample and found no significant differences between the two groups and thus present their results as a whole.

They found that 26.4% of their sample reported ever having experienced a binge, defined as "an episode of uncontrollable excessive eating" (Cooper and Fairburn, 1983, p 140), with 20.9% having binged in the previous two months; 6.8% reporting bingeing at least weekly, with a further 0.5% bingeing daily.

Self-induced vomiting was again found to be much less common than bingeing. 6.5% of women had ever vomited as a means of weight control, with 2.9% having vomited in the

previous two months. Only 0.5% vomited daily, with a further 0.5% vomiting at least weekly. Laxative abuse was reported by 4.9% of the sample and 7.3% reported using exercise as a means of weight control - these last two figures refer to the previous two months and no more specific figures are detailed.

Eighty-six per cent of the sample weighed between 85% and 115% of matched population mean weight, or MPMW. 39.1% of the sample thought that they were well over the appropriate weight for age and height, and 59.6% reported that they consistently felt overweight, although only 7% of the sample weighed more than 115% MPMW.

The mean total score on the EAT was 11.4 (SD = 11.2) with 6.5% scoring over 30 - very similar results to those obtained by Button and Whitehouse (1980). Interestingly, 20.6% of the sample population reported having an eating problem and the two variables most strongly associated with reporting a problem were binge-eating and a high EAT score. Being underweight or overweight appeared relatively independent of reporting an eating problem, although those reporting a problem had a higher mean discrepancy between their current and desired weights. Self-induced vomiting was also only weakly associated with reporting an eating problem - not a surprising finding according to the authors, who explain this finding on the basis that many bulimic patients report that self-induced vomiting is often welcomed as a compensatory behaviour for having overeaten.

While acknowledging the limitations of using self-report measures to make psychiatric diagnoses, Cooper and Fairburn established that 1.9% of their sample fulfilled criteria for bulimia nervosa (Russell, 1979) as measured by positive responses to questions concerning current binge-eating (in past two months), current vomiting (in past two months), and the EAT question about being 'terrified of being overweight'. They report that a further 1.6% of their sample reported binge-eating, a terror of being overweight and laxative usage, thus also probably fulfilling criteria for bulimia nervosa. However, as it was not certain that laxatives were being used as a means of weight control in these cases, a "diagnosis" was not made here by the authors.

This estimated prevalence of bulimia nervosa among a community sample is not incompatible with the findings of Pope et al (1984b) who used the DSM-III to establish a prevalence of 4.6% - 1.3% according to how narrow the criteria were for arriving at a diagnosis of current bulimia.

2.4.5 South African study.

In a study undertaken by Ballot et al in 1981 amongst white Johannesburg school girls over the age of 16 years at seven different schools, it was found that 41.5% of the 1246 girls were the correct weight for height and build, 42.5% were underweight and 16.5% were overweight, as

defined by "tables .... (which) listed normal weight in relation to height, age and build " (1981, p 992). These figures are further defined to show that 6% of the girls were 15-20% underweight, termed "potential anorexics" by the authors; 2.3% were 20-25% underweight and "probable anorexics"; while 0.6% were more than 25% underweight with "severe anorexia nervosa" (1981, p 993).

These authors based their diagnosis of anorexia nervosa purely on accurate measurement and weighing of their subjects, which obviously indicates limitations to the study. Furthermore, they conclude a prevalence of 2.9% amongst their sample population, based on the fact that 2.9% of the girls were more than 20% underweight - a conclusion which requires more substantive evidence than the authors provide, since only 0.6% of their sample complies with the accepted diagnostic criterion regarding weight loss (i.e. 25%), and it is not known how many of these girls also have the specific attitudes to weight and thinness necessary to fulfil criteria for a diagnosis of anorexia nervosa.

However, while it may be premature for these authors to couch their findings in terms of a psychiatric diagnosis for which there appears to be little evidence, they do indicate that a large number of young South African girls appear to be underweight, in accordance with results obtained in many of the studies already discussed.

2.5 COMMENT

It seems clear from the numerous studies detailed in this chapter that the associated issues of body preoccupation, food and dieting, are international phenomena. South African figures and studies are lacking in this area, and it is the aim of this thesis to provide preliminary figures and data comparable with those outlined above.

The following chapters will thus detail the methodology and results of the present investigation undertaken at the University of Cape Town.

CHAPTER THREE

GENERAL METHODOLOGICAL ISSUES, AND INTRODUCTION TO THE PRESENT STUDY

3.1 INTRODUCTION

The first part of this chapter will involve a detailed discussion of the Eating Attitudes Test before moving on to highlight some of the general methodological issues involved in the use of screening tests and self-report measures. The second part of the chapter deals specifically with the present study, and outlines the rationale and methods used to conduct this research.

3.2 METHODOLOGICAL CONSIDERATIONS

3.2.1 The Eating Attitudes Test.

Garner and Garfinkel (1979) indicate that despite the growing interest in the psychophysiological signs characteristic of anorexia nervosa, there is an absence of objective measurement of these signs and symptoms. With this in mind, they aimed "to develop and validate a broad range of target behaviours and attitudes found in anorexia nervosa. It is intended to be ..... a potentially meaningful assessment or prognostic index" (1979, p 273).

The test developed by Garner and Garfinkel was the Eating Attitudes Test which presents 40 items in a Likert format where responses are mutually exclusive and exhaustive of the symptoms of anorexia nervosa. The 40 items reflect a range of reported "anorexic" behaviours and attitudes, with subjects being required to judge whether the item

applies "always", "very often", "often", "sometimes", "rarely", or "never", thus yielding a 6-point forced choice Likert scale. Each extreme response in the assumed "anorexic" direction is scored as 3 points, while the adjacent alternatives are weighted as 2 points and 1 point respectively. The other three responses all score zero. (See Appendix I)

The EAT was validated on 2 independent groups of female anorexia nervosa patients and female normal controls. Correlating total score on the EAT with groups, a validity coefficient of 0.87 ($p<0.001$) was established, indicating the test to be a good predictor of group membership.

The alpha reliability coefficient was also computed by Garner and Garfinkel who established that for the sample of anorexic subjects the alpha was 0.79 and for the pooled sample of anorexics and normals, the coefficient was 0.94. These figures indicate the test to have a high degree of internal reliability.

There was some overlap in scores between the anorexic and normal groups, with 7% of the normal controls scoring higher than the lowest anorexic's score. Garner and Garfinkel suggest that a cut-off score of 30 on the EAT would eliminate 'false negatives' for anorexia nervosa (i.e. subjects with anorexia nervosa failing to be identified) and would allow a 'false positive' rate of 13% (i.e. identification of normal subjects as "anorexic").

Garner and Garfinkel suggest that individuals from the non-anorexic group who scored as symptomatic on particular items, and particularly those 7% of the normal control group (within 10% of population norms for age and height) who scored in the range overlapping with the lowest anorexics, may represent that sub-group of chronic dieters called "thin-fat" people by Bruch (1973) - a group of people whose psychological orientation is not clearly distinguishable from that of anorexia nervosa patients except that they do not manifest the classical weight loss. In interviewing those normal subjects scoring over 30 on the EAT, Garner and Garfinkel found that these women did in fact experience significant concerns about eating and their weight.

While acknowledging limitations of a self-report measure, Garner and Garfinkel suggest that the EAT may be useful as a screening instrument for identifying cases or incipient cases of anorexia nervosa in populations which are at risk for the disorder.

Further discussion on the EAT is provided by Garner and Garfinkel (1980b) in their study of ballet and modelling students, previously outlined in Chapter 2. They again had an anorexic and a normal control group and established a false negative rate of 6% and a false positive rate of 12% on this sample, reflecting the test to be efficient in correctly identifying group membership 90.6% of the time. However, only 16% of those ballet and modelling

students scoring 30 or more were found to have definite cases of anorexia nervosa when interviewed. Garner and Garfinkel in this publication make the following statement: "It should be emphasised that the EAT is designed to be used as a screening device or as an objective self-report measure of symptoms of anorexia nervosa and is not appropriate as a substitute for accepted diagnostic criteria" (1980b, p 653). They continue to suggest that although not clinically anorexic, the high-scoring normals "express concerns regarding weight and food which go beyond the typical dieter's benign attempts to limit intake" (1980b, p 653).

It would thus appear that the EAT is able to discriminate very satisfactorily between an anorexic and a non-anorexic population when there are two distinct groups of cases and non-cases, but that it should not be used in isolation to identify cases among the general population, as these findings from the 1980b study indicate.

Garner et al (1982) further qualify the use of the EAT, repeating that while most high-scorers from non-clinical groups do not satisfy diagnostic criteria for anorexia nervosa, the majority of them do experience "abnormal eating patterns" (1982, p 877). They continue to say that although the EAT may indicate the presence of symptoms common to anorexia nervosa, it is inappropriate to assume that high EAT scores are diagnostic of anorexia nervosa in a non-clinical population, as the EAT does not measure the

possible psychopathology underlying the "disturbed eating patterns"(1982, p 877) which a high score would indicate are present.

Button and Whitehouse (1981) in their study on a largely student population, but including a small group of 30 anorexic patients for comparison, write that their results "qualify Garner and Garfinkel's conclusions about the validity of the EAT in detecting cases of anorexia nervosa" (1981, p 514). Button and Whitehouse found that 4 of their 30 patients scored below 30 on the EAT, giving a false negative rate of 13,3%. They conclude that a lowering of the cut-off score would not necessarily solve the problem (two of their patients scored as low as 12) and merely make the point that the EAT appears to be of only limited use in identifying cases of anorexia nervosa.

They continue, however, to write that a high EAT score "while by no means diagnostic of anorexia nervosa, is of value in detecting subclinical cases" (1981, p 514). They suggest that the EAT should be viewed as a "measure of concern about weight and food intake rather than exclusively a measure of the symptoms of anorexia nervosa. It is clear that such characteristics may be identified among the underweight, the overweight, people of average weight and those whose weight is highly unstable" (1981, p 514). It was in an attempt to label this group of individuals manifesting these characteristics that Button and Whitehouse arrived at the term "subclinical anorexia

nervosa", probably synonymous with Bruch's "thin-fat" people.

In short, Button and Whitehouse provide further argument for the use of the EAT, not as a tool to identify anorexia nervosa, but rather as a means of identifying individuals who show serious concerns about food and eating.

It is perhaps relevant to mention at this point that many researchers have investigated, but found no relationship between EAT scores and current weight expressed as percentages under or over weight, or deviation from normal weight (Garner and Garfinkel, 1980b; Button and Whitehouse, 1981; Garner et al, 1982; Mann et al, 1983; Wells et al, 1985). Thus there is no evidence to support the contention that high EAT scores could simply reflect the starvation or satiation effects of being at either a high or low weight.

Garner et al (1982) performed a factor analysis on the EAT using responses from 160 anorexic patients, both "restricter" and "bulimic" anorexics being included in this sample. Three factors were isolated: dieting; bulimia and food preoccupation; and oral control. Fourteen items from the EAT did not load significantly on any of these factors and were excluded from an alternative 26-item scale, the EAT-26, which Garner et al show to be highly correlated with the original 40-item EAT ($r = 0.98$).

Wells et al (1985) also conducted a factor analysis of the

EAT on 901 adolescent schoolgirls in New Zealand, and their analysis yielded a dieting factor almost identical to that obtained by Garner et al (1982). Wells and her colleagues assert that for most individuals "their EAT score is primarily a reflection of their score on the dieting factor" (1985, p 145). They continue to indicate that this finding makes interpretation of EAT scores problematic, as "for people who were or who have been overweight, dieting and concern over weight is a reasonable response to a weight problem" (1985, p 145), while acknowledging that for those who are underweight, fear of fatness and further dieting is clearly abnormal.

However, it would appear that this problem can largely be overcome by obtaining a weight history from subjects, and also by analysis of the individual responses to specific questions rather than by evaluation merely on total EAT score : clearly bingeing, vomiting, laxative abuse, or constant preoccupation with food would indicate more than "a reasonable response to a weight problem".

While recognising the potential usefulness of factor analysis of EAT responses, it is not proposed to undertake such an analysis of data gathered for this thesis which will tend to concentrate more on general eating attitudes as displayed by responses to specific questions. For a detailed discussion of factor analyses of the EAT, readers are referred to Wells et al (1985) and Garner et al (1982).

3.2.2 The problem of screening for an uncommon disorder.

Garner and Garfinkel (1979, 1980b) report various acceptably high sensitivity (75-100%) and specificity (66-88%) rates for the EAT (sensitivity is the proportion of true cases scoring above the cut-off value and corresponds with low false negative rate; specificity is the proportion of true non-cases scoring below the cut-off value and corresponds with low false positive rate). However, they did not calculate predictive values for the EAT.

Goldberg, 1981, (in Wing et al, 1981, p 130) writes that a screening test "cannot possibly tell whether a particular individual has the disease in question." All that is possible in an individual case is to express the score on the test as a probability value that the individual has the disease. Thus for identifying cases in a population (i.e. screening), it is the predictive values of the test which are important (Williams et al, 1982). The positive predictive value (PPV) is the probability that a screened positive (i.e. a respondent who scores above the threshold on the screening test) is actually a case. Thus if PPV = 0.95, there will be only 5 high-scorers out of 100 misclassified. The negative predictive value (NPV) is the probability that a screened negative (i.e. a respondent who scores below threshold on the screening test) is not a case. Thus if NPV = 0.95, 100 low scorers will contain 95 non-cases and only 5 low scorers will be misclassified. The NPV needs no further consideration, since it has been

demonstrated that even if there is only chance agreement between the screening test and being a case, NPV will always be above 0.90 provided the prevalence of the disease is 10% or less (Shrout and Fleiss, in Wing et al, 1981).

These authors clearly demonstrate that the PPV of a given screening test will depend partly on the validity coefficients of the test and partly on the prevalence of the disease in that population. Thus, while sensitivity and specificity may be high, PPV can be low. This is demonstrated by Williams et al (1982) who examine data presented by Garner and Garfinkel in their 1979 and 1980b studies.

Williams et al calculate that, at best, the PPV of the EAT is 0.19 (estimated on Garner and Garfinkel's modelling students, 1980b), indicating that 100 high EAT scorers would only contain 19 cases of anorexia nervosa. This finding confirms Shrout and Fleiss's suggestion that investigators using screening tests in community settings must be prepared to tolerate a high proportion of false positives amongst their respondents.

To eliminate erroneous identification of cases it seems that the case detection process needs to be at least two-staged, with the screening test used to identify subjects at risk who are then re-assessed using a different procedure to more accurately distinguish cases from non-cases (Mann et al, 1983).

With this in mind, and considering the low PPV of the EAT, it is clearly inappropriate to use the EAT alone as a measure of morbidity in any given population.

3.2.3 Self-report measures as a means of data collection.

Much of the prevalence data discussed in this thesis have been derived from self-report measures, which do impose limitations on the quality of the information obtained. These methods have the advantage of ease of administration and scoring, but are unable to assess complex behaviour and attitudes, thus possibly obscuring less obvious individual differences amongst respondents. It is also often not possible to gain an accurate picture of the temporal sequence of events or symptoms from self-report data.

A further problem to consider is that of the actual terminology used in these questionnaires, and the inevitable tendency for respondents to interpret terms idiosyncratically unless those terms are clearly and unambiguously defined. Fairburn, 1984, (in Stunkard and Stellar, 1984) makes the point that the word binge is widely used yet devoid of specific meaning, and writes that it is "fallacious to assume that people who admit to eating in binges necessarily experience eating episodes of the type seen among patients with bulimia or bulimia nervosa" (1984, p 239). It is this lack of clarity in definition which may have accounted for the extremely high rate of "bingeing" reported, for

instance, in the studies conducted by Hawkins and Clement (1980) and Halmi et al (1981), discussed in Chapter 2.

There is also the fact that accurate information on the frequency of particular behaviours is not always obtained or reported on in such studies. As Fairburn (1984) points out, the clinical implications of ever having vomited are quite different from current, regular vomiting. Prevalence figures of particular behaviours can be misleading unless some indication of frequency is given : Hawkins and Clement found that 79% of females "reported binge eating occurrences" (1980, p 221), but we are lacking clear information regarding the regularity or currency of this bingeing: it is not inconceivable that many of those "bingers" were reporting an isolated episode of overeating which had taken place at some time in the distant past.

A further limitation of self-report measures is that they are obviously vulnerable to response-style biases of individual respondents. The extent of denial of symptomatology or general lack of truthfulness in answers given is often more difficult to gauge from self-report questionnaires than it would be in an interview.

One distinct advantage of self-report instruments, however, is that they allow anonymity to be preserved. This is particularly important in relation to eating disorders, especially bulimia which is often surrounded by guilt, shame and secrecy (Fairburn and Cooper, 1982). In the

field of eating disorders, if assessment of prevalence was to be made by interview alone the refusal rate would probably be unacceptably high. For example, Clarke and Palmer (1983) found that only 14 out of 25 subjects (56%) scoring higher than 20 on the EAT attended for interview when requested to do so.

On balance then, it seems fair to say that self-report measures such as the EAT have both advantages and disadvantages, but that they have a definite place amongst data collection methods. Provided the limitations of such an instrument are acknowledged, the use of a questionnaire like the EAT provides an extremely cost-efficient way of conducting a preliminary screening survey amongst a fairly large population.

3.3 THE PRESENT STUDY

3.3.1 Rationale.

As discussed at some length in the previous chapter, it appears that eating disorders, or at least many of the symptoms of eating disorders, are quite widespread amongst young adult females in the western world. The field of eating disorders is currently topical and an area in which our current knowledge is expanding quite rapidly as it is more extensively investigated in different countries.

The aim of the present study is to conduct a screening survey amongst a population which is comparable to that

described in many previous studies in other countries, in order to establish figures in a South African context comparable with these other data. There is a dearth of prevalence information established in the field of eating disorders in South Africa, and it is felt that such information would be relevant both locally and internationally. Local figures, apart from possibly contributing to the general body of knowledge, would also establish a set of baseline data in the South African context with which other local data could perhaps be compared in future studies.

Looking further ahead to the long-term possibilities, it would seem important for planning of adequate health and psychiatric services locally, that authorities are aware of the possible prevalence of eating disorders - although this is not an issue which will be tackled in this thesis.

It must be clearly stated at this point that the intention of the present study is not to arrive at frequency data concerning the prevalence of eating disorders i.e. anorexia nervosa and bulimia as defined in the DSM-III. As has been outlined previously, the EAT is not capable of accurately rendering this information, but is capable of providing a broad picture of the eating habits and attitudes of a given population - habits and attitudes which will in many cases include symptoms commonly found in anorexia nervosa and bulimia. Although originally devised to assess anorexic symptomatology by Garner and Garfinkel in 1979,

the EAT in fact also provides considerable information about bulimic symptoms, included in the EAT due to the common pre-1980 conception that bulimia was part of anorexia nervosa.

This study aims to establish frequences of particular eating/dietary attitudes and behaviours amongst the sample population, without an attempt being made to infer the existence of eating disorders on the basis of this information. Wherever possible, an attempt will be made not to label particular attitudes or behaviours as "normal" or "abnormal" as these terms imply a value-judgment which may no longer be easy to justify : if binge-eating is as widespread as many researchers indicate it to be, then it would appear that it constitutes a reasonably "normal" behaviour amongst that population!

3.3.2 Subjects.

Subjects used in this investigation were 123 female students from a university residence at the University of Cape Town. An attempt was made to obtain completed questionnaires from all 200 students in the residence; however analysis of the respondents indicate that they are a representative sample of the total residence population in terms of age and academic year. (Appendix III)

Many of the previous studies in this area, discussed in Chapter 2, have used female populations, or found more widespread evidence of dietary and weight concern amongst

females than males, and thus an exclusively female population was sampled in the present study in order to make more accurate comparisons with these other studies. It has also been frequently suggested that women in this age group ($\pm$ 17-21 years) and from this social background (assuming the majority of subjects to be from Social Classes I, II and III) are "at risk" for eating disorders, and as such represent an important population to investigate.

3.3.3 Data collection.

3.3.3.1 Questionnaire.

The principal instrument used in this survey was the EAT as published by Garner and Garfinkel in 1979. Additional biographical data were also requested as part of the questionnaire (See Appendix Ib).

The questionnaires were distributed to all members of the residence who attended an obligatory residence meeting, and were collected by the author immediately after the meeting. An attempt was made to collect questionnaires from those women who had not attended the meeting, by making these questionnaires personally available to all students through the setting up of a manned distribution table in the residence lobby on three successive days, with the request that those who had not completed a protocol do so. It is assumed that those who did not comply with this request did not wish to take part in the

study, although analysis of the respondents reveals them to be a representative sample of the resident population.

In view of findings discussed earlier, respondents were offered anonymity unless they chose to identify themselves as being willing to possibly take part in a follow-up study - it was felt that this would increase the response rate and reduce denial of symptomatology.

3.3.3.2 Clinical interview.

All students who scored above 30 on the EAT and who identified themselves were contacted and asked to attend an interview with the author. None of these 9 students refused the interview, which was semi-structured so as to elicit sufficient information to enable DSM-III diagnoses of anorexia nervosa or bulimia to be made where relevant (Appendix II). The interview also aimed to collect qualitative data from the subjects about how they experience their eating habits, as this appears to be an under-documented aspect of research in this area (Fairburn, 1984; Abraham and Beumont, 1982).

Interviews took approximately one hour, and data collected in this manner are presented separately from the EAT data, in Chapter 5.

CHAPTER FOUR

RESULTS AND DISCUSSION : QUANTITATIVE DATA FROM EATING ATTITUDES TEST AND QUESTIONNAIRE

4.1 RESULTS AND DISCUSSION

4.1.1 Introduction

Results of the survey conducted for this thesis are presented and discussed in this chapter. Data on EAT scores, weight histories and the subjects' perceived "ideal" weights will be presented in Table V and discussed in the following text. Data indicating the prevalence of specific symptoms and attitudes relating to eating behaviour, food and thinness, outlined in Table VI, will also be fully discussed. The results of this present survey are also compared in the text, where relevant,with findings of previous similar studies using the EAT, and these comparative data are presented in Table VII.

The discussion is centred largely on specific items of the EAT, chosen for analysis here because they are often comparable with figures obtained in other studies or because they appear to reveal noteworthy attitudes and behaviours in the present sample.

4.1.2 EAT scores

The mean EAT score of the sample population was 15.82 (S.D.$\pm$ 14.8), with 13.83% of the sample scoring 30 or more on the EAT. The mean EAT scores from other studies on female populations range from 11.4 (Cooper et al, 1983 and 1984) to 52.9 for anorexic patients (Garner et al, 1982). The mean score of 15.82 in the present study appears of very

similar magnitude to that of other female university students (14.7: Garner and Garfinkel, 1980b; 15.4: Garner and Garfinkel, 1982).

The percentage of the present sample scoring above 30 on the EAT (13.83%) appears higher than that reported in some other studies: 6.3% reported by Button and Whitehouse (1981) who used 32 rather than 30 as the EAT cut-off score (Note: 13.0% of the present sample scored 32 or above); 6.5% reported by Cooper et al (1983; 1984); 9.5% reported by Garner and Garfinkel (1980b); although Clarke and Palmer (1983) report that 11.5% of their sample of female university students scored above 30.

These results indicate that the present sample population attained a mean EAT score which appears typical of female university students in other countries although showing a different distribution of scores, as evidenced by the greater percentage scoring over 30 in this present population. (Button and Whitehouse (1981) and Clarke and Palmer (1983) studied British students, and Garner and Garfinkel (1980b; 1982) American students.)

While it is interesting to note that female university students in at least three western countries appear to share, broadly speaking, similar eating habits and attitudes, the scores of the present sample bear further analysis.

It has been shown that the majority of individuals from non-clinical populations who score over 30 on the EAT

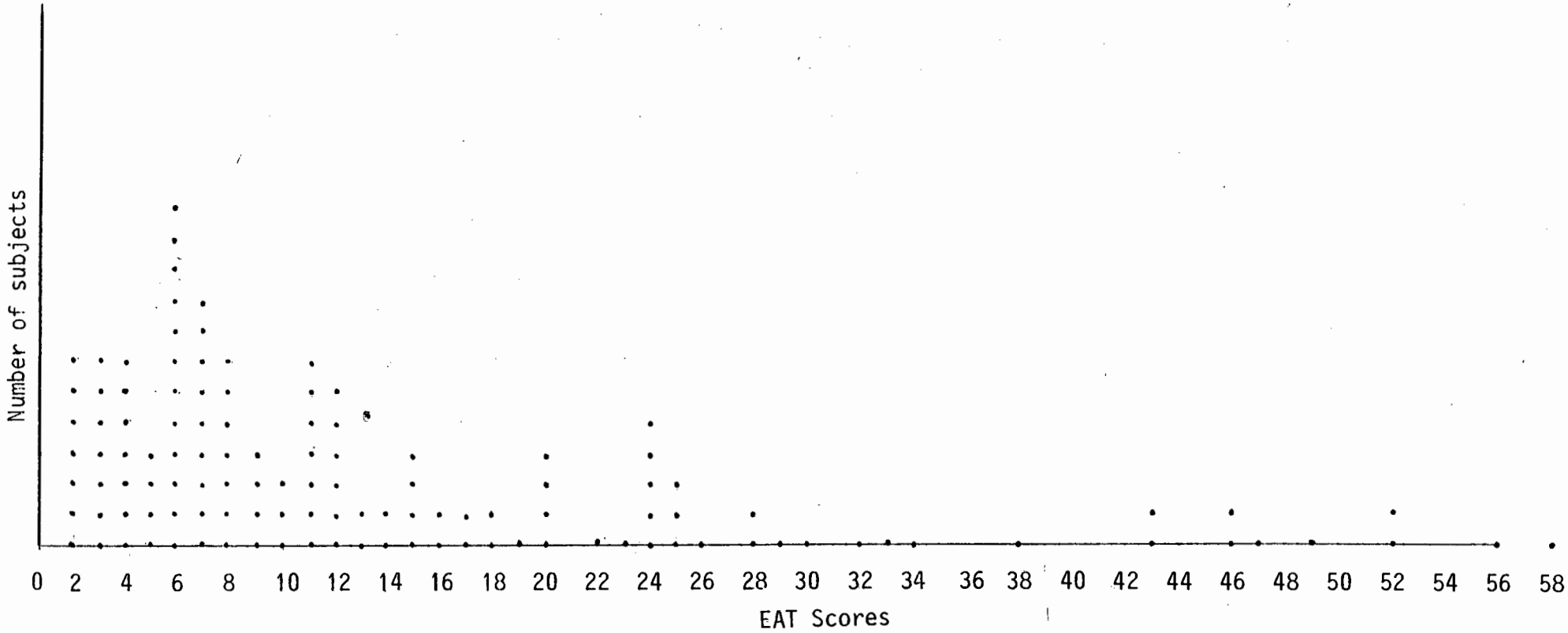

Fig. 1 : EAT frequency distribution, present sample.

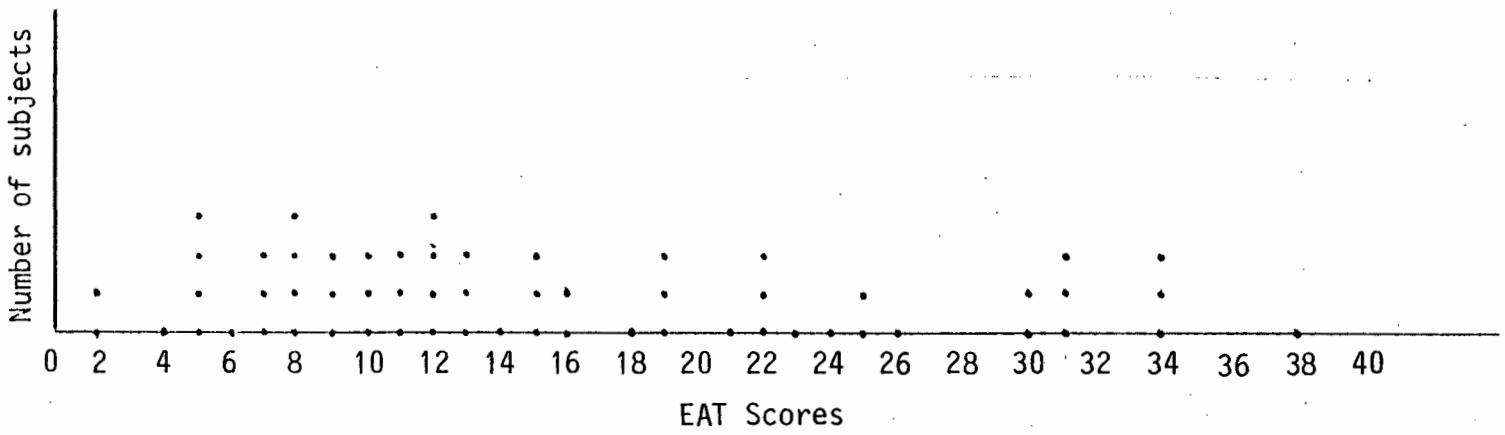

Fig. 2 : EAT frequency distribution (Garner and Garfinkel, 1979)

experience "abnormal eating patterns which interfere with normal psychosocial functioning" (Garner et al, 1982, p 877). While these scores are by no means diagnostic of anorexia nervosa, the majority of individuals scoring over 30 manifest symptoms of "subclinical anorexia nervosa" including considerable concern about weight, dieting and food, with many individuals also engaged in behaviour such as vomiting and purging in order to control weight (Button and Whitehouse, 1981).

Based on previous research, it seems possible that in the present sample as many as 13.5% of these female students might be experiencing eating patterns or behaviours regarded as "disturbed" or "abnormal" (Garner et al, 1982, p 877) and which might also be causing them to lead "most unhappy lives" (Button and Whitehouse, 1981, p 514).

Figure I shows the frequency distribution of EAT scores obtained by the present sample. There is clearly a skewed distribution of scores with 73 of the 123 respondents scoring 12 or less on the EAT (59.3% of the sample population). Thus, while there does appear to be a number of students with possible eating problems (as reflected in scores of over 30), it is also clear that the majority of students show what can be regarded as "problem free" attitudes to eating (Thompson and Schwartz, 1982), as reflected by the clustering of scores between 2 and 12. These figures indicate that the remainder of the sample, 33 out of 123 (26.8%) have eating attitudes and behaviour

which range between "problem-free" and "abnormal", as reflected by scores between 12 and 30 on the EAT.

The only previously published data concerning frequency distribution of EAT scores are those of Garner and Garfinkel (1979) reproduced in Figure 2. Comparison of these two sets of frequency data reveal an obvious similarity, with scores in both studies tending to cluster at the "problem-free" end of the scale. Thus it can be tentatively assumed that the frequency distribution of EAT scores in the present example is similar to that found in other comparative populations.

4.1.3 Weight histories

The mean weight of the present sample was 96.7% of MPMW* (matched population mean weight), with the mean lowest weight in the past two years being 90.8% MPMW. The mean highest weight in the past two years was 103.6% MPMW; these figures being very similar to those obtained by Cooper et al (1983, 1984), as reflected in Table VII.

Interestingly, the group scoring 30 or above on the EAT

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* MPMW (matched population mean weight) was calculated individually for each student. MPMW in this study reflects the population norm for weight at a given height, assuming a medium build in each case. MPMW figures are expressed as percentages, with 100% MPMW reflecting a weight which is the population norm at the given height. Figures calculated are based on actuarial tables (Metropolitan Life Assurance, 1986).

TABLE V

EAT SCORES AND WEIGHT DATA FOR PRESENT STUDY

	Mean EAT Score	% Sample above 30 on EAT	a) Present Weight (% MPMW)	b) "Ideal" Weight (% MPMW)	c) Lowest Weight (% MPMW)	d) Highest Weight (% MPMW)	% Sample currently above ideal weight	% Sample currently below ideal weight	% Sample regarding selves at ideal weight	% Sample currently attempting to lose weight
Total Sample Population n = 123	15.82 (± 14.83)	13.83	96.7	90.3	90.8	103.6	77.3	8.4	14.3	55.3
Group Scoring 30+ n = 17	47.94 (± 11.97)		98.5	90.1	90.9	108.6	88.2	5.9	5.9	88.2
Group Scoring 29- n = 106	11.12 (± 8.57)		95.6	90.4	90.8	102.8	75.5	8.8	15.7	50

a) MPMW reflects matched population mean weight, assessed according to age and height, and assuming medium build. (Metropolitan Life Assurance, 1986)

b) Data concerning "Ideal" weight reflects weight seen as ideal for self, as expressed by each respondent.

c,d) Data concerning lowest and highest weight refers to past 2 years.

(hereafter referred to as the 30+ group) report a slightly higher current mean weight than the group scoring below 30 on the EAT (hereafter referred to as the 29- group) - 98.5% MPMW compared to 95.6% MPMW. This difference is not statistically significant ($t = 1.72$; $p > 0.05$).

The mean lowest weights of the two groups are almost identical, expressed in terms of MPMW - a result at variance with that of Button and Whitehouse (1981) who found a significant difference between the minimum weight of high-scoring and control students, with high-scorers weighing less at their lowest weight than controls.

In the present student sample, the 30+ group report a statistically insignificant but slightly higher maximum weight in the past two years than the 29- group - 108.6% MPMW compared with 102.8% ($t = 1.4$; $p > 0.05$).

The figures obtained in this survey thus indicate that the 30+ group are presently slightly but not significantly heavier on average than the 29- group, and have also experienced greater weight fluctuations in the past two years, as indicated by similar minimum weights but a higher mean maximum weight for the 30+ group. These weight-history data seem surprising in view of previous research findings, as discussed below.

Garner and Garfinkel (1979) suggest that those individuals scoring over 30 on the EAT may reflect "incipient cases of anorexia nervosa" (1979, p 277), and Button and

Whitehouse (1981) write that "the most noticeable difference between high-scoring and control students is that the former have a lower minimum weight since puberty. This suggests that the high scoring group manifests one of the symptoms of anorexia nervosa i.e. a history of marked weight loss" (1981, p 513). Clearly this is not the case in the present study, where the weight histories of the 30+ group are perhaps more suggestive of the weight fluctuations often associated with bulimia, than of an anorexic pattern of weight reduction. If those students in the 30+ group are in the "anorexic range" as suggested by Button and Whitehouse (1981, p 511) and Garner and Garfinkel (1979), we would expect to find much lower mean weights among this group than are in fact reported.

It is also possible that many of the 30+ group in the present sample could be categorised as Bruch's (1973) "thin-fat" people - chronic dieters preoccupied with weight and eating, and thus probably attaining high EAT scores, without manifesting the typical anorexic weight loss. Further analysis of the data from the present sample will serve to shed further light on this apparently anomalous situation regarding the respective weight histories of the two groups.

4.1.4 "Ideal weight".

The mean "ideal" weight (reflecting the weight each

respondent saw as being the ideal weight for herself) for the sample population was 90.3% MPMW. The two groups, 29- and 30+, had minimal differences in "ideal" weight expressed as a percentage of MPMW - 90.1% for the 30+ group and 90.4% for the 29- group, and in fact both groups indicated an "ideal" mean weight of 53.5 kg in real terms. It is interesting to note that this "ideal" weight very closely approximates the reported lowest weight of both groups during the past two years, as reflected in Table V.

This finding suggests that there may be two related issues involved in the area of "ideal" weight. The first tentative suggestion is that there may be a commonly perceived or culturally determined "magic" or "ideal" weight for a woman to attain, a weight of around 53-54 kg, and that this is the weight to which most women heavier than this aspire, irrespective of their height or present weight. The second, but related issue, seems to be that this "ideal" weight is unrealistically low for the majority of the population to maintain : the data indicate that this "ideal" weight is almost attainable (comparing mean lowest weight attained with mean "ideal" weight) but is not a weight at which most women can stabilise. If it were possible to attain and stabilise at this weight, then it would necessarily follow that the mean present weight would much more closely approximate the mean "ideal" weight.

A further possibility exists with regard to perceived "ideal" weight : given that there exists a "cultural expectation of thinness" in women (Garner and Garfinkel, 1980a), one can conceive that many women have felt at their best or most attractive when they were at their lowest weight. It may be that the attainment of this low weight represents a personal success or achievement which is then idealised and to which they thereafter aspire as an "ideal" weight.

Given the data from the present sample population and the above tentative hypotheses, it would seem reasonable to expect that a large number of women students will regard themselves as currently weighing more than an "ideal" weight, and it is to this issue that attention will now be turned.

4.1.5 Perceptions of current weight.

Despite the fact that the current mean weight of the sample population is slightly below the population norm (96.7% MPMW), 77.3% of the students indicate that their current weight is above their "ideal" weight - a predictable finding in view of the data already discussed. This finding, moreover, confirms that the perceived "ideal" weight for women is much lower than the actual general population mean weight, clearly illustrating the point made by Garfinkel and Garner (1982) and outlined in Chapter 1, that there exists a definite "tension

between the biological forces determining weight and the cultural ideal" (1982, p 110).

A greater percentage of the 30+ group report current weights above "ideal" weights : 88.2% compared to 75.5% in the 29- group. However, this is not unexpected considering that both groups aspire to the same "ideal" weight, with the 30+ group recording a higher mean current weight than the 29- group. It is also not surprising since those individuals in the 30+ group, by virtue of their scores, indicate increased concern over eating and weight issues and might therefore be expected to regard themselves as heavier than they would prefer to be.

Only 14.3% of the current sample regard themselves presently at their "ideal" weight. However, analysis of these individuals' weight reveals that they have a mean current weight of 87.5% MPMW - considerably lower than the current mean weight of the sample population (96.7% MPMW) and, obviously, below the general population norms. This confirms that those women currently at "ideal" weight are in fact objectively underweight when compared to the general population mean weight, supporting the hypothesis that the cultural ideal is to be thin.

Those women reporting current weights lower than their "ideal" represent 8.4% of the sample (10 individuals of the 119 who provided relevant information). Of these 10 students, four added the information that their current

low weight was due to medical reasons (recent medical illnesses or on-going medical/physiological complaints) and can thus be discounted from further analysis in this regard. The remaining 6 individuals report a mean weight of 81.6% MPMW, indicating that these students are indeed considerably underweight. However, none of them indicated that they are currently attempting to lose weight, leaving one to speculate that these particular individuals are possibly aware of the fact that they are of very low weight and wish to lose no more. There is no indication of whether they are happy at this present low weight or whether they desire to increase that weight, but the fact that none of them wish to be thinner tends to militate against a diagnosis of anorexia nervosa in any of their cases.

4.1.6 Current weight reduction.

Sixty-eight women, representing 55.3% of the sample, indicated that they are presently trying to lose weight. In the 30+ group, 88.2% are currently attempting weight reduction, significantly more than in the 29- group where 50.0% are presently trying to lose weight ($X^2 = 7.186$; $p<0.01$).

Those individuals in the 30+ group who are presently attempting to lose weight are the same individuals who report their current weight to be higher than their "ideal" weight, not surprisingly. However, in the 29- group, results indicate that significantly fewer women (53) are currently

attempting to lose weight than the number who report themselves to be a higher weight than "ideal" (80) ($X^2 = 13.62$; $p<0.01$).

This possibly indicates a more relaxed attitude to weight and dieting in the 29- group. It seems that many of the students in this group, while envisaging an "ideal" weight lower than their present weight, are less intent on attempting to attain that ideal through active weight reduction, implying that at least some of these students are presently content to live with a weight which they feel is above their "ideal". Nevertheless there does appear to be a wide-spread drive to be thinner, as evidenced by the fact that more than one out of every two women across the entire sample population is currently attempting to reduce her weight, despite the fact that the mean weight of that population is below the matched population norm.

4.1.7 Reported eating problems.

Forty students reported having an eating problem. This represents 32.5% of the sample population, a considerably higher proportion than that reported by Cooper et al (1984) in their investigation of eating attitudes amongst women attending a family planning clinic in England, where 20.6% reported an eating problem.

Not unexpectedly, significantly more of the 30+ group (75%) than the 29- group (26.7%) reported eating problems ($X^2 = 12.39$; $p<0.01$) although it is interesting to note

that more than a quarter of those scoring less than 30 do report an eating problem. As only 9 subjects in total were interviewed in the present study, it was not possible to gain qualitative data concerning the nature or extent of many of these reported problems. This appears to be an area worthy of further investigation, not possible in the current survey due to the preferred anonymity of most of the respondents.

It appears that there exists a sizeable number of people whose eating attitudes and behaviour are not recognised as "abnormal" or "disturbed" by the EAT, but who still report that they have some kind of eating problem. By the same token, a roughly similar percentage of individuals identified as having "abnormal" or "disturbed" eating patterns by virtue of high EAT scores do not report that these patterns or attitudes are problematic, and it is not clear how many of these individuals are actually denying an eating problem, as many anorexics do, for example, nor how many have been falsely identified by the EAT.

4.1.8 Bingeing.

For the purposes of this study, a positive response to the EAT question concerning binge-eating (Item 7) was deemed to be present if a respondent answered "often", "very often", or "always".

Using this criterion, 13.0% of the total sample population

TABLE VI

PREVALENCE OF SPECIFIC SYMPTOMS AND ATTITUDES
AMONGST PRESENT SAMPLE POPULATION

	1 % Reporting Eating Problem	2 % Sample Binge-eating	3 % Sample Self-induced vomiting	4 % Sample Abusing Laxatives	5 % Sample "Terrified of being overweight	6 % Sample "Preoccupied with desire to be thinner	7 % Sample Exercise Strenuously to burn off calories	8 % Sample "Preoccupied with thoughts of fat on body	9 % Sample "Feel that food controls life
Total Sample Population	32.5	13.0	1.6	4.9	34.1	34.9	19.5	31.7	13.0
Group Scoring 30+	75.0	47.1	5.9	29.4	94.1	88.2	64.7	88.2	47.1
Group Scoring 29-	26.7	7.5	0.9	0.9	24.5	26.4	12.2	22.6	7.5

NOTE: Results in columns 2 - 9 above, inclusive, are based upon positive responses to relevant EAT questions, as measured by answers "often", "very often", "always".

reported binge-eating, a figure very similar to the 13.5% established by Clarke and Palmer (1983) who used the same criterion on their sample of university students. Button and Whitehouse (1981) established that none of their low-scoring women were binge-eaters, with Cooper et al (1984) reporting "current" bingeing (referring to the previous two months) amongst 20.9% of their female sample. Other investigators have reported considerably higher figures for bingeing than those quoted above (See Table VII), with even Thompson and Schwartz (1982) reporting bingeing in 23% of their "normal control" group, all of whom scored less than 10 on the EAT. It seems highly likely that less stringent criteria and definitions were used in studies reporting bingeing prevalences of such magnitude, as has been suggested in Chapter 3. It would otherwise be difficult to explain such vastly differing prevalences, particularly when prevalence rates for other behaviours, e.g. self-induced vomiting and laxative abuse, all much more closely approximate one another across these various studies.

In the present study, 47.1% of the 30+ group report bingeing compared with 7.5% in the 29- group. The prevalence in the 30+ group is of the same order as that established by Thompson and Schwartz (1982) in their "anorexic-like" group, who scored more than 25 on the EAT, and who reported a 52% prevalence of bingeing. Button and Whitehouse (1981) established that 18% of their high-scoring group (over 32 on the EAT) were bingers, substantially fewer than in the

present study. Without having conducted interviews with all those answering positively to the binge-eating question, and in the absence of known and common criteria for the assessment of bingeing across the various studies, it is difficult to make meaningful comparisons in this area.

However, the fact that there exists a highly significant difference between the two groups in the present sample with respect to the prevalence of reported bingeing ($X^2 = 525.6$, $p<0.001$) indicates that for the most part binge-eating is associated with a score of over 30 on the EAT, and implies that binge-eating is also associated with various other "abnormal" or "disturbed" eating patterns which will result in a raised EAT score.

4.1.9 Self-induced vomiting.

The prevalence of self-induced vomiting in the sample population was established in the same manner as that for bingeing, described above: i.e. one of three "positive" responses to the relevant EAT question (Item 13 in this case).

Only two students fulfilled this criterion, one each in the 29- and 30+ groups, giving a prevalence of 1.6% for the whole sample population. Similarly low figures were recorded by Pyle et al (1983) and Cooper et al (1984) who established prevalences of self-induced vomiting of 2.1% and 2.9% in their respective samples, according to their own criteria.

Halmi et al (1981) found that 11.9% of their female student sample reported self-induced vomiting, and Button and Whitehouse (1981) found that 39% of their high-scorers and none of their low-scorers reported vomiting.

Once again it is difficult to compare these different results owing to a lack of commonality in assessment criteria : Halmi et al (1981) report that 84.9% of those classified as vomiters actually vomited less than once per month; the figures quoted for Pyle et al (1983) refer to individuals reporting at least weekly episodes of vomiting during any one-month period of their lives when this behaviour occurred most frequently; Cooper et al's (1984) figures reflect vomiting during the previous two months, and Button and Whitehouse (1981) give no indication of their assessment criteria. Thompson and Schwartz (1982) would appear possibly to be using the most lenient assessment criteria since the recorded prevalence of vomiting (52%) amongst their high-scoring sample is substantially higher than any other reported figures for a non-clinical population.

Clarke and Palmer (1983) in their sample population of 156 female students found that none reported a positive response to the EAT question on self-induced vomiting - the only study directly comparable with the present one, and a result which confirms that regular self-induced vomiting is a rare behaviour even when binge-eating is

frequently reported, as reflected in the results of most studies (Table VII).

Button and Whitehouse (1981) provide the only anomalous result, reporting a prevalence of self-induced vomiting which is more than double that of binge-eating in the same population. In fact, 39% of their high-scoring group "have indulged in self-induced vomiting" (1981, p 513) although there is no indication as to whether this vomiting is current, periodic or isolated incidents of the past. Taking results from other studies into account, either Button and Whitehouse's sample population had a uniquely high ratio of vomiting to bingeing, or different types of criteria were used to assess the two behaviours in the same population, leading to an apparently greater prevalence of vomiting (39%, vs 18% bingeing).

The results of the present study indicate a low prevalence of self-induced vomiting in this sample, in line with at least four other studies who report prevalence figures for vomiting of less than 5%, but at variance with three other studies whose figures range from 12% to 52%. Comparisons aside, it is perhaps comforting to be able to report that in the present sample, where over half the students are currently attempting to lose weight, only 1.6% (or two individuals) report employing the potentially physically damaging behaviour of regular self-induced vomiting as a weight-control technique.

TABLE VII

RESULTS OF PRESENT STUDY COMPARED WITH RESULTS OF PREVIOUS STUDIES' FEMALE POPULATIONS

	MEAN EAT SCORE	% SAMPLE ABOVE 30 ON EAT	[a] PRESENT WEIGHT (% MPMW)	[b] "IDEAL" WEIGHT (% MPMW)	LOWEST WEIGHT (% MPMW)	HIGHEST WEIGHT (% MPMW)	% SAMPLE BINGEING	% SAMPLE SELF-INDUCED VOMITING	% SAMPLE LAXATIVE ABUSE	% SAMPLE EXERCISE TO CONTROL WEIGHT
Hawkins and Clement, 1980							79	4.9		
Halmi et al 1981							68.1	11.9	[k] 4.8	[k] 4.5
Pyle et al 1983							[g] 60.6 / [h] 17.2	[g] 7.3 / [h] 2.1	[h] 1.2	
Garner and Garfinkel, 1980b	14.7	9.5								
Garner and Garfinkel 1982	15.4									
Thompson and Schwartz, 1982	[c] i) 36.4 ii) 5.7						52 23	52 3	20 3	
Button and Whitehouse, 1981	12.0	(Above 32) 6.3	[d] i)107 ii)107	96 99	95 102		18 0	39 0	18 0	
Clarke and Palmer, 1983		11.5					13.5	0	1.2	
Cooper et al, 1983, 1984	11.4	6.5	98	91.5	[e] 90.3	[e] 108.3	[j] 20.9	[j] 2.9	[j] 4.9	[j] 7.3
Present study, Total Sample	15.8	13.8	96.7	90.3	[f] 90.8	[f] 103.6	13.0	1.6	4.9	19.5

a) MPMW reflects Matched Population Mean Weight, assessed according to age and height, and assuming medium build (Metropolitan Life Assurance, 1986).

b) "Ideal" Weight reflects weight seen as ideal for themselves, as expressed by respondents.

c) i) These authors' "anorexic-like" group scoring 25+ on the EAT.
ii) These authors' "normal control" group, scoring less than 10 on the EAT.

d) i) These authors' group scoring 32+ on the EAT.
ii) These authors' group scoring less than 32 on the EAT.

e) Reflects weight since puberty.

f) Reflects weight in past 2 years.

g) Reflects % sample reporting behaviour ever.

h) Reflects at least weekly behaviour, past or present.

j) Reflects behaviour in past 2 months

k) Combined figures, male and female.

4.1.10 Laxative abuse.

For the purposes of this thesis, and in the absence of clinical interviews, laxative abuse was deemed to be present when an individual answered positively, as described before, to the relevant EAT question (Item 28) and at the same time answered "rarely" or "never" to the EAT question (Item 35) concerning suffering from constipation. The prevalence figures established in this way are possibly conservative, as individuals who report both frequent constipation and use of laxatives are excluded from analysis on the grounds that there is no certainty that the laxatives are being used as a weight reduction method in these instances.

Results indicate that 4.9% of the student sample are abusing laxatives. Only one woman in the 29- group reported doing so, while 5 individuals in the 30+ group reported this behaviour. The figure established here for the entire sample (4.9%) is exactly the same as that reported by Cooper et al (1984). Halmi et al (1981) also report a very similar rate of laxative abuse (4.8%), while Pyle et al (1981) and Clarke and Palmer (1983) report prevalences of 1.2% in their respective samples.

Button and Whitehouse (1981) report a prevalence of laxative abuse of 18% in their high-scoring group, a similar figure to the 20% reported by Thompson and Schwartz (1982) amongst their high-scoring group; both these figures being lower than that established for the 30+ group in the

present study (29.4%).

The figures quoted indicate that laxative abuse is generally a relatively uncommon behaviour, although Clarke and Palmer (1983), Cooper et al (1984), and the present study show that it occurs more frequently than self-induced vomiting in these populations. Results from all investigations, including the present study, indicate that laxative abuse occurs consistently more frequently in individuals obtaining high scores on the EAT, again suggesting that laxative abuse is usually associated with other "disturbed" eating patterns and attitudes, and is infrequently reported by individuals who are identified as having "normal" eating attitudes by the EAT.

9.1.11 Weight and body preoccupation.

There are three EAT items subsumed for the purposes of discussion under this heading: Item 4, which concerns being terrified of being overweight; Item 15, concerning a preoccupation with a desire to be thinner; and Item 25, concerning a preoccupation with the thought of having fat on the body.

On each of these three items, more than 30% of the total population gave positive responses, and in each case a significantly greater percentage of the 30+ group than the 29- group answered positively ($p<0.01$). The actual figures obtained for the sample population on these EAT items are detailed more fully in Table VI.

There is clearly a strong association between these three issues, with 31 out of 43 women (72%) who expressed a fear of being overweight also reporting preoccupations with a desire to be thinner and with the thought of having fat on their bodies.

As has already been discussed, members of the 30+ group appear to share a greater concern for weight and weight-related issues than the 29- group, and this is amply demonstrated by the results obtained for this particular triad of items. It is interesting to note that approximately the same percentage of women in the 30+ group are both terrified of being overweight and currently attempting to lose weight, while the same is not true for the 29- group where approximately half as many women report a terror of being overweight as are currently attempting weight reduction. This seems to indicate again that individuals in the 29- group, although evidencing some concern about weight-related issues, generally have a more 'relaxed' attitude to their weight than is shown by those in the higher-scoring group.

4.1.12 Strenuous exercise to burn off calories.

Item 16 of the EAT requires a response to the statement "Exercise strenuously to burn off calories" which implies a deliberate attempt to undertake physical exertion as a means of weight control. In the present study, 19.5% of the students gave positive responses to this item with

64.7% of those in the 30+ group and 12.2% in the 29- group responding positively : again a significant difference exists between the two groups on this item ($X^2 = 22.42$; $p<0.01$).

The prevalence of the use of strenuous exercise to burn up calories in the present sample is much higher than that reported in two other studies which also document this particular method of weight control : Halmi et al (1981) report a prevalence of 4.5% in their sample, and Cooper et al (1984) report that 7.3% of women polled in their study employ "exercise as weight control" (1984, p 47).

The reasons for this higher prevalence in the present study are unclear, although several factors could account for the differences in prevalence figures between the studies quoted. It is possible that in the South African context, favourable climatic features and the associated accent on sports and outdoor activities make exercise a more viable and subjectively pleasant means of controlling one's weight than in the northern hemisphere. Secondly, the mean age of the present sample is lower than that of the other two studies : 18.6 years compared to 24.1 years in Cooper et al's sample and 25.6 years in Halmi et al's sample, the latter including a very wide age range of 14 to 67 years and the former including one-third who were married and an unspecified number with children. It thus seems possible that women students in the present sample

fall into the age range most likely to employ regular strenuous exercise as a means of weight control.

One further possible explanation exists to explain the higher prevalence of exercise found in the present sample, and that is the generally changing fashion and attitude towards sport and exercise in the western world in the past few years. There has been increased attention focused on the health benefits of regular exercise, and it is possible that the present study merely reflects an international trend in this regard, with exercise becoming the obvious and most popular way to control one's weight in a "healthy" manner. The results of any further studies in this area may shed interesting light on the question of exercise as a weight-control technique.

4.1.13 Feeling that food controls life.

The final specific EAT item to be analysed in this study, and possibly the single attitude which incorporates all the previous discussion, is the statement "Feel that food controls my life" (Item 31).

In the present sample population, 13.0% responded positively to this statement; 47.1% of the 30+ group and 7.5% of the 29- group. ($X^2 = 27.51$; $p<0.01$). It is perhaps not surprising in view of the attitudes to weight and weight control, and the associated eating and dietary behaviours so far discussed, to find that almost half of the higher-scoring group feel that their lives

are controlled by food. Across the entire sample population, 14 of the 16 individuals (87.5%) reporting that food controls their lives also report a fear of being overweight as well as preoccupations with the thought of fat on their bodies and a desire to be thinner : individuals for whom food, fat and weight control are obviously serious concerns.

It is interesting to note that 7.5% of the 29- group responded positively to the item presently under review, as one might reasonably expect that individuals who felt that food controlled their lives would experience the "abnormal eating patterns which interfere with normal psychosocial functioning" as suggested in Garner et al (1982, p 877) and would consequently be found to have total EAT scores above 30. However, 6 of those 8 individuals in the 29- group responding positively to this question did have scores between 20 and 29 on the EAT, indicating a greater than average concern for weight and weight-related issues amongst them.

There are no other published figures with which to compare the present findings on this particular issue. The prevalence of this attitude established in the current study does, however, indicate that in this sample population of female students food obviously plays an important role in the lives of many.

The following section of this chapter will discuss in a

more general way the findings already outlined so far.

4.1.14 Symptom clusters.

There are a number of individuals whose EAT responses indicate that they may be manifesting some of the characteristics of an eating disorder, i.e. anorexia nervosa or bulimia. It is not the intention of this thesis, as has already been stated, to produce figures estimating the prevalence of eating disorders, but a few tentative analyses of the data in this manner will be discussed.

Firstly, it seems unlikely that there are many cases of true anorexia nervosa amongst the present sample as the lowest current weight reported by an individual is 45 kg, representing 77% MPMW in her case. The DSM-III requires a 25% weight loss for a diagnosis of anorexia nervosa, so as a very broad statement based on MPMW figures one can say that none of the present sample fall in the anorexic weight range, although 7 women report current weights of between 77% and 80% MPMW - approaching the assumed anorexic weight of 75% MPMW.

Cooper and Fairburn (1983) suggest that one can infer a "morbid fear of fatness" from positive EAT responses to the triad of items discussed earlier i.e. terrified of being overweight, preoccupation with a desire to be thinner and a preoccupation with the thought of having fat on the body. This "morbid fear of fatness" is one

of the criteria for diagnosing bulimia nervosa (Russell, 1979) but could also describe the anorexic's "intense fear of becoming obese" (DSM-III, 1980). In the present sample, 31 women answered positively to all three statements on the EAT (25.2% of the population), indicating that one in four students possibly exhibit a "morbid fear" of being overweight: a considerable percentage amongst a non-clinical population. It seems likely that many of these women, if not all of them, would fall into the category of "abnormally preoccupied with weight" as described by Button and Whitehouse (1981, p 514), despite not displaying the classical anorexic weight loss - women classified by these authors as having "subclinical anorexia nervosa."

Clusters of symptoms typical of bulimia are also evident in the present sample. Only two women would possibly qualify for a diagnosis of bulimia nervosa as described by Russell (1979), on the basis of their bingeing and purging behaviour, although neither appears to have had a premorbid history of anorexia nervosa, which would exclude them from Russell's 1985 criteria.

Fifteen out of sixteen reported bingers in the present sample are within 10% of the matched population weight, a finding in accordance with that documented by Cooper and Fairburn (1983) and Fairburn and Cooper (1984a) in their studies of bulimics. Nine of the bingers in the present study also answer positively to the three statements which possibly indicate a "morbid fear of fatness" described above, and eight of them report feeling that food controls their life - a feeling frequently expressed by bulimics (Neuman and Halvorson, 1983).

Without further supplementing this data by clinical interviews, no firm conclusions can be drawn. However one can speculate on the evidence of these symptom clusters that several of the women identified as bingers with a marked concern about food and their weight, would possibly fulfil DSM-III diagnostic criteria for bulimia.

This possibility is further endorsed by the fact that 15 of the 16 bingers also report that they see themselves as having an eating problem. One of the DSM-III criteria for bulimia is that the bulimic is aware of the fact that her eating pattern is abnormal, and there exists a fear of not being able to stop eating voluntarily. Most bulimics experience binge-eating as being outside their own control and recognise it as a problem, in contrast to individuals who may regularly overeat or "binge" while still feeling in control of the situation. It thus seems possible that many of the identified bingers in the present sample, by virtue of reporting their own eating problem, would fit the bulimic picture in this regard.

4.2 WHAT DOES THE EAT MEASURE ?

Originally designed as an instrument to evaluate a "broad range of target behaviours and attitudes found in anorexia nervosa" (Garner and Garfinkel, 1979, p 273) and later qualified "as a screening instrument in non-clinical settings ... (which) ... may indicate the presence of disturbed eating patterns" (Garner et al, 1982, p 877), the EAT has been widely used to investigate the eating attitudes and behaviours of various

populations.

Using the suggested cut-off mark of 30, assumed to separate those in the anorexic range from normal controls (Garner and Garfinkel, 1979), the present study identified 13.8% of the sample scoring above that mark. Close analysis of the individual responses indicate that probably none of these high-scorers fit the typical anorexic picture, particularly with regard to weight loss, while several may more nearly fit the typical bulimic picture. It is thus suggested, on the basis of this evidence, that the EAT may also fulfil a useful role as an initial screening test for the existence of bulimic symptoms in a non-clinical population, and should not only be regarded as a tool to assess the existence of anorexic symptomatology.

It has also been suggested that high EAT scores reflect disturbed eating habits and abnormal attitudes to food, eating, body weight and shape (Button and Whitehouse, 1981; Garner et al, 1982; Cooper et al, 1984) and that individuals scoring highly on the EAT may often be classified as "subclinical" anorexics (Button and Whitehouse, 1981). The present study tends to confirm that individuals scoring over 30 on the EAT give positive responses significantly more often than those scoring below 30, to specific items which may objectively be regarded as indicative of "disturbed" or "abnormal" attitudes and eating patterns. Thus it may be said that high-scorers do reflect certain behaviours and attitudes not commonly found among low-scorers, and since the high-scorers are in the definite minority, these

attitudes and behavioural patterns may be termed "abnormal".

It is perhaps appropriate at this point to comment on four potentially misleading EAT questions, positive responses to which may unrealistically inflate a respondent's score in the direction of "abnormality".

Item 18 gives the statement "Like my clothes to fit tightly". A response of "never", "rarely" or "sometimes" is regarded as a "symptomatic response" (Garner and Garfinkel, 1979, p 278) of abnormality, but this assumption is questionable. More than 80% of women in the present study gave "symptomatic" responses to this statement, possibly due to the ambiguity of the word "tightly", which may appear to suggest the concept of "ill-fitting" or "too small", rather than reflecting an acute body awareness.

Item 19: "Enjoy eating meat", obviously discriminates against a vegetarian who may have chosen her particular dietary habits more out of moral principle than a disturbed eating attitude, but who would still score a "symptomatic" response for indicating that she did not eat meat.

Item 20: "Wake up early in the morning" also appears to be a very ambiguous question as there are a large number of people who do wake up early, without this being indicative of any "symptom", as a positive response on the EAT to this statement would indicate.

Finally, Item 8 presents the statement "Cut my food into small pieces" with the "symptomatic" response being "always", "very

often" or "often". This too is a potentially misleading assumption, as many individuals would regard it as being good mannered to cut food into small pieces before eating it, rather than to over-fill the mouth with large amounts of food.

While appreciating that these four statements or behaviours might often be associated with, or be particular symptoms of, an individual with an eating problem or extreme body awareness, it does seem that many individuals with no disturbance of eating attitudes or behaviour would give "symptomatic" responses to these four questions, which would serve to artificially inflate their total EAT scores. An early-rising vegetarian with good table manners who did not like her clothes to fit too tightly would automatically score 12 on the EAT just on the basis of these four statements!

4.3 GENERAL CONCLUSION

The conclusion to be drawn from the data presented is that the EAT does appear to identify individuals who evidence an uncommon or abnormal concern for food and weight-related issues, and that those scoring above 30 are more likely to report an eating problem than those scoring below 30. It is not felt that it is appropriate to make clinical diagnoses on the basis of a self-report survey of this nature, nor does it appear accurate to regard the EAT as a measure of anorexic symptoms. Perhaps the most useful function of this test is that of a screening instrument to establish the existence or prevalence of particular behaviours or attitudes in a given population,

without laying claim to being able to accurately label individuals as "normal" or "abnormal", "anorexic" or "non-anorexic", "disturbed" or "not disturbed" on the basis of their total scores. While EAT scores, and scores on particular items, may suggest the existence of wider-ranging disturbances or problems, it is felt that only more detailed individual interviews can confirm the existence of problems of actual clinical severity.

The following chapter will briefly present data gathered from clinical interviews undertaken with students scoring over 30 on the EAT who chose not to remain anonymous.

CHAPTER FIVE

CLINICAL INTERVIEWS

5.1 INTRODUCTION

This chapter will briefly present data gathered from clinical interviews undertaken with those students who both gave their names and scored over 30 on the EAT.

It should be noted that throughout this chapter, unless otherwise indicated, words and phrases enclosed in quotation marks indicate the actual words used by the students when being interviewed.

5.2 SUBJECTS AND METHODS

Nine of the seventeen students who scored 30 or more on the EAT identified themselves. These students were personally contacted and asked to participate in a one-hour follow-up interview, to which all agreed.

The interview was semi-structured and aimed at gathering qualitative data from these individuals about their eating patterns, and also at ascertaining whether any of them fulfilled DSM-III diagnostic criteria for an eating disorder.

5.3 RESULTS

5.3.1 Clinical diagnoses.

Five of the nine students interviewed met DSM-III criteria for a diagnosis of bulimia; one woman is an ex-bulimic who has received psychiatric treatment for bulimia in the

past, but does not presently binge-eat; one woman is "recovering" from anorexia nervosa from which she has suffered for the past two years; one woman does not meet criteria for either anorexia nervosa or bulimia although describing binge-eating and frequent weight fluctuations; and one woman meets no diagnostic criteria and has apparently normal eating habits although being very body conscious.

Thus 7 of the 9 women interviewed either presently meet DSM-III diagnostic criteria for an eating disorder or have done so in the recent past; one woman is a current binge-eater not meeting the criteria for an eating disorder, and one woman has no apparent disturbance of eating behaviour or attitude.

The numbers involved are too small for meaningful statistical analysis, but these results indicate that the EAT correctly identified 8 of these 9 women scoring over 30 as having what may be termed as an eating problem: i.e. a false positive rate for the EAT of 11% amongst those interviewed. This figure cannot, however, be generalised to the whole population as it is possible that clinical cases are over-represented in the sample interviewed, these women perhaps welcoming the opportunity to talk to someone about their eating difficulties. On the other hand, it is also possible that those choosing to remain anonymous contain a high percentage of eating disorders, as these individuals are often very secretive about their eating, and unwilling to identify themselves. (Clarke and Palmer, 1983; Fairburn

and Cooper, 1984a).

Thus although the demonstrated false positive rate of 11% is acceptably low (specificity of 89%) amongst those interviewed, no general statement about the efficacy of the EAT is possible from the present study, as the false negative rate remains unknown (i.e. number of clinical cases amongst the group scoring less than 30).

For the purposes of the following discussion the data analysed will be those gathered from interviews with the 8 women clearly manifesting eating disturbances. The excluded student does not feel she has an eating problem, appears to suffer no subjective distress about her weight or eating, and displays no signs or symptoms of a clinical eating disorder. This particular student, who is currently dieting, would probably be classified as a "normal dieter" despite scoring more than 30 on the EAT (Button and Whitehouse, 1981, p 514).

5.3.2 Onset of eating problem.

5.3.2.1 Age.

The majority of these students placed the onset of their eating problems at around the age of puberty, varying from 12 years to 15 years, with only one woman reporting an age of onset later than 15 years, and that at 17 years.

5.3.2.2 Precipitants.

Without exception all eight students reported that the beginning of their respective problems began with attempts to lose weight through dieting.

Typical reasons given for commencing dieting were: "I became food conscious in Std. 6, aware of my weight increasing" or "in Stds. 6 and 7 I suddenly became aware of my body, and of boys" with one student reporting that her mother insisted she control her weight very strictly from the age of 12 years so as not to succumb to "the family weight problem".

5.3.2.3 Progression and development of eating patterns.

One student reports that since Std. 6 she has wanted to maintain her weight at 52 kg despite the fact that her MPMW is 58 kg, necessitating careful control of her food intake. She thus follows a pattern of constant restriction until her "lack of self-control" lets her down and she overeats for a period, sometimes bingeing during this time. A period of dieting then follows, as"I feel the need to punish myself sometimes by going on a strict diet".

The ex-anorexic student began by dieting normally, followed by a gradual elimination of all "fattening" foods until it became "nice not to eat. It's a form of discipline.... it becomes more and more gripping". She eventually developed a kind of binge/starve pattern at an anorexic

weight of $\pm$ 42 kg, "allowing" herself to eat large quantities of food only on Sundays, with the knowledge that Sunday was "binge-day" giving her an incentive to eat virtually nothing for the rest of the week.

The remaining six women interviewed describe similar patterns : a period of restrictive dieting, perceived as "deprivation", followed by a short period of overeating once the diet is broken. This leads to a determination to once again gain control over food intake through starvation and sets up the vicious circle of binge/starve.

It seems that what starts out as eating to satisfy hunger develops into episodes of overeating to compensate for the preceding dietary restriction, and over the course of time this overeating develops into episodes of actual bingeing, where the eating is out of control for these individuals.

One of the six women describes a variation in the binge/starve pattern : having battled to control her weight through restrictive eating, with frequent episodes of apparent overeating punctuating the dieting, she eventually found that she "couldn't last out" and in her Std. 10 year began eating excessively with no attempt at restriction, leading to a weight gain of over 20 kg in the year. In the two years since that time, this student has reduced her weight by 14 kg through a pattern of controlled dieting and "sensible eating".

In summary, all eight of these women are either currently engaged in, or have recently been following, a binge/starve pattern of eating. For all of them the primary motivation was, and remains, to control their weight, and without exception the bingeing started after a period of severe restriction. This finding concurs with that of Wardle (1980) and indicates that there may be a causal function between dietary restraint and bingeing as suggested in Wardle and Beinart (1981).

5.4 WEIGHT HISTORIES

At present 6 of the women weigh between 90% and 105% MPMW, with one weighing 111% MPMW and one 78% MPMW. The mean weight of all 8 women is 97% MPMW. However, all 8 women report marked weight fluctuations in the past two years : on average, a fluctuation of 13 kg during that time from highest to lowest weights. The minimum fluctuation reported was one of 8 kg, and the maximum was 18 kg.

All these women report stable body weights prior to the commencement of their altered pattern of eating. It is not possible to calculate meaningful MPMW figures for these stable weights, as for several of the women this stability was last achieved some years ago, since when they have increased in height by an unknown amount. Weight fluctuations began with the commencement of the binge/starve eating pattern, with the mean highest weight of these 8 students being 112% MPMW, and the mean lowest weight being 92% MPMW

in the previous two-year period.

5.5 MENSTRUAL HISTORIES

Only one of these 8 students gave a history of no menstrual disturbance, and she has been on oral contraception for several years. Four women report periods of amenorrhea lasting longer than six months and three report chronically irregular and unpredictable menstrual cycles.

For all these women, their menstrual irregularities appear to be directly linked to weight or eating patterns - only one woman reports a disturbed cycle since menarche, but this particular student's eating problem coincided with menarche. Three women directly link menstrual disturbance to their pattern of binge/starve, as when this eating behaviour is modified the menstrual cycle becomes more regular; a further three women link menstrual disturbance to lowered weight, reporting that an increase in weight from their lowest level, at which amenorrhea was present, resulted in a restoration of menses, even if irregular.

Thus it appears that for these women, menstrual disturbance or amenorrhea was associated with behaviour aimed at weight control and with disturbed eating patterns, but not necessarily with severe weight loss - a finding which is also reported by Abraham and Beumont (1982) in their study of binge-eating patients.

5.6 BINGEING

As eight of the nine students interviewed describe themselves as binge-eaters, descriptive and qualitative information about their actual bingeing was gathered. It has been suggested that "binge eating remains a poorly understood phenomenon with great variation in forms of behaviour and associated moods .... (which) suggests that further research is necessary before a syndrome of bulimia may be delineated" (Abraham and Beumont, 1982, p 634).

It is to this topic that attention will now be turned, with a brief analysis of the individual experiences and behaviour of the eight binge-eaters who presented themselves for interview in the current study.

5.6.1 The binge.

The subjective definition of what actually constitutes a "binge" varies from student to student, although they all seem to share a common ability to distinguish for themselves between a binge and an episode of overeating - the latter being under the individuals' control, whereas the binge is experienced as an episode of overeating which they feel is beyond their control.

It seems quite clear that the word binge cannot be objectively or specifically defined, since what may be regarded as a "binge" by one student would certainly not qualify for the label in another student's framework. This was

recognised by most of the students interviewed, and clearly expressed by one: "I recognise, though, that a binge by my standards is probably not by some other people's standards". Furthermore, some individual students define a binge differently at different times : on some occasions, "one chocolate bar or an apple" could feel like a binge and possibly lead to further episodes of much more extensive eating; at other times, the same chocolate or apple would be regarded as part of a perfectly normal or controlled day's eating. It appears that, for some students, a small amount of food is often experienced as a "binge" if it is more food than they have been allowing themselves to eat, or if the food eaten is outside their present diet; having "binged" on a chocolate bar, for example, a much larger binge often follows soon after. Thus it appears that a binge should be seen as a subjective experience particular to each individual on each different occasion of "bingeing".

Two distinct types of bingeing emerge amongst the women interviewed : the first is that of a discrete binge lasting for one to two hours, and the second is a continuous binge which consists of a steady consumption of abnormally large quantities of food, lasting from several hours to a few days, only interrupted by sleep.

One student binges only in discrete periods of time, three tend to go only on continuous binges, and four students

display both patterns of binge-eating behaviour.

5.6.1.1 Continuous binges.

Students who describe episodes of bingeing which continue for many hours, or sometimes days, report similar experiences. A typical binge of this nature will start with a big breakfast usually including large quantities of toast, followed by bread rolls and/or cakes a little later, several packets of crisps or chocolate bars, a full lunch including many slices of bread and/or large quantities of pudding, further packets of crisps, biscuits, sweets and chocolates in the afternoon, large supper with the emphasis again on bread and puddings, and further quantities of crisps and chocolate or biscuits after supper.

The types of "in-between" foods vary for different individuals, but chocolates, biscuits, sweets, cakes, custard and yoghurt were all commonly mentioned by students bingeing in this manner.

These binges do not always start in the early morning, but if starting later in the day will always continue until after supper. The bingeing pattern is sometimes continued as described above for a period of several days in a row, but is also sometimes of only one day's duration.

5.6.1.2 Discrete binges.

Individuals describing shorter periods of binge-eating commonly consume large quantities of food in less than an

hour. Typically this food will consist of bread, puddings, chocolates, biscuits, cakes, crisps and sweet drinks such as Milo (hot chocolate) although fruit and raw vegetables were also mentioned as occasional constituents of a binge of this nature.

One woman described eating up to a dozen apples at a time, amongst other foods; another described eating whole lettuces on more than one occasion; and large quantities of cheese are also frequently consumed by these bingers.

Discrete binges appear to incorporate less discrimination with regard to the food consumed, and are often determined by the food readily available or the money available to spend on food at that time. Typical comments made by the students concerned were: "I just eat everything I can see" and "I eat whatever is available at the time" or "It depends what I can afford to buy that day".

5.6.2 Other aspects of binge-eating behaviour.

5.6.2.1 Planning.

Only one student, the ex-anorexic, reported always planning binges. As mentioned earlier, her binges always took place on Sundays, at home, and took the form of a day of bingeing.

Five of the other seven bingers report that their binges are "never" planned, with the remaining two reporting that they do sometimes plan ahead to binge. One of these women

reports that she does sometimes "promise myself a binge as a reward for losing weight on a diet", and binges seem linked to diets for several other women. One student reports that days of not bingeing are planned : "You've binged for the last two days, so today you can't eat anything"; another reports that if she plans to being dieting she will always give herself a few days before that to binge; another reports that binges are never planned because "I always plan to diet".

All but the ex-anorexic student report occasions when binges have "developed" during the course of normal eating in a totally unplanned way. Typical responses include "I'll often intend to have a sensible lunch, say, and end up buying a lot more. And then I just keep going"; "I'll eat supper, and then keep on eating and eating, especially if it's after dieting"; "About a third of the time I'll be eating normally and then suddenly start pigging".

It is interesting to note that although planned binges are mostly denied, there often appears to be a supply of food readily available to these women with which to continue a binge ostensibly developing from a normal meal. There is thus a suggestion that although these binges are not consciously planned, some preparation has taken place beforehand to provide the necessary resources, either food or money, to enable a binge to develop.

5.6.2.2 Speed of eating.

All eight binge-eating students report that they eat food much more quickly when bingeing than they do normally. Comments such as "I wolf it down" or "I really pig it" are typical, although one student reports sometimes eating slowly during an extended binge.

5.6.2.3 Taste of food.

As has been mentioned, favoured foods for bingeing are sweet starchy things although a very wide range of food is consumed by different individuals while bingeing. The subjective enjoyment of the taste of the food eaten appears to vary amongst individuals, with four reporting that the taste of the food consumed in a binge is not appreciated, with the other four reporting that taste is appreciated.

One student reports that "taste is very involved, and is often what motivates me to binge on those things" and others select food they like for a binge because they do appreciate its taste, despite eating it extremely quickly. Only one student voiced concern about not enjoying food eaten while bingeing; although four reported this fact, only one said "...and that worries me. I feel even more guilty about eating so much because I haven't enjoyed it".

None of the students report smoking or drinking alcohol during binges, although one did say that she was much more

likely to go on a binge if she had been drinking wine, as this reduces her "control" and increases her "desire to enjoy myself" which will often lead to overeating, developing into a binge.

5.6.2.4 Frequency of bingeing.

The frequency of bingeing episodes is also variable, differing both between individuals and for the same individual at different times.

Four students report bingeing approximately once weekly on average, with the remaining four reporting more frequent episodes. One describes a regular cycle of two days' bingeing and one day's starvation in recent weeks; two others describe bingeing three to four times weekly, and one is currently bingeing nightly.

5.6.2.5 Company while bingeing.

Only one student reports that she always binges alone, although the others do report solitary bingeing as well as either bingeing with another binger or bingeing in the company of others who are not necessarily aware of the binge taking place.

Many binges start at meal-times in the company of others and are then continued privately in the student's own room. Bingers report being "embarrassed by the amount I eat" and consequently are restricted in their bingeing if in the

company of non-bingers. Those bingers who eat steadily throughout the day are more comfortable about eating in front of others, as these others are unlikely to be aware of the total quantity of food consumed by the binger during the course of the day.

5.6.2.6 Interrupted bingeing.

All the women who report episodes of discrete bingeing (5) feel angry and irritable if their binges are unexpectedly interrupted by someone. They commonly describe feeling "guilty" and "irritated" and "embarrassed" and all of them return to the binge as soon as they are alone again. One student reports that if her bingeing has started earlier in the day then "it is impossible to stop, no matter what others say". The common factor appears to be that although an interruption arouses anger and guilt it does not serve to permanently end the binge which runs its course once the intrusion has been dealt with.

5.6.2.7 Termination of binges.

The most commonly reported reason for ending any particular binge is that of stomach ache or a feeling of being full to capacity, and feeling ill. Running out of food and money are also responsible for putting an end to some binges, and three students report that guilt sometimes brings to an end a binge which has been going on for a period of hours or days.

5.6.2.8 Precipitants of binge-eating episodes.

The issue of what factors precipitate binge-eating episodes may be found to have significance for the treatment of the symptom, particularly if one works within a cognitive-behavioural framework as suggested by Adamson (1985).

Many binges appear to be precipitated by dysphoric mood states. "Depression" is reported by six of the students as being a primary precipitating factor; depression due to such things as "being let down by men", "having had an argument with my family", or "despondent about my weight" were commonly cited. "Anxiety" about academic work, "insecurity" about relationships, and "being angry with someone" are also reported as common factors leading to bingeing, as is "boredom". Occasionally binges appear sparked by a desire for a particular food, the consumption of which suddenly cannot be moderated or contained.

Three women report that bingeing is never precipitated by real hunger. In the words of one "If I'm hungry I'd rather eat a proper meal of meat and vegetables. Bingeing is not to satisfy hunger, that's what makes it so terrible".

The other students interviewed feel that hunger is sometimes a factor in bingeing, particularly if the hunger is the result of a period of severe dietary restriction. This "breaking a diet" with a binge appears a common experience : once a strict diet is broken, a binge frequently follows immediately, often incorporating foodstuffs that have been

denied by the diet: "....food I haven't been allowed to eat". In the words of another student : "If I have five grapes too many, then I go mad and usually end up having a full binge right then, or within the next day or two.....I feel I may as well give up". Another student says that slightly exceeding the calorie limit of a severe diet will lead to a binge: "The diet is broken, you see. For me it's all or nothing!" These comments are typical of the dichotomous thinking evidenced by many bulimics, as discussed in Chapter 1.

Whether binges are precipitated by internal mood states (two students report that they sometimes binge when feeling very happy, to "treat" themselves) or external events, there is fairly general agreement that the mood of the individual is not improved by bingeing. All the women report feeling "guilty", "depressed", "upset", "much worse" after a binge than they felt before it, even if they found the binge or the food consumed initially enjoyable.

One student clearly describes the binger's situation: "I feel worse afterwards, depressed and stupid that I've got no self-control, so guilty. But it's like a crutch you keep falling back on".

5.6.4 Resistance behaviour.

All the women reported attempts to resist the urge to binge, although none reported great success with their attempts.

Some women try and convince themselves not to binge: "I'm just going to waste all my good work of dieting", while others try and find an immediate alternative activity to occupy themselves e.g. "going to visit someone", "reading a book", "writing an essay" - by common concensus these are not effective measures and usually end in failure to resist the binge. As one student describes it: "I'll walk into the canteen and think I'll just get the Diet Coke and walk out - but ten minutes later I'm back for all the other things I need".

Drinking large quantities of tea or coffee, and chewing gum were also mentioned as means of attempting to resist bingeing, but the only commonly expressed feeling in this regard is that keeping busy and being with other people all the time reduces the opportunity to binge, if not the urge!

5.6.5 Purging behaviour.

Two students report that they have never used laxatives nor induced vomiting, using only dietary restraint to counteract the effect of bingeing. Another two students report using laxatives occasionally in the past, usually directly after binges, and one of these two also used to induce vomiting after bingeing on occasion.

One further student has recently stopped taking laxatives, which she used to take "several at a time" on an approximately weekly basis after bingeing, because she found it impractical to do so with a full-day lecture timetable.

This particular student has unsuccessfully tried to induce vomiting on several occasions and is disappointed that she is unable to do so.

Another woman used to vomit on a daily basis between the ages of 15 and 17 years, but stopped vomiting in 1985 because three of her friends "got anorexia and were hooked on vomiting - I didn't want to end up looking like that".

Another student used to vomit on a daily basis for two years, but has also stopped this habit in the past two years. She does, however, report taking one laxative every day, aimed at weight control.

Only one of the eight students interviewed is currently abusing laxatives and vomiting. She reports daily use of approximately 15 laxatives as well as at least daily vomiting. She often vomits after the consumption of any food, not only after a binge, and reports that she used to vomit during binges in order to make room for more food. This latter behaviour has apparently now been stopped. This student is the only one interviewed who reports being able to vomit spontaneously through flexing her stomach muscles, with the others who have vomited requiring a finger or other object to induce the gagging reflex.

5.7 FAMILY KNOWLEDGE OF EATING PROBLEM

All but one of the eight women report that their families are aware of their "eating problems". The one exception

indicated that "they would not be interested in knowing anyway".

Several families appear to know that the students concerned "eat secretly" or "diet secretly" or "have a problem with food", although the extent of the bingeing and starving and vomiting or purging behaviour is kept from family members, and is not discussed by the students with their parents. The only families who appear to be aware of the real extent of the students' eating problems are those of the students who have had treatment which has included the family as part of the treatment programme for their problem.

5.8 TREATMENT OF EATING PROBLEM

Four of the eight women have had no medical or psychiatric treatment for their eating problems, although one of these four has recently joined the "Weigh-less" organisation in Cape Town in an attempt to get help with controlling her weight.

Two women have sought treatment through the University Health Services, without the knowledge of their parents. One was referred to a dietician who suggested a planned diet which the student found herself unable to stick to for more than five days, and thus discontinued treatment in 1985. The other student saw a clinical psychologist at Student Health in 1985, a dietician in 1985, and is currently in therapy with a clinical psychologist to whom

she was referred by the Student Health Services.

One of the remaining students had medical investigations while at school, at a time when her weight was very low, and she was referred with her family to a clinical psychologist at the local hospital while in her last year at school for treatment of her bulimia. This was two years ago, since when she has had no further treatment but feels she can manage without it.

The other student was taken to see a clinical psychologist in Std. 7 by her parents who were worried about her weight loss. She was seen at an eating-disorders outpatient unit for two months at that time, aged 14, and since then has had no further treatment despite the fact that her symptoms now include vomiting and laxative abuse as well as bingeing - an increase in the severity of her problem of which her parents are unaware.

This last-mentioned student is the only one who reported that she would like to be referred to someone for help with her problem, although appearing doubtful about whether professional help could be of benefit to her. The other women, despite an obvious degree of distress about their respective problems, indicated that they would rather not seek professional help, with several giving the somewhat paradoxical answer of "I think it's under control now - I could control it if I really wanted to", having previously given a clear indication that their bingeing and associated

behaviour is far from "in my control".

The above finding tends to confirm that people with eating problems are often reluctant to admit that they have a real problem, and that there is often a degree of guilt or secrecy surrounding eating problems of this nature which makes individuals reluctant to disclose themselves and seek treatment.

5.9 LEARNED BEHAVIOUR?

An interesting fact to emerge from the interviews with these eight students is that many of them appear to have felt under a social pressure to control their weight, and several appear to have started their abnormal eating patterns as a result of direct contact with someone else who was already evidencing these patterns in their eating/dieting behaviour.

One student, for instance, reports that in Std. 7 "there was a big craze for dieting and diet pills and quite a few who were vomiting - it was the 'in' thing to do". This student "learned" her dietary habits as a result of this school craze at the age of 14 years, with the accent being on keeping thin "to look good".

There is a commonly reported feeling that the women in the University Residence are "very preoccupied with each other's bodies" and that a strong motivation exists "to look good for the guys and get yourself a boyfriend", and at least one student reports that she developed her present binge/

starve cycle as a means of controlling her weight after a fellow student had suggested it to her. Two other students report that "res. stories" influenced their current behaviour, although acknowledging that their eating problems predated university.

Two students report that reading articles in women's magazines, notably those on Jane Fonda, had made them aware of a binge/starve/vomit pattern as a means of weight control, at a time when they felt under a great deal of social pressure in a peer group at school to be dieting and keeping thin.

One student reports that her older sister is a model who had anorexia nervosa several years ago. The student and her sister used to diet together and learned to vomit together too, eventually going on frequent binge/vomit cycles in unison, giving each other joint encouragement. This student still feels under pressure to be as thin as her sister who has maintained her weight at a lower level recently.

One other woman reports having learned her eating behaviour from someone else : she was friendly with a girl at school who developed anorexia nervosa with bingeing and vomiting as symptoms. The friend taught her how to vomit, and the binge/vomit cycle "seemed like a good way to keep eating a lot but not get fat".

Those who do not explain their current eating pattern in terms of having learned it from some external source appear to have discovered for themselves, to have learned, that overeating can be compensated for by vomiting or taking laxatives or strict dietary restraint, which paradoxically encourages further overeating - and as long as the cycle continues like that, although there may be large weight fluctuations, there is unlikely to be permanent weight gain - which is the one thing these students are all attempting to avoid so determinedly.

5.10 COMMENT

This chapter has outlined qualitative data obtained from clinical interviews with eight binge-eating students. A summary of this data will be presented in the next, concluding, chapter of this thesis, as part of an overall summary of this study.

CHAPTER SIX

GENERAL CONCLUSIONS

6.1 INTRODUCTION

As the data gathered for this thesis relied entirely on self-report questionnaires and, in the case of those interviewed, histories given by the students themselves, no check can be made on the reliability and validity of the data. However it is felt that these methods of information gathering are an appropriate method of broadly screening a non-clinical population, and of briefly assessing the associated symptomatology of individuals who present with a particular kind of problem, such as binge-eating. While acknowledging that the sample was smaller than that reported on in many other studies, and that the number of women interviewed was too small to allow meaningful statistical analysis of the particular data they provided, it is felt that a number of conclusions can be drawn from this survey.

6.2 THE EAT

i) As previously concluded in Chapter 4, the EAT does appear to discriminate adequately between individuals who appear, objectively, to show "disturbed" or "abnormal" dietary attitudes and patterns, and those who do not : analysis of data revealed those in the 30+ group to report significantly more positive responses on specific EAT items indicative of dietary or attitudinal "disturbance" or "abnormality" (such as bingeing, laxative abuse, weight

and body preoccupations) than those in the 29- group.

ii) Interviews revealed that the EAT correctly identified eight out of nine women scoring over 30 as currently having, or very recently having experienced, a definite eating problem. This indicates an acceptably high specificity of 89% (false positive rate of 11%), based purely on nine interviews. Similar rates of specificity for the EAT have been reported in other larger studies (Garner and Garfinkel, 1979; 1980b; Mann et al, 1983). It is not possible to make further comment on the EAT's positive predictive value on this sample population as it was not possible to calculate the false negative rate (i.e. number of clinical cases scoring below 30), as no low-scorers were interviewed.

iii) Those identified by the EAT as having "disturbed" or "abnormal" eating patterns, by virtue of scoring more than 30, should not necessarily be considered as "incipient cases of anorexia nervosa" (Garner and Garfinkel, 1979, p 277), as the EAT quite clearly also identifies individuals of near normal weight who display a wide range of bulimic symptoms of many years standing.

iv) It is clear that the high-scoring students interviewed in the present study evidence attitudes towards their weight which could be regarded as "less than healthy" (Abraham and Beumont, 1982, p 634), in so far as the development and maintenance of their present disturbed eating patterns arises from attempts to control their weight.

6.3 BINGE-EATING

As eight of the nine women interviewed in this study could all be termed "binge-eaters" it seems appropriate to draw some tentative conclusions, or highlight trends, which emerge from the clinical pictures and histories of these eight women.

Although there are individual variations in the eating attitudes and patterns of the individual students, some common factors emerge:

* the eating problems all began during the teenage years
* all these women have followed a binge/starve cycle
* the development of this cycle was invariably associated with attempts to lose or control weight
* all have experienced marked weight fluctuations since the onset of their eating problems
* there is an association between the binge/starve pattern of eating and menstrual irregularities
* all report a strong association between bingeing and dysphoric mood states
* bingeing does not seem to relieve the dysphoric mood
* all attempt to resist the urge to binge

These particular findings are mostly in accordance with those documented elsewhere in the literature on bulimia and binge-eating, as outlined in Chapter 1. One finding

of the present study which is at variance with the established literature is that of the age of onset of bulimia-like symptoms : the students interviewed in the present investigation are all under 22 years old and mostly report the age of onset of their particular eating problems as being in the early to mid-teenage years. Other researchers have often indicated that bulimia and binge-eating generally affects a slightly older population, and indicate the age of onset of these symptoms to be in late teenage or early adult years (Cooper and Fairburn, 1983; Johnson and Berndt, 1983; Fairburn, 1984).

Further research seems necessary in this area, as it is not clear whether the binge-eaters identified in the present study fall in the minority, by way of age, of the overall population of bingers, or whether the actual age of those binge-eating is lower amongst the South African population than that recorded elsewhere.

6.4 DIAGNOSTIC CRITERIA

6.4.1 Introduction

The qualitative data gathered and detailed in Chapter 5 do seem to highlight problems in the diagnostic criteria which have been proposed for bulimia nervosa (Russell, 1979; 1985) and bulimia (DSM-III, APA, 1980), and concur with the findings of Abraham and Beumont (1982) in many respects. Problems in diagnostic criteria identified

in this survey will be briefly discussed, with reference to Russell (1979; 1985) and the DSM-III (APA, 1980).

6.4.2 Russell (1979;1985)

Interviews in the present study clearly indicate that not all individuals who binge-eat also vomit or abuse laxatives as a method of weight control, the latter two being diagnostic criteria for bulimia nervosa in Russell's 1979 taxonomy. The 1985 revised criteria, however, now make provision for dietary restriction as an alternative to vomiting or laxative abuse, which would seem to incorporate a much wider and more representative population of binge-eaters in this diagnostic category. However, it is suggested here that there remain certain problems with the criteria for bulimia nervosa, which will be discussed below.

Russell's 1979 criteria include a "morbid fear" of fatness, and the revised 1985 criteria include "the psychopathology of anorexia nervosa : fatness is so dreadful as to be avoided at all costs." This assumption that bulimics share the same "psychopathology" as anorexics appears questionable in the light of the qualitative data obtained from the students interviewed in this study as well as those reported by other researchers. Many researchers and clinicians document the fact that anorexics have a "drive for thinness" (Garfinkel and Garner, 1982, p 32) and become preoccupied with constantly losing weight, setting lower and

lower weight goals for themselves with the achievement of each goal almost a signal to set another lower weight as the target - a pursuit of thinness because the anorexic is seemingly never thin enough to satisfy herself.

The same, however, does not appear to be the case for bulimics. While also displaying obvious weight and body preoccupations, bulimics do not share the anorexics' single-minded and continuing "drive for thinness". Most bulimics are, in fact, of normal body weight (Fairburn and Cooper, 1982) and are apparently content to maintain their weight within an approximately normal range, tolerating a degree of weight fluctuation not found in typical anorexia nervosa.

This is true of the present sample : the current mean weight of the 7 binge-eating students interviewed (excluding the ex-anorexic, who also binges) is 99.75% MPMW. These students report a mean fluctuation between highest and lowest weight in the past two years of 15.5% MPMW, or 9.1 kg; the student who had anorexia nervosa currently weighs 77.5% MPMW and has, until a few months ago, allowed no weight fluctuations in the past two years, reducing her weight from a previously stable 52 kg to a lowest weight of 42 kg : she expresses a "gripping" need "not to eat" and sees it as "nice not to eat", gaining immense satisfaction from becoming constantly thinner, and from not eating. The other binge-eating students do not gain

the same satisfaction from dieting, which they experience as restrictive and unpleasant and difficult to manage. They often report dieting to undo the effects of binge-ing, to prevent themselves becoming fat after eating so much food, and none report the same intense desire to restrict their food intake in a pursuit of thinness as that reported by the ex-anorexic student.

Thus it seems that Russell (1985) may have erred on two counts. Firstly, his statement that the psychopathology of anorexia nervosa is that "fatness is so dreadful as to be avoided at all costs" does not accurately describe the anorexic's attitude. It is postulated here that anorexics are not so much avoiding fatness as seeking thinness, for they continue their pursuit of thinness long after any fat has disappeared from their bodies. The difference between 'avoiding fatness' and 'seeking thinness' may appear subtle on the surface but it is suggested that this is an important difference to highlight, as the two terms may describe quite different attitudes.

Furthermore, Russell appears to have oversimplified the issue by assuming that anorexics and bulimics share the same psychopathology about fatness, when this does not seem to be the case. It is suggested here, albeit speculatively, that an essential difference <u>does</u> exist between the anorexic and bulimic attitudes to weight : stated simply, anorexics want to be thin while bulimics do not want to be fat - a subtle difference in terminology,

perhaps, but one which masks far from subtle differences in attitude. The anorexic pursues thinness endlessly; the bulimic seeks to avoid fatness.

It is interesting to note that in a study of normal weight bulimics recently conducted in Cape Town, those bulimics with a previous history of anorexia nervosa were found to have a far greater preoccupation with thinness and being thin than those bulimics who had no previous anorexic history, in whom the expressed wish was to avoid becoming fatter (Ing, personal communication). This finding alone suggests a difference between the primary anorexic and the primary bulimic as far as their attitude to weight and fatness is concerned.

This suggested difference between anorexic and bulimic psychopathology appears to require further clarification and would possibly be an area worthy of further research and examination in the future.

One final comment concerning the diagnostic criteria of Russell (1985) is necessary. He states that "true" bulimia nervosa can only be diagnosed where there is a previous history of anorexia nervosa in an individual. In such cases, it does seem that the now-bulimic individual may have an "anorexic" attitude to fatness (as found by Ing), but this insistence on a previous history of anorexia nervosa would seem to exclude all but a minority of binge-eaters from the diagnostic category, as also postulated by

Abraham and Beumont, 1982.

6.4.3 DSM-III (1980)

Findings in the present sample population of binge-eaters are also at variance with some of the criteria for bulimia of the American Psychiatric Association's DSM-III (1980).

Firstly, the DSM-III lists anorexia nervosa and bulimia as mutually exclusive diagnoses. However, it seems possible for an individual to fulfil both sets of criteria simultaneously, as in the case of the bingeing (ex) anorexic in the present sample who was binge-eating and fulfilling other diagnostic criteria for both bulimia and anorexia nervosa simultaneously while at an anorexic weight. On this point, it is interesting to note that Feighner et al (1972) include bulimia, here meaning binge-eating, among their criteria for anorexia nervosa.

Other findings of the present investigation which do not concur with DSM-III criteria for the diagnosis of bulimia include the fact that many binge episodes are not discrete episodes lasting less than two hours; in fact a majority of individuals report that they more frequently experience longer-lasting episodes of binge-eating than they do discrete episodes.

Furthermore, while the majority of individuals do describe bingeing on food which is high-caloric and easily ingested, it is also clear that the food eaten in a binge is sometimes

determined by what is available, which may not include food of this nature, or may deliberately include things such as fruit or vegetables in large quantities.

Finally, not all binges seem to be inconspicuous. While secretive eating is clearly preferred by those students interviewed, several of them indicate that they on occasion continue eating in excess in front of others, either through being surprised while bingeing alone, or through the continuation of a binge into a public place such as the dining hall or canteen. Reference was also made by some students to joint bingeing episodes - a point which will be discussed further shortly.

The present study does, however, confirm that many binges are terminated by abdominal pain or sleep (not by social interruption); bulimics make repeated attempts to lose weight by restrictive diets, self-induced vomiting or laxative abuse; they show frequent weight fluctuations greater than ten pounds; are aware of the abnormality of their eating pattern; and frequently evidence depressed mood and self-deprecating thoughts following binges, all of which are listed as DSM-III criteria for bulimia.

This study also confirms the point made by Fairburn (1984): that "the word binge is widely used, yet it is devoid of any specific meaning " (1984, p 239). The definition of a binge is subjective, and varies from person to person, and also appears to vary even for individuals. The

amount of food described as a binge by some students is not regarded as such by other students who are seemingly accustomed to eating far greater quantities of food in a binge; and a second interesting point is that some students describe sometimes feeling as if they have binged after eating no more than one chocolate bar or one piece of cake, particularly if they have been restricting themselves prior to this. At other times these same students would feel as if they were bingeing only if eating vast quantities of food.

It thus seems difficult to meaningfully objectify or quantify exactly what constitutes a binge. Perhaps for research purposes it may be useful to know the definition of bingeing used by respective investigators, to enable comparative analysis of data across studies : a minimum calorie intake per binge-episode, for example, or a minimum frequency per week or month. However, it would seem that for clinical purposes the imposition of an objective criterion for bingeing would possibly exclude some individuals who, for example, eat less food per binge but still subjectively regard themselves as bingeing, and who experience significant distress at their inability to control their eating. Thus it seems that perhaps the most important clinical factor in the identification of a binge is the subjective experience of the individual concerned, rather than the quantity of food eaten in the particular eating episode, or the quantity of food eaten

compared with amounts eaten by other bingers.

6.4.4 Comment

The qualitative data gathered in the present study would seem to support the view that binge-eating is not yet fully understood as a phenomenon (Wardle and Beinart, 1981; Abraham and Beumont, 1982). It is also suggested that further research is necessary before a syndrome of bulimia can be clearly delineated, as there is no evidence that bulimia can be convincingly differentiated from anorexia nervosa nor that the two diagnoses are mutually exclusive, given existing diagnostic criteria, and there is also clear evidence that bulimia can occur in conjunction with obesity (Wardle and Beinart, 1982; Lacey, 1984).

6.5 SOCIOCULTURAL ISSUES

The influence of sociocultural factors on the eating habits and dietary patterns of young women in the western world is worthy of a separate thesis in itself. Within the context of the present study, a number of tentative conclusions can be drawn from the data available, although the issue of sociocultural pressures or influences was not specifically investigated.

There is evidence both in the literature (Garner and Garfinkel, 1980; Nylander, 1971; Heunemann, 1966; Worsley, 1981) and in the present study, that teenagers and young women attach great importance to slimness and dieting, and

that there exists a pressure on young women to be thin. It seems quite plausible that socio-cultural pressures lead many women to overvalue weight and physical appearance, and consequently dieting may be seen as a response to what is currently viewed as desirable, and a way of achieving success. It seems that the issue of weight control is closely linked to many women's view of themselves, as dieting, or being thin, is a way of exerting control or gaining success and desirability. However, it is also apparent that long periods of dietary restraint can lead to the establishment of a binge /starve/ binge cycle which trap the individuals into a vicious circle of guilt, insecurity and lowered self-esteem.

Possible evidence for this sociocultural ideal for thinness can be found in the data obtained in the present survey concerning the "ideal" weight reported by students. The mean "ideal" weight was virtually the same as the mean lowest weights achieved by the students in the sample, and was 10% below the MPMW. Furthermore, only 14% of the sample regarded themselves as being at their "ideal" weight, and the mean weight of these individuals was 87.5% MPMW - seemingly confirming that women seeing themselves as being an "ideal" weight are in fact objectively underweight compared to the general population norms. This fact, plus the finding that over one-third of the student sample reported being preoccupied with a desire to be thin provides strong support for the suggestion that the cultural ideal

is to be thin.

Hsu (1982) concludes that a disturbance in body image is not exclusive to anorexia nervosa, citing evidence from various studies which show that up to 50% of normal controls overestimate body width, with many normals overestimating at least as much as anorexics, and many anorexics not overestimating their size.

It seems possible to speculate on the basis of this evidence, and that concerning the apparent cultural ideal to be thin, discussed above, that women judge their own body size in terms of a cultural "ideal" size - the latter possibly determined by the size or thinness of high-profile, seemingly successful, and very attractive female role-models : fashion models, actresses, and beauty contest entrants. In the same way as many women who are in fact objectively underweight when compared to the general population norms, see themselves as being heavier than "ideal", so it would seem possible that many women will overestimate their actual size because they feel larger than the culturally-determined "ideal" size.

The present study indicates that exercise is a commonly reported weight-control measure among the sample population, and it is possible that this too has a sociocultural component. One might have expected that the currently popular emphasis on fitness would have been associated with a decrease in the pressures on women to be thin (i.e. being

thin is not necessarily healthy or a sign of fitness) but this does not appear to have happened. Rather, the cultural emphasis on fitness seems to have augmented the expectation of thinness, with exercise providing a culturally-approved-of way to attain the culturally determined ideal weight!

Another factor possibly involved here is that "over-concern with fitness slots well into the general pre-occupation of an image-conscious person" (Swartz, 1983, p 480); this being so, it is then not surprising that a cultural emphasis on fitness becomes incorporated into the individual's perceived "ideal" state for herself, and she will exercise to get fit as well as lose weight - fulfilling two culturally-based goals, and measures of success, at once.

Further evidence of the influence of sociocultural factors in the development of particular eating patterns is provided by several of the students interviewed in the present study. From early teenage years there was a reported pressure to be thin, to "look good for the boys", or to look attractive in fashion clothes. This pressure apparently remains amongst the present university-age population where there is still an emphasis on being thin in order to attract men or look attractive in a bathing costume. As has already been outlined elsewhere in this thesis, excessive dieting in order to conform to the social ideal can lead eventually to the establishment of

the binge/starve cycle.

However, another factor also appears to be of some influence in this regard : pure peer pressure to conform with what one student termed the "in-thing" of the moment in order to gain acceptance. Bingeing and vomiting or abusing laxatives, in conjunction with restrictive dieting, are reportedly behaviours often regarded as being fashionable amongst the female adolescent population, and in this way a pattern of bulimic symptomatology may be set up for reasons none other than a need to conform with the socially accepted behaviour.

There are indications, too, that joint bingeing may be more common than the literature reports. Planned joint binges are reported by two students interviewed, who indicated that they frequently preferred to binge with another rather than alone, and there is also evidence of other students interviewed receiving encouragement in their bingeing behaviour from similarly bingeing siblings or friends.

These factors could be seen as providing an alternative explanation for at least some binge-eating behaviour. This appears to be another area worthy of further research, for if it is established that many bingers are engaged in bingeing for reasons relating to peer group pressure, and mutual encouragement of this behaviour exists (not concurring with the commonly-held assumption that most binges are secret affairs), then one would have a speculative

argument that bingeing is often a culturally encouraged or condoned behaviour rather than an indication of severe underlying pathology, which is the light in which it is frequently seen at present.

The area of sociocultural influences on women's dietary habits and eating patterns clearly deserves further analytical attention from researchers, with the present study confirming that there do appear to be cultural pressures on women to conform to a particular ideal size and weight, and to particular eating behaviours.

6.6 SUMMARY.

This thesis has presented a broad overview of the literature on anorexia nervosa and bulimia, and a more detailed examination of the studies pertaining to the prevalence of eating disorders and subclinical eating problems. The results of a survey undertaken on a female student population at the University of Cape Town were presented, which indicate that the prevalence of "disturbed eating attitudes" as measured by the EAT (Garner and Garfinkel, 1979) are of the same order in this population as that established in other western countries amongst similar populations.

The results indicate that a sizeable percentage (more than 10%) of young adult women evidence heightened concern over body and weight-related issues, and many of these women appear to show objectively disturbed eating patterns

some of which are of clinical severity and would meet diagnostic criteria for DSM-III diagnoses of anorexia nervosa or bulimia.

It is suggested that irrespective of whether or not these individually experienced eating attitudes and dietary habits are considered as psychiatric syndromes or clinical entities, they are clearly experienced by many of these individuals as being subjectively problematic.

While recognising that many psychological, social and biological factors may contribute to the development of disturbed or abnormal eating patterns, it is felt that this thesis further substantiates the growing evidence of serious eating problems and possible health hazards facing many young adult women in western countries.

There is a complex relationship between the prevalence of disorder and the need for community services (Wing et al, 1981), an issue which it is beyond the scope of this thesis to discuss. While recognising that a high prevalence of disease or disorder does not necessarily mean that there is a need to extend the current services, it is suggested that future research might investigate this issue with respect to eating problems. In view of the high prevalence of these problems, it is to be hoped that the possibility and viability of introducing educative or preventative measures amongst the population at risk, seemingly young adolescent females, will be carefully investigated.

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APPENDICES

APPENDIX I

THE EATING ATTITUDES TEST

PLEASE PLACE AN (X) UNDER THE COLUMN WHICH APPLIES BEST TO EACH OF THE NUMBERED STATEMENTS. ALL OF THE RESULTS WILL BE STRICTLY CONFIDENTIAL. MOST OF THE QUESTIONS DIRECTLY RELATE TO FOOD OR EATING, ALTHOUGH OTHER TYPES OF QUESTIONS HAVE BEEN INCLUDED. PLEASE ANSWER EACH QUESTION CAREFULLY. THANK YOU.

Always	Very Often	Often	Some-times	Rarely	Never		
( )	( )	( )	( )	( )	(X)	1.	Like eating with other people
(X)	( )	( )	( )	( )	( )	2.	Prepare foods for others but do not eat what I cook
(X)	( )	( )	( )	( )	( )	3.	Become anxious prior to eating.
(X)	( )	( )	( )	( )	( )	4.	Am terrified about being overweight
(X)	( )	( )	( )	( )	( )	5.	Avoid eating when I am hungry
(X)	( )	( )	( )	( )	( )	6.	Find myself preoccupied with food
(X)	( )	( )	( )	( )	( )	7.	Have gone on eating binges where I feel that I may not be able to stop
(X)	( )	( )	( )	( )	( )	8.	Cut my food into small pieces
(X)	( )	( )	( )	( )	( )	9.	Aware of the calorie content of foods that I eat
(X)	( )	( )	( )	( )	( )	10.	Particularly avoid foods with a high carbohydrate content (eg. bread, potatoes rice etc.)
(X)	( )	( )	( )	( )	( )	11.	Feel bloated after meals
(X)	( )	( )	( )	( )	( )	12.	Feel that others would prefer it if I ate more
(X)	( )	( )	( )	( )	( )	13.	Vomit after I have eaten
(X)	( )	( )	( )	( )	( )	14.	Feel extremely guilty after eating
(X)	( )	( )	( )	( )	( )	15.	Am preoccupied with a desire to be thinner
(X)	( )	( )	( )	( )	( )	16.	Exercise strenuously to burn off calories.
(X)	( )	( )	( )	( )	( )	17.	Weigh myself several times a day
( )	( )	( )	( )	( )	(X)	18.	Like my clothes to fit tightly

Always	Very Often	Often	Sometimes	Rarely	Never		
( )	( )	( )	( )	( )	(X)	19.	Enjoy eating meat
(X)	( )	( )	( )	( )	( )	20.	Wake up early in the morning
(X)	( )	( )	( )	( )	( )	21.	Eat the same food day after day
(X)	( )	( )	( )	( )	( )	22.	Think about burning up calories when I exercise
( )	( )	( )	( )	( )	(X)	23.	Have regular menstrual periods
(X)	( )	( )	( )	( )	( )	24.	Other people think that I am too thin
(X)	( )	( )	( )	( )	( )	25.	Am preoccupied with the thought of having fat on my body
(X)	( )	( )	( )	( )	( )	26.	Take longer than other to eat my meals
( )	( )	( )	( )	( )	(X)	27.	Enjoy eating at restaurants
(X)	( )	( )	( )	( )	( )	28.	Take laxatives
(X)	( )	( )	( )	( )	( )	29.	Avoid foods with sugar in them
(X)	( )	( )	( )	( )	( )	30.	Eat diet foods
(X)	( )	( )	( )	( )	( )	31.	Feel that food controls my life
(X)	( )	( )	( )	( )	( )	32.	Display self control around food
(X)	( )	( )	( )	( )	( )	33.	Feel that others pressure me to eat
(X)	( )	( )	( )	( )	( )	34.	Give too much time and thought to food
(X)	( )	( )	( )	( )	( )	35.	Suffer from constipation
(X)	( )	( )	( )	( )	( )	36.	Feel uncomfortable after eating sweets
(X)	( )	( )	( )	( )	( )	37.	Engage in dieting behaviour
(X)	( )	( )	( )	( )	( )	38.	Like my stomach to be empty
( )	( )	( )	( )	( )	(X)	39.	Enjoy trying new rich foods
(X)	( )	( )	( )	( )	( )	40.	Have the impulse to vomit after meals

NOTE: The X represents the most "symptomatic" response and would receive a score of three points.

(Garner and Garfinkel, 1979)

APPENDIX Ib

SUPPLEMENTARY QUESTIONNAIRE TO EATING ATTITUDES TEST

Please answer the following questions; information will remain strictly confidential.

1. Age
2. Academic year
3. Major subjects
4. Number of years in residence
5. Were you a boarder whilst at high school?
6. Present height (approximately)
7. Present weight (approximately)
8. What do you regard as your own ideal weight?
9. Highest weight ever
10. Lowest weight ever
11. Are you presently trying to lose weight?
12. Do you think you have an eating problem?
13. If yes to (12) above, what kind of problem?
14. What do you think caused this problem?

If prepared to be interviewed for possible follow-up study, please give name and room number.

APPENDIX II

SEMI-STRUCTURED INTERVIEW FORMAT

I DIAGNOSTIC CRITERIA

A. ANOREXIA NERVOSA

1. Do you have a real fear of becoming obese?
   If so, does this fear diminish as you lose weight?
2. Do you feel fat even when other people tell you that you are very thin?
3. Weight loss (in kgs) from original stable weight.
4. Do you find it difficult to keep your weight at or above X kgs?
   If so, why?
5. Do you have any physical illness?

B. BULIMIA

1. Do you ever binge-eat?
   How frequently?
2. What kind of food do you usually eat during a binge?
3. Do you generally binge secretly?
4. Do your binges end due to abdominal pain, an interruption by someone, going to sleep, making yourself vomit?
5. Do you make frequent attempts to lose weight through strict dieting, making yourself vomit, using laxatives or diuretics?
6. Does your weight fluctuate a lot due to your pattern of eating - bingeing and fasting?
7. Do you feel that your eating pattern is abnormal?
8. Do you ever feel that you won't be able to stop yourself eating?
9. Do you feel depressed or bad about yourself after bingeing?
10. Do you suffer from any physical illness?

II QUALITATIVE INFORMATION

A. GENERAL

1. Age at which eating problems started.
2. Detailed account of progression of symptoms/dietary patterns.
3. Extent of weight fluctuations, if any, before eating problems.
4. Initial stable body weight before first episode of dieting/bingeing.
5. Weight fluctuations since eating problems began.
6. Menstrual history, before and after eating problems.
7. Contraception.

B. BINGEING

1. What represents a binge? Describe food eaten in a binge.
2. Do you eat roughly the same kind and quantity of food each time you binge?
3. How long does a binge last?
4. How often do you binge?
5. Do you always binge alone?
6. Do you always plan binges in advance?
7. Do binges ever "develop" during the course of eating normally?
8. Favourite foods for bingeing?
9. When bingeing, is food eaten quickly or at normal speed?
10. Is the taste of food appreciated when bingeing?
11. Do you smoke and/or drink during binges?
12. Do you ever suffer unpleasant physical side effects while bingeing?
13. Are there particular events or feelings that precipitate binges?
14. Does hunger ever precipitate bingeing?
15. Do you ever try and resist the urge to binge?
16. What happens if someone interrupts you while you are bingeing?
17. What does make you stop any particular binge?

C. PURGING

1. Do you use laxatives or diuretics?
2. How often and how many?
3. Do you ever make yourself vomit?
4. How do you do it?
5. How often? (eg. only after binges; during binges; at other times)
6. How long do vomiting episodes last?

D. MOOD STATES

1. Is there a common mood state preceding all/most binges?
2. Is this mood state altered by bingeing?
3. Does purging alter your mood?
4. Do you ever feel suicidal?

E. LEARNED BEHAVIOUR?

1. What led to your particular eating/dieting patterns?
2. Did your eating problems originate with attempts to control your weight?

F. TREATMENT

1. Does your family know about your eating problem?
2. Details of previous treatment, if any, for eating problem.
3. If not presently undergoing treatment, would you like help now?

APPENDIX III

COMPARISON OF SAMPLE POPULATION WITH TOTAL RESIDENCE POPULATION, BY AGE AND ACADEMIC YEAR

RESIDENCE POPULATION		SAMPLE POPULATION	SAMPLE POPULATION AS % OF RESIDENCE POPULATION
1ST YEAR STUDENTS	110	69	62
2ND YEAR STUDENTS	55	33	60
3RD YEAR STUDENTS	35	21	60
TOTAL	200	123	61,5
MEAN AGE (YRS)	18,75	18,63	

COMMENT: Above data indicates the sample population to be adequately representative of the total residence population in terms of mean age and academic year.