The Role of Attribution in Weight Anxiety and Eating Disorders in Women

by

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Acknowledgements

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Abstract

This thesis examines weight anxiety and eating disorders amongst women from an attributional perspective. The studies comprise two distinct but interrelated components: investigations of the role of attribution in the development and maintenance of weight anxiety and eating disorders; and analyses of two screening instruments for eating disorders. The study presented in Chapter 2 examines whether, amongst women without an eating disorder, attributions can be extracted in a factor-analytic manner to form relevant stereotypes associated with 'fat' or 'thin' women. The results confirm that clear weight-related factors can be extracted, and these resemble common stereotypes of fatness and thinness. In Chapters 3 and 4 the attributions of both eating disordered and non-eating disordered women were examined. Four groups have been examined: the Anorexic group; the Bulimic group; the Over-Eater group; and the Non-Eating Disordered group.

It is proposed that the attributions of eating disordered women and non-eating disordered women will differ; that the various eating disordered groups will also differ in their attributions; and that attributions will differentially contribute to the development and maintenance of different weight anxieties and eating disorders. The results confirm these propositions: this thesis shows that there are attributional differences between the women with and without eating disorders; that there are differences in the attributions of the Bulimic, Anorexic and Over-Eater groups; and that there is evidence to suggest that attributions contribute differentially to the development and maintenance of weight anxiety and eating disorders.

The internal validity of the subscale structure of the Eating Disorder Inventory (EDI) (Garner, Olmsted and Polivy, 1983) is examined in Chapters 5 and 6, and Chapter 6

analyses the structure of another assessment instrument, the SCANS (Slade and Dewey, 1986). The results confirm the doubts raised about the validity of the subscale structure of the EDI: no clear support for the subscale structure put forward by Garner et al. has been found, and the factor analyses indicate that no single factor structure can be replicated. The factor analysis of the SCANS, presented in Chapter 6, suggests that the subscale structure of this measure is also not well replicated. It is argued that the subscales of both instruments should be used only with caution.

Chapter 5 also examines weight anxiety in older women. This study has shown that older women also are anxious about their weight and that their weight anxiety takes a similar form to those of younger women; for this group of women lifestyle might be an influential factor in their weight anxiety.

Chapter 7 discusses all the issues raised in the earlier chapters in relationship to the literature. Finally, the findings of this thesis are discussed, models of the role of attributions are outlined and directions for future research are discussed.

Chapter 1

Introduction: Weight Anxiety, Eating Disorders, Attribution and Assessment

1.1 Overview

In the last two decades the prevalence and incidence of eating disorders, particularly in women, appears to have increased substantially (Szmukler, McCance, McCrone, and Hunter, 1986; Willi and Grossman, 1983). Accompanying this increase has been an expansion of research interest not only in eating disorders per se but also in weight anxiety more generally (Nasser, 1988; Rodin, Silberstein, and Striegel-Moore, 1984; Seim and Fiola, 1990; Wadden, Brown, Foster, and Linowitz, 1991; Wardle and Marsland, 1990). The resulting studies have examined, broadly, two perspectives: the first, factors that contribute to weight anxiety and eating disorders; the second, the development of effective treatments and therapies. A number of components have been identified as causative of eating disorders including cultural, social, physiological and personality factors (Donohoe, 1984; Garner and Garfinkel, 1980; Nasser, 1988; Smart, Beumont, and George, 1976). Similarly a number of treatments and therapies have been developed including drug therapy, behavioural therapy, group therapy and, most recently, cognitive behavioural therapy (Bennett, 1988; Cooper, Cooper, and Hill, 1989; Cooper and Fairburn, 1984; Herzog, 1984; Stuber and Strober, 1987). The last of these therapies was developed from research into other psychological disorders, but little research, not related to therapy, has been conducted into the influence of cognition on the development of eating disorders. In part, this is because of the difficulties in accessing the cognitive processes of eating disordered people.

This thesis reports an investigation of the role of cognition and its interrelationship with social factors in weight anxiety and the development of eating disorders, and takes the study of attribution as its theoretical base. In essence, attribution theory addresses the question 'how or why ordinary people explain events' (Hewstone, 1983a, p. 2). Since much of attribution research concerns the role of appearance in judgements about personality, traits and interpretations of behaviour (Bordieri, Sotolongo, and Wilson, 1983; Chiodo, Stanley, and Harvey, 1984; Decker, 1987; Eiser, 1983; Hiller, 1981; Jones and Davis, 1965; Kenrick and Stringfield, 1980; Kumar, 1987; Wilson, Crocker, Brown, Johnson, Liotta, and Konat, 1985), it is clear that an attribution based approach to the study of weight anxiety and eating disorders could be advantageous. If the attributions associated with weight and appearance can be accessed then there is the potential to better understand the components which may contribute to weight anxiety. Further, a study of attribution may lead to explanations of the differential reactions to that anxiety.

The second component of this thesis concerns the assessment of weight anxiety and eating disorders. The most broad-based screening instrument is the Eating Disorder Inventory (EDI) which claims to measure both clinical and non-clinical weight anxiety and both anorexic and bulimic symptoms (Garner, Olmsted, and Polivy, 1983b). However, it will be shown that there are a number of reservations concerning this instrument. As a result, the instrument itself has become an area of research investigation. In particular, reservations were held about its internal structure, and these have been studied as part of this thesis.

Eating disorders in particular, and weight anxiety in general, is predominantly a women's issue. Although both weight anxiety and eating disorders are also found in men, it is

much less prevalent (Fichter, Daser, and Postpischil, 1985; Kulig and Siqueira, 1983; Pope, Hudson, and Jonas, 1986; Rand, 1989; Robinson and Holden, 1986). There is clear evidence, too, that the nature of men's weight anxiety and eating disorders differs from women's (Enns, Drewnowski, and Grinker, 1987; Gaccaly and Borges, 1979; Seim and Fiola, 1990). For example, there is a greater emphasis on physical fitness and on muscle composition in the weight anxiety of men (Huenemann, Shapiro, Hampton, and Mitchell, 1966). Also, the implications of overweight in men are of a different complexion, being an overweight man does not seem to attract the same criticism and social pressure that it does for a woman (McLean and Moon, 1980). The thesis, therefore, will concern women's weight anxiety and eating disorders only.

This introductory chapter presents the literature and theory upon which this work is based. Section 1.2 reviews the literature.

Section 1.2.1 examines studies of non-clinical weight anxiety, where possible emphasising the associated cognitive and attributional factors

Section 1.2.2 presents studies of eating disorders, again highlighting cognitive and attributional factors. The literature on anorexia, bulimia and over-eating is examined.

Section 1.2.3 reviews research into attribution. Specific attention is given to studies of the role of social influence in determining personal beliefs about weight and appearance.

Section 1.2.4 examines the assessment literature and, in particular, studies of the EDI (Garner, Olmsted and Polivy, 1983) since this was the assessment instrument chosen both for measuring weight anxiety and for analysis.

Section 1.3 presents the rationale for the thesis and the propositions addressed in it.

Section 1.3.1 examines the rationale and aims of the study in general terms. The rationale for the attributional studies is discussed, and a more detailed argument for its relevance presented. Similarly, the rationale for the critiques of the EDI is also presented.

Section 1.3.2 details the specific propositions addressed in this thesis.

Section 1.4 summarises the literature, rationale and propositions.

1.2 Literature Reviews

1.2.1 Non-Clinical Weight Anxiety

Weight anxiety amongst adolescents and young women is common. Prevalence rates for self-reported fatness have ranged from 56% of twelfth grade girls to 81% of girls attending a private US preparatory school (Greenfield, Quinlan, Harding, Glass, and Bliss, 1987; Huenemann et al., 1966). Indeed, some studies have suggested that the prevalence of binge eating amongst adolescents in the U.S.A. is as high as 43% (Halmi, 1981). Research has also shown that weight anxiety and eating disorder symptomatology is common (Berg, 1988; Carter and Moss, 1984; Healy, Conroy, and Walsh, 1985; Hendron, Barber, and Sigafoos, 1986; Mann, Wakeling, Wood, Monck, Dobbs, and Szmukler, 1983; Schleimer, 1983; Thelen, Mann, Pruitt, and Smith, 1987; Wadden et al., 1991; Williams, Schaier, Shisslak, Gronwaldt, and Comerci, 1986), and is even to be found amongst girls as young as 9 years old (Hill, Oliver, and Rogers, 1992; Hill and Robinson, 1991).

Studies of women have also identified high levels of weight anxiety, and in particular, a fear of fatness. For example, Seim and Fiola (1990) found that 59% of American GP attenders were dissatisfied with their weight and similar findings have been found in the U.K. (Cooper and Fairburn, 1983; Cooper, Waterman, and Fairburn, 1984; Fairburn and Cooper, 1982). A number of factors have been associated with weight anxiety, including social pressures, low self-esteem, perfectionism, and levels of affect (Eldredge, Wilson, and Whaley, 1990; Mintz and Betz, 1986; Striegel-Moore, McAvay, and Rodin, 1986). In addition, Cash, Counts and Huffine (1990) found that the effects of having once been overweight remain influential long after normal weight has been achieved.

In a review Rodin, Silberstein and Striegel-Moore (1984) examined the discontent about weight shown by most women. They discussed cultural attitudes, biological aspects of weight regulation and the meaning of weight for women. They concluded that many factors need to be accounted for and that it was important to focus greater attention on women's feelings about weight and appearance. This would help to elucidate the determinants and consequences of what 'is a profound and almost universal experience among women in contemporary Western societies' (p. 297).

1.2.2 Eating Disorders

Anorexia

Although anorexia nervosa was first reported by Gull in 1873, only recently has an

increased prevalence been reported (Willi and Grossman, 1983). Rates have been reported

between 1.8/1000 and 4.6/1000 (Crisp, Palmer, and Kalucy, 1976; Whitehouse and

Button, 1988; Whitehouse, Cooper, Vize, Hill, and Vogel, 1992). Incidence rates have

varied from 1.12 to 3.17 per 100,000, and age-sex-specific rates from 16.76 to 50 per

100,000 (Szmukler et al., 1986; Willi and Grossman, 1983).

The most commonly used diagnostic criteria is the DSM III-R (1987). The criteria are:

1. refusal to maintain body weight over a minimal normal weight for age and height

    (15% below that expected);

2. intense fear of gaining weight or becoming fat;

3. disturbance in the way in which body weight, size or shape is experienced;

4. in females, absence of at least three consecutive menstrual cycles when otherwise

    expected to occur.

A number of factors have been identified which may predispose women to anorexia. Hsu

(1983) identified six aetiological theories: socio-cultural; family pathology; individual

psychodynamic; developmental psychobiological; primary hypothalamic dysfunction; and

affective disorder. Other researchers have discussed the multi-factorial nature of anorexia

(Garfinkel and Garner, 1982; Sheppy, Friesen, and Flakstian, 1988; Slade, 1982). Studies

have examined both the socio-cultural pressure for thinness (Garner and Garfinkel, 1980;

Garner, Garfinkel, and Olmsted, 1983; Garner, Garfinkel, Schwartz, and Thompson,

1980; Lawrence, 1984; Toro, Cervera, and Perez, 1988) and the role of social class (Crisp

et al., 1976; Gowers and McMahon, 1989; Leighton and Millar, 1985). Other factors include personality and self-esteem (Huon and Brown, 1984; Smart et al., 1976; Strober, 1980; Strober, 1981) and life events (Margo, 1985; Strober, 1984).

Another factor which has been suggested as contributing to the development of eating disorders is cognition. This has been seen most widely in the development of therapeutic interventions (e.g. Cooper and Fairburn, 1984; Garner, 1982), though few researchers have examined the relevance of cognition to the development of eating disorders. Both attribution theory and personal construct theory provide useful insights derived from the premise that people are 'lay scientists'. Bell, Kirkpatrick and Rinn (1986) examined the attributions of obese, anorexic and normal women with respect to obese, thin and normal shaped silhouettes. They found that the normal shape was consistently rated more positively than either the obese or the thin body shape. There has been much research using personal construct theory (Button, 1983; Button, 1985; Button, 1987; Crisp and Fransella, 1972; Fransella and Button, 1983; Fransella and Crisp, 1979; Mottram, 1985). In one of the earliest studies of this nature Fransella and Crisp (1979) found that the construct systems of anorexics were very different from those of normal or neurotic subjects. Button (1983) argued that the anorexics' resistance to weight gain might be partially understood in terms of *personally* meaningful constructs associated with *normal weight*. These examples serve to illustrate the importance of attributions and personal constructs in the development and maintenance of anorexia.

Bulimia

Bulimia, is a disorder with powerful and intractable urges to eat, a use of vomiting and/or purging and a morbid fear of fatness (Russell, 1979). The criteria of DSM III-R (1987) are more specific:

1. recurrent episodes of binge eating;

2. a feeling of lack of control over eating behaviour during the eating binges;

3. regularly engaging in either self-induced vomiting, use of laxatives or diuretics, strict dieting or fasting, or rigorous exercise in order to prevent weight gain;

4. a minimum average of two binge eating episodes a week for at least three months;

5. persistent over-concern with body shape and weight.

Abraham and Beumont (1982) found that several factors were universal in the way women with bulimia described their condition: the disorder was associated with attempts to lose weight; binge eating was distinct from overeating, and was resisted; the amount of food eaten during a binge was seen as both nutritionally and socially excessive; finally, dysphoric mood states were often relieved by a binge.

Most researchers in the clinical field consider that cognitions have an important role to play in the development of bulimia. Many researchers argue that in bulimia there are faulty cognitions which contribute to the maintenance of this disordered behaviour (Brouwers, 1988; Fairburn, 1983; Fairburn, Cooper, Kirk, and O'Connor, 1985; Powers, Schulman, Gleghorn, and Prange, 1987; Ruderman, 1986; Schulman, Kinder, Powers, Prange, and Gleghorn, 1986). Powers, Schulman, Gleghorn and Prange (1987), for example, demonstrate the close relationship between body image (in terms of social expectations and distortions), preoccupation with food (a feature prevalent in Western society at present) and behaviour, and examine the way these features interact to develop the cognitions associated with bulimia.

Williams, Spencer and Edelmann (1987) suggest that the locus of control is external in women with bulimia, which may explain their hopelessness. Personal ineffectiveness

(especially social), dependence and self-esteem are all relevant factors (Dyckens and Gerrard, 1986; Kog and Vandereycken, 1985; Wagner, Halmi, and Maguire, 1987).

Other work has suggested that the cognitive functioning of bulimic women is characterised by features such as perfectionism, depressed mood and impulsivity (Ruderman, 1986; Thompson, Berg, and Shatford, 1987; Toner, Garfinkel, and Garner, 1987a).

Although most researchers would agree that cognitions are relevant to the development and maintenance of bulimia, there have been few empirical studies which have examined these questions.

Over-Eating

There is little research which has examined over-eating as an eating disorder, except in the context of the binge eating with associated purging that is found in bulimia. There is, in contrast, a wealth of research interest which examines obesity. However, most of this research examines weight loss strategies and starts from the outset by suggesting that weight loss is desirable. Since the current work is not concerned with weight loss strategies but with the reasons for, and attributions associated with, over-eating, this review will be brief.

Rothblum (1990) reviewed the myths associated with women's concern about weight. She argues that the obsession with body weight in a historical context is a fad and both physically and psychologically distressing for many people in Western society, most often to women.

Other authors have found that the social skills of obese women are poorer than those of non-obese women, even when the participants in social interaction are unaware of the obesity. This suggests that the opportunities for obese people to acquire good social skills are limited and that these poor social skills, in turn, affect the impressions obese people make on others (Miller, Rothblum, Barbour, Brand, and Felicio, 1990).

The role of attributions in obesity has been studied from two perspectives. The first examines the attributions made about fat people by others, and the second studies the attributions made by fat people themselves. Harris has examined the issue from both perspectives. Harris, Waschull and Walters (1990) examined the motivations, knowledge and attitudes of overweight men and women. They found that subjects were aware of and shared some of the negative social stereotypes associated with obesity. In addition, there was a greater desire for thinness amongst the women than amongst the men. Harris, Harris and Bochner (1982) examined the stereotypes of being 'fat, four-eyed and female' and found that there was a negative stereotype of being overweight which was associated with being less active, attractive, intelligent, hardworking, popular and less successful. In another study, Harris examined whether love was seen as different for the obese. The results indicated that the obese were seen as having lower self-esteem, as less attractive and as less likely to be dating (Harris, 1990). She also found that subjects tended to believe that the obese person's own behaviour was the cause of obesity and that subjects expressed a strong antipathy to being obese themselves (Harris and Hopwood, 1983). Hiller (1981) found that there was some evidence that an overweight body image was associated with negative personality attributes and negative experiences and that this was more marked in female than male subjects. DeJong (1980) found that the extent to which an obese person was put down depended on the extent to which they could be held responsible for their appearance. Wadden and Stunkard (1987) argued that the emotional

difficulties faced by the obese were 'largely attributable to an entrenched cultural contempt for the obese and a pervasive preoccupation with thinness' (p. 55) .

1.2.3 Attribution

This thesis argues that weight concern may usefully be examined within the social cognitive framework provided by attribution theory - more specifically, the way social influences determine personal beliefs about weight and body image and the manner in which those personal beliefs affect behaviour (Heider, 1944; Heider, 1958; Hewstone, 1983b; Hewstone, 1989; Shaver, 1975).

Particularly relevant attributions are those associated with physical appearance, self-esteem, social acceptance and success, with liking and familiarity and with opposite-sex attraction (see: Bennett, 1991). All of these factors are related in varying degrees to concern about weight.

Cunningham (1986) conducted two quasi-experiments to investigate female facial beauty. Several features were positively correlated with attractiveness - large eyes, small nose and chin (all neonate features). In addition narrow, prominent cheekbones, high eyebrows, large pupils and big smile were also found attractive (maturity features). He found that these features predicted personality attributions, altruism, and reproductive interest. The personality attributions which were related positively to facial beauty were brightness, sociability and assertiveness.

McArthur (1982) demonstrated that those who believed themselves to be physically distinctive made more self-attributions for negative and neutral social interactions. This

suggests that perceiving oneself as different, for example being overweight, increases the possibility that one will make negative self-attributions. This suggests that self-attribution may have a significant relevance for eating disorder pathology.

Folkes and Marceaux (1984) examined dating and complimenting. Results indicated that complimenting was more likely when attraction was viewed as unstable (having been on a diet) and when the attractiveness was seen as controllable (jogging every day). In contrast, controllability was not seen as a factor in dating and dating was more likely when the attraction was viewed as stable (inherited beauty).

Marks, Miller and Maruyama (1981) investigated the similarity of self-attributions to those attributions given to attractive others. Subjects assumed greater similarity existed between themselves and attractive others than between themselves and unattractive others. This may help to explain why people feel so much pressure to be attractive.

Wilson, Crocker, Brown, Johnson, Liotta and Konat (1985) examined attributions made about the attractive female executive by colleagues. Results suggested that although the highly attractive female executive was seen as more socially skilled, she was not thought to be as competent as her moderately attractive counterpart. These are interesting results, since they provide a dilemma for career-minded women. On the one hand society tells them that they must make the most of themselves, and yet, if they do they will be seen as less competent in their jobs than others who are less attractive. As with other concerns about women's psychological health, it is possible that multi-roles and confusion about roles may be in part responsible for weight anxiety and disordered eating (see also: Jasper and Klassen, 1990; Cann, 1991; Decker, 1987).

Physical attractiveness is also used as a basis for attributions concerning personality. Since physical appearance is what one generally notices first, it is often on the basis of appearance that observers make their first attributions (Albright, Kenny, and Malloy, 1988).

Evidence that trait attributions may be based on physical appearance comes from research carried out by Kleinke and Staneski (1980). They examined the trait attributions for bust size. Women with large busts were regarded as unintelligent, incompetent, immoral and immodest. In contrast small bust sizes were associated with intelligence, competence, modesty and morality. Medium busted women were seen as most likeable. These may seem puzzling findings since Western women have been shown to desire larger busts. The results indicated that although women wanted larger busts, their ideal busts were smaller than the large busts used in the study. Bassili (1981) also demonstrated that attributions concerning personality were made on the basis of physical appearance. He examined the stereotype of 'beautiful is good'. He found that impressions of attractiveness differ on a dimension of glamour, not goodness. This finding fits in well with the eating disorder literature. Eating disorder research has emphasised the role of the media, where glamour is seen to be the key to success, popularity and wealth. Often those who are 'good' are portrayed as plain and unexciting. Once more, women are faced with a dilemma, wanting both to be accepted socially and to be good.

Guy, Rankin and Norvell (1980) found that there was a clear relationship between sex-role stereotyping and body image. They found that the male mesomorph was sex-typed as masculine, whilst the female ectomorph was most clearly typed as feminine.

Ellis, Olson and Zanna (1983) found that even when the subjectivity of attributions was emphasised, subjects still attributed the more favourable traits to the more attractive. This suggests that attractiveness attributions are made unconsciously.

There are some aspects of trait attribution, unrelated to attractiveness, which are relevant. One concerns the spontaneity of trait attributions. In most studies trait attributions are manipulated, i.e. subjects are asked to attribute actions to dispositions. Cohen (1981) found that the observer's stereotypic knowledge influenced their memory of a target person's behaviour, even in a realistic person-perception situation. For example, subjects remembered more accurately features which were consistent with their librarian prototype than those that were not (see also: Winter and Uleman, 1984).

It has been shown that attributions are made concerning both personality and appearance, and that in many cases trait attributions are based on attractiveness. It is not surprising, therefore, to find that attributions can be based on weight, since weight is seen to be an important component of attractiveness. Women are concerned about their weight, in part, because of what others might think. Overweight is associated with negative attributions and causes women much anxiety.

Not only is attribution theory useful in understanding normal weight anxiety, there is also research pertinent to clinical eating disorders. This work includes studies of achievement and illness. Perfectionism and high achievement are recognised characteristics of people with eating disorders. Bruch (1973, 1978) was one of the first to note that anorexia was characterised by perfectionist tendencies, and Garner, Olmsted and Polivy (1983) included a perfectionism subscale in the EDI, which attempts to differentiate normal and eating disordered people. Striegel-Moore, McAvay and Rodin (1986) found

that perfectionism was significantly associated with feeling fat in women. Women who pursue a high standard of excellence try to extend that excellence to their appearance and are therefore likely to feel fat as their standards of slimness will be more demanding. Since perfectionism is thought to be an important aspect of many eating disorders, attention should be given to research that examines attributions for success and failure. Weiner (1979) found that there were specific affects related to particular attributions for success and failure. In addition, locus of control in relation to self-esteem was particularly relevant. Subjects were found to use emotional cues to attribute the causes of failure and success. Russell and McAuley (1986) found that affective reactions were dependent on the types of causal attributions and on causal dimensions, including locus of causality, stability and controllability. An example would be: 'I have just put on five lbs, that is too much' (generating feelings of frustration); 'I have put on weight because I didn't try hard enough' (feelings of guilt); 'I am not good enough to lose weight' (low self-esteem); 'I will never be thin' (feelings of hopelessness). It is possible that attributions for success and failure and the affective reactions associated with them have a role to play in the development and maintenance of eating disorders.

Sigelman and Begley (1987) examined children's attributions of obesity. Children believed that the problem was controllable and made negative attributions concerning an obese child. This illustrates that five year old children are already making negative attributions about obesity.

The attributions associated with major illness may be relevant to eating disorder studies. DuCette and Keane (1984) examined subjects who were undergoing major thoracic surgery and found that 34% of subjects believed that their illness was caused by bad habits, including poor diet. Further it appeared that recovery was poor when subjects failed to

make a causal attribution. The research demonstrated that people do make attributions about their health and that these are important in ensuring better recovery (see also: Blumenfield, 1983).

Attribution may provide a useful theoretical basis from which to examine weight anxiety. The studies described above have illustrated the role attribution plays in personality and behavioural judgements based on appearance. There is strong evidence that attribution plays an important part in the way people see themselves and others.

1.2.4 Assessment of Eating Disorders

An important element in any study of weight anxiety or eating disorders is an assessment of the degree to which that anxiety or disorder is experienced. During the last decade or so several assessment tools have been devised. These are as diverse as: interview schedules (Cooper and Fairburn, 1987; Palmer, Christie, Cordle, Davies, and Kendrick, 1987); and screening inventories (Garner and Garfinkel, 1979; Garner et al., 1983b; Henderson and Freeman, 1987); they may cover assessments of body image disturbance (Cooper, Taylor, Cooper, and Fairburn, 1987; Goldfarb, Dyckens, and Gerrard, 1985); or restraint (Herman and Mack, 1975; vanStrien, Frijters, Bergers, and Defares, 1986). They may be instruments for the assessment of: bulimia (Henderson and Freeman, 1987; Phelan, 1987; Schulman et al., 1986; Smith and Thelan, 1984); anorexia (Garner and Garfinkel, 1979); or eating disorders in general (Coker and Roger, 1990; Garner et al., 1983b; Slade and Dewey, 1986). All these instruments vary with respect to their psychometric properties and their design, but, in general, they have been derived from clinical experience and a priori assumptions rather than from a rigorous selection of items from a broad pool.

The most commonly used instrument to assess both eating disorders and weight anxiety is the EDI (Bailey, Goldberg, Swap, Chomitz, and Houser, 1990; Cole and Edelmann, 1987; Garner, Olmsted, Polivy, and Garfinkel, 1984; Williams et al., 1986). The EDI is a screening tool with 64 items scored on a 6-point Likert-type scale from 'always' to 'never'. Three is scored at the anorexic extreme for each question, two and one being scored for 'adjacent' responses. There is a recognised cut-off score of 42 marks, above which subjects are regarded as being susceptible to a clinical diagnosis. The inventory was derived around eight constructs or subscales: drive for thinness; bulimia; body dissatisfaction; perfectionism; ineffectiveness; interpersonal distrust; introceptive awareness; and maturity fears. The authors reported validation on samples of women with anorexia nervosa and a female comparison group. The items in the subscales had coefficients of internal consistency (Cronbach's alpha) above 0.8 for the anorexia nervosa samples, with an average item-total correlation of 0.63. Criterion-related validity was provided both by comparison samples (bulimic, obese, formerly obese and male college students) and by clinical assessment. In addition there is some evidence of construct validity.

Several studies have examined the properties of the EDI. Four broad categories of investigation can be identified: those which examine specificity; those which examine the psychometric properties; those which relate EDI scores to prognosis and follow-up; and those which examine the internal structure. Both Cooper, Cooper and Fairburn (1985) and Hurley, Palmer and Stretch (1990) found that some of the subscales identified by Garner et al. reflected general levels of psychological disturbance and did not distinguish eating disordered patients from other patients with psychological disorders. In particular both papers argued that 'ineffectiveness', 'interpersonal distrust' and 'maturity fears' were not specific to those with an eating disorder. Other studies have examined the relevance of the

inventory to wider populations, for example populations of adolescents and 11-18 year olds (Shore and Porter, 1990; Williams et al., 1986). Gross, Rosen, Leitenberg and Willmuth (1986) suggested that the EDI was not found to have concurrent validity for bulimia subjects. Further studies have examined the EDI in relation to diagnosis and follow-up. For example, Toner, Garfinkel and Garner (1987) have suggested that psychometric assessment of eating disorders yields similar results at follow-up to clinical assessment, whilst Norring (1990) has suggested that only the bulimia subscale has prognostic utility.

The final types of study are those which examine the internal structure of the EDI. Welch et al. (1988) have carried out a factor analysis and found that the most replicable factor pattern is a 3-factor solution. Raciti and Norcross (1987) have extracted eight factors, three of which are similar to the Garner et al. subscales - 'body dissatisfaction', 'perfectionism' and 'ineffectiveness'. Welch, Walkey and Hall (1990) have clearly identified the eight original subscales of the EDI, but in a patient setting.

The assessment of weight anxiety and eating disorders is an important aspect of any study of weight concern. The EDI is a screening instrument which allows for the assessment of non-clinical weight anxiety, anorexia and bulimia and has been used with obese and formerly obese subjects. However, there have been criticisms of the inventory's subscale structure. These need to be taken into account when the EDI is used.

1.3 Rationale and Propositions

1.3.1 Rationale and Aims

Attributions, Weight Anxiety and Eating Disorders

As the earlier reviews demonstrated, much research attention has been directed at isolating

clinical features and factors contributing to the development of weight-related anxiety and

disorder. Biological, social and familial factors, for example, have been implicated.

However, no single factor appears to be dominant and the multi-dimensional nature of

these disorders is well documented (Garfinkel and Garner, 1982; Schlesier-Stropp, 1984;

Sheppy et al., 1988; Wardle and Beinart, 1981). Over the last decade the pressure on

clinicians to develop effective therapies and treatments has increased. Many clinicians

have adapted measures from other conditions, cognitive therapies for example (Bennett,

1988; Cooper and Fairburn, 1984; Fairburn, 1981; Garner, 1986; Garner and Bemis,

1982; Ordman and Kirschenbaum, 1985; Schneider and Agras, 1985). As Garner and

Bemis (1982) point out, few researchers dispute the importance of cognitive factors in

eating disorders, but there have only been a few systematic investigative studies (Ben-

Tovim, Hunter, and Crisp, 1977; Crisp and Fransella, 1972). Therefore, the cognitive

therapies used with people with eating disorders have been based on assumptions taken

from other psychological disorders and on clinical experience. Hollin and Lewis (1988)

suggest that 'the central assumption in cognitive approaches is that dysfunctional

behaviours and emotions derive from distorted thinking, and that these cognitions should

therefore be the primary focus for therapeutic intervention' (p. 108).

Non-therapeutic research has emphasised the social and cultural influences which

contribute to weight anxiety, whilst the therapeutic research has often concerned the role

of cognition in alleviating such anxiety. Therefore, the interaction between social and cognitive factors are of particular importance and interest, both from a theoretical and a clinical perspective. Since we have no direct access to other people's thoughts, it is necessary to consider methods which might permit less direct access. It has already been suggested that a study of weight-related attribution might enable a greater understanding of the interplay between these factors. Certainly, there have been many studies which have examined the role of appearance in the judgements of self and other's behaviour (see: Section 1.2.3). Essentially it is suggested that individuals oversimplify the information they look for and receive, and that these oversimplifications can hold the key to both anxiety and disordered behaviour. Attributional processes may mediate between the social and the cognitive. A study of attribution may lead to a greater understanding of the interaction between the social and the cognitive.

In many instances, the attributions made about weight are often closely related to common cultural stereotypes. The work of Harris and her colleagues is a good example (Harris et al., 1982; Harris et al., 1983; Harris, 1990). She found weight was a particularly influential characteristic in the attribution of both personality and effectiveness. Indeed, she found strong replications amongst subjects (both fat and thin) for the cultural stereotypes of obesity. The strength of these attributions suggests that they may be an important factor in weight anxiety, especially as a mediator between the personal and the cultural.

Most attributional studies have examined the role of appearance in personality and trait judgements and several have studied the salience of overweight in attribution. Whether the attributions in normal and clinical weight anxiety are the same is uncertain, although within the eating disorder literature there is the 'continuum hypothesis' debate. There are

those who believe that eating disorders occur on a continuum (Button and Whitehouse, 1981; Fries, 1974) and others who argue that eating disorders can be divided into full-blown and secondary eating disorders, with some distinguishing predisposition in the latter (Garner, Olmsted, and Garfinkel, 1983a). Both groups agree that social pressures play a part in the development of eating disorders, but the latter argue that they are less relevant in full-blown eating disorders. Those who favour the 'continuum hypothesis' suggest that social pressures mediate the development and maintenance of the disorder.

It is important to be cautious, therefore, and not generalise too strongly from normal weight anxiety to eating disorders. In order to arrive at a clearer understanding of weight-related behaviour it is necessary to examine weight anxiety and eating disorders individually, to ascertain what attributions they share and what attributions distinguish them from each other. Whether one supports or denies the 'continuum hypothesis', it is generally agreed that there are clear differences between non-clinical weight anxiety and anorexia, bulimia and over-eating. The question is why should some women develop eating disorders whilst others do not - particularly, when the social pressures, at least, are the same? Indeed, why do some women over-eat whilst others binge and purge, and yet others diet to starvation? It is possible that, by comparing and contrasting the attributions of these different groups of women, a fuller comprehension of their behaviour may be obtained. It is possible that the internalisation of social beliefs and pressures, in the context of attribution, may lead to individual interpretations and differing behavioural responses to those beliefs and pressures.

To summarise, the underlying theoretical basis for this thesis is adapted from attribution theory. It is proposed that women make interpretations/attributions about weight that are based on both cultural and personal experience. These attributions either directly or

indirectly affect behaviour and can be individually or socially prescribed. By accessing them, one may be able to discover why some women just worry about their weight whilst others develop eating disorders. In addition, it is hoped that, through the study of attributions, one may arrive at a better understanding of why women develop different types of eating disorders, from anorexia through to over-eating.

Theoretical Assumptions Underlying Attribution Theory

In the studies presented in this thesis, it is the assumptions underlying attribution theory, rather than the theory itself which is relevant. The study of attribution enables an examination of the cognitive structures which underlie weight anxiety and eating disorders. To draw attention to this distinction a brief outline of three attribution theories will be given.

Heider (1944, 1958) formalised the ways in which laypeople might try to understand the behaviour of others (and themselves). He held that social perception enabled perceivers to discover underlying dispositions that made the world more predictable and controllable. His theory attempted to explain how observable behaviour was linked to unobservable causes by the layperson. Attributions allowed observers to create organisation out of chaos. Other theorists later developed attribution theory more fully

Jones and Davis (1965) examined, the relation between the observer and the actor, and between the action and the effect. They argued that the observer watches the action, sees the effects and then infers the disposition. They go on to suggest that the observer will make decisions about the disposition in the context of whether the action has positive or negative consequences for themselves. This is called the attributional bias.

Kelley (1967) developed an ANOVA model of attribution. Its three dimensions were consistency, consensus and, distinctiveness. He proposed that an individual explained behaviour by analysing information about the covariation of person (consensus), entity (distinctiveness) and, time (consistency). In cases where there was low distinctiveness, low consensus and high distinctiveness, then an attribution to the disposition of the actor was made. In those situations where information was incomplete, Kelley suggested that attributions were made on the basis of causal schemata. These were beliefs about how certain causes interacted to produce specific effects, for example believing that eating to much was the cause of fatness, when hormonal imbalances might have been factor.

Shaver (1975) argued that attribution was the process by which we made inferences about the social environment. He suggests that the process of attribution is as follows: observers (people) are active perceivers of action and, are searching for regularities underlying the behaviour (dispositions) of the actor. Observers are trying to identify the causes of behaviour to increase their understanding of the social world and to enable them to predict future actions. The attributions that are made, about others and themselves, are part of a complex interaction between the way they behave, perceive others, and the way they behave in the light of prior attributions. Shaver suggests that there are three stages in the process. Firstly, to observe. Secondly, to judge intent. Finally, to make dispositional attributions. In brief, attribution theory attempts to specify processes of the perceiver that are involved in his/her explanation and prediction of behaviour of others (and self). These attributions may be accurate, but are not necessarily so, and will always be influenced by the perceivers own experiences, motivations and dispositions.

Attribution theory in its strictest form is inappropriate for a study of weight concern, instead more adaptable criteria are required. The attributions about weight are rarely logical and often are the result of stereotyping and prejudice. Observers make attributions concerning the causes of actions, whether or not there is a theoretical justification for them to do so. The definition of an action can only be applied loosely and must include 'acts' which may be the basis of physical characteristics, such as being fat or thin. One can be argued that they are active, since some element of choice is involved (people can choose how much they eat).The need for intent must also be interpreted loosely, since people often do not intend to be fat as such, but are so because of the choices they make (they could eat less). One can therefore argue that the observer sees intent, whilst acknowledging that the term must be used with care. It is important to remember that one is looking at what people actually do and that people rarely behave precisely as the theory predicts. In the case of the present work, people rarely consider intent in making cognitive attributions.

The studies presented here take as their premise the concept of people as lay scientists: observing; arriving at hypotheses; testing those hypotheses against experience; and finally re-evaluating their hypotheses. It is suggested that by studying the attributions women make about weight-related issues, it will be possible to access the cognitive structures which underlie their weight-related anxiety and behaviour. So essentially, it is the assumptions which underpin attribution theory rather than attribution theory itself which forms the theoretical framework for this thesis.

Assessment of Weight Anxiety and Eating Disorders

The earlier review of questionnaires demonstrated clearly the significance attached by researchers to assessment. Both clinicians and academics alike are striving to design

assessment measures which balance the diagnostic criteria with the advantages of self-rating (and the opportunity for mass presentation that it provides). In any form of research, but especially in quasi-clinical studies, it is necessary that the population is effectively measured on the variable in question. Since it is rarely possible in clinical research to conduct diagnostic interviews with all subjects, screening instruments and self-report measures are frequently used. When effectively designed, these instruments are a potentially valuable investigative tool.

The first, and most obvious, requirement for rigorous questionnaire design is sound conceptualisation. There must be a clear objective, a specific need and, a clear idea of what it should cover and who it is for. The second requirement is careful construction with respect to both scaling and item writing (for a discussion of scaling see Cohen, Montague, Nathanson and Swerdlik, 1988). The considerations of item writing include:

1. twice as many items should be generated initially as will be eventually included;

2. the authors should be clear about the range of content;

3. Pilot work is essential, and a large number of subjects are recommended for the pilot survey;

4. item analyses are crucial: these may include item-difficulty indices, item-validity, item-reliability and item-discrimination (see: Cohen et al., 1988);

5. it is also important to avoid imposing a precise format too early (see: Hoinville et al., 1980);

6. reliability and validity needs to be established (for a full description see: Cohen et al., 1988; or Nunnally, 1970).

The role of factor-analysis in item selection is of special interest to this research. This is particularly the case when the instrument has a subscale structure. Factor analysis is

carried out to determine the efficacy of the items and to establish whether the subscales are valid. It is important to examine whether, especially in the case of screening instruments, the questionnaire's structure holds for all groups whether anorexic, bulimic, obese or non-eating disordered subjects: i.e. do the items load on the same factors across groups; if not, items must be revised or eliminated. It is important, in a screening instrument, that the structure is similar for both ends of the clinical/non-clinical continuum. Nunnally (1970) has suggested that factor analysis is also important in determining predictive, content and construct validity. The last two are of particular relevance. Factor analysis, in content validity, suggests ways the instrument could be revised. In construct validity, factor analysis is a useful tool for determining the internal statistical structure of a set of variables said to measure a construct, and to determine the statistical cross-structures between one construct and another.

Since eating disorders have recently become more prevalent, much of the current research has been clinically rather than theoretically driven. The development of eating disorder questionnaires is a good example. Many of the instruments have been developed around a priori assumptions about eating disorders based principally on clinical experience. Many of these instruments have been designed to assess particular aspects of eating disorders, e.g. anorexia, restraint, bulimia, and body image disturbance (Cooper et al., 1987; Garner and Garfinkel, 1979; Herman and Mack, 1975; Phelan, 1987). At the time when this study was conceptualised, only one instrument had been designed to assess eating disorders in the broadest sense and to be an appropriate screening instrument for non-clinical populations. This was the EDI (Garner et al., 1983). The earlier review (see: Section 1.2.4) presents a detailed description of the inventory and reviews the literature that it has generated.

The decision to use the EDI was made with reservations but provided an ideal opportunity to examine the instrument in more detail. Since many women would participate in the thesis studies it was possible to examine the subscale structure from a factor-analytic perspective. In particular, it allowed a detailed examination of the subscale structure.

Criticism has focused on both the sample and the a priori subscale structure of the inventory:

Sample:

1. the female comparisons were all undergraduate psychology students whose mean age was 19.9 (this excludes all non-students and all women over the age of about 21!);

2. three items in the scale that did not reach their criterion for internal consistency were included because the authors felt they were clinically important;

3. the pilot studies were conducted with anorexic subjects and female comparisons; bulimic, obese and formally obese subjects were included only later.

A priori Assumptions:

1. Garner et al. (1983) decided that there were eleven constructs which were important to the assessment of eating disorders (eight of which were finally included since only these met the requirements for validity and reliability);

2. the selection was based on clinical experience and on a review of the literature, yet the items were explicitly designed to measure these constructs;

3. although the authors ensured that the items correlated more highly with the subscale to which they were intended to belong than any other subscale, they did not present figures and it is unclear whether these correlations were for both the anorexia and female comparison samples;

4. a factor analysis was not conducted to ensure that the subscales had construct validity;

5. it is explicitly stated that the EDI might lack external validity, in that elevated scale scores among non-clinical subjects cannot be assumed to reflect the same psychopathology inferred from the clinical groups - so the subscale structure may only be relevant to clinical groups. This seems to be a flaw, since such a measure should be appropriate for both clinical and non-clinical groups.

1.3.2 Propositions

There are two components to this thesis: the first, an examination of the relevance of attribution in weight anxiety and eating disorders; the second, an analysis of the subscale structure of the EDI with three different samples. Each of the chapters examines a different aspect of the components.

Chapter 2 addresses the propositions that, amongst women without eating disorders:

1. attributions can be extracted in a factor-analytical manner to form relevant stereotypes associated with 'fat' or 'thin' women;

2. 'thin' factors might centre around drive (e.g. ambition and success), while 'fat' factors might concern the home and family;

3. factors could be extracted for both 'fat' and 'thin', but that there would be differences between them.

Chapter 3 and Chapter 4, using different techniques, propose that:

1. there are differences in the weight-related constructs of women who have a clinically diagnosed eating disorder and women who who do not have an eating disorder.

2. there are differences in the weight related constructs of women diagnosed as anorexic, bulimic and who are over-eaters;

3. if there are differences in constructs between the 4 groups (non-eating disordered, anorexic, bulimic and over-eater), what relevance do the differing constructs have in the development and maintenance of their weight-related behaviour?

Chapter 5 proposes that there are discrepancies between the extracted factor structure and the EDI subscales proposed by Garner et al. (1983) in a sample of women. In addition, Chapter 5 addresses questions which concern weight anxiety in older women:

1. are older women anxious about their weight?

2. if so, is that anxiety a factor either of their cohort, of their age (i.e. post-menopausal), or is it merely the result of more general social pressures?

3. does weight anxiety in older women resemble the weight anxiety of younger women?

4. and finally does the subscale structure of the EDI reflect the nature of older women's weight anxiety?

Finally Chapter 6 addresses propositions concerning assessment instrument design in a sample of female undergraduates. It proposes that:

1. the EDI factor structure would once more differ from the subscale structure;

2. the factor structure of another similarly designed instrument, the SCANS, would also

    differ from the subscale structure outlined by its authors (the SCANS: Slade and

    Dewey, 1986).

1.4 Summary

The studies reported in this thesis aim to address two issues: attribution and weight anxiety; and assessment design. These are studied using questionnaires and knowledge elicitation techniques. Some of the questionnaires were designed specifically for this thesis whilst others are psychometrically tested and widely used.

Weight anxiety and eating disorders may be better understood in the light of the interaction between the social and the cognitive. It is suggested that attribution theory may provide a springboard from which these interactions can be studied. It is proposed that there will be attributional differences between those women with eating disorders and those without. It is thought that there will be differences in attribution between women with different types of eating disorders. These attributions may shed light on why some women become anorexic, whilst others over-eat or become bulimic.

It is suggested that the design of the subscale structure of the EDI is less than ideal, as is that of a related instrument, the SCANS. It is argued that it will not be possible to

replicate the factor structure of either instrument. It is thought that the EDI might not be an effective screening instrument as has been claimed.

The results of all the studies will be considered and conclusions drawn in Chapter 7.

Chapter 2

Women's Attributions of Weight Anxiety

2.1 Introduction

Women's weight-related anxiety may be understood in the light of their attributions. They may assign specific attributes to particular types of women on the basis of weight. For example, there may be particular attributes associated with fatness or with thinness. These attributions may then in turn influence women's own behaviour. There may be, perhaps, particularly common attributes of fatness or thinness which women identify with and wish to attain or avoid. These attributes can either be individually or socially prescribed and defined.

Attribution theory provides a useful framework from which to examine the nature of weight anxiety. Heider (1949, 1958) has suggested that people apply a lay psychology to their own and others' actions. A central tenet of attribution theory is that interpersonal descriptions are the outcome of an attempt to explain observable behaviour. It is suggested that individuals oversimplify the information they look for and receive, and that these oversimplifications may hold the key to both anxiety and eating disordered behaviour.

Attribution theory provides a basis from which to study the processes involved in perception of both self and others. It also provides an explanation of the expectations of people's actions. Women who are anxious about their weight may be influenced both by social pressures and by their own past experience. These two influences may then lead in

turn to both actual and attributional behaviour. For example, people may feel - both from their past experience and from common stereotypes - that thin people are successful: this could then become an attribution which they apply to others and which may encourage them to become thin themselves. If these attributions can be accessed then it may be possible to tease out the strands which contribute to weight anxiety.

Much of the work discussed in Chapter 1 has particular implications for this study. McArthur (1982) demonstrated that those who believed themselves to be physically distinctive (perhaps by being overweight) made more self-attributions for negative and neutral social interactions, which suggests that self-attribution may have a role in weight anxiety. Kleinke and Staneski (1980) examined the trait attributions for bust size, finding that women with a large bust were regarded as incompetent and immodest. Bassili (1981) also demonstrated that attributions concerning personality were made on the basis of physical appearance. He found that impressions of attractiveness differ on a dimension of glamour not goodness. This finding fits in well with the eating disorder research which emphasises the role of the media, where glamour is seen to be the key to success, popularity and wealth (Garner et al., 1980; Williams, 1987; Willows, 1987).

In Western Europe and North America being overweight is often viewed negatively (Harris, Harris and Bochner, 1982). Attribution theory argues that people try to explain the behaviours which do not conform to social expectations. Moreover attribution theory suggests that people have set explanations for different behaviours - similar to scripts and stereotypes - so there may be specific shared explanations of why someone is under- or over-weight.

The possible relationship between weight, social expectations and attributions led to the main proposition. It was expected that the attributions women make about 'fat' or 'thin' women could be extracted in a factor-analytical manner to form relevant stereotypes. It was also thought that 'thin' factors might centre around drive (e.g. ambition and success), while 'fat' factors might concern the home and family. These are stereotypes which are frequently portrayed in the media. It was also suggested that factors could be extracted for both 'fat' and 'thin' but that there would be differences between them.

In addition, the relationship between personality and weight anxiety was examined since a number of researchers have pointed to the importance of this relationship (e.g. Hollin, Houston and Kent, 1985; Smart, Beumont and George, 1976). Moreover, there is evidence that attributional style is correlated with personality (Anderson and Arnoult, 1985; Brewin and Furnham, 1987).

Weight anxiety was provisionally measured by the EDI (Garner, Olmsted and Polivy, 1983).

2.2 Method

One hundred questionnaires were distributed to volunteers who were not known to be eating disordered, 62 were completed and returned. The subjects were women whose mean age was 29.65 (range 16 to 65). The sample was one of convenience, although, the experimenter was careful to avoid a sample containing many students. Volunteers included hospital workers, church attenders, and women attending adult education evening classes.

There were two characteristics questionnaires, designated Thin and Fat, (designed for this study), which in principle were the same (see Appendix 3).

In each questionnaire, subjects were asked to rate 58 personally descriptive words and phrases using a five-point Likert scale. In one questionnaire subjects rated the descriptive words and phrases with relevance to a fat woman and for the other questionnaire a thin woman was the relevant target. Neutral, non-directional descriptive words and phrases were selected since value judgements were not being asked for. Two types of descriptive words and phrases were selected, those commonly used to refer to physical appearance and those used to refer to behaviour or personality. Personality and behavioural traits were selected randomly from two sources, Peabody (1987) and McCrae and Costa (1987). Of the 58 descriptive words and phrases 38 referred to behaviour/personality and 20 referred to physical appearance. These descriptive words and phrases were arranged in alphabetical order.

The questionnaires were presented in random order. In addition, demographic details were requested. These included weight, height and dieting history (see Appendix 5).

Subjects were also asked to complete the Eating Disorder Inventory (Garner, Olmsted and Polivy, 1983) and the Eysenck Personality Questionnaire (Eysenck and Eysenck, 1975) (see Appendix 1 and 4, respectively).

2.3 Results and Discussion

2.3.1 Overview

The results suggested that there were strong factors which were associated with body size. Some factors were descriptively similar for both fat and thin women whilst others uniquely described fat or thin women. Both types of factor closely resembled the types of stereotypes commonly represented in the media. However, contrary to expectations, the factors for the 'fat only' women (see 2.3.2 for an explanation of this term) did not resemble the negative stereotypes often reported.

There were few differences between the high and low weight anxiety groups except with respect to anxiety about being overweight - there were no differences in weight or in current dieting behaviour.

Relationships were confirmed between weight anxiety and personality. Those who were most anxious about their weight were also the most neurotic and the most introverted. The relationships between individual EDI subscales and the subscales of the EPQ were also examined. Of most interest was the lack of correlation between those EDI subscales most related to eating concern and the subscales of the EPQ.

2.3.2 Attribution of Characteristics

Means and standard deviations for the Characteristic questionnaires can be see in Table 2.1.

Table 2.1: Means and Standard Deviations for the Thin and Fat Characteristic

Questionnaires

	Thin		Fat	
	Mean	Standard Deviation	Mean	Standard Deviation
Adventurous	2.7	1.2	2.4	1.0
Affectionateness	2.8	1.0	3.3	1.2
Agreeableness	2.8	1.0	3.2	1.2
Ambition	3.2	1.2	2.8	1.1
Angularity	3.7	1.0	2.7	1.1
Assertion	3.1	1.0	2.8	1.1
Attractive to Others	3.8	0.9	3.2	1.1
Attractive to Self	4.0	0.8	3.2	1.3
Bespectacled	2.4	1.1	2.1	0.9
Beauty	3.4	1.0	3.0	1.1
Bone Structure	3.9	0.8	2.3	1.0
Caution	3.8	1.0	2.5	0.9
Cheerfulness	2.8	1.0	3.5	1.3
Cleanliness	3.2	1.3	3.0	1.3
Competence	2.9	1.1	2.5	1.1
Complexion	2.9	1.1	2.9	1.2
Contentedness	3.0	1.1	3.3	1.3
Cuddliness	2.6	1.2	3.7	1.1
Dominance	2.8	1.0	2.9	1.0

Table 2.1 cont.: Means and Standard Deviations for the Thin and Fat Characteristic

Questionnaires

	Thin		Fat	
	Mean	Standard Deviation	Mean	Standard Deviation
Energy	3.3	1.1	3.0	1.2
Fashionability	3.7	1.1	3.1	1.3
Femininity	3.6	1.1	3.1	1.2
Foot Size	2.3	0.9	2.6	1.1
Generosity	2.8	1.0	3.1	1.2
Hair Condition	2.9	1.2	2.9	1.2
Hair Style	3.1	1.1	3.0	1.2
Handsomeness	2.9	1.1	2.9	1.1
Happiness	3.1	1.2	3.5	1.1
Healthiness	3.7	1.0	3.3	1.2
Height	3.3	1.1	3.1	1.2
Honesty	2.7	1.0	2.9	1.3
Independence	2.9	1.1	2.8	1.2
Indulgence	2.6	1.0	3.3	1.4
Industriousness	3.0	1.0	2.6	1.1
Intelligence	2.7	1.1	2.5	1.2
Leg Length	4.1	1.0	2.7	1.1
Logicality	2.9	1.1	2.4	1.0
Neatness	3.1	1.1	2.7	1.1

Table 2.1 cont. : Means and Standard Deviations for the Thin and Fat Characteristic

Questionnaires

	Thin		Fat	
	Mean	Standard Deviation	Mean	Standard Deviation
Orderliness	3.1	1.1	2.6	1.0
Particularity	3.0	1.2	2.6	1.0
Passion	2.6	1.1	3.0	1.3
Posture	2.4	0.9	3.5	1.0
Presentation	3.6	1.1	3.34	1.1
Prettiness	2.8	0.9	3.0	1.0
Refinement	3.4	1.0	2.5	1.1
Restraint	2.5	0.9	2.4	0.9
Self-Confidence	3.7	1.1	3.5	1.1
Self-Discipline	3.4	1.1	3.0	1.4
Selflessness	2.4	0.9	3.3	1.4
Sensuality	2.5	0.9	2.4	1.0
Seriousness	2.7	1.1	2.4	1.0
Slimness	4.1	1.0	2.8	1.5
Sociability	3.6	1.1	3.5	1.1
Spontaneity	3.0	1.0	2.9	1.1
Straightforwardness	2.7	1.0	3.0	1.1
Successfulness	3.0	1.1	2.9	1.1
Sympathy	2.8	1.1	3.2	1.2

Table 2.1 cont. : Means and Standard Deviations for the Thin and Fat Characteristic

Questionnaires

	Thin		Fat	
	Mean	Standard Deviation	Mean	Standard Deviation
Temperament	3.0	1.1	3.0	1.1
Tenseness	3.2	1.1	2.5	1.1
Thoroughness	2.9	1.1	2.5	1.0

A factor-analytic procedure was the main technique used in the analysis of the characteristic data. A principal components method with varimax rotation was used. Extraction criterion of sort value 0.35 and an eigen value of over 1.0 was applied. Ideally, more subjects should have been used in these analyses, but for pragmatic reasons this was not possible. Four separate analyses were conducted in this way.

In the first instance, two sets of data were factor analysed. The criteria for inclusion in these analyses were that the variables had to have a mean score of three or over, i.e. subjects, on average, rated the variable as either 'neutral' or 'relevant' to either thin women or fat women. Separate analyses were conducted for the 'fat' and the 'thin' questionnaires. The analysis in this manner of the 'thin' questionnaire data was known as the 'thin relevant' or T.R. analysis and that for the 'fat' questionnaire data as the 'fat relevant' or F.R. analysis. Of the original 126 variables (58 for fat women and 58 for thin) 26 were included in the T.R. ('thin relevant') analysis and 23 in the F.R. ('fat relevant') analysis.

There were six primary factors for the T.R. analysis. The items that load on the factors are reported in Table 2.2. The factors extracted in the 'T. R.' analysis can be seen to describe typical thin stereotypes. Thus Factor 1 described an attractive and polished woman, Factor 2 a happy and healthy woman and, Factor 3 a determined and hardworking woman. Similarly, Factor 4 described a goodlooking and popular woman, Factor 5 a covergirl and Factor 6 a friendly, but precise, woman.

In the F.R. analysis there were also 6 factors, see Table 2.3 for the loadings. Some of the factors reflect typical stereotypes but others do not, seeming to represent strongly positive stereotypes. Factor 1 described a woman who was both popular and a good friend, Factor 2 a goodlooking woman and Factor 3 one who was motherly. Factors 4 and 5 described women who were, respectively, friendly and stylish and Factor 6 a sociable woman.

Table 2.2: Factors for Thin Relevant

	Characteristic	Load		Characteristic	Load
Factor 1	Presentation	0.72	*Factor 4*	Attractive/Others	0.93
Polished	Refinement	0.71	*Goodlooking*	Attractive/Self	0.56
	Prettiness	0.64		Femininity	0.47
	Hair Style	0.64		Beauty	0.45
	Posture	0.60		Contentedness	0.38
	Self-Discipline	0.57		Sociability	0.36
	Femininity	0.55		Happiness	0.36
	Self-Confidence	0.45	*Factor 5*	Slimness	0.72
	Neatness	0.45	*Covergirl*	Leg Length	0.63
	Sociability	0.39		Fashionability	0.51
Factor 2	Contentment	0.66		Angularity	0.51
Happy	Happiness	0.65		Bone Structure	0.50
	Self-Confidence	0.61	*Factor 6*	Cleanliness	0.75
	Health	0.55	*Precise*	Neatness	0.68
	Beauty	0.51		Tenseness	0.48
	Sociability	0.37		Sociability	0.37
Factor 3	Ambition	0.81		Contentedness	0.36
Determined	Energy	0.61			
	Assertiveness	0.56			
	Self-Confidence	0.49			
	Self-Discipline	0.44			

Table 2.3: Factors For Fat Relevant

	Characteristic	Load		Characteristic	Load
Factor 1	Cleanliness	0.77	*Factor 3*	Sympathy	0.72
Popular	Cheerfulness	0.73	*Motherly*	Temperament	0.67
	Hair Style	0.69		Passion	0.54
	Generosity	0.64		Cuddliness	0.51
	Femininity	0.61		Generosity	0.44
	Happiness	0.60		Cheerfulness	0.40
	Sociability	0.55		Sociability	0.40
	Cuddliness	0.49	*Factor 4*	Affectionateness	0.82
	Contentment	0.46	*Friendly*	Agreeableness	0.68
	Passion	0.44	*Factor 5*	Femininity	0.68
	Agreeableness	0.42	*Stylish*	Fashionability	0.48
	Affectionateness	0.40		Selflessness	0.37
Factor 2	Attractive/Others	0.72	*Factor 6*	Sociability	0.70
Goodlooking	Posture	0.72	*Sociable*		
	Health	0.72			
	Attractive/Self	0.71			
	Fashionability	0.63			
	Presentation	0.60			
	Self-Confidence	0.52			
	Height	0.48			
	Happiness	0.36			

The results show that people have surprisingly clear stereotypes of fat and thin women. However, within the 12 factors (six each for 'fat relevant' and 'thin relevant') that were extracted, some of these included features (loaded items) characteristic of women in general.

To try to select factors specific to thin women or fat women, only those characteristics that 'discriminated' were used in two additional factor analyses of 'thin only' and 'fat only' items. T-tests were used to see which variables were significantly more 'relevant' to either 'fat' or 'thin'. For example, when scores from the 'fat' and 'thin' questionnaires were compared for the variable 'ambition', the t-test showed that this variable was significantly attributed more to thin women than to fat. So 'ambition' was included in the 'thin only' or T.O. analysis. Similarly, 'sympathy' was included in the 'fat only' or F.O. analysis. In the T.O. ('thin only') analysis 20 variables were included and in the F.O. ('fat only') analysis there were 10.

The factors extracted in the T.O analysis resembled well-recognised stereotypes of thin women. Factor 1 described a hardworking and efficient woman, Factor 2 a woman with a lot of drive and Factor 3 a woman noted for her striking appearance. Factor 4 described a wary woman, Factor 5 a goodlooking woman and Factor 6 a beautiful woman. See Table 2.4.

	Characteristic	Load		Characteristic	Load
Factor 1	Neatness	0.94	*Factor 3*	Slimness	0.99
Efficient	Orderliness	0.91	*Striking*	Leg Length	0.49
	Particularity	0.75		Angularity	0.46
	Competence	0.50		Bone Structure	0.36
	Presentation	0.45	*Factor 4*	Caution	0.71
	Industriousness	0.43	*Wary*	Tenseness	0.51
	Tenseness	0.42		Angularity	0.48
Factor 2	Ambition	0.83		Bespectacled	0.46
Drive	Competence	0.70	*Factor 5*	Attractive/Others	0.92
	Adventurousness	0.66	*Good-*	Attractive/Self	0.56
	Industriousness	0.60	*Looking*		
	Affectionateness	0.58	*Factor 6*	Beauty	0.91
	Self-Discipline	0.44	*Beauty*		

Only two factors were extracted for the F.O. analysis, the first being motherly and the second a trustworthy woman: both typical stereotypes of fat women. See Table 2.5.

Table 2.5: Factors For Fat Only

	Characteristic	Load		Characteristic	Load
Factor 1	Cheerfulness	0.995	*Factor 2*	Straightforwardness	0.82
Motherly	Happiness	0.63	*Trust-worthy*	Sympathy	0.62
	Cuddliness	0.58		Passion	0.56
	Generosity	0.55		Generosity	0.54
	Agreeableness	0.55			
	Passion	0.54			
	Sympathy	0.54			
	Straightforwardness	0.48			

Analysis in this way was therefore at two levels, one which distinguished factors associated more generally with weight and a second which allowed the discrimination of factors more specifically related either to thinness or fatness. The T.R. and F.R. analyses enabled the extraction of more general weight factors, whilst the T.O. and F.O. analyses highlighted those factors which more clearly discriminated between thinness and fatness. For example, 'hair style', 'femininity' and 'sociability' occurred in both the T.R. and F.R. extractions. However, although 'orderliness', 'tenseness' and 'bone structure' occur in the T.R. analysis they occurred specifically in the T.O. analysis and were therefore related to thinness. Similarly some variables were specific only to fatness - e.g. 'cuddliness', 'straightforwardness' and 'passion'.

All the factors which were extracted seemed to reflect stereotypes of fat and thin women. However, there may have been demand characteristics in the situation that caused subjects to answer in specific ways, such as responding to reflect well on themselves. It could also be that subjects responded as they believed others would respond and not as they themselves believed.

The findings of the present study support the work of Hewstone (1989) who suggested that societal attribution and collective beliefs might be a valuable area of research. Although the images of fat and thin women which emerged in the present study were of individual attributions, these attributions strongly reflected the social beliefs discussed by Hewstone.

A final point concerning the factors is that fat women were not regarded entirely negatively, nor thin women entirely positively. Furthermore, although the fat factors included typical fat stereotypes, such as being motherly and trustworthy, fat women were also described as stylish and goodlooking. It appears that the negative fat stereotype is not all-pervading.

Future research should now be directed at examining how far these stereotypes influence weight anxiety: and whether there are differences in the attributions to thin and fat by women who show disturbed eating behaviour.

2.3.3 Demography and Dieting

Demographic data can be found in Tables 2.6, 2.7 and 2.8.

Table 2.6: Demographic Data

	Mean	Standard Deviation	Range
Age	29.7	10.8	16 - 65
Weight (Kg)	59.5	10.1	41 - 92
Height (M)	163.2	7.3	143 - 177
Body Mass Index	22.3	3.7	17 - 37
Ideal Weight	54.9	6.4	39 - 70

Table 2.7: Percentage of Yes Responses to Dieting Questions

	% Responding Yes	Binomial (p)
Dieted Ever	58.1	0.253
Dieting Now	11.3	0.0001
Overweight	56.5	0.374
Underweight	8.1	0.0001

Table 2.8: Reasons Given For Dieting

	%
Appearance	8.1
For Oneself	38.7
Health	33.9
Never Dieted	19.4

Analyses were conducted to see whether responses to the dieting questions differed from chance. The results for 'Are you dieting now?' and 'Are you worried about being underweight?' differed significantly from chance. The direction of response for both questions was 'No' (see Table 2.7). The subjects were also asked why they dieted. Three reasons were given: appearance; health; and self (dieting because they are unhappy with their present weight); some women said they had never dieted. Health and self were the most cited reasons. Dieting for health reasons may reflect the current emphasis on healthy lifestyles. A surprisingly small number of women gave appearance as their reason for dieting. Possibly this was because the questionnaire's foreword talked about women's anxiety about weight, thus making respondents more willing to choose 'Health' than 'Appearance' as a reason for dieting.

2.3.4 EDI

The distribution of scores on the EDI was across the full range. 13 women scored 40 or more (which lies in the range of potential eating disorders) but none of them admitted to any eating disorder, although one subject had used laxatives to control her weight. Body

dissatisfaction proved to be the EDI subscale with the highest scores, with most women being dissatisfied to some degree. Many older women scored highly on the EDI, which may be because of inflated scores on the wellbeing subscales (Cooper et al., 1985) rather than particularly high scores on the eating disorder subscales. The EDI may not measure the same thing in different age groups, either because of cohort effects or because women undergo both physical and role changes in later life. See Table 2.9 for the means and standard deviations of the total EDI score.

Table 2.9: Mean, Standard Deviation and Range for Total EDI Score

	Mean	Standard Deviation	Range
EDI Total Score	25.28	17.2	3 - 74

2.3.5 Comparisons of High and Low Weight Anxiety

Additional analyses were conducted to see whether there were differences in responses between low and high weight concern women. High concern women scored greater than 29 on the EDI and low concern women less than 16. Demographic data on these subject is reported in Table 2.10. T-tests were carried out for several variables to see how these groups differed. There were no significant differences for age, weight, body mass or ideal weight between the two groups (see Table 2.11).

Table 2.10: Demographic Data For High and Low Weight Concern Groups

		EDI < 16	EDI > 29
Age	Mean	28.4	30.6
	Standard Deviation	9	12.9
	Range	17 - 45	16 - 65
Weight (Kg)	Mean	56.6	61
	Standard Deviation	8.8	8.3
	Range	44 - 82	41 - 76
Body Mass Index	Mean	21	23
	Standard Deviation	3.7	2.9
	Range	18 - 34	19 - 34
N		18	19

Other comparisons between the two groups were made. Fisher's Exact Test was carried out to see whether there were differences between the high and low concern groups on the questions about dieting. The only question that differentiated the two groups was 'Are you worried about being overweight?' (see Table 2.11). Although this difference was expected, it was also thought the groups would differ in response to 'Ever dieted?' and 'Are you worried about being underweight?'. It follows that judgements about weight-anxiety should be made on subjective grounds (self-assessment) rather than on objective grounds (dieting behaviour).

Table 2.11: Comparisons of High and Low Weight Concern

DF = 39	t	P
Age	-0.38	0.7
Weight	-1.03	0.3
Body Mass Index	-1.64	0.1
Ideal weight	-0.29	0.8

	Fisher's Exact Z	P
Ever Diet	1.8	ns
Dieting Now	1.2	ns
Overweight	4.26	0.001
Underweight	-1.06	ns

Table 2.12 shows reasons given for dieting in the high and low weight concern groups. Since there were too few responses for some cells, no statistical analysis can be carried out.

Table 2.12: Reasons Given for Dieting in Low and High Weight Concern Groups

Reasons	EDI < 16	EDI > 29
Appearance	2	1
For Oneself	5	11
Health	7	7
No Diet	8	0

2.3.6 EPQ and EDI

Means, standard deviations and ranges for the EPQ subscales are shown in Table 13.

Table 13: Means, Standard Deviations and Ranges for the EPQ Subscales

	Mean	Standard Deviation	Range
EPQ Extroversion	13.8	4.6	4 - 21
EPQ Neuroticism	12.2	5.0	4 - 22
EPQ 'Lie'	7.5	4.0	0 - 17

Because of previous research relating eating disturbance to personality, it was thought that EDI scores would correlate significantly with scores for the neuroticism, extroversion and 'lie' subscales on the EPQ.

Total EDI scores correlated positively with neuroticism ($r = 0.38$, $p < 0.002$) but negatively with extroversion ($r = -0.25$, $p < 0.05$). Both these findings were expected and suggest that those who were most concerned about their weight were also more neurotic and introverted. For this sample, neuroticism was significantly negatively correlated with extroversion. The 'lie' score correlated negatively with both total EDI score ($r = -0.32$, $p < 0.01$) and neuroticism ($r = -0.25$, $p < 0.02$). Although some of these correlations were highly significant, none of the 'r' values were particularly high so there is little common variance between even total EDI scores and neuroticism (see Table 2.14).

Table 2.14: Correlations of EDI and EPQ Scores

EPQ Subscale	Correlation with Total EDI Score	P <
Extroversion	-0.25	0.02
Introversion	0.38	0.001
'Lie'	-0.32	0.006

Significant positive correlations were also found between neuroticism and the 'perfectionism', 'introceptive awareness', 'interpersonal distrust' and 'ineffectiveness' subscales of the EDI. Significant negative correlations were found between extroversion and the above subscales as well as 'maturity fears'. Similarly, significant negative correlations were found between the 'lie' scale of the EPQ and 'introceptive awareness' and 'ineffectiveness' of the EDI. Correlation coefficients were also calculated for the subscales of the EDI with the scales of the EPQ. Significant positive correlations were found between neuroticism and four of the EDI subscales. Five negative correlations were found between extroversion and the EDI subscales and two negative correlations between the 'lie' scale and the EDI's subscales. Of particular note was the lack of correlation between any of the EPQ scales and those subscales of the EDI most related to weight anxiety ('bulimia', 'drive for thinness' and 'body dissatisfaction'). Table 2.15 shows these findings.

Table 2.15: Correlations Between EPQ and EDI Subscales

EPQ Subscale	EDI Subscales	R^2	$P <$
Neuroticism	Drive For Thinness	0.23	0.04
	Body Dissatisfaction	0.22	0.05
	Bulimia	0.08	0.269
	Perfectionism	0.38	0.001
	Interpersonal Distrust	0.23	0.04
	Introceptive Awareness	0.3	0.01
	Maturity Fears	0.2	0.06
	Ineffectiveness	0.3	0.01
Extroversion	Drive For Thinness	0.19	0.441
	Body Dissatisfaction	0.11	0.2
	Bulimia	0.03	0.412
	Perfectionism	-0.36	0.002
	Interpersonal Distrust	-0.25	0.025
	Introceptive Awareness	-0.35	0.003
	Maturity Fears	-0.37	0.001
	Ineffectiveness	-0.31	0.007
'Lie'	Drive For Thinness	-0.24	0.03
	Body Dissatisfaction	-0.09	0.246
	Bulimia	-0.08	0.246
	Perfectionism	-0.25	0.03
	Interpersonal Distrust	-0.1	0.202
	Introceptive Awareness	-0.35	0.008
	Maturity Fears	-0.1	0.206
	Ineffectiveness	-0.28	0.01

2.3.7 Limitations

A limitation of the study concerned the nature of the instructions in the questionnaire. Several subjects found the instructions unclear, though all managed to complete the questionnaires without any problems. In some cases, subjects were unclear whether to give their own or a general opinion of fat and thin. Clearer instructions would overcome both points.

2.4 Summary

The results suggest that women's attributions about fat and thin women fit into several well-defined factors which largely resemble stereotypes suggested by the media, although the factors for fat women are by no means all negative. Both thin and fat women are portrayed as goodlooking. Thin women are also seen as polished and determined, whilst fat women are seen as friendly and stylish. Some factors represent variables which are only relevant to thin women and these include drive, efficiency and wariness. Similarly fat women are portrayed uniquely as motherly and trustworthy.

Few differences were found with respect to age, height or dieting behaviour between high and low weight anxiety groups with the exception of anxiety about being overweight.

Significant correlations were found between the EPQ and the EDI both at a total and a subscale level. However, these were not significant with regard to the EDI subscales which specifically relate to weight concern.

The EDI was shown to be less effective as a screening instrument for older women since they seemed to score particularly highly. This will be explored further in Chapter 6.

The relationship between attributions for fatness and thinness and clinical weight anxiety will be explored in Chapter 3.

Chapter 3

Clinical Weight Anxiety and Attribution

3.1 Introduction

In the previous chapter it was shown that women who were anxious about their weight made attributions about weight which factored in a distinct manner. It was found that there were specific factors which reflected women's attributions about thin women and specific factors which reflected women's attributions about fat women. In addition, there were broader factors which were associated with fatness, thinness and non-specific weight issues. These might, in fact, reflect more global attributions about women. The studies presented in this chapter and the next extend these ideas to those women with clinically diagnosed eating disorders and examines whether these factors are weight-related or not.

The study of attribution, particularly in relation to weight anxiety, is complex and since attributions reflect individual thought processes it is important that these are effectively accessed. In order to examine the factors more closely, knowledge elicitation techniques can be used, two of which are quite common: card sorting, which will be employed here and repertory grid analysis, which will be discussed in Chapter 4.

Card sorting is a method of extracting information about someone's underlying constructs. Burton, Shadbolt, Hedgecock and Rugg (1987) argued that it is a technique which can provide multi-dimensional mapping of elements in a problem domain. This is achieved by repeated sorts of a deck of cards marked with the domain elements. This

reveals underlying dimensions along which elements can be classified. The task is repeated until the subject can think of no more dimensions.

To my present knowledge there have been no studies of eating disorders which have used this technique. However, it can be demonstrated how this technique might be applicable to the weight anxiety question. Burton and his colleagues have demonstrated the efficacy of card sorting in a number of areas of expertise. For example, Burton, Shadbolt, Rugg, and Hedgecock, 1988 examined the knowledge of advanced undergraduate geographers with respect to glacial features. They compared several knowledge elicitation techniques including card sorts and laddered grids. Their results showed that both techniques performed well. Similar findings were found by Rugg and Shadbolt (1991) in a study of geologists' knowledge of igneous rocks. More recently Rugg, Corbridge, Major, Burton and Shadbolt (in press) examined the effectiveness of different types of card sorting in the extraction of rules for the classification of fruit. This was a domain which most people were thought to be relatively expert in. These papers suggest firstly that card sorting is an effective technique for extracting expert knowledge and secondly that the term 'expert' can be widely applied. Card sorting may be a useful tool in accessing the weight-related constructs of eating-disordered women.

Both card sorts and repertory grids are useful techniques in examining the inter-relationships between weight-related attributions. These techniques correlate the attributions and form constructs which resemble the principal components extracted in factor analysis. Card sorts enable a large number of attributions to be examined and several constructs to be extracted. Repertory grid analysis permits a more detailed analysis of fewer attributions and the manner in which they interact between different actors.

The aim of this study is to examine the differences between groups of eating disordered women in their weight-related constructs. Areas of particular interest are those which were touched on in the previous chapter. The attributions which contribute to the constructs studied here are those which loaded at 0.7 or greater in the factor analysis in Chapter 2.

3.2 Method

3.2.1 Subjects

Subjects were female volunteers who had been referred to two eating disorder clinics, one in Nottingham and one in Edinburgh. There were four women with a diagnosis of anorexia nervosa, four women who were over-eaters and nine were women with bulimia nervosa. All the diagnoses were made by the Consultant Psychiatrists. Most of the women were currently undergoing therapy but all were living in the community. Their ages ranged from 18 to 34. Although many more women were approached most were either unable or unwilling to take part. This is a frequent problem when working with a population of eating disordered women and was not unexpected. In addition there were seven female subjects with no history of eating disorders. The age range of all subjects was from 19 to 37.

3.2.2 Procedure

Data was collected from the same subjects for two studies. The first study used a card-sort technique, and is presented in this Chapter. The second study used a repertory grid technique and is presented in Chapter 4. In addition, demographic information was also collected from these subjects, and that is also presented in this Chapter.

Subjects were told about the studies either by letter or by their therapist. They were given a brief outline of the aim of both studies and were invited to find out more. Subjects were then contacted by telephone (or again by letter if they were not on the phone) and a time was arranged for a home visit (in the case of the Nottingham subjects) or when they would be able to attend the Cullen Centre (in the case of the Edinburgh subjects). At these meetings a more detailed explanation of the studies was given and the methods outlined. Subjects were then asked if they were prepared to take part and asked to sign a consent form.

Once subjects had agreed to take part the procedures were explained. The confidentiality of the studies was emphasised. The card sort procedure was explained. Subjects were presented with 25 cards and asked to sort them into groups. There were no constraints on group size, or on the number of groups. Subjects were told that it was possible that some words might not fit in with their sorting scheme but that this was not a problem. Once the cards had been sorted subjects were asked along which dimension the cards had been sorted. Next subjects were asked to go through each pile and say what the rationale was for each pile. Once this was completed subjects were asked if they could repeat the procedure and sort the cards along another dimension. This procedure was repeated until the subject could no longer sort the cards on any new dimensions. Subjects on average sorted the cards five times. Subjects then completed the demographic questionnaire and the repertory grid (the procedure and results of which will be described in Chapter 4). Once this was complete subjects were thanked for their interest and their time. In some cases subjects expressed an interest in the results of the study and it was agreed that the Cullen Centre staff would give feedback once the study was completed (although not on an individual basis).

3.2.3 Measures

Card Sorts

Variables for the card sort were chosen on the basis of the results in Chapter 2. Variables with loadings of greater or equal to 0.7 on the factors were included. In addition seven variables were included that had appeared relevant to two women with clinically diagnosed eating disorders who had completed the questionnaires in Chapter 2. Their responses were not discussed in Chapter 2 because information from two subjects was not considered statistically viable. However, information from these subjects is included here since they may provide useful insights. Finally one more variable, 'wellbeing', was included because of its associations, in the literature, with both physical and mental health. There were twenty five variables in total. Each of the variables was written on a separate card, see Appendix 6.

Demographic Information

Data was collected on weight, height, age and dieting history (see Appendix 5). In addition subjects completed the EDI (Garner et al., 1983) (see Appendix 1).

Repertory Grid

To be described in Chapter 4.

3.2.4 Card Sorts Analyses

These data will be analysed using nearest neighbour analysis and hierarchical linkage cluster analysis. Statistical comparisons between the groups is not possible although observational evidence is available since it was essentially a non-numerical measure.

3.3 Results and Discussion

3.3.1 Overview

The results of the card sort showed that there were differences between the four groups: different patterns of attributions or clusters were to be found for the groups, although there were common themes. Attributions surrounding appearance and drive were common, although they differed between groups in their expression.

3.3.2 Card Sorts

Card sort data was obtained from all subjects. The results demonstrated that there were both similarities and differences between the four groups. Common clusters included: 'Honesty' and 'Sympathy'; 'Health' and 'Wellbeing'; and 'Neat' and 'Orderly'. In contrast there were differences in clusterings between the groups. These were most noticeable in the case of those cards associated with weight and those cards associated with drive. However, direct numerical comparisons between the four groups are difficult to make since the analysis emphasises qualitative and not quantitative differences. Since there were different group sizes the levels of possible clustering vary. However, the clustering of variables between the groups, from a descriptive perspective, can be compared.

The Bulimic Group

The results of the card sort are shown in Figure 3.1 in the form of a dendrogram which

shows the clusters that were obtained. A guide to interpreting the figure precedes it. There

are nine clusters that are important and which represent relationships between the

variables. These clusters are: i) 'Orderly', 'Thorough'; ii) 'Independent', 'Ambitious'; iii)

'Slim', 'Beauty', 'Complexion'; iv) 'Posture', 'Presentation', 'Sociable', 'Neat'; v)

'Cheerful', 'Healthy'; vi) 'Successful', 'Competent', 'Assertive'; vii) 'Wellbeing',

'Straightforward', 'Assertive'; viii) 'Assertive', 'Sympathetic'; ix) and 'Sympathetic',

'Affectionate' and 'Honest'. Within these clusters three smaller clusters are of special

interest. The variables 'Competent' and 'Successful' have a strong relationship and the

variables 'Posture' and 'Presentation' and 'Slim' and 'Beauty' also have strong associations.

Only four variables do not form close associations with other variables, 'Spontaneous',

'Particular', 'Clean' and 'Attractive'.

There is a notable relationship between 'Beauty' and 'Slim' which is an association which

could have been predicted from both the findings reported in Chapter 2 and the current

literature. However, this contrasts with the relative isolation of the variable 'Attractive'

since on common sense grounds this should be closely associated with both 'Beauty' and

'Slim'. This suggests that there may be some support for the argument that attractiveness

and beauty have specific and disparate associations in weight anxiety and in more global

attributions about women.

Some associations emerged that were unexpected. The variables 'Posture', 'Presentation',

'Neat' and 'Sociable' cluster closely. The association of the first three is not surprising but

their association with 'Sociable' is unexpected. This suggests a Bulimic group

interpretation of 'Sociable' in a setting which is perhaps more public than personal: that is, since the first three are characteristics more commonly associated with public appearance, 'Sociable' appears also to relate to such settings. It is interesting that 'Assertive' and 'Sympathetic' are clustered; this may show that assertiveness does not preclude being sympathetic.

A guide to the dendrograms.

1. The row of figures at the top of the diagram refer to the number of sorts in which one or more variables were paired with each other.

2. The variables are written on the left of the diagram.

3. The dendrogram is read from left to right. The most commonly generated clusters are to be found on the left, the least often produced are to be found at the right.

4. At each stage of the analysis, one or more pair of variables cluster, the point at which the variable cluster is represented by the merging of two (or more lines).

5. The thickness of the lines represents the strength of the cluster, i.e. the thicker the line, the more often that cluster occurs. For example, in the diagram below, the variables 'Competent' and 'Successful' are the first variables to cluster (on 21 sorts), they are then joined by the variable 'Assertive' (on 15 sorts). This cluster then contributes to three larger clusters: with 'Attractive' alone; with 'Wellbeing', 'Straightforward', 'Assertive' (again), and 'Sympathetic'; and with the large cluster at the top of the dendrogram, which includes 'Orderly', 'Thorough' and 'Particular'.

6. The clusters of most interest are to be found in the heavy bold and bold type.

Figure 3.1: Dendrogram of Bulimic Group's Cluster Analysis

21 20 19 18 17 16 15 14 13 12 11 10 9 8 7

Orderly
Thorough
Particular
Independent
Ambitious
Slim
Beautiful
Complexion
Posture
Presentation
Sociable
Neat
Clean
Cheerful
Healthy
Attractive
Competent
Successful
Wellbeing
Straightforward
Assertive
Sympathetic
Affectionate
Honest
Spontaneous
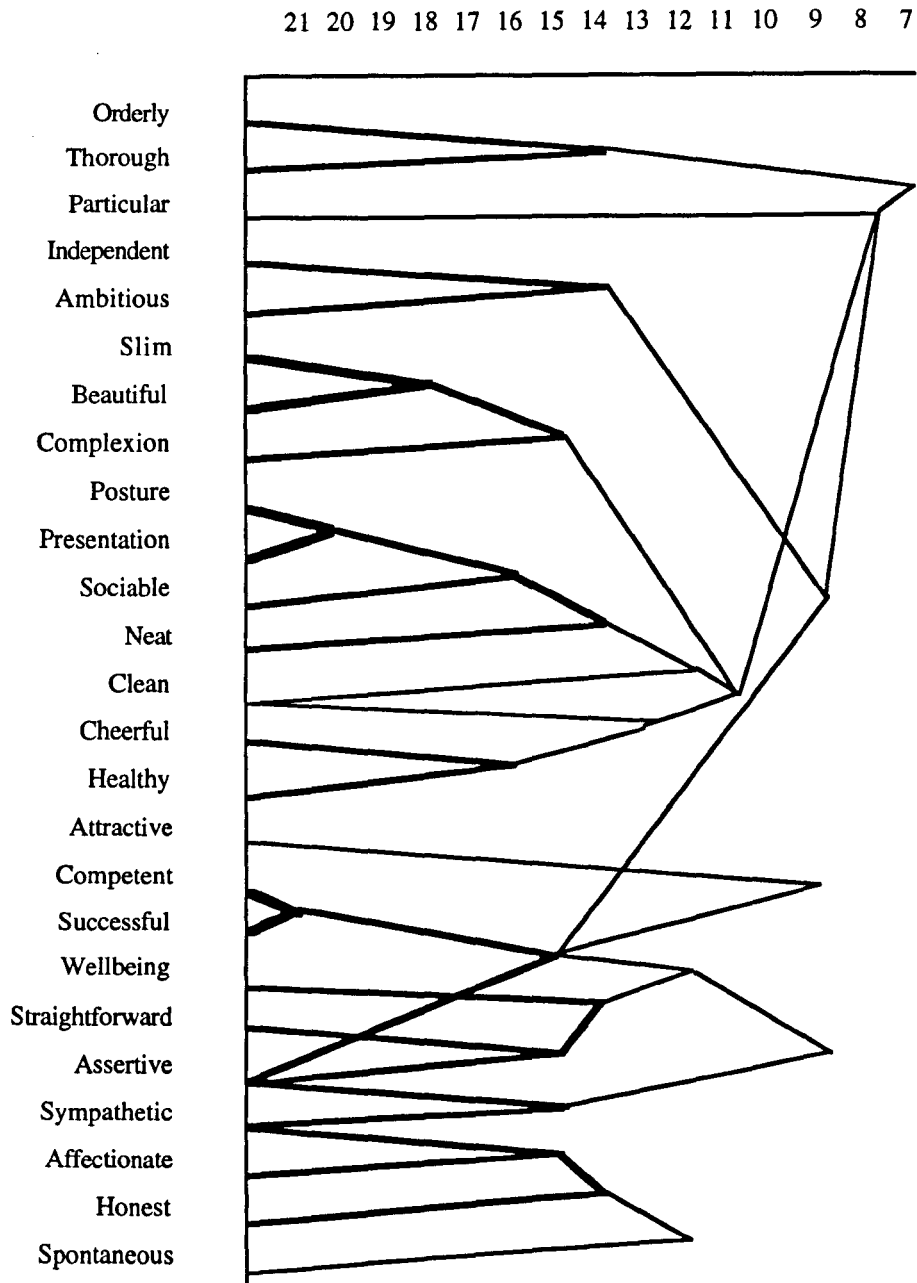
The Anorexic Group

The cluster analysis of the Anorexic group's card sorts generated a more parsimonious pattern than the previous analysis. Only five important clusters emerged. These were: i) 'Complexion', 'Presentation'; ii) 'Posture', 'Beauty', 'Attractive', 'Slim'; iii) 'Successful', 'Competent'; iv) 'Cheerful', 'Affectionate', 'Honest', 'Straightforward'; and v) 'Wellbeing' and 'Healthy'. This last pair was particularly tightly clustered. In addition, three other pairs within the larger clusters already mentioned were also closely associated. These were 'Attractive' and 'Slim', 'Affectionate' and 'Honest', and 'Honest' and 'Straightforward'. Eleven variables were only weakly clustered. The overall pattern of clusters is seen in Figure 3.2. This demonstrates well the lack of overall association between the variables; six loose clusters can be seen which are independent of each other. This is in contrast to the pattern of the Bulimic group discussed above.

The distinctiveness of the clusters is interesting. This would indicate, perhaps, that the attributional systems of the Anorexic group are tightly and carefully ordered and, that the structure of their attributions is neatly boxed, with 'everything in its place'. The cluster of 'Posture', 'Beauty', 'Attractive' and 'Slim' is one which represents appearance to a large extent and one which is a common stereotype associated with thin women. This suggests perhaps that the stereotypes of thinness are ones which are adopted by those with anorexia, or by those prone to such eating behaviour. This supports the present hypothesis that there may be particular attributional patterns which might determine whether or not someone develops eating disordered behaviour and, if they do, what form it might take. In a similar vein is the pairing of 'Competent' and 'Successful' which again is a common thin stereotype. There is of course the possibility of a response set which prompts the Anorexic group subjects to respond in the manner they think is required. However, given the length of time spent with the experimenter (between an hour and an

hour and a half) this seems unlikely. The clustering of 'Affectionate', 'Cheerful', 'Honest'

and 'Straightforward', whilst a common stereotypical pattern, is not a common pattern

associated with thinness, so it would seem unlikely that a thinness response set is in

operation.

Figure 3.2: Dendrogram of Anorexic Group's Cluster Analysis
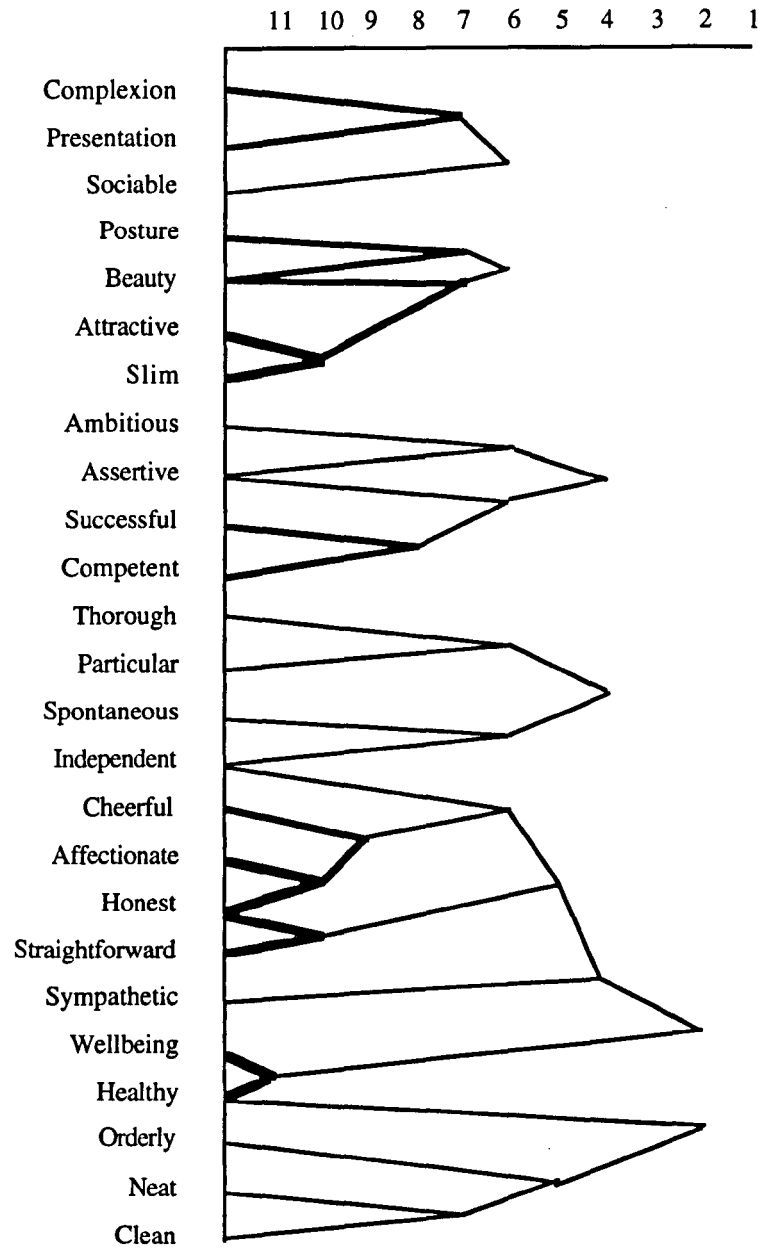
The Over-Eater Group

The cluster analysis of the card sort for the Over-Eater group suggested that almost all the variables are relevant to the attributional pattern. Three clusters were distinct, whilst the remaining four were somewhat interwoven. The clusters which were distinct were: i) 'Clean', 'Particular', 'Neat' and 'Orderly'; ii) 'Thorough', 'Ambitious', 'Competent' and 'Successful'; and iii) 'Successful' (again), 'Independent', 'Assertive' and 'Straightforward'. The four clusters which were more interwoven were: i) 'Healthy' and 'Wellbeing'; ii) 'Affectionate', 'Honest' and 'Sympathetic'; iii) 'Complexion' and 'Beauty'; and iv) 'Attractive', 'Cheerful', 'Sociable', 'Presentation', 'Slim' and 'Posture'. Notably, only one variable, 'Spontaneous', does not cluster with any others. Two pairs of variables within the larger clusters are very closely linked. These are 'Neat' and 'Orderly' and 'Cheerful' and 'Sociable'. Both of these pairs are intuitively expected.

The largest cluster contains those variables associated both with appearance and with social interaction, suggesting an underlying association for the Over-Eater group of social and appearance factors as influences on behaviour. This would support the literature which suggests that, for those who over-eat, the prejudice that they face affects not just how they are seen but also how they are treated by society.

The Over-Eater group also has a cluster which resembles the 'Fat Only' factors which were extracted in Chapter 2, i.e. the 'Affectionate', 'Honest', 'Sympathetic' cluster. These are commonly seen as appropriate roles for those who over-eat, so this commonly held stereotype seems relevant to the women in this group. However, it is also interesting to note that three of the other clusters are ones commonly associated, as demonstrated in Chapter 2, with thinness. These clusters concern meticulousness, drive and confidence.

It would appear that the Over-Eater group are aware of the more widely held stereotypes, particularly those related to the weight issue. This awareness may reflect the social pressure placed on overweight women and the stereotypes which they must confront on a regular basis. It is noticeable that the majority of the clusters bear greater similarity to those characteristics commonly associated with thinness than with those more commonly associated with fatness, especially when taken in the context of Chapter 2. It would appear that the weight issue is influential and has a marked effect on the card sorting task.

Figure 3.3: Dendrogram of Over-Eater Group's Cluster Analysis
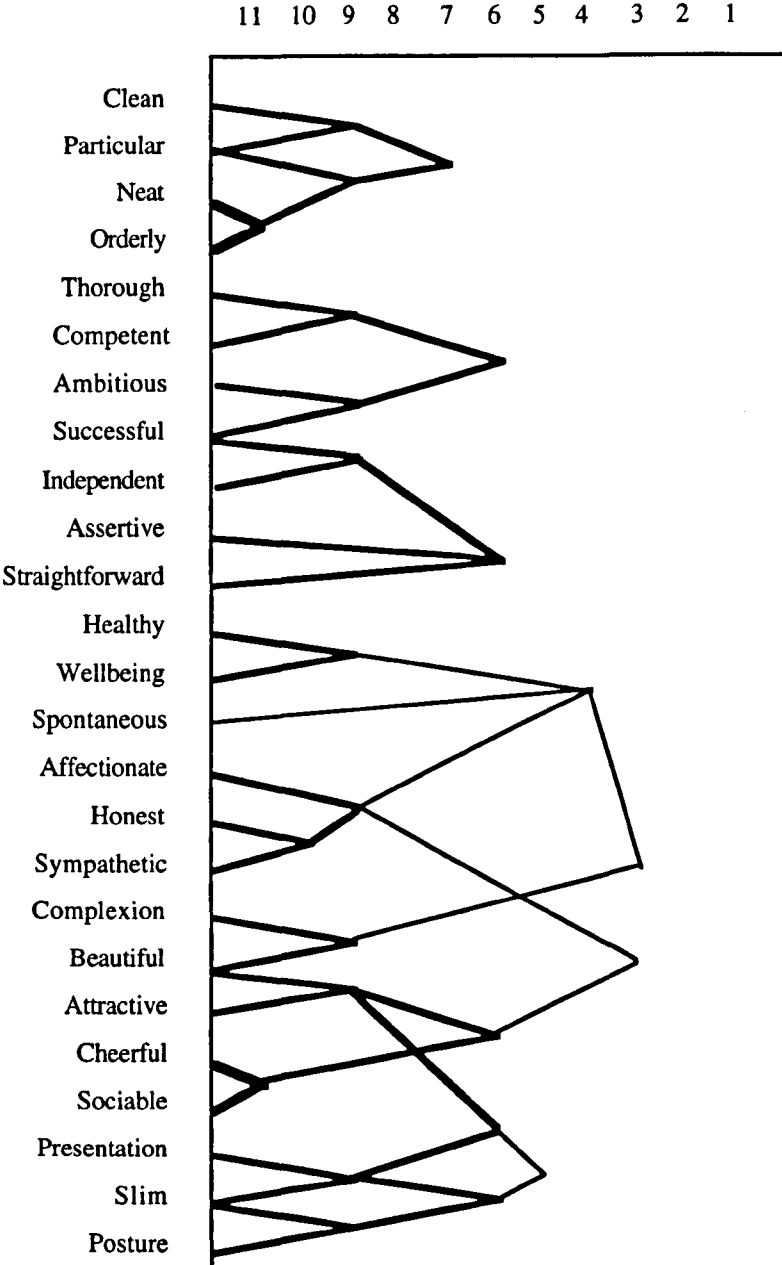
The Non-Eating Disordered Group

Of all the card sorts that of the Non-Eating Disordered group is the simplest and least detailed. Only three clusters are formed which could be described as important. These are: i) 'Slim', 'Beauty' and 'Attractive'; ii) 'Affectionate', 'Honest', 'Sympathetic', 'Cheerful' and 'Sociable; and iii) 'Ambitious', 'Independent', 'Competent' and 'Successful'. These clusters represent the three aspects of the weight issue which are most often discussed. The first describes appearance; the second, social aspects; and the third, drive. These clusters are shown to be quite independent of each other, unlike the earlier card sorts. Two pairs of variables are particularly closely associated, 'Attractive' and 'Beauty', and 'Honest' and 'Sympathetic'. These are two features which epitomise the thin-fat dichotomy in stereotyping. This is, of course, what would be expected if the Non-Eating Disordered women accurately represent women with normal anxieties about their weight.

Figure 3.4: Dendrogram of Non-Eating Disordered Group's Cluster Analysis
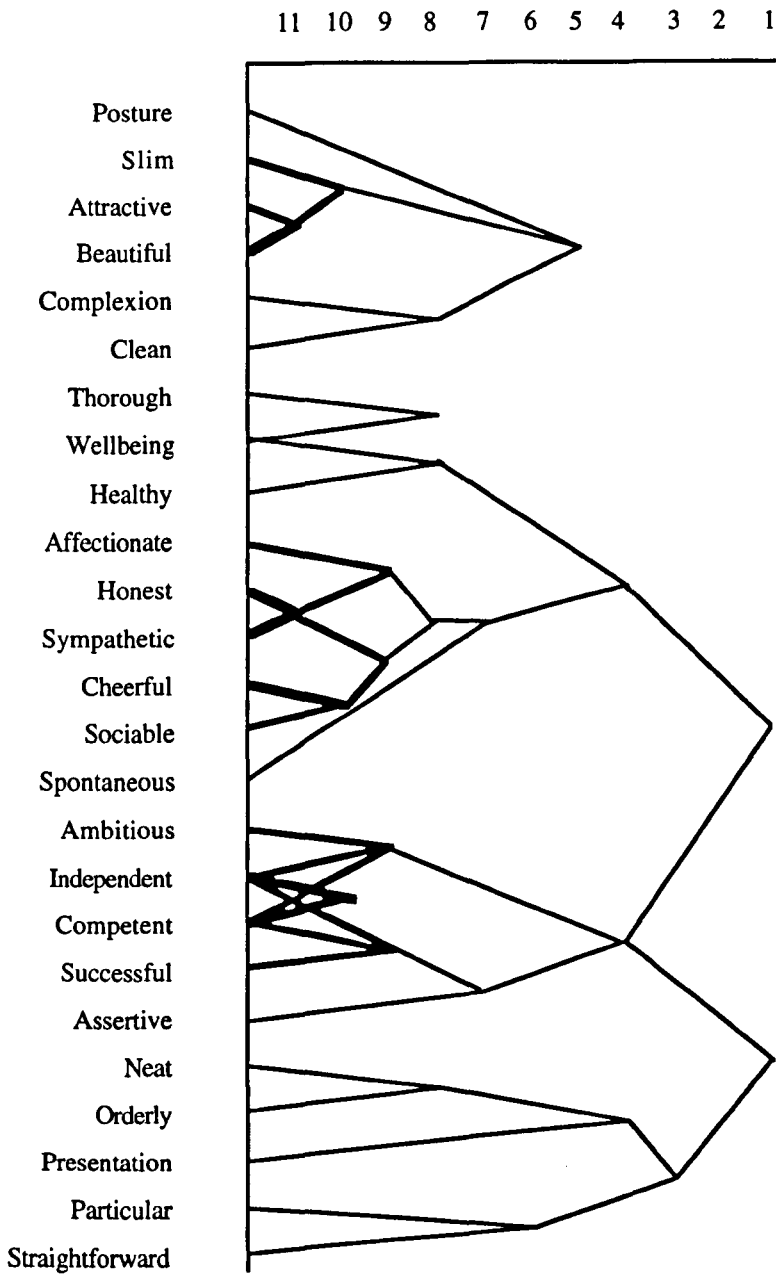
Comparison and Discussion

Several patterns of clustering can be seen amongst the four groups. Both the Bulimic and Non-Eating Disordered groups generate clusters which merge in the latter stages of the cluster analysis. In contrast, the Anorexic and Over-Eater groups generate separate clusters which remain distinct at the end of the analysis. The Anorexic and Non-Eating Disordered groups have only a few distinct clusters whereas the Over-Eater and Bulimic groups have many clusters. All four groups generated notable pairs of clusters which are linked at a very early stage in the analysis.

Two groups, the Over-Eater and Non-Eating Disordered groups, produced quite large clusters. In the former case the cluster involved seven variables. These variables were those associated both with appearance and social aspects of attribution. This cluster not only included 'Social', 'Beauty' and 'Presentation' but also 'Cheerful'. This is unusual since 'Cheerful' often is associated less with aesthetics and more with personal feelings such as affection. The other large cluster is from the Non-Eating Disordered group. This cluster included: 'Cheerful', 'Honest' and 'Sociable'. In fact, this exemplifies the personal feeling variables mentioned above.

Each of the groups' cluster analysis began with the linkage of at least one pair of variables, which gives insight into the attributional patterns of the groups. These pairs represent the most common associations between variables. The analysis of the Bulimic group produced two important pairs: i) 'Posture' and 'Presentation'; and ii) 'Competent' and 'Successful'. Thus, the Bulimic group regard 'Posture' as closely related to 'Presentation'. Similarly, 'Competent' and 'Successful' are seen as closely aligned. There were three important pairs which were generated in the cluster analysis for the Anorexic groups. These pairs were: i) 'Attractive' and 'Slim'; ii) 'Affectionate' and 'Honest'; and iii)

'Honest' and 'Straightforward'. The latter two pairs are closely interrelated, although they only form one larger cluster at a later stage in the analysis. The pairs represent two dimensions of weight attribution, the appearance and the feeling aspects, which were discussed in the previous paragraph. The Over-Eater's cluster analysis formed two important pairs: i) 'Neat' and 'Orderly'; and ii) 'Cheerful' and 'Sociable'. The latter pair exemplifies the relationship between 'Cheerful' and 'Sociable' which was found for the 'Fat Relevant' factor in Chapter 2, and for the Non-Eating Disordered group in the current analyses.The Non-Eating Disordered group's analyses generated two important pairs. The two pairs, again represented the appearance/feeling dichotomy. The variables were: i) 'Attractive' and 'Beauty'; and ii) 'Honesty' and 'Sympathy'.

There were several similarities between the groups which would indicate a common attributional pattern. Two pairs of variables are closely linked in each of the four groups. The variables 'Successful' and 'Competent' are always eventually clustered, as are 'Honest' and 'Affectionate'. The first cluster represents a common 'drive' stereotype and the second a common stereotype in interpersonal relations. Closely related to 'Successful' and 'Competent' is the variable 'Ambition' which occurs with them on three occasions, in the Bulimic, Over-Eater and Non-Eating Disordered groups. The exception is the Anorexic group. This is unexpected since 'drive' is a common attribution of thinness and anorexics are considered to have high levels of drive. This suggests, perhaps, that there is a mismatch between the attributions of thinness and those of the Anorexic group. One combination of appearance variables occurs in three out of four of the groups - 'Attractive', 'Slim' and 'Beauty', in the Non-Eating Disordered group, the Over-Eater group and the Anorexic group. A combination of these variables, with the addition of 'Complexion', also occurred in more than one group. 'Complexion', 'Slim' and 'Beauty' occur together for the Over-Eater and Bulimic groups. The variables 'Posture' and

'Presentation' occur together in the Over-Eater and Bulimic groups. The Non-Eating Disordered and Over-Eater groups share the combination of 'Cheerful' and 'Sociable'. The Bulimic and Non-Eating Disordered groups share the pairing of the variables 'Independent' and 'Ambitious'. Finally, the variables 'Honest', 'Affectionate' and 'Sympathetic' appear together in the Non-Eating Disordered and Bulimic groups. All these combinations suggest that there might be common attributional patterns amongst the groups, which are often related to the weight issue, although these may also be key 'people' attributions.

The differences between the groups may give greater insight into the attributions of weight anxiety, rather than the attributions of more general 'people' issues. Three clusters are specific to the Bulimic group. These are: i) 'Posture', 'Presentation', 'Sociable' and 'Neat'; ii) 'Cheerful' and 'Healthy'; and iii) 'Assertive' and 'Sympathetic'. It is curious that 'Sociable' is clustered with those related to meticulousness, but it is unclear why this is so. It is also interesting to note that the second cluster is somewhat unexpected. This may reflect the problems with health that are inherent in bulimia and that it is difficult for those women with bulimia to feel cheerful when they see themselves as unhealthy. Why this should not be the case for the Anorexic and Over-Eater groups is not clear, but perhaps this a factor in the attributions of the Bulimic group. It is also interesting to note that 'Assertive' and 'Sympathetic' are clustered uniquely. Again, it is unclear why this should be so.

The most important difference between the Anorexic group and the others relates to the tightness of the clustering in the former case. This indicates that the attributional pattern of the Anorexic group is clearly differentiated. This pattern is similar to the cases reported in the literature with respect to repertory grids, which will be discussed in Chapter 4. The clusters are of attributions of appearance, health and trust.

Two clusters are unique to the Over-Eater group. One is a cluster which exemplifies meticulousness and comprises 'Neat', 'Clean', 'Orderly' and 'Particular'. The second cluster is 'Straightforward', 'Assertive', 'Independent' and 'Successful'. The first is interesting because these are characteristics which were associated with thinness in Chapter 2, especially the 'Thin Only' factor (with the exception of 'Cleanliness' which appears in the 'Thin Relevant' factor). This suggests an attributional pattern in the Over-Eater group that resembles a common 'thin' stereotype. The second cluster is interesting because it includes 'Straightforward' in a cluster which is essentially one which represents drive. This suggests that for the Over-Eaters this variable is an important aspect of drive, which is not the case for the other groups.

Finally, the Non-Eating Disordered group does not produce any particular unique clusters. What is interesting, however, is that the main clusters accurately represent the three main elements of the weight issue which have emerged during the current analyses and from Chapter 2. The three clusters characterise drive, appearance and feelings. It is striking that these clusters are so distinct.

The results of the card sorts suggest that there are both similarities and differences in the attributional patterns of the four groups of women in relationship to weight anxiety. The most notable of these is the difference between the Anorexic groups and the rest in the structure of the sorts which involve 'Slim', 'Beauty' and 'Attractive'. In addition the card sort structure of the Bulimic group was much more clearly differentiated than any of the other groups.

3.3.3 Demographics

Information on age, height, weight and body mass index was collected for all subjects.

The means, standard deviations and ranges can be seen in Table 3.1.

Table 3.1: Means, Standard Deviations (Std. Dev.) and Ranges (rounded to one decimal

place)

		Bulimic	Anorexic	Over-Eater	Non-Eating Disordered
Age	Mean	24.8	24.8	27.3	24.3
	Std. Dev.	4.3	1.1	5.1	5.7
	Range	18 - 31	25 - 33	21 - 34	19 - 37
Height	Mean	1.66	1.71	1.67	1.71
(M)	Std. Dev.	0.12	0.02	0.13	0.04
	Range	1.6 - 1.7	1.6 - 1.7	1.6 - 1.8	1.6 - 1.8
Weight	Mean	63	43	110.8	58.4
(Kg)	Std. Dev.	9.1	4.7	14.2	3.6
	Range	49 - 81	37.3 - 50	89 - 127	51 - 62
BMI	Mean	23.2	16.1	38.7	20.8
	Std. Dev.	3.1	1.9	3.2	1.4
	Range	18 - 28	12 - 17.7	35.6 - 44	19 - 22.7

The responses to the dieting questions can be seen in Tables 3.2 to 3.4

Table 3.2: Percentage of Subjects Responding 'Yes' to Dieting Questions

	Bulimic	Anorexic	Over-Eater	Non-Eating Disordered
Dieted Ever	89	75	100	71
Dieting Now	67	50	25	57
Overweight	100	75	100	86
Underweight	0	75	0	0

Table 3.3: Reasons Given For Dieting (%)

	Bulimic	Anorexic	Over-Eater	Non-Eating Disordered
Appearance	11	0	0	14
For Oneself	56	50	25	29
Health	33	0	75	43
Never Dieted	0	25	0	1
No Answer	0	25	0	0

Table 3.4: Mean, Standard Deviation (Std. Dev.) and Range for Ideal Body Weight

	Bulimic	Anorexic	Over-Eater	Non-Eating Disordered
Mean	54	47.5	67.9	55.7
Std. Dev.	6.6	5.0	3.8	2.4
Range	44.5 - 63.6	39 - 50.9	63.6 - 73.1	50.9 - 57.3

EDI

All the subjects completed the EDI. However, given the doubts raised about this instrument in Chapter 2 and in later chapters, these results should be taken as only illustrative of the high degree of weight disturbance amongst the eating disorder groups, and should therefore be treated with caution. Table 3.5 shows the total EDI score for the groups, and the scores from those subscales which are pertinent to eating disorders.

Table 3.5: Mean, Standard Deviation (Std. Dev.) and Ranges for Total EDI Score and

Selected Subscales

		Bulimic	Anorexic	Over-Eater	Non-Eating Disordered
Total	Mean	87.3	85.8	59.8	26.8
	Std. Dev.	34.6	27.4	5.2	5.4
	Range	21 - 154	44 - 118	52 - 65	10 - 38
Drive for	Mean	14.1	13.3	6.8	2.7
Thinness	Std. Dev.	5.5	1.8	4.9	2.6
	Range	2 - 20	11 - 16	2 - 13	0 - 7
Bulimia	Mean	12	2.5	4.8	0.9
	Std. Dev.	4.4	3.8	2.2	0.8
	Range	5 - 19	0 - 9	2 - 8	0 - 2
Body Dis-	Mean	19.1	15.8	26.8	9.7
satisfaction	Std. Dev.	8.5	4.7	0.4	7.3
	Range	5 - 27	10 - 23	26 - 27	2 - 18

3.4 Summary

Information was collected using a card sort technique to examine whether there were

differences in the attributional patterns of different groups of eating disordered women.

Four groups of women were compared: a group of women with bulimia; a group with

anorexia; a group of women who over-ate; and a group of women with no known eating

disorder. It was expected that there would be differences between the four groups which might explain why some women develop one type of disorder, whilst others develop another type, or do not develop an eating disorder at all. Indeed, it was thought that there might be greater differences between those women with, and those without, an eating disorder.

Although the sample sizes were small, the results of the card sorts tentatively point to both similarities and differences in the attributional patterns of the four groups of women in relationship to weight anxiety.

The first point to note is the complex interrelated clusters of the Bulimic and Over-Eater groups versus the differentiated clusters of the Anorexic and Non-Eating Disordered groups. The differentiation of the Anorexic group's cluster analysis is striking. This is noted in the literature as being a common feature of the construing of women with anorexia, and so is a feature to be expected in their attributional patterns.

Secondly, there are patterns of attributions, which emerged in the cluster analysis, which are particular to individual groups. These are primarily notable as pairs of variables. These pairs were for: the Bulimic group 'Posture'/'Presentation' and 'Competent'/'Successful'; the Anorexic group 'Attractive'/'Slim', 'Affectionate'/'Honest' and 'Honest'/'Straightforward'; the Over-Eater group 'Neat'/'Orderly' and 'Cheerful'/'Sociable'; and finally, the Non-Eating Disordered group 'Attractive'/'Beauty' and 'Honesty'/'Sympathy'.

The most striking difference between the groups was between the Anorexic group and the rest with respect to the sorting of 'Slim', 'Beauty' and 'Attractive'. In the Anorexic group

'Slim' was associated with 'Attractive' and not with 'Beauty'. In the remaining three groups these variables were clustered.

Other differences which distinguish one group from the rest are also important. There are three clusters specific to the Bulimic group. Two of these clusters are especially interesting. The first is the pairing of 'Assertive' and 'Sympathetic' which indicates an association which at first glance is counter-intuitive: 'Assertive' is a variable often associated with thin stereotypes; 'Sympathetic' is a common attribute of fatness. This may represent an attempt to combine aspects of both the fatness and thinness stereotypes in a group who themselves represent aspects of both fatness and thinness. The second interesting cluster is of 'Posture', 'Presentation', 'Sociable' and 'Neat'. This is an intriguing combination which it is not possible to explain, although it may concern the public aspects of appearance. Two clusters are unique to the Over-Eater group, the first represents meticulousness and the second drive. These are common thin stereotypes, and it would appear that these are influential for this eating disorder group.

Common attributional patterns can be seen in all groups. The pairing, for all groups, of variables 'Successful' and 'Competent' represents a common 'drive' stereotype. Similarly, the pair 'Honest' and 'Affectionate' are a common stereotype in interpersonal relations. Other pairs occur for two of the groups: 'Posture' and 'Presentation' (Over-Eater and Bulimic); 'Cheerful' and 'Sociable' (Non-Eating Disordered and Over-Eater); 'Independent' and 'Ambitious', 'Honest', 'Affectionate' and 'Sympathetic' (Bulimic and Non-Eating Disordered).

Finally, the Non-Eating Disordered group's clusters represent accurately the three main elements of the weight issue which have emerged during the current analyses and from Chapter 2. The three clusters represent drive, appearance and feelings.

A limitation of this study was the small group sizes. It would be interesting to examine the relevance of the clusters with larger groups of eating disordered women. It appears to have some validity, even with such small samples. The technique produced some clusters which supports the current literature, and there were differences between the groups, which resembled differences found between different eating disordered groups by other researchers using different techniques. The findings must, of course, be taken as tentative, not definitive of the role of attributions in weight anxiety and eating disordered behaviour.

Overall, the results suggest that, whilst there are stereotypical patterns which are socially determined and over-ride individual attributions, there are nevertheless attributional differences which differentiate between Anorexic, Bulimic, Over-Eating and Non-Eating Disordered groups. There is evidence to suggest that attributions are an important feature in the development and maintenance of eating disorders. This proposition will be examined in more detail in Chapter 4.

Chapter 4

Attributions of Clinical Weight Anxiety With Repertory Grid Technique

4.1 Introduction

In Chapter 3, weight-related attributions were examined using a card sort technique. Repertory grids have also been used with effect in both knowledge elicitation situations and in studies of eating disorders and weight anxiety. Repertory grids permit the study of both individual and group patterns of attribution, and allow comparisons between different groups of eating disordered women. Like attribution theory, repertory grids (developed by personal construct theorists), are based on the concept that people behave in a manner consistent with the function of a scientist, that is they develop and test theories about their own and other's behaviour (Kelly, 1955).

Several studies of weight anxiety and eating disorders have employed repertory grid technique (Button, 1983, 1985, 1987; Crisp and Fransella, 1972; Fransella and Button, 1983; Fransella and Crisp, 1979; Mottram, 1985; Neimeyer and Khouzam, 1985). Some of these studies have examined the changes in grids before and after treatment. The first repertory grid study was of this kind and they found that only when weight was no longer of major importance did the subjects conditions improve (Crisp and Fransella, 1972). Fransella and Button (1983) examined the relationship of construing of self to the maintenance of weight gain and were able to illustrate the usefulness of repertory grids for treatment direction. They found that the more extremely the 'self' was construed, the poorer was the outcome. However, it appeared that after discharge weight maintenance is associated with a clear idea of what it means to be normal in terms of weight (see also:

Button, 1983, 1985). Other studies have compared women with eating disorders to those without. For example, Fransella and Crisp (1979) compared the construct patterning between normal, neurotic and anorexic women. Their most significant finding was that, rather than the negative relationship they had expected, there was a positive correlation between the constructs 'self at normal weight' and 'ideal weight'. Mottram (1985) compared women with anorexia to matched controls. He found that the anorexic group had a component structure comprising monolithic systems whilst the controls had a more articulated structure. He argued that this indicated that anorexics had a unidimensional mode of thought, whilst the normal controls were more multidimensional in their thinking (see also: Neimeyer and Khouzam, 1985).

The studies discussed above use personal construct theory as their theoretical base, but repertory grids have also been used by researchers with other theoretical orientations (see: Chetwynd, 1973). It is the technique which is of particular value. The repertory grid is a method of obtaining (mathematically) the coherent picture that subjects have of themselves. It comprises both elements and constructs. In this thesis, an element can be considered to be the stimuli (or the 'actors' in attribution theory) and the constructs the attributes. Generally, subjects rate or rank each element on each construct and from this principal components can be extracted which explain or describe the subjects' underlying implicit theories (Slater, 1977).

For the purposes of this study the elements are weight-related 'actors' (in the attribution sense) (e.g. 'Fat Other', 'Ideal Me', 'Thin Friend'), whilst the constructs are the attributions (e.g. 'Healthy', 'Confident', 'Successful'). It is not suggested that these constructs are factors, which would be the case in personal construct theory. Instead, these are attributions taken, primarily, from the variables examined in Chapter 2. Using the

attributions as the constructs, it is possible to examine the way these attributions interact with each other and it is possible to examine how the attributions are influenced by different elements or actors. Finally, it is possible to compare the way both these attributes and actors vary and interact between different eating-disordered and non-eating disordered groups.

In order, to maintain consistency with the technique, throughout the rest of this chapter the attributions will be referred to as constructs, and the different actors as elements.

4.2 Method

4.2.1 Subjects

See: Method section in Chapter 3 (Section 3.2.1)

4.2.2 Instruments and Procedure

The general procedure is outlined in the method section of Chapter 3. The repertory grid used in this study comprised 11 elements and eight constructs supplied by the researcher. There were also four elements and seven constructs elicited from the subjects. The supplied elements were obtained after a study of the literature and through a consideration of the study presented in Chapter 2. For example it was unclear in the Chapter 2 study whether women were describing actors (in the attribution sense) they knew or strangers. The elements used were: Me; Ideal Me; Fat Other (stranger); Thin Friend; Admired Other; Thin Other (stranger); Fat Friend; Thin Me; Who I'd Most like to be;

Boyfriend/Husband/Male Friend; Fat Me. These can be envisaged in three ways, 'self' elements ('Fat Me', 'Thin Me', 'Ideal Me'), 'other' elements (e.g. 'Fat Other', 'Thin Other', Fat Friend' and Thin Friend'), and 'dream persona' elements ('Ideal Me', 'Who I'd most like to be' and 'Admired Other'). The supplied constructs were selected from those variables in Chapter 2 which had been extracted in either the 'fat only' ('generosity' and 'passion') or the 'thin only' ('competence') analyses or had been present in both the 'fat relevant' and 'thin relevant' analyses ('health', 'femininity', 'attractive to self/others' and 'confidence'). Since there were more of these variables than could be usefully presented in a repertory grid analysis, the variables for inclusion were based on a review of the literature. In addition, to the variables from Chapter 2, the variable 'Successful' was also included, as it is often considered part of the concept of drive which is associated with weight anxiety. These constructs were renamed: 'Healthy'; 'Feminine'; 'Passionate'; 'Competent'; 'Successful'; 'Confident'; 'Attractive' and 'Generous' (see: Appendix 7 for the repertory grid).

Subjects were then asked to identify four people who were of particular importance to them. Subjects were then presented with triads of elements. These were the four elements they supplied and five pre-selected elements, 'Me', 'Ideal me', 'Fat me', 'Thin me' and 'Who I'd most like to be'. Three of these elements were presented simultaneously and subjects were asked 'In which way are two of these elements similar but different from the third?'. This procedure was repeated with differing triads until seven constructs were elicited. Though in Section 4.3.2 the subject-elicited constructs and elements are discussed for one individual, for most of this chapter only those experimenter-supplied constructs and elements will be discussed. Subjects were then asked to rate each element on each characteristic on a seven-point scale where 1 is 'not at all' and 7 is 'very', so, for example, the subject would rate the element 'Me' on a Healthy' scale from 7 'very Healthy' to 1 'not

very Healthy'. The 'very' end point was called the pro-construct, and the 'not very' end point was called the anti-construct. Unlike the practice in other repertory grid procedures, the opposite pole of the construct was not obtained.

4.2.3 Analysis

The repertory grids were analysed using the Grid Analysis Package (GAP) originally written by Dr. Patrick Slater, developed and supported by the Medical Research Council and currently administered by the University of Manchester Regional Computer Centre. Individual grids were analysed using the INGRID Program. Group consensus grids were constructed with the SERIES program. The consensus grids were then analysed by INGRID, and then the consensus grids were compared using the DELTA program (see also: Slater, 1976). The central feature of both the INGRID and DELTA programs is principal components analysis. Although more analyses are produced by the programs, only the principal components analysis is presented. However, an example of the full analysis can be found in Appendix 8.

4.3 Results and Discussion

4.3.1 Overview

A number of analyses were carried out on the repertory grid data. For each subject an individual analysis was carried out which provided detailed information about the construct systems and attributions. An example of one of these analyses is presented and discussed. The repertory grids for each group were analysed together to provide a consensus grid

which could then be compared with grids from other groups and analysed to provide a map of the constructs and attributional patterns relevant to that group. So analyses were at three levels: the individual; the group; and inter-group comparisons. Each of these analyses will be discussed in turn. In addition, all the data from the eating disordered groups was pooled and a consensus grid obtained which was then analysed by INGRID and compared using DELTA with the Non-Eating Disordered group.

4.3.2 An Analysis of an Individual Repertory Grid

The example presented below was chosen because the subject's Body Mass Index was very low and her EDI score very high. Her repertory grid represents many of the characteristics associated with anorexia as reported in the literature.

Ms X, a Woman with Anorexia

Ms X is a 30-year-old single woman with anorexia. Her Body Mass Index was 11.9 and her total EDI score was 100. She supplied four elements: 'Mother', 'Sister', 'School-Friend' and 'Work-Friend'. Although seven elicited constructs were sought in this case it was only possible to elicit six. These were: 'Outgoing', 'Assertive', 'Liked by Other People', 'Good Listener', 'Easy Going' and 'Patient'.

The principal components analysis extracted two components which accounted for 71.98% of the variance. The first component accounted for most of the variance - 51.91%. Figure 4.1 illustrates the pattern of both elements and constructs with respect to the two components (a guide to the figure is to be found immediately above the figure).

The elements are well dispersed in the component space with few clusters. Two patterns of association can be seen. Those elements associated with fatness and also 'Ideal Me' and 'Mum' are to be found on the positive axis of Component 2, whilst those elements associated with thinness are found on its negative axis. This suggests that there is some ambivalence towards fatness for Ms.X. This is further emphasised by the isolation of 'Me' on the positive axis of Component 2. Indeed the isolation of 'Me' is interesting in itself because similar findings are reported in the repertory grid literature (see: Fransella and Crisp, 1979).

The constructs are more closely clustered than the elements. They are to be found primarily around the positive axis of Component 1, e.g. 'Outgoing', 'Confident', 'Assertive', 'Successful', 'Competent', 'Attractive' and 'Liked by Other People' are all clustered here. Only two constructs are found to load highly on Component 2, 'Generous' and 'Good Listener'.

The unfavourable relationship between 'Me' and the large cluster of constructs is very evident. Me is considered in terms of the anti-constructs '(not very) Outgoing', '(not very) Confident', '(not very) Assertive', '(not very) Successful', '(not very) Competent', '(not very) Attractive' and '(not very) Liked by Other People'. This suggests low self-esteem, a factor often associated with anorexia. This is emphasised by the manner in which the 'dream persona' interacts with the same pro-constructs.

To summarise, there appears to be unfavourable attributions associated with 'Me', and positive attributions associated with the 'dream persona'. There is an unexpected association of fatness and 'dream persona' elements in contrast to the thinness elements. The positive attributions are found, for the most part, to be very closely clustered. This

grid has shown how a more detailed picture can be drawn of the nature of attributions and

their variations in relevance for different elements using repertory grid technique.

A Guide to the Diagrams of the Representation of Elements and Constructs in

Component Space (taken from the GAP manual):

1. The diagram shows the relationship between the dispersion of both elements and constructs on the plane of the first two components. The plane is treated as a section of the component space within the Component-space, the elements being indicated by points (X) and the constructs by directions.

2. Component 1 is found on the horizontal axis (turn the page so that the elements can be read easily), and Component 2 is found on the vertical axis).

3. The points for the elements are found in the usual way by taking their loadings as the coordinates. Similarities and differences are indicated by the distances between them. For example, 'Mum' and 'Fat Other' can be seen as similar in contrast to 'Thin Friend'.

4. In order to show the relations between the constructs, a circle with a convenient radius is drawn around this distribution with its centre at the origin. The loadings of the constructs define axes crossing it, and their opposite poles are shown projecting from the circumference. The pro-constructs (e.g. very 'Healthy') are labelled.

5. Comparing the positions of the elements with the poles of the constructs reveals the relations between the two. For example, 'Thin Friend' is found near to the pro-construct pole of '(very) Feminine'.

Figure 4.1: Composite Diagram for Components 1 and 2 for Ms. X
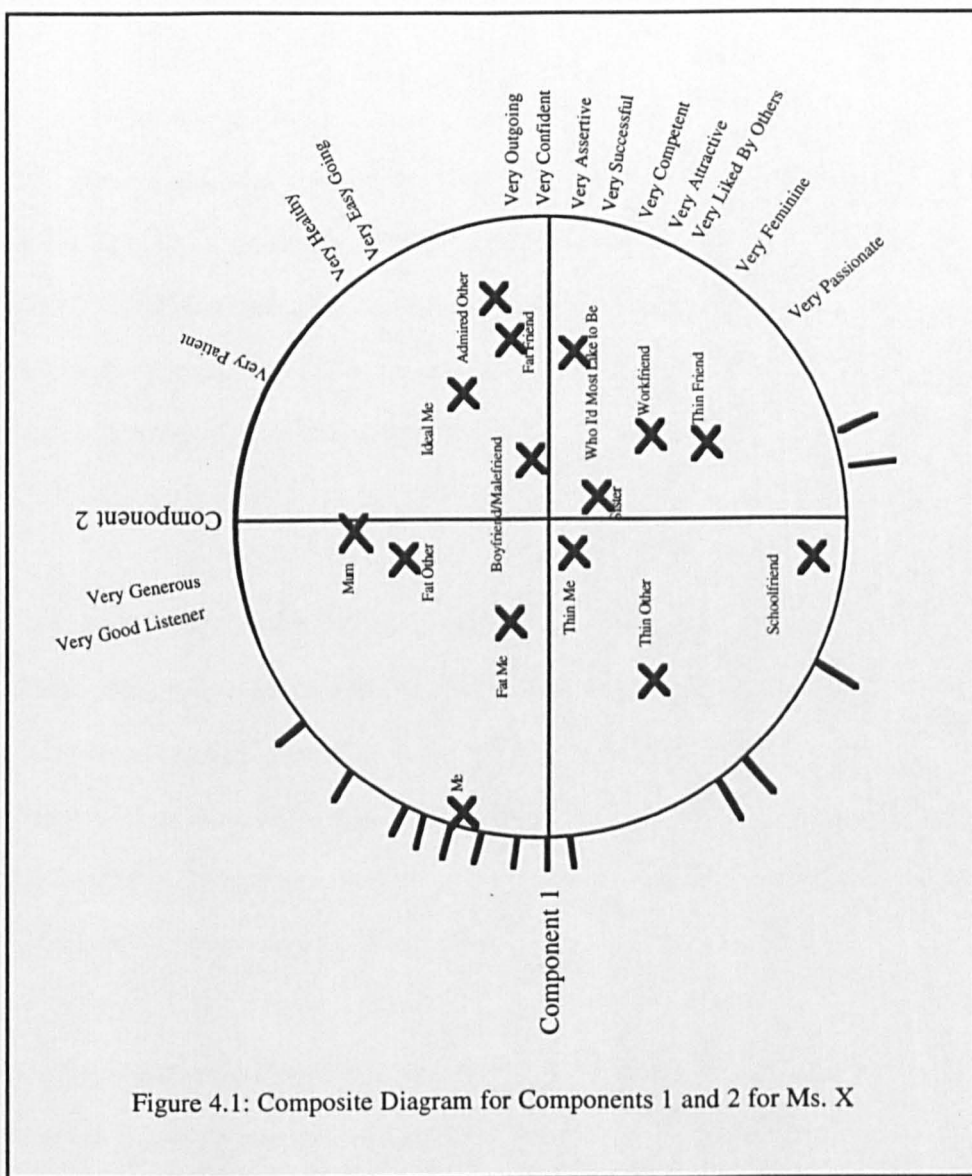
4.3.3 INGRIDS of Consensus Grids

The consensus grids for each group were obtained using the program SERIES. The consensus grids can then be analysed using the INGRID program. This facilitates the examination of the relationships between elements and constructs and their interactions for the groups as a whole.

The Bulimic Group

The principal component analysis of the Bulimic group's consensus grid extracted two components which accounted for 94.82% of the variance. The first component accounted for 90.74% of the variance and could stand alone. This is graphically illustrated by Figure 4.2 which shows the elements and constructs in the component space for the Bulimic group. It is apparent that both the elements and constructs are differentiated by Component 1.

The element 'Me', as with Ms X, is isolated, and loads on both Component 1 and 2. Those elements associated with fatness are to be found on the negative axis of both Component 1 and Component 2. Those elements associated with thinness and with the 'dream persona' are to be found on the positive axis of Component 2, but differentiated by Component 1. The salience of fatness and especially 'Fat Other' is emphasised by the distance of 'Fat Other' from the 'dream persona'.

The constructs are mostly located on Component 1. All the pro-constructs load on the positive axis of Component 1. The constructs associated with drive are found on the negative axis of Component 2. The constructs 'Healthy', 'Passionate' and 'Feminine' are loaded on the positive axis of Component 2.

The most clear interactions are those between 'Fat Other' and the anti-constructs and the 'dream persona' and the pro-constructs. 'Fat Other' is regarded as '(not very) Healthy', '(not very) Passionate', '(not very) Attractive', '(not very) Competent', '(not very) Confident', '(not very) Successful', '(not very) Feminine' and, unexpectedly, (given the results of Chapter 2) '(not very) Generous'. The element 'Me' also interacts with the anti-constructs.

as do 'Fat Friend' and 'Fat Me'. The salience of fatness is strikingly unfavourable. Considering aspects of the 'dream persona', the element 'Who I'd Most Like to Be' interacted most often with the pro-constructs associated with drive and 'Generous', whilst 'Admired Other' was seen as '(very) Attractive' and 'Ideal Me' was seen as '(very) Healthy'. These are subtle differences, but interesting nevertheless.

To summarise, the salience of fatness is marked, particularly in the light of the anti-constructs. The element 'Fat Other' is highly loaded on Component 1. There is evidence too, that the 'dream persona', not the thinness elements, are more influential in the attributions. Different aspects of the 'dream persona' appear to be associated with particular attributions.

Figure 4.2: Composite Diagram for Components 1 and 2 for the Bulimic Group
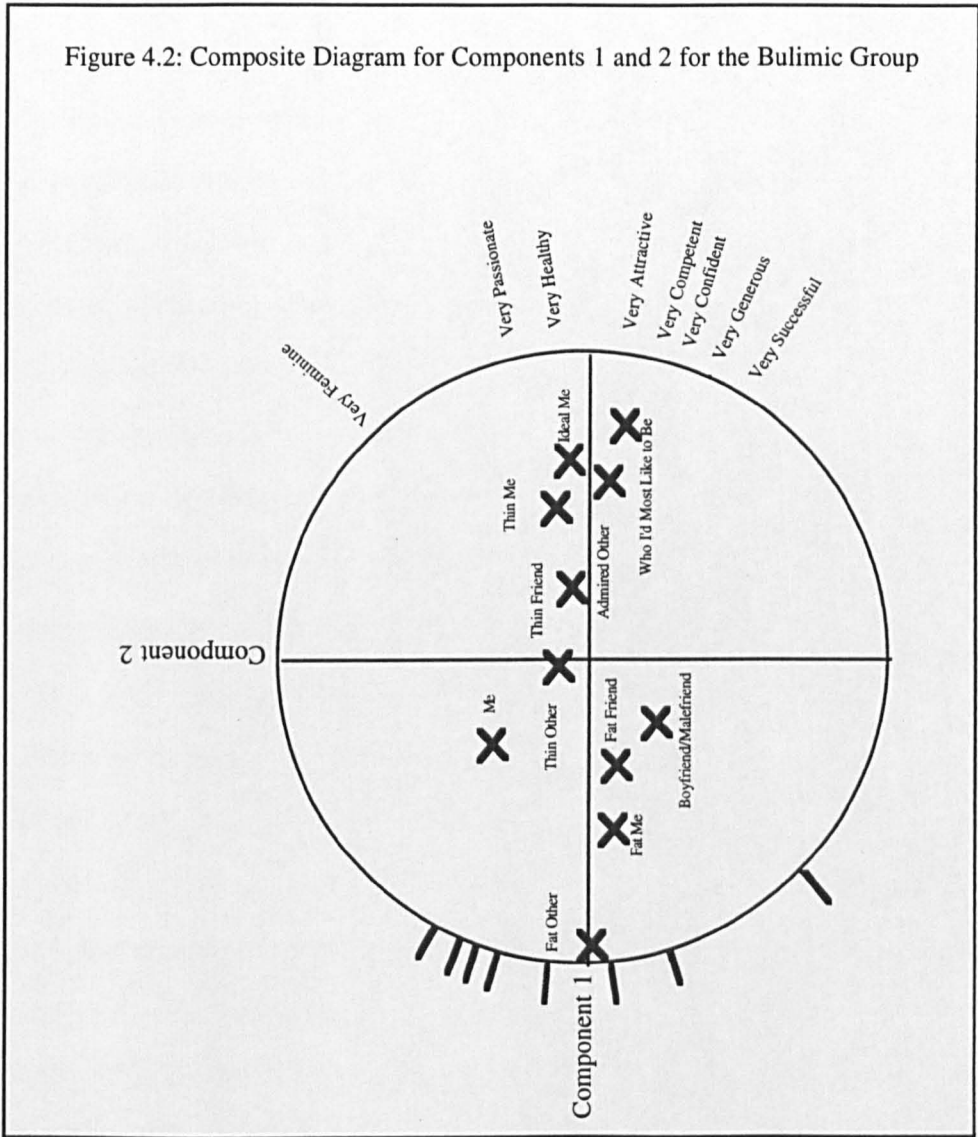
The Anorexic Group

Two components were extracted in the principal components analysis of the consensus grid for the Anorexic group. These components accounted for 95.1% of the variance. The first component accounts for almost 90% of the variance. This is another primarily uni-dimensional construct system. The linear pattern can be seen in Figure 4.3.

The elements are principally divided into two by the intersect of Component 2 through Component 1. Those elements which lie on the negative axis of Component 1 are those associated with fatness, i.e. 'Fat Other', 'Fat Me', 'Fat Friend' and also the element 'Me'. Both 'Fat Me' and 'Me' are to be found at the extreme of Component 1, with 'Me' also differentiated more by Component 2. The element 'Fat Other' is more moderately placed. On the positive axis of Component 1 are those elements associated again with the 'dream persona' and also those associated with thinness. A pattern emerges: those elements associated with thinness are to be found closer to the origin of Component 1 than those associated with the 'dream persona'. Both 'Ideal Me' and 'Who I'd Most Like to Be' are at the extreme of the positive axis of Component 1. The distance between 'Ideal Me' and 'Me' is notable, although both are loaded on the positive axis of Component 2. Indeed it is interesting that those elements associated with some aspect of the self, including 'Who I'd Most Like to Be', are loaded on the positive axis of Component 2, whilst those associated with others, whether they be strangers or friends, are loaded on the negative axis. A distinction is made, therefore, between self and others. The only exception is 'Fat Me' which only just lies on the negative axis, perhaps this suggests that 'Fat Me' is estranged from the other selves for the Anorexic group. This might be understood in the commonly reported body image disturbance. It is also interesting that 'Me' and 'Thin Me' have similar loading on Component 2 which suggests that perhaps, the Anorexic group recognise their thinness and are prepared to attribute it to their selves.

The constructs are differentiated by Component 1. The only construct which is clearly loaded on Component 2 as well as Component 1 is 'Passionate'. The constructs 'Confident' and 'Competent' are clustered closely. The former is not loaded on Component 2 at all. The construct 'Attractive' stands comparatively alone. The constructs 'Feminine' and 'Successful' cluster moderately. Those constructs ('Successful', 'Confident' and

'Competent') associated with drive (in Chapter 2) are loosely grouped around the origin of Component 2.

'Who I'd Most Like to Be' and the construct 'Successful' appear to be related and similarly 'Ideal Me'. It would appear that the Anorexic group have a desire for success. This is noteworthy since, in Chapter 2, thinness was identified with success. In contrast the elements related to fatness and 'Me' are related to the anti-constructs, especially '(not very) Attractive', '(not very) Successful' and '(not very) Confident' and '(not very) Competent'. Fatness in the Anorexic group is perceived in an unfavourable manner and that the self-esteem attributable to 'Me' is very low.

To summarise, the Anorexic group's principal components analysis is characterised by a 'fatness'-'dream persona' continuum, rather than by a 'fatness'-'thinness' continuum. Elements associated with thinness load in a neutral manner, whilst both fatness and dream persona elements load at the extremes of Component 1. Those elements associated with fatness are closely aligned with the anti-constructs, whilst those elements associated with the 'dream persona' are closely aligned with the pro-constructs. There is also another distinction between the self and other elements, differentiated by Component 2, the former loading on the positive axis and the latter loading on the negative axis.

Figure 4.3: Composite Diagram for Components 1 and 2 for the Anorexic Group
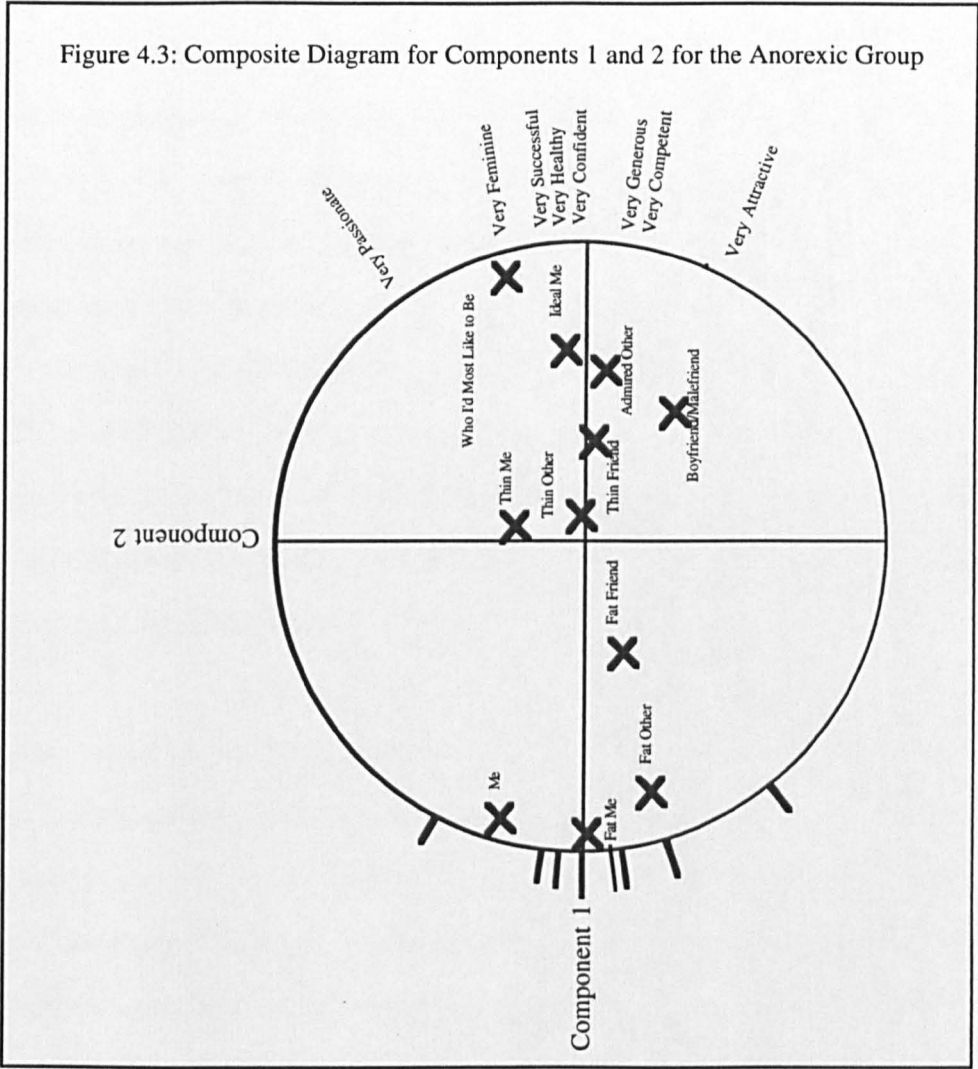
The Over-Eater Group

Two principal components were extracted which accounted for 85.3% of the variance. The results can be seen in Figure 4.4. Unlike the previous principal component analyses, the distribution of elements is more dispersed. The first component accounts for only 74.56% of the variance; as a result, the second component has more influence.

Yet again there is a pattern amongst the elements in the component space. The elements associated with the 'dream persona' are to be found on the positive axis of Component 1.

In contrast 'Me' and 'Fat Me' are to be found on the negative axis of Component 1. However, unlike the previous group analyses 'Fat Other' is not amongst this group and indeed is loaded more on the negative axis of Component 2. 'Fat Friend' too is loaded in the same manner. There is a difference in the roles of the 'friend' and 'other' elements and those associated with the self and the 'dream persona'. The former are loaded to a much lesser degree on Component 1. There is one exception to this and that is 'Boyfriend/Malefriend' which lies at a similar point to 'Me' on Component 1 but loads greatly on the positive axis of Component 2. Why this element should be so distant from the other 'friends' is unclear; it may simply be because of sex-differences, since the other elements are implicitly female.

Once again the constructs load on the positive axis of Component 1. However, there are greater associations with Component 2 than have previously been seen. Two constructs lie equally in both components: 'Healthy' (which loads positively on Component 2); and 'Feminine' (which loads on the negative axis of Component 2). There is a cluster which loads only marginally on Component 2 which comprises those constructs associated with drive. There is also a cluster of 'Passionate' and 'Attractive' and also nearby is 'Generous'. The construct 'Feminine' stands alone, and, with the exception of 'Successful' (which loads only marginally), on the negative axis of Component 2. The construct 'Feminine' may have a specific role to play in the attributions of the Over-Eater group.

The elements 'Me' and 'Fat Me' interact with the anti-constructs, especially '(not very) Confident', '(not very) Competent' and '(not very) Successful'. In contrast the 'dream persona' are characterised by the pro-constructs. The element 'Who I'd Most Like to Be' appears to be defined by the pro-constructs '(very) Passionate' and '(very) Attractive', whilst 'Ideal Me' is characterised by '(very) Competent', and 'Admired Other' by a

combination of '(very) Successful' and '(very) Competent'. It is interesting to note the lack of close interactions between the constructs and the 'friend/other' elements. The construct which is an exception is 'Feminine'. This appears to relate, as a pro-construct, to both 'Thin Friend' and 'Thin Other' and as an anti-construct to 'Boyfriend/Malefriend'.

The principal components analysis for the Over-Eater group extracted a more dispersed patterns of loadings than the previous analyses. However, as with the previous analyses, there is a contrast between 'fatness' and the 'dream persona'. Similarly, there are associations between the 'dream persona' and the pro-constructs, and 'fatness' elements and the anti-constructs. Of interest, is the close alignment of 'Me' with those elements associated with fatness. There is no isolation of 'Me' in this analysis. Finally, centred about the origin of Component 2, as with the Anorexic group, there is a self-other distinction.

Figure 4.4: Composite Diagram for Components 1 and 2 for the Over-Eater Group
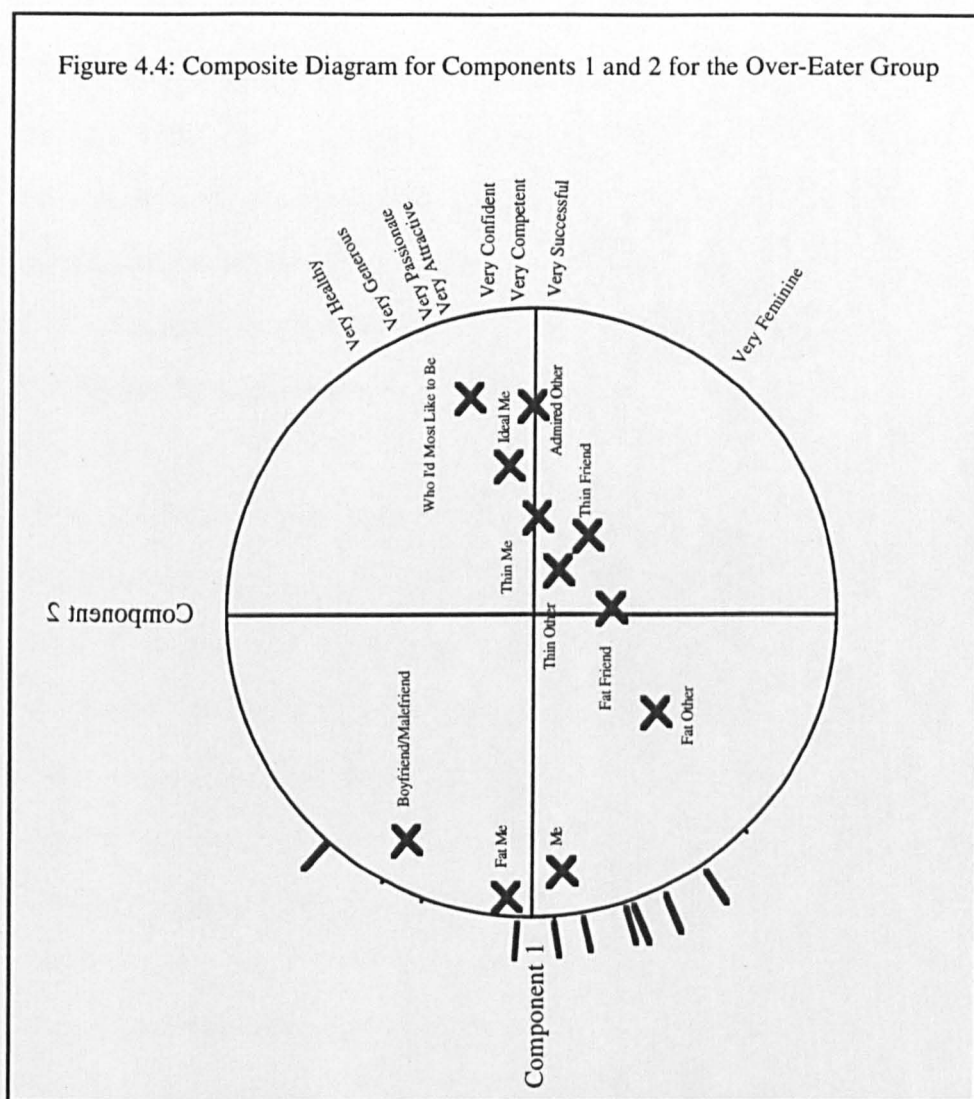
The Non-Eating Disordered Group

The principal component analysis for the Non-Eating Disordered group's consensus grid accounted for 91.98% of the variance. Two components were extracted, the first of which explained 80.82%. With the exception of one element and one construct, the graphical representation of the component space is essentially linear in nature. This can be seen in Figure 4.5.

The elements fall into two clusters. One represents fatness, i.e. 'Fat Other, 'Fat Me', 'Fat Friend' and 'Me', whilst the other is of those elements related to the 'dream persona' and those related to thinness. The former constructs are on the negative axis of Component 1, towards the extreme, whilst the latter are to be found, more moderately, on the positive axis of Component 1. There is one element that does not conform to these patterns: 'Boyfriend/Malefriend' loads primarily on Component 2.

All but one of the pro-constructs are found on the positive axis of Component 1. The clusters are not as clear-cut as they have been in the previous analyses. The constructs 'Healthy', 'Confident' and 'Attractive' cluster together, suggesting perhaps some function of wellbeing. The constructs 'Success' and 'Competence' do not lie together, so cannot be said to represent drive. Only 'Passionate' loads on the positive axis of Component 2. The construct 'Generous' does not conform to any of these clusters. It loads primarily on Component 2 and is at right angles to the other constructs.

The anti-constructs interact with those elements associated with fatness. Those elements associated with thinness and ideals interact with the pro-constructs, though more moderately. Those elements concerning thinness and 'Who I'd Most Like to Be' are defined by the construct 'Feminine'. Whilst the elements 'Ideal Me' and 'Admired Other' are defined more by the other constructs (with the exception, of course, of 'Generous'). The construct 'Generous' defines both 'Boyfriend/Malefriend' and 'Me'.

In summary, once more there is, a continuum between 'fatness' and the 'dream persona'. However, elements associated with thinness are less clearly distinguished from those associated with the 'dream persona'. Once more 'Me' is isolated from the remaining elements. As with the previous analyses, fatness is associated with the anti-constructs,

and the 'dream persona' associated with the pro-constructs. The constructs, however, are not clustered into common factors such as drive or appearance, which suggests a more fluid attributional style.

Figure 4.5: Composite Diagram for Components 1 and 2 for the Non-Eating Disordered Group
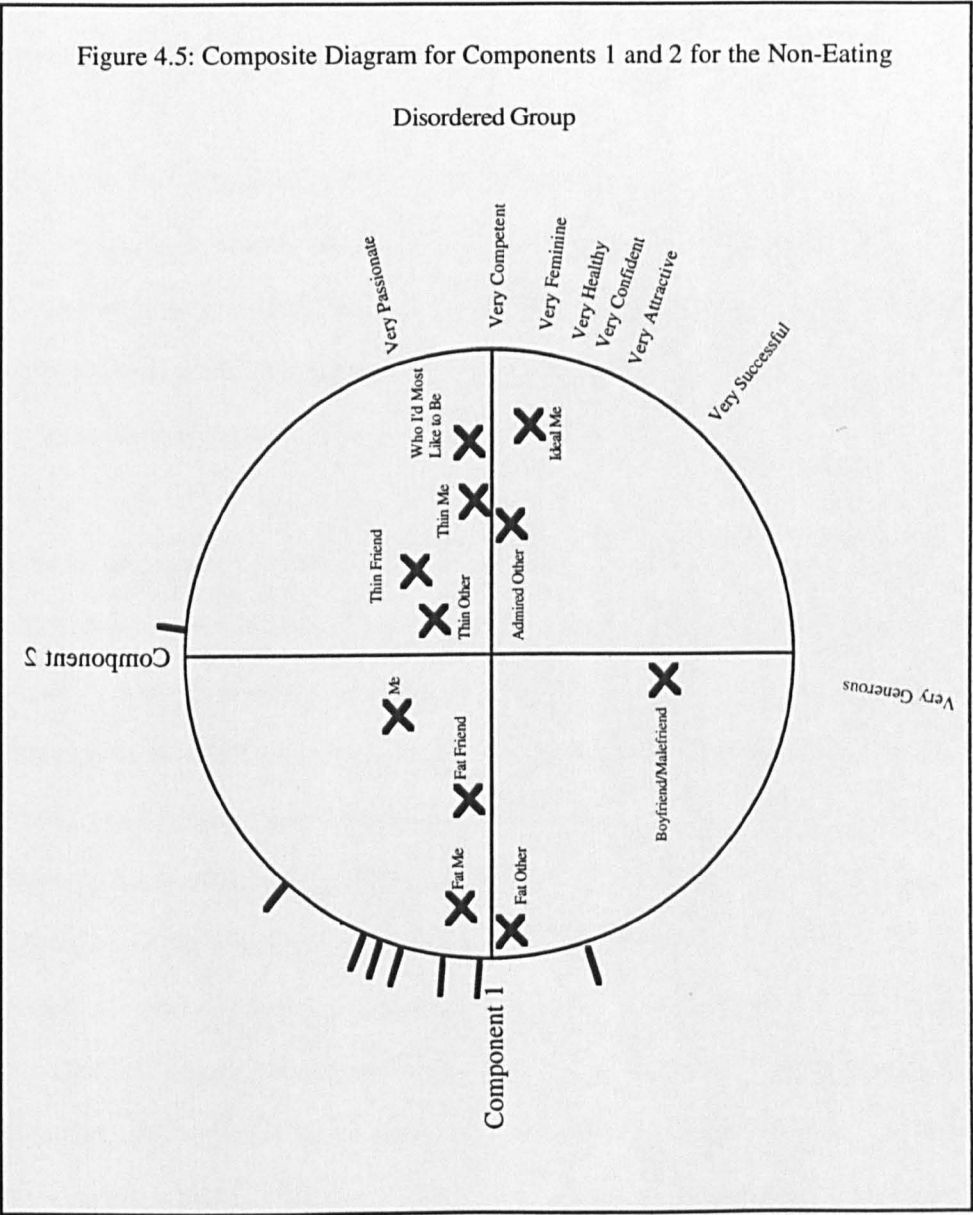
Comparisons and Discussion

The principal components analysis revealed sufficient differences between the four groups

to enable distinctions to be made between them. However, there were many similarities,

and it is these which will be discussed below since they shed light on the attributions

associated with weight anxiety.

The principal components generally revealed high loadings on Component 1, which

would suggest a linear construct system (with the exception of the Over-Eater group). For

the Anorexic, Bulimic and Non-Eating Disordered groups the second component was

closely related to the element 'Me'. The importance of 'Me' has been discussed by, for

example, Button (1983).

Specific patterns amongst the elements emerged from the principal components analyses.

The most unexpected of these was the relative narrowness, and the apparent unimportance,

of the elements associated with thinness. It appeared that there was no support for the

'thin ideal' as there had been in previous studies. Instead there was a consistent support for

the relevance and influence of the 'dream persona'. Moreover, the 'dream persona' did not

appear to be closely related to thinness. This was further emphasised by the salience of

fatness at the other end of the continuum. Fatness appeared to be important in the

construct system, and always in opposition to the 'dream persona'. So it appears that there

is a 'fatness'-'dream persona' continuum in operation and not a 'fatness'-'thinness'

continuum. Further evidence to support the salience of fatness is the manner in which

both 'Fat Other' and 'Fat Me' load at the extreme of the continuum. For the Bulimic and

Non-Eating Disordered groups, 'Fat Other' is the extreme element, for the Over-Eater and

Anorexic groups it is 'Fat Me'.

Amongst the constructs, the patterns were less marked. However, the most notable finding was the manner in which most constructs were found to load primarily on Component 1. Those constructs associated with drive ('Confident', 'Competent' and 'Successful') were found to load closely together. For the eating disordered groups drive seemed to be important, although, there was no unified drive construct for the Non-Eating Disordered group. This difference between the two levels of weight anxiety will be examined in later analyses. For the Over-Eater group, the construct 'Feminine' appears to be important. As it is unclear at this stage what this might be, this will also be examined in greater detail later (see Section 4.3.4).

Most information regarding attributions of weight anxiety can be gained from examining the interactions between constructs and elements in a repertory grid. The most important of these is the unfavourable associations between the fat elements and the constructs. Almost invariably, fatness loads on the anti-constructs, particularly those associated with drive and appearance. In direct contrast, the 'dream persona' invariably loads on the pro-constructs at their most positive. Thinness does not load especially positively on the constructs: its loadings are of a much more neutral nature. So once more, it is the 'fatness'-'dream persona' continuum which is emphasised. The groups, are differentiated by the relationship between the constructs and their 'dream personae'. For example, for the Bulimic group, 'Who I'd Most Like to be' is associated with drive, whilst for the Over-Eater group, it is associated with 'Attractive'.

To summarise, three important results were found from the analyses of the group consensus grids. The salience of fatness in the attributions of all groups was marked. There was little evidence of a 'fatness'-'thinness' continuum; instead there was support for a 'fatness'-'dream persona' continuum. Finally, elements associated with fatness appeared

to differentiate between the different groups. It is possible that the attributions of fatness are a associated with the expression of weight anxiety amongst the different groups. All these findings will be further examined in the group comparisons which follow.

4.3.4 Comparisons Between the Four Groups

One of the principal aims of the repertory grid study was to compare and contrast the attributions of the four groups of women with respect to weight. It was possible to analyse the consensus grids in a manner which allowed the comparison of one grid with another using the DELTA program. A principal components analysis was performed. However, on this occasion measures refer to differences between the two grids, rather than to the original constructs. Thus a correlation between 'Healthy' and 'Attractive' does not signify a relationship between 'Healthy' and 'Attractive' per se but a relationship between the differences in 'Healthy' varying with the differences in 'Attractive'. The component space, therefore, is the space of differences.

Comparison of the Anorexic and Non-Eating Disordered Groups

The principal components analysis extracted two components which accounted for 79.31% of the variance. The first component accounted for 60.70%. The graphical representation can be seen in Figure 4.6 with a guide to the interpretation of the following figures.

The figure shows that those elements which vary most between the groups include 'Who I'd Most Like to Be', 'Me', 'Thin Me', 'Fat Other' and 'Fat Me'. Of these, 'Me' represents the greatest difference between the two groups. A similar picture is seen for 'Who I'd Most Like to Be'. These two elements are at opposite poles of the first component. The

distinction between 'Me' and the 'dream persona' is still important, though this time in respect of differences between the two groups: that is, the relationships between 'Me' and the 'dream persona' vary between the two groups. The element 'Thin Me' also appears to reflect differences between the two groups, indicating perhaps that 'Thin Me' has different roles for the two groups. For one group it perhaps aligns with 'Me'; for the other it aligns with the 'dream persona'. The alignment of both 'Fat Me' and 'Fat Other' also reflect differences between the two groups, but with respect to Component 2.

The constructs 'Confident', 'Successful' and 'Competent' represent differences between the two groups. This is not surprising given the differences observed between the association of drive with the 'dream persona' for the Anorexic group but not the Non-Eating Disordered group.

The interactions between the element 'Fat Me' and the constructs 'Competent' and 'Successful', suggests that there are differences, not only between these elements and between these constructs, but also between their interactions. If one considers 'Fat Me' one can see (by looking at the previous Figures 4.3 and 4.5) that it is defined primarily by the anti-constructs of 'Success' for the Anorexic group, and by 'Competence' for the Non-Eating Disordered group. Similarly (by looking again at the previous Figures 4.3 and 4.5), it appears that the construct 'Confidence' is the key to the element 'Me'. It is possible to conclude, therefore, that 'Confidence' is an important construct with respect to the element 'Me' for the Anorexic group but not for the Non-Eating Disordered group.

In summary, it is possible that the element 'Me' and the construct 'Confident' is a central feature in an understanding of the differences between the Anorexic and the Non-Eating Disordered groups. The relationship between 'Fat Me' and the constructs 'Competence'

and, 'Success' is also important. These differences highlight an association between drive and anorexia, and the apparent unimportance of drive to the women without an eating disorder.

Guide to the Graphical Representation of the Grid Comparisons.

1. As in the previous diagrams, Component 1 is represented by the horizontal axis and Component 2 by the vertical axis.

2. The elements are represented as before.

3. In contrast to the previous diagrams, the construct loadings are shown in addition to the emergent poles (i.e. where they emerge at the edge of the circle as anti-constructs).

4. Only the positive pro-constructs are shown (as small circles) within the circle, highlighted by the arrows.

5. This permits a description and discussion of the differences between the groups on both elements and constructs.

6. The further from the origin, the greater the differences between the groups.

Figure 4.6: Composite Diagram for the Differences Between the Anorexic and the Non-Eating Disordered Groups
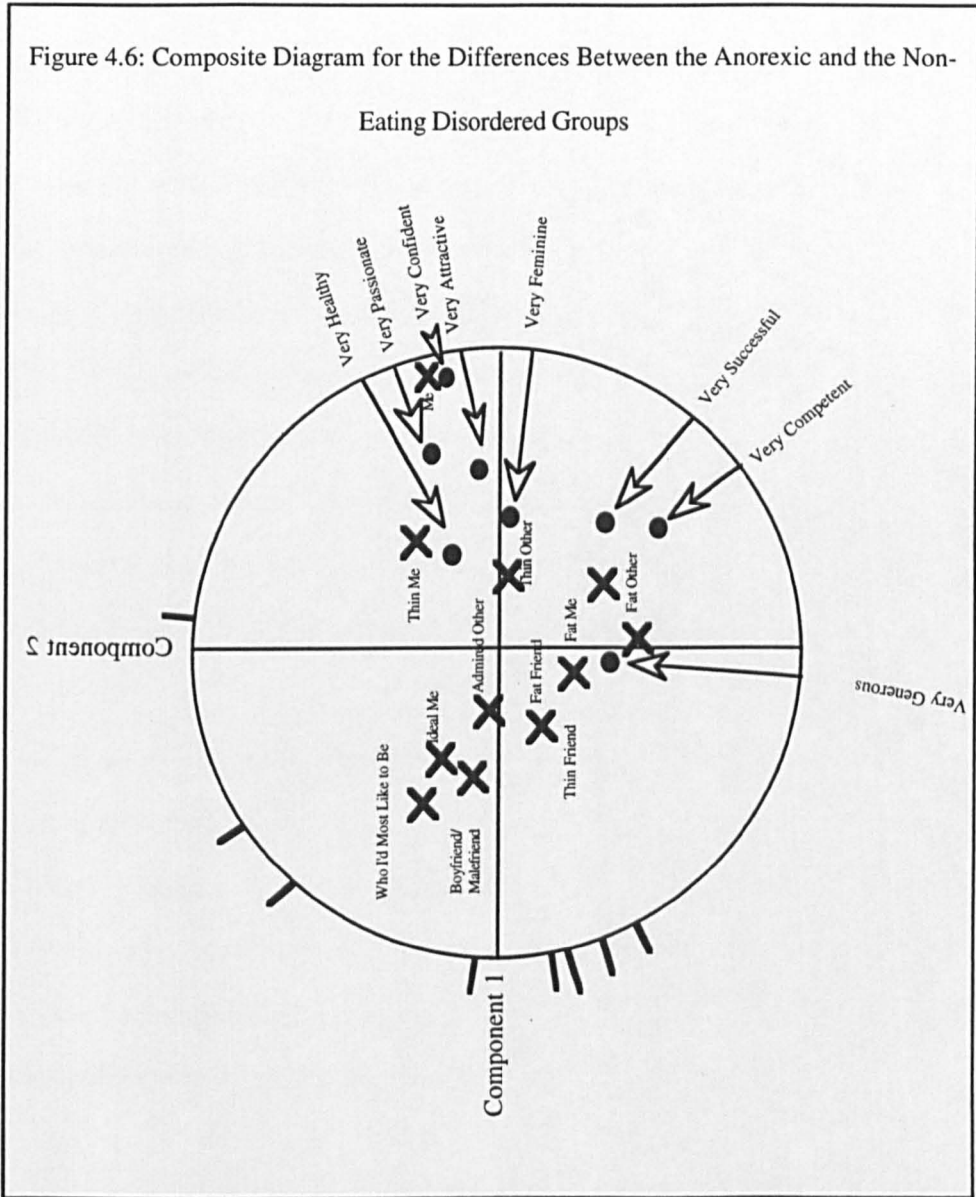
Comparison of the Non-Eating Disordered and Bulimic Groups

The principal components analysis of the grid of differences between the Non-Eating Disordered and the Bulimic groups extracted two components which accounted for 74.65% of the variance. The first component explained 59%, see Figure 4.7.

The most important differences between the groups from the analysis can be seen to be 'Fat Other' and 'Who I'd Most Like to Be'. Both of these elements load primarily on Component 1. The element 'Me' is also seen to be detached from the other elements and loads equally on both components. There is an interesting distinction between 'Fat Me' which loads on Component 2 and 'Fat Other' which loads on Component 1. If one looks back to the relevant Figures (4.2 and 4.5) from the group analyses two points are highlighted. The first is that for the Non-Eating Disordered group the two elements are closely clustered. The second is that for the Bulimic group these elements are more linear, and the loading for 'Fat Me' is much smaller. The implications of these differences will be clarified when the interactions between constructs and elements are discussed.

The construct which loads primarily on Component 2 is 'Feminine'. The constructs occupy different positions with respect to Component 2 - the constructs of the Non-Eating Disordered group lie in its negative axis, that of the Bulimic group on the positive axis. The main differences lie in the relationship of the 'Feminine' construct with the other constructs (see: Figures 4.2 and 4.5). In the Bulimic group 'Feminine' is detached; for the Non-Eating Disordered group it is clustered with 'Competent' and 'Healthy'.

The constructs 'Confident' and 'Attractive' are clustered and represent differences between the groups. Of the two, 'Attractive' is the most important. The differences between the groups lies in the clustering of 'Attractive' with other constructs. For the Bulimic group it is associated with 'Competence', but for the Non-Eating Disordered group it is associated with 'Confidence'.

Turning to the interactions between constructs and elements, there are some very interesting relationships. 'Who I'd Most Like to Be' is associated with both 'Success' and

'Passion'. This neatly illustrates the difference between the two groups: i.e. the Bulimic group want to be successful; the Non-Eating Disordered group want to be passionate. It is also interesting to note that 'Fat Me' and 'Fat Other' are associated with the anti-constructs '(not very) Feminine' and '(not very) Competent'. Both groups define these elements in similar ways with respect to these constructs. This would indicate that the differences are small for these anti-constructs, but for the pro-constructs the differences are greater. This suggests divergent pro-constructs in relation to the elements.

To summarise, the results indicate the importance of 'Fat Other' and 'Who I'd Most Like to Be' in differentiating between the Bulimic and Non-Eating Disordered groups. The constructs 'Attractive' and 'Confident' also reflect differences in attribution between the two groups. Of interest is the very close association of anti-constructs in contrast to the divergence of the pro-constructs. This suggests that there are more differences in the attributions of favourable characteristics, rather than unfavourable, between the two groups.

Figure 4.7: Composite Diagram for the Differences Between the Non-Eating Disordered and Bulimic Groups
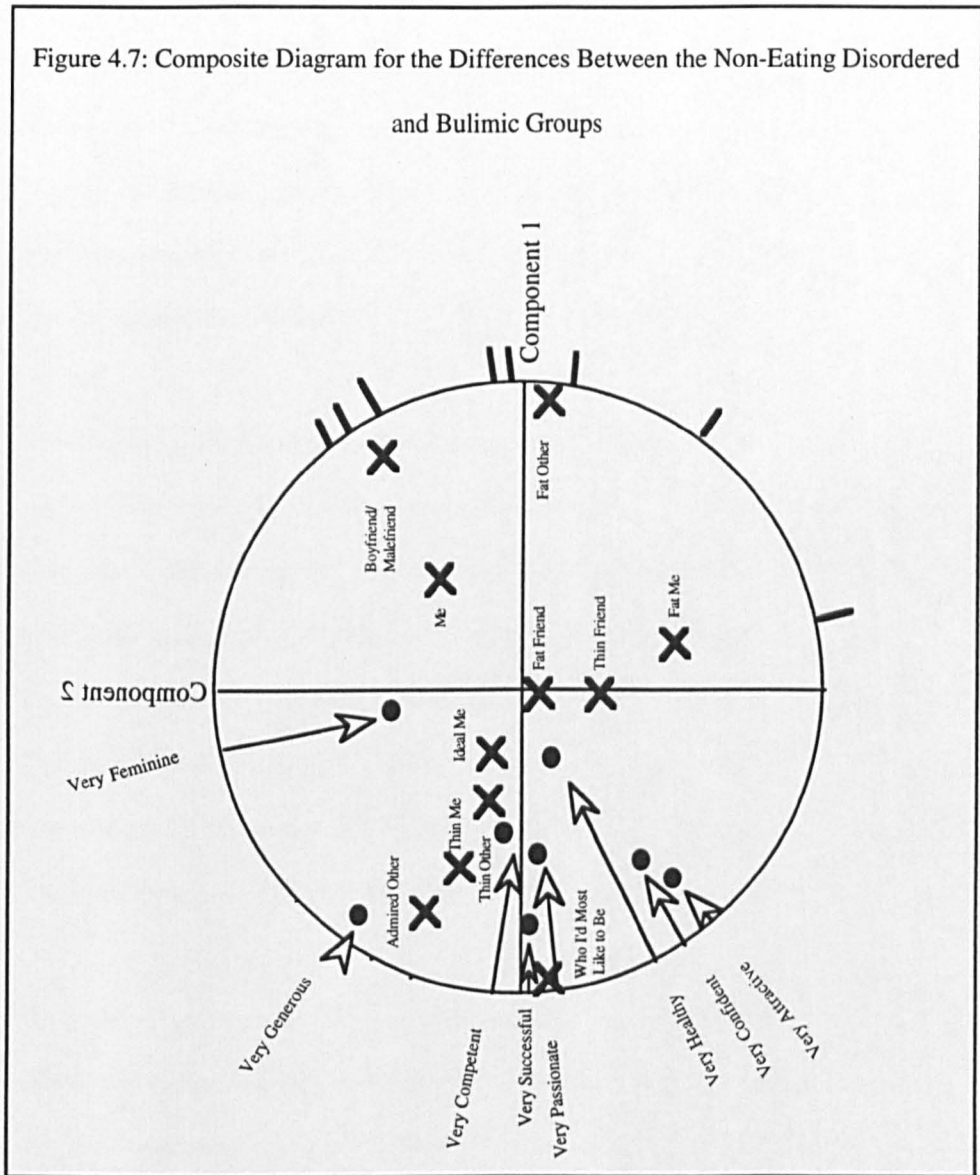
Comparison of the Bulimic and Anorexic Groups

The principal components analysis extracted two components which accounted for 77.5% of the variance. The first component explained 64.63% of the variance. The pattern is primarily linear, see Figure 4.8.

The most important element is 'Me' which is highly loaded on the positive axis of Component 1. This element can be regarded as an effective differentiator between the Bulimic and Anorexic groups. The element 'Fat Me' can also be considered in a similar light. In contrast, the elements 'Thin Other', 'Ideal me' and 'Who I'd Most Like to Be' are tightly clustered around the origin.

The constructs are clustered in the negative axis of Component 1. The most important of these is 'Confident' although the degree to which these are important is only small. Both 'Successful' and 'Competent' are loaded on Component 2. The construct 'Confident' is notable for its lack of any loading on Component 2. It could be said therefore to define the first component, when distinguishing between the two groups. If one returns to Figures 4.2 and 4.3 the role of these constructs is made clearer. In the case of the Anorexic group, Component 1 is defined also by 'Confident'. However this is not the case for the Bulimic group, which is determined to some extent by Component 2.

By referring back it is possible to identify possible differences in the earlier interactions which may explain the differences found in the current structure. For the Bulimic group the anti-constructs '(not very) Generous' and '(not very) Confident' are seen to relate closely to the element 'Me', which is detached from the other elements. For the Anorexic group, these anti-constructs are seen to relate very much more closely to 'Fat Me'. The different influences of 'Me' and 'Fat Me' on the two groups may account for the group differences. There is one other interesting interaction - that found between 'Fat Other' and 'Feminine'. By referring back again it is possible to see that for the Anorexic group the anti-construct alone is defined by the element 'Fat Other'. Finally, it interesting to note that both 'Me' and 'Fat Me' are not defined by any of the emergent constructs. However.

they do align with the anti-constructs '(not very) Passionate' and '(not very) Successful', respectively.

Differences between the Anorexic and Bulimic groups are characterised by the elements 'Me' and 'Fat Me'. Component 1 is defined by the construct 'Confident', indicating that this construct is a specific differentiator between the two groups. The interactions between these elements and constructs reflect the differences in attribution between the Anorexic and Bulimic groups.

Figure 4.8: Composite Diagram for the Differences Between the Anorexic and Bulimic Groups
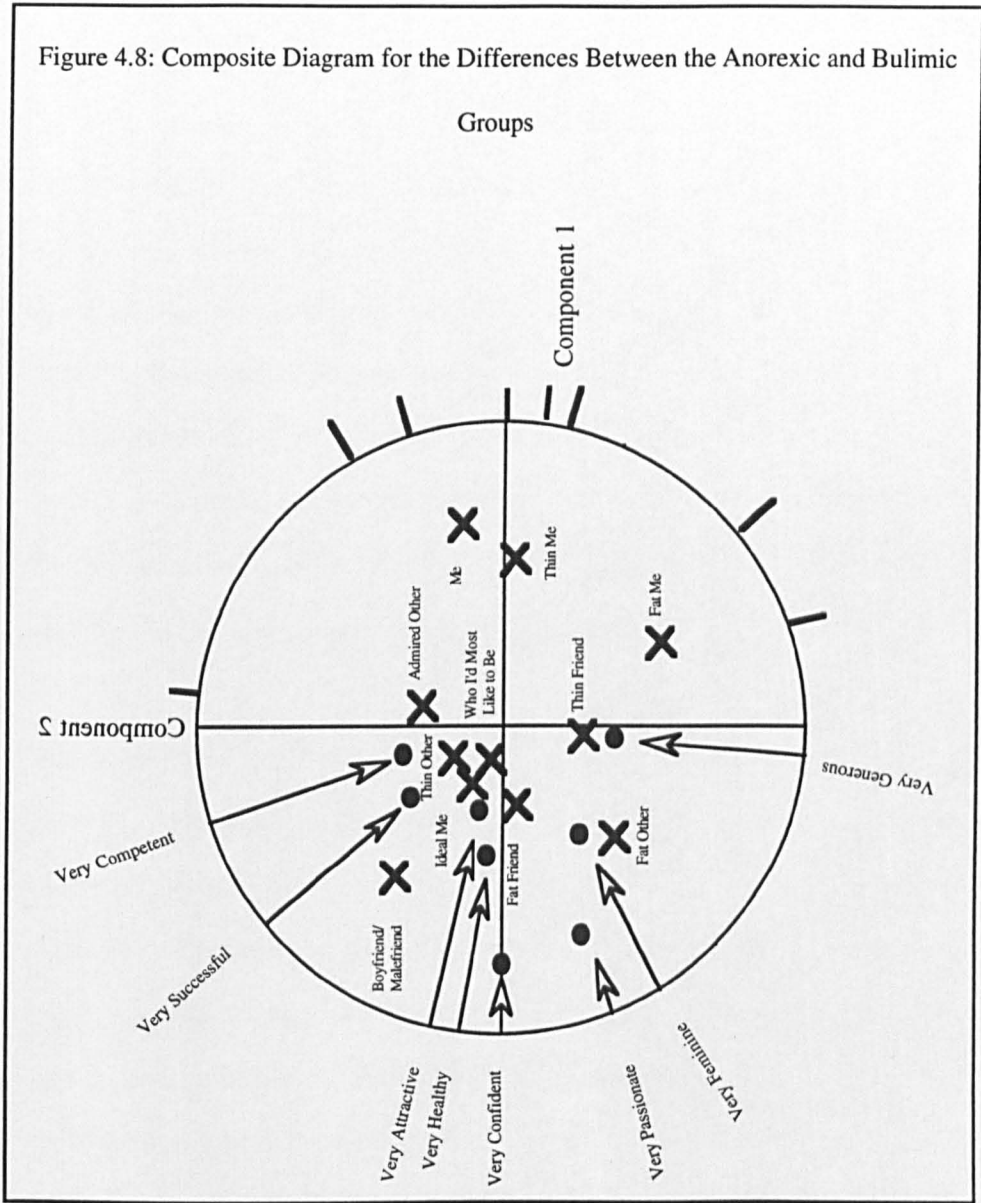
Comparison of the Over-Eater and Anorexic Groups

Two principal components were extracted accounting for 80.77%. The first component accounted for only 58.13%, see Figure 4.9.

There are four elements which show marked differences between the two groups. These are: 'Fat Other'; 'Me'; 'Fat Me'; and 'Boyfriend/Malefriend'. Only one of these elements

loads primarily and positively on Component 1, and that is 'Boyfriend/Malefriend'. The other three elements load principally on Component 2 and on the negative axis (though slightly) of Component 1. Both 'Me' and 'Fat Me' load positively on Component 2 and occupy similar component space. An interesting division is to be found in the loadings of the elements on both components. Those elements associated with the self (with the addition of 'Boyfriend/Malefriend') are found on the positive axis of Component 2, whilst those associated with friends and others (with the exception of 'Boyfriend/Malefriend') load on the negative axis of Component 2. Those elements associated with thinness (except 'Thin Me') are to be found on the positive axis of Component 1, whilst those associated with fatness are to be found on the negative axis of Component 1.

The constructs all load on the positive axis of Component 1. All but one construct loads primarily on Component 1. The exception is 'Feminine', which loads highly on the positive axis of Component 2. This construct, along with 'Successful', 'Competence' and 'Attractive', is the most effective differentiator between the Over-Eater and Anorexic groups. The construct 'Successful' loads the most highly, and exclusively, on Component 1, and it could be argued that this construct defines the component. It appears that the Over-Eater and Anorexic groups regard this construct in different ways. The same could be said about the constructs 'Feminine', 'Attractive' and 'Competent'. There is an interesting pattern of degree of difference with respect to a number of variables which load similarly on Component 2, but at varying degrees on Component 1. For example, the construct 'Confident' shows the least difference, followed by 'Attractive' and 'Competent'. Since these are distinguished primarily by Component 1 which is defined by the construct 'Successful', it is possible to argue that these constructs vary in the degree to which the groups rate these construct on their relationship with the construct 'Successful'.

The interaction of the 'dream persona' (with the exception of 'Admired Other') with 'Successful' is interesting. Again it is noticeable that those elements associated with fatness do not interact with any of the pro-constructs, although the elements 'Fat Me' and 'Me', perhaps, load negatively 'Feminine', 'Generous' or 'Healthy'. The elements 'Fat Friend', 'Fat Other' and 'Admired Other' do not appear to relate to the constructs in any particular way. It is possible, that these elements are not especially associated with the constructs and would perhaps be better defined by other unrecognised constructs.

In summary, the differences between the Over-Eater and Anorexic groups are centred around a self-other distinction. The constructs 'Successful', 'Confident' and 'Attractive' are found to be effective discriminators between the two groups. There is evidence to suggest that some of the constructs are subsumed under the construct 'Successful'. There is also an association of this construct with the 'dream persona'.

Figure 4.9: Composite Diagram for the Differences Between the Over-Eater and Anorexia Groups
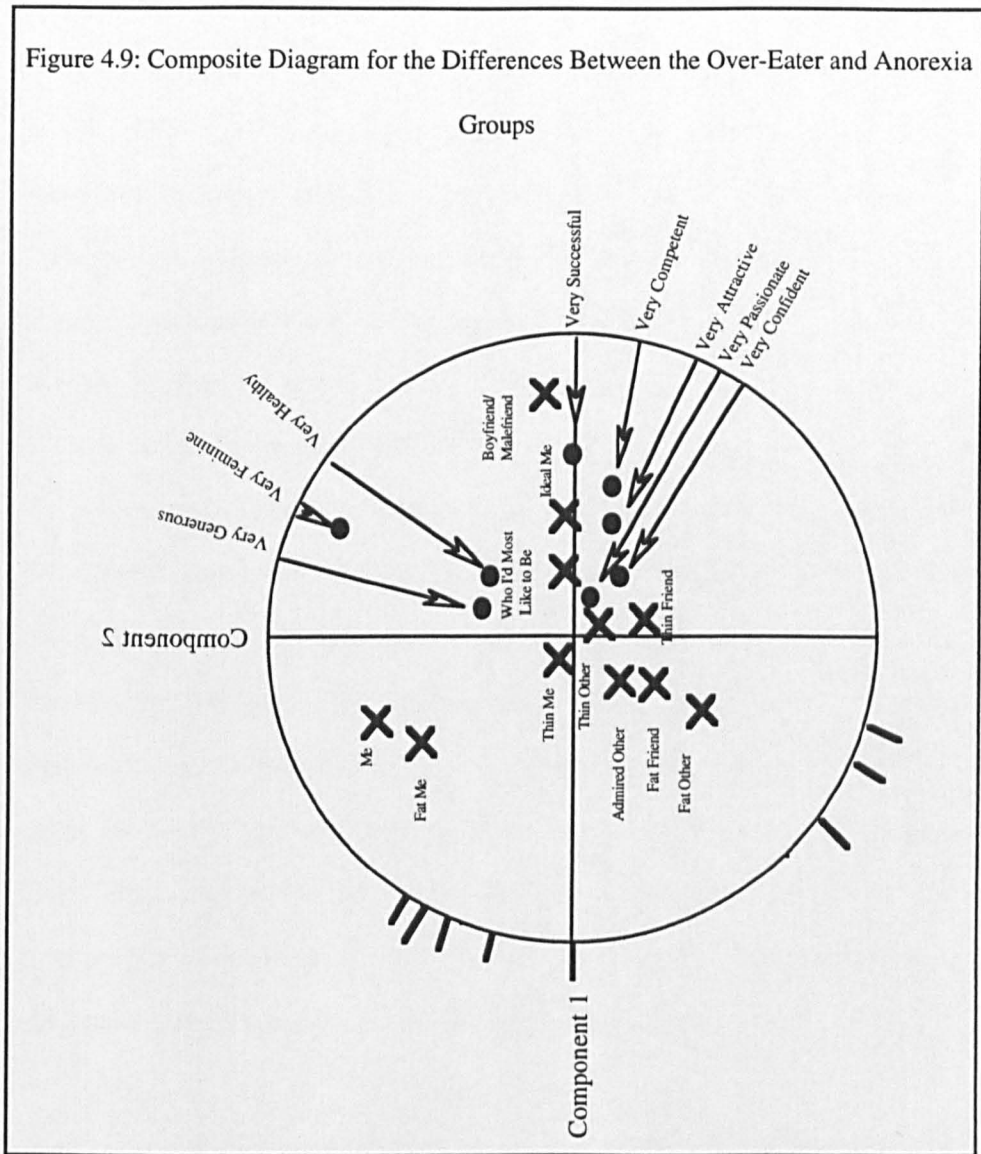
Comparison of the Over-Eater and the Bulimic Groups

The principal components analysis extracted two components which accounted for 76.19% of the variance. The first component explained 61.14% of the variance, see Figure 4.10.

Three elements load on Component 2, 'Fat Me', 'Me' and 'Thin Friend'. The first two load

on the positive axis of Component 2, whilst the last loads on the negative axis. It

appears that those elements associated with thinness and the 'dream persona' (though not

'Admired Other') load on the negative axis of Component 2, which indicates that this

component perhaps represents the 'thinness' - 'fatness' continuum. It is interesting that

'Me' and 'Fat Me' have similar loadings on this component. Component 1, on the other

hand, appears to distinguish between self and friends/others. Those elements associated

with self are on the negative axis, whilst those associated with others are on the positive

axis. It could be said that 'Fat Other' defines Component 1, whilst 'Fat Me/Thin Friend'

defines Component 2. Four elements in particular distinguish between the two groups:

'Me'; 'Fat Me'; 'Fat Friend' and 'Fat Other'. If one looks again at Figures 4.2 and 4.4, the

two groups appear to regard 'Fat Other', 'Me' and 'Fat Me' differently. For the Over-Eater

group 'Me' and 'Fat Me' are those which load highly (but on the negative axis) on

Component 1, whilst for the Bulimic group 'Fat Other' has that position. The

interpretation of the elements concerning 'Me' and fatness appear relevant to an

understanding of differences between Bulimic and Over-Eater groups.

In general the constructs are more tightly located around the origin than the elements. The

three constructs which appear to distinguish more accurately between the two groups are

'Feminine', 'Passionate' and 'Healthy'. Again, earlier results suggested that this would be

the case. The remaining constructs are clustered between (-1, -1) and (0, 0).

The manner in which the elements 'Fat Me' and 'Me' distinguish between the two groups

appears to be related to the differences between the groups on the constructs 'Feminine'

and 'Healthy'. In a similar manner, differences between the groups for the elements 'Fat

Other' and 'Fat Friend' are related to the anti-constructs '(not very) Passionate' and '(not

very) Confident'. The earlier figures show that, for the Bulimic group, 'Fat Other' is related to the anti-construct '(not very) Healthy', whilst no recognisable pattern emerges for the Over-Eater group. It is interesting to see the familiar pattern of 'Fat Other' and 'Fat Friend' being found nearer the anti-construct end of the continuum. However, this does not hold for the elements 'Me' and 'Fat Me'. This suggests that there are differences between the groups in the way these elements are regarded in terms of anti- and pro-construct terms. The pro-constructs are clustered near the thin and ideal elements. This suggests that, since they are close to the origin, they are regarded in a similar way by both groups.

Elements associated with fatness and 'Me' are found to be effective discriminators between the Over-Eater and Bulimic groups, as also is the construct 'Feminine'. Indeed, the interaction between these elements and this construct appear to characterise the differences between the two groups.

Figure 4.10: Composite Diagram for the Differences Between the Over-Eater and Bulimic

Groups

Comparison of the Over-Eater and Non-Eating Disordered Groups

The principal components analysis extracted two factors which accounted for 79.29% of

the variance, the first of which accounted for 56.68%. The diagrammatic representation

can be seen in Figure 4.11.

The elements are dispersed throughout the component space. Close to the origin there is a

cluster of four elements which are primarily associated with thinness and which also

includes the 'Ideal Me'. Their nearness to the origin suggests that these elements are rated very similarly by both the Over-Eater and Non-Eating Disordered groups. It would suggest that these groups share the same attributions for these elements. The dispersion of the remaining elements shows no clear pattern, but most are loaded in a manner which suggests differences between the groups. These findings would suggest that the greatest similarities between the groups are found around the concept of thinness, whilst the greatest differences are found around the concept of fatness and around the element 'Me'.

All the emergent poles of the constructs lie in the negative axis of Component 1, whereas only two constructs load negative axis of Component 2 - 'Feminine' and 'Healthy'. The constructs appear to be grouped in pairs: for example, 'Successful' and 'Attractive'; 'Generous' and 'Competent'. The two groups appear to have similar attributions for 'Competent', 'Generous' and 'Confident', but appear to differ in their attributions of the construct 'Feminine' which is loaded very negatively on Component 1. The separation of 'Successful' from those other constructs associated with drive is interesting and suggests that there is less agreement between the groups on this aspect of drive than on the other facets.

'Fat Other' is distant from any of the emergent poles, whilst 'Fat Me' is not so remote. In contrast, the element 'Me' lies in a line between the emergent poles of the constructs 'Feminine' and 'Healthy'. These are all areas which demonstrate differences between the groups. It would appear that the differences in the way 'Me' is viewed is characterised by the way it is rated on the constructs 'Feminine' and 'Healthy'. Those elements associated with thinness and the ideal are closely aligned with those constructs which show the least difference between the groups. This suggests that, whilst there are differences between the groups in the manner in which 'Me' and fatness elements are rated with respect to some

constructs, there is remarkable consistency between the groups in the way thinness and ideal are rated on constructs associated with competence, confidence and generosity.

To summarise, the elements associated with fatness appear to be the most effective discriminators between the Over-Eater and Non-Eating Disordered groups. Once more those elements associated with thinness and also with the 'dream persona' are found to be less effective at differentiating between the two groups. As shown in the previous analysis, the construct 'Feminine' appears to be the most effective discriminating construct. Overall, it appears that there is consistency in the way both groups attribute for thinness and the 'dream persona', but much more diversity in the way characteristics are attributed to fatness.

Figure 4.11: Composite Diagram for the Differences Between the Over-Eater and Non-

Eating Disordered Groups
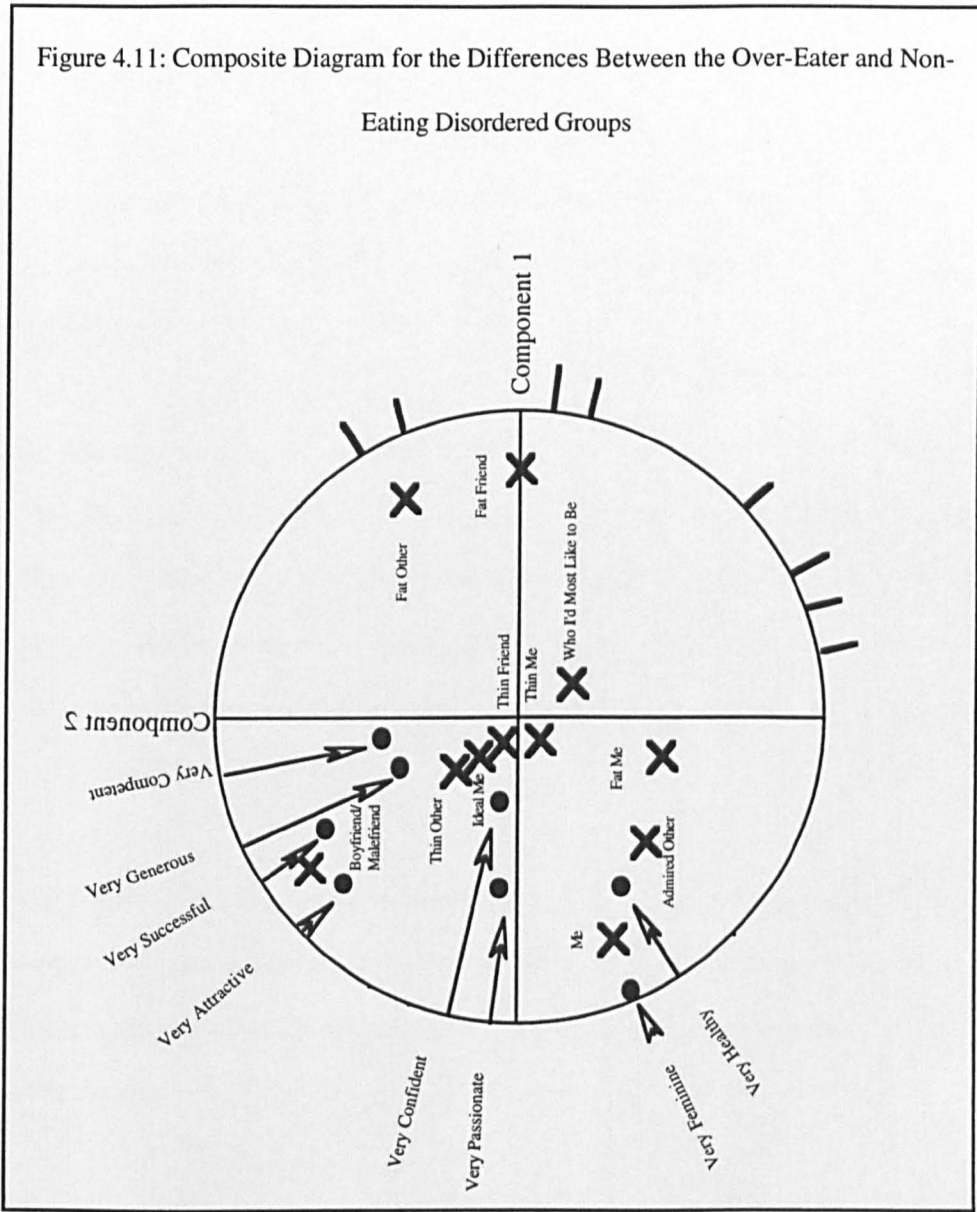
Comparison and Discussion

Two elements in the analyses presented above were effective in discriminating between

the different groups - 'Me' and 'Fat Other'. It appears that the manner in which attributions

are made about these elements is associated with different types of weight-related

behaviour. There is evidence that the Anorexic and Bulimic groups have a similar

attributional pattern for 'Fat Other' and the Bulimic and Non-Eating Disordered groups

have a similar understanding of 'Me'. The other elements related to fatness are also common differentiators. Those elements associated with fatness appear as distinct most often when associated with the Over-Eater group. Perhaps it is not surprising that fatness is a crucial differentiator for this group, since fatness has perhaps much more direct implications.

In contrast, those elements associated with thinness are found near the origin for all the comparisons and suggests that there is a common attributional pattern associated with thinness and also with the 'dream persona' for all groups of women. It would indicate, perhaps, that the attributions of thinness are stereotypical and culturally defined since their uniformity suggests a common interpretation, relatively uninfluenced by personal or group experience.

The constructs are more diverse in their relative importance. Four constructs, in particular emerge as distinct in half or more of the comparisons. These constructs are 'Feminine', 'Successful', 'Attractive', 'Competent' and 'Confident'. The first two of these are clear differentiators.

The most notable interaction is the common theme of fatness and 'Me' elements being distant and often in opposition to, the emergent pro-constructs. This emphasises the unfavourable manner in which fatness is regarded but also stresses the differences between the groups in the manner fatness is attributed. In contrast, and now not at all surprising, is the interaction of thinness elements with the emergent pro-constructs close to the origin. It is in the attributions associated with fatness that the differences between the groups emerge. This indicates that fatness, rather than thinness, may be associated more strongly with weight-related anxiety.

The importance of the construct 'Confident' in an understanding of the factors associated with whether someone might develop anorexia is worthy of comment. It would appear that confidence is a valuable asset in the eyes of the Anorexic group. Similarly, in the comparison of the Anorexic and Over-Eater groups, it is interesting to note that the constructs 'Feminine', 'Attraction' and 'Competence' may be viewed as dimensions of the construct 'Successful' in an understanding of the differences between the Anorexic and Over-Eater groups.

Overall, three findings were found which are pertinent to all the comparisons. The first is that the differences in the groups is associated to the fatness and 'Me' elements, in contrast to the similarities between the groups for the thinness and 'dream persona' elements. Finally, there is evidence of an overriding negativity in the constructs associated with fatness.

4.3.5 Analyses of the Eating Disordered Group

Since there are discussions in the literature as to the distinctiveness of different types of eating disorders, it is appropriate not only to examine the different groups individually, but also to compare those women with an eating disorder to those without. For this purpose the Bulimic, Anorexic and Over-Eater groups were combined and examined as if they were one group. A consensus grid was formed using the program SERIES: this consensus grid was then analysed using INGRID; and finally the eating disordered groups were compared with the Non-Eating Disordered groups using DELTA. The Eating Disordered group had seventeen members and the Non-Eating Disordered group had its original seven members.

Eating Disordered Group INGRID Analysis

The principal components analysis of the Eating Disorder group's consensus grid revealed a two-component structure which accounted for 95.51% of the variance. The structure was essentially uni-dimensional since the first component explained 90.93% of the variance. This can be clearly seen in Figure 4.12.

The elements are delineated along the axis of Component 1. Those associated with fatness and with 'Me' are found on the negative axis, and those associated with thinness and the 'dream persona' are found loading positively on Component 1. The most highly loaded elements are 'Fat Other' and 'Who I'd Most Like to Be'. Once more there is a 'fatness'-'dream persona', and not one of 'fatness'-'thinness', continuum.

The constructs also demonstrate uni-dimensionality. With the exception of two pro-constructs, they lie very close to the origin of Component 2 and on the positive axis of Component 1. Indeed, they are tightly clustered. The two exceptions are 'Generous' and 'Feminine'. In contrast to the remaining constructs, 'Feminine' loads highly on both components. It would appear that, whilst most constructs are similar in their implications, this construct may have a distinct role to play.

As expected, the interactions between elements and constructs are distinct. Two important interactions occur: the anti-constructs all lie near to the fatness and 'Me' elements; conversely the pro-constructs are loaded in a similar way to the 'dream persona' elements. The two distinct constructs have more subtle interactions with the elements. The construct 'Generous' is more closely associated with the thinness than with 'dream persona' elements.

In summary, as one might have expected, the principal components analysis for the Eating Disordered group highlights the most notable of the findings in the previous group analyses. There appears to be a continuum from 'fatness' to the 'dream persona', not one which involves thinness. It is clear that fatness is regarded in an unfavourable fashion, in contrast to the positive ratings attributed to the 'dream persona', and the relative neutrality of thinness ratings.

Figure 4.12: Composite Diagram for Components 1 and 2 for the Eating Disordered
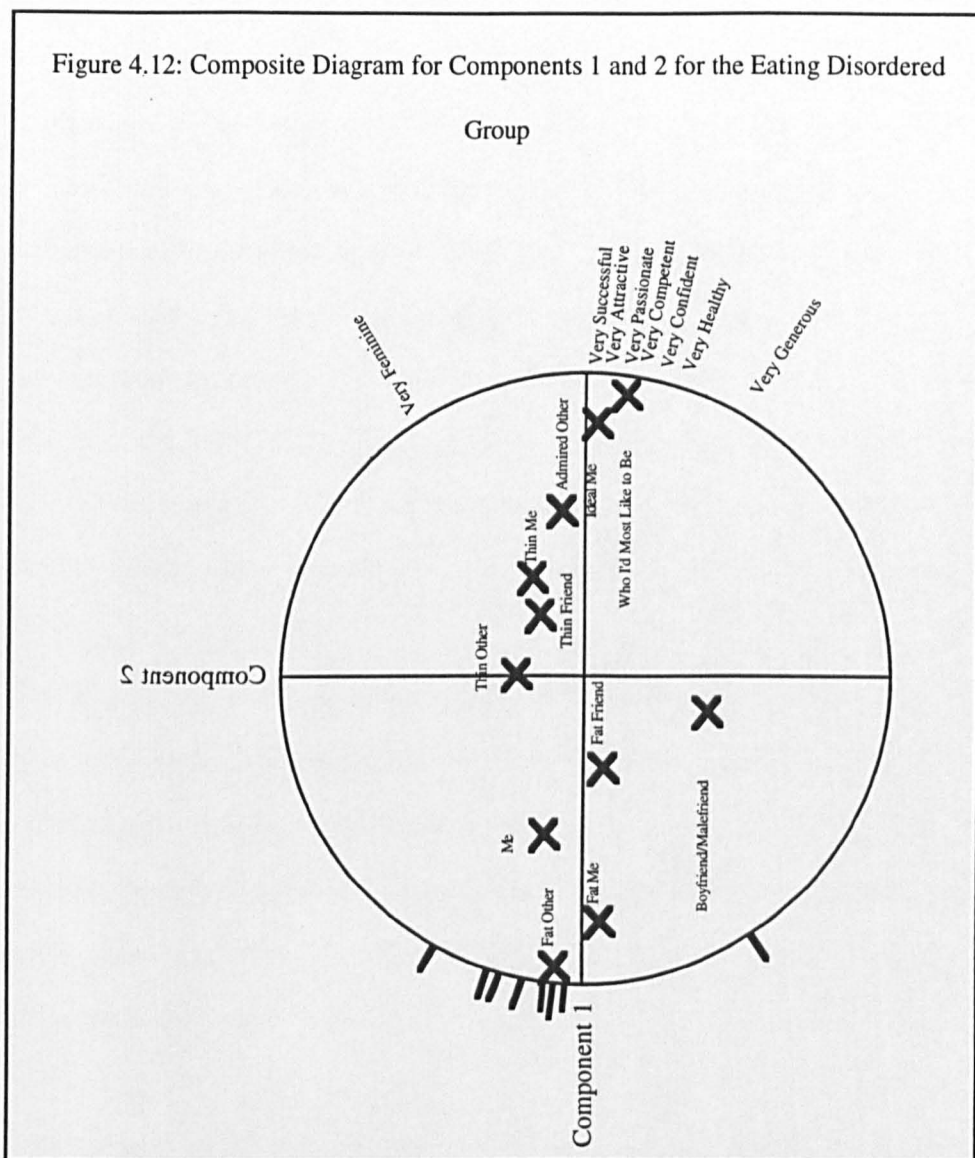
Group

Comparison of the Eating Disordered and Non-Eating Disordered Groups

The principal components analysis of the comparison of the Eating Disordered and Non-Eating Disordered groups reveal a multi-dimensional structure. Two components account for 71.51% of the variance. The first component accounted for only 51.49%. This is much smaller than most of the first components that have been described in the course of this study. The component space can be seen in Figure 4.13.

The elements are dispersed within the component space, and several, particularly 'Me', 'Who I'd Most Like to Be' and 'Fat Other', differentiate well. These results suggest that differences are found in three aspects of weight concern - fatness, 'dream persona' and 'Me'. It is interesting to note that the 'dream persona' is fragmented with respect to importance. As distinguishing factors 'Who I'd Most Like to Be' is crucial; 'Admired Other' is important, but, 'Ideal Me' is relatively unimportant. Similarly 'Fat Other' is important but 'Fat Me' is not. This suggests that the attributional research concerning the actor observer differences may be important.

The constructs all load on the negative axis of Component 1, but three constructs also load on Component 2: 'Feminine', 'Healthy' and 'Generous'. Four constructs are important differentiators - 'Attractive', 'Confident', 'Successful' and 'Generous'. The first three of these are related to the issues of appearance and drive. Earlier analyses have suggested that the former is more important to the Non-Eating Disordered group, whilst the latter is an important facet of Eating Disordered attributions.

This last point is further emphasised when the interactions between constructs and elements are examined. Those constructs commonly associated with drive interact with those elements associated with the 'dream persona'. It appears that, since both these elements and constructs are loaded at a distance from the origin and lie in similar component space, they may represent key differences in the attributions and construct systems of the two groups. This was suggested earlier in these analyses and it would appear that this is may be an important factor in the development of eating disorders. It is interesting also that the construct 'Attractive' also occupies similar space, which would suggest that it also is critical. Earlier analyses pointed to the importance of this construct

to the Non-Eating Disordered group but its lack of importance to those with eating disorders. In this context it is interesting to note the closeness of 'Who I'd Most Like to Be' to the constructs 'Competent' and 'Successful'.

To summarise, the results of the comparison of the Eating Disordered and Non-Eating Disordered groups highlight the previous findings. It is apparent that constructs associated with appearance and drive have different implications for the two groups. There is also evidence of the importance of fatness and the 'dream persona' in differentiating between the two groups. The interactions between appearance and drive and the 'dream persona' also supports the suggestion that these are important facets of weight anxiety.

Figure 4.13: Composite Diagram for the Differences Between the Eating Disordered and Non-Eating Disordered Groups
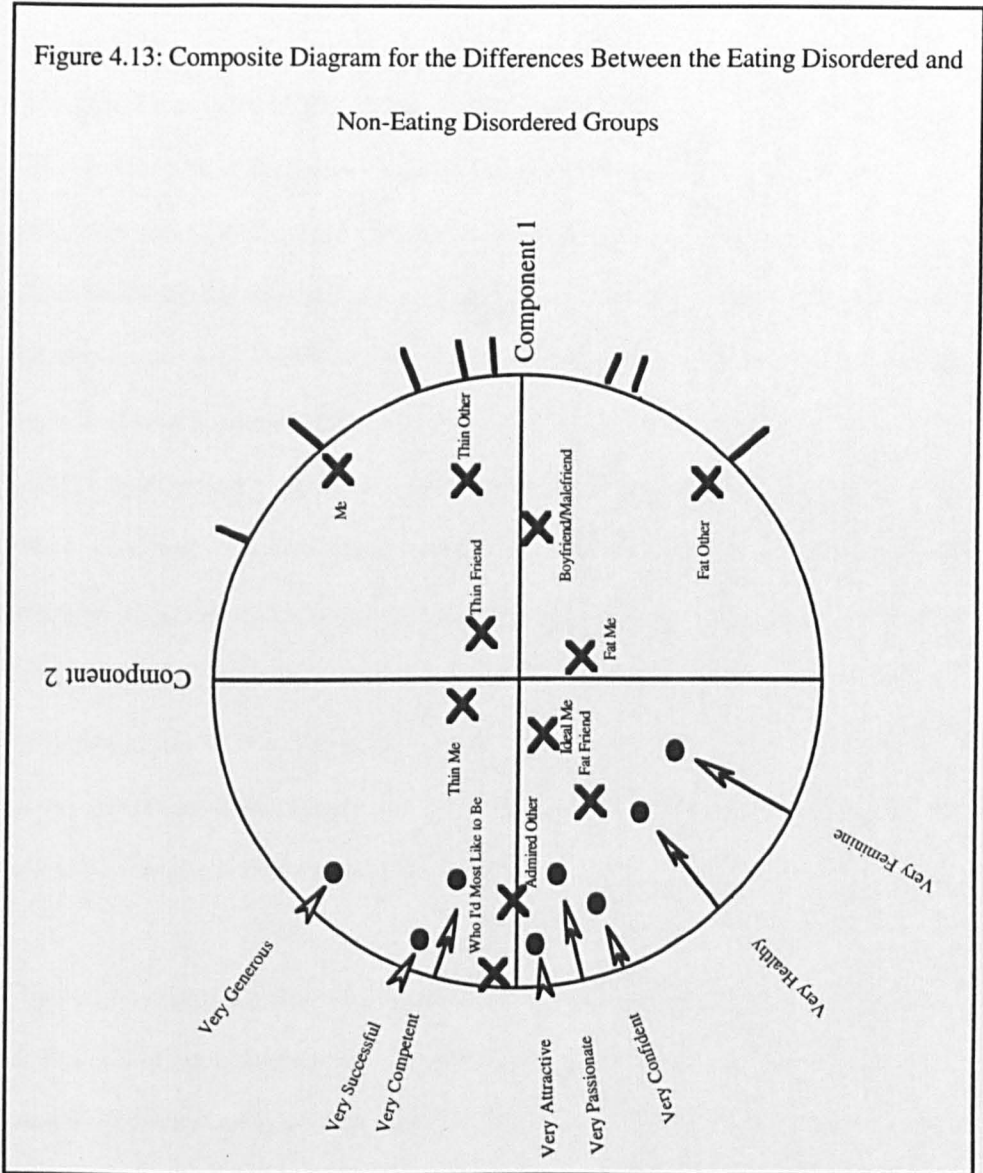
The Eating Disordered Group Discussion and Conclusions

In summary the results of the Eating Disorder group's INGRID analysis characterise the major findings of the individual analyses: the relationship between the 'dream persona' and the pro-constructs; the importance of fatness and its association with the anti-constructs; and the presence of a 'fatness'-'dream persona' continuum rather than a 'thinness'-'fatness' continuum.

The DELTA analysis of the Eating Disorder group and Non-Eating Disordered group highlighted some of the points which were found in the previous analyses. The elements and constructs were dispersed throughout the component space, although the constructs were loaded on the negative axis of Component 1. The most important differentiating elements were: 'Me'; 'Fat Other'; and 'Who I'd Most Like to Be'. These represent the three aspects of weight concern which have been found in the previous analyses - 'Me', 'fatness' and the 'dream persona'. There is evidence too of actor-observer differences, which have been mentioned as a self-other continuum in previous analyses. The most effective discriminating constructs are those associated with drive and appearance - 'Attractive', 'Confident', and 'Successful'. All three are associated with the 'dream persona' and, more specifically, with 'Who I'd Most Like to Be'. Finally, as one would expect, those elements associated with fatness and 'Me' are linked to the anti-constructs, and the 'dream persona' elements to all the pro-constructs.

The results suggest that there are both advantages and disadvantages in combining the data from the eating disordered groups. Overall it appears that, whilst specific details are lost, an overall pattern emerges which represents the major findings of the individual analyses and comparisons. Of course, had only the present analysis been undertaken, it would not have been possible to understand the subtleties of the different behaviours. The unequal group sizes is a problem and it is possible that the Bulimic group unduly influence the results. It appears that, whilst it is valuable to compare the eating disordered groups with the Non-Eating Disordered group, the analysis's value lies in confirming the macro findings of the previous analyses. It is important though to have carried out the analyses on the individual groups to gain the more detailed picture of different eating disordered attributions and behaviours.

4.4 Summary and Conclusions

The attributions of women with and without eating disorders were examined using repertory grid technique. Four groups of women were examined and compared: a Bulimic group; an Anorexic group; an Over-Eater group; and a Non-Eating Disorder group. The repertory grid allowed a closer examination of the attributions made in connection with weight anxiety with respect to different actors. In the previous discussions, the attributions have been referred to as constructs, and the actors as elements. Analyses were at the level of the individual (only one example was given), the group, inter-group comparisons, and comparisons of the Eating Disordered group with the Non-Eating Disordered group.

From the analyses of the group consensus grids, three main findings can be extracted. The first of these, is the salience of fatness. Fatness is consistently associated with the anti-constructs, rarely is it associated with a pro-construct. However, the manner in which fatness is attributed unfavourably is diverse. The differences between the groups are marked, and suggest that the attributions about fatness are associated with what type of eating disorder a person might have. The second, feature of the consensus grids is the neutrality and relative unimportance of thinness. This result is in direct contrast to much of the literature which suggests that women are striving to be thin. Thirdly, it appears that they are striving to achieve a 'dream persona'. Instead of the continuum running from fat to thin, therefore, it might run from fat to a 'dream persona', which is not necessarily thin but is successful and *not* fat. If this is so, eating disorders can be regarded, not as a drive to thinness, but as a flight from fatness. The 'dream persona' remains constant in all

groups, though the reasons for fear-of-fat differ, and do so in a way which can distinguish between the types of disorder.

The diversity of fatness, and the apparent similarities of the 'dream persona' are further emphasised by the comparisons of the group consensus grids. The results of these principal components analyses indicate that there are greater differences between the groups for rating of fatness, particularly 'Fat Other', than between the 'dream persona'. This suggests, once more, that it is the diversity in attribution of fatness which is associated most strongly with weight anxiety. The similarities in attributions of the 'dream persona' are expected, given the cultural prescriptions attached to ideals. However, the relative unimportance of thinness is remarkable.

Finally, the comparison of the Eating Disordered group with the Eating Disordered group serves to emphasise the main points. The Eating Disorder group's INGRID analysis has found an association between the 'dream persona' and the pro-constructs and an association between elements associated with fatness and the anti-constructs. The presence of a 'fatness'-'dream persona' continuum rather than a 'thinness'-'fatness' continuum has also been highlighted. The group comparison showed that the most important differentiating elements were: 'Me'; 'Fat Other'; and 'Who I'd Most Like to Be'. The constructs associated with drive and appearance have been found to be the most effective differentiators.

Chapter 5

The Internal Structure of The Eating Disorders Inventory and Weight Anxiety in Older Women

5.1 Introduction

Women have become increasingly anxious about their weight (Szmukler et al., 1986). The evidence reported in Chapter 2 supports this - 57% reported anxiety concerning being overweight, and 31% scored over 30 on the EDI (Garner et al., 1983b). Further, the results suggested that there were high levels of weight anxiety amongst older women (as measured by the EDI), and that more women than expected, both younger and older, were scoring above the clinical cut-off point. However, in both Chapter 1 and Chapter 2 it was suggested that the EDI (Garner et al., 1983b) might not be effective as a screening instrument. In addition, the literature reports few studies (generally in case study form) of older women with weight anxiety and eating disorders. Two issues, therefore, need to be addressed: first, the subscale structure of the EDI; and, second, weight anxiety amongst older women. The two are interdependent, since the reported high weight anxiety amongst the older women may be an artifact of the EDI's structure.

First, several authors have suggested that the subscales of the EDI are not as stable as had been thought (Cooper et al., 1985; Raciti and Norcross, 1987; Welch et al., 1988).

The work of Cooper et al. (1985) supports some of the reservations expressed in Chapter 2 about the EDI. They suggested that the eight subscales of the EDI could be simplified into two subscales, one specific to eating disorders ('bulimia', 'drive for thinness' and

'body dissatisfaction') and one related to a general level of psychological disturbance. They arrived at this conclusion from their clinical experience, after working with 27 eating disordered subjects.

Welch et al. (1988) carried out a factor analysis to establish the replicability of the eight subscales, using a sample of 587 from three independent groups. They found that the most replicable factor pattern was a three-factor solution. The first factor tapped a concern with shape, weight, and eating (all but two of the items from the original 'bulimia', 'drive for thinness' and 'body dissatisfaction' subscales). The second factor resembled 'ineffectiveness' and 'interpersonal distrust' subscales and the third factor accurately represented the 'perfectionism' subscale. Overall, the results failed to replicate the eight subscales outlined in the EDI. Interestingly, like Cooper et al., they found that one factor resembled eating and weight disturbance.

Raciti and Norcross (1987) using a sample of 268 people also analysed EDI data, extracting factors using a principal components analysis with a varimax rotation. They found eight factors that accounted for fifty percent of the variance. Three of the factors in particular were similar to the Garner et al. subscales - 'body dissatisfaction', 'perfectionism' and 'ineffectiveness'. Raciti and Norcross suggested that their findings provided moderate support for the subscale structure of the EDI. Also, there were some similarities with the findings of Welch et al. (1988). 'Perfectionism' was replicated well in both analyses and 'ineffectiveness' was also replicated although in the Welch et al. study it was combined with 'interpersonal distrust' and there were factors concerning general weight concern.

Second, the older women studied in Chapter 2 did not score especially highly on either the

'drive for thinness' or 'bulimia' subscales which suggested that these women were unlikely

to be bulimic or anorexic on clinical criteria. Moreover, the numbers of at-risk women

seemed unrealistic - if there were that many women with eating disorders then the

problem would be much more serious than has been claimed (Berg, 1988; Crisp et al.,

1976; Gross and Rosen, 1988; Whitehouse and Button, 1988). Some of these total high

scores arose mainly from subscales such as 'ineffectiveness' and 'perfectionism' which,

according to Cooper et al. (1985), represent a measure of general psychological distress. It

may be, therefore, that one weakness of the EDI is in its subscale structure, especially

since that structure was based on clinical experience alone rather than on a combination of

experience and factor item selection.

In a recent review Cosford and Arnold (1992) argued that there were three distinct groups

of older women with eating disorders: those who suffered their first episode as young

women who remained unwell; women who had suffered a relapsing and remitting course

throughout their adulthood; and some women who suffered their first episode in later life.

However, the review was of only 14 reported cases. Four studies are outlined below (Hsu

and Zimmer, 1988; Kellett, Trimble, and Thorley, 1976; Launer, 1978; Price, Giannini,

and Colella, 1985).

Kellett, Trimble and Thorley (1976) reported a case of a post-menopausal woman who

developed anorexia nervosa (Kellett et al., 1976). They suggested that although the

disorder first occurs mainly during adolescence, anorexia nervosa should not be disregarded

in the diagnosis of eating disorders in women over 50. Both Launer (1978) and Price,

Giannini and Colella (1985) report cases of the development of post-menopausal anorexia

nervosa. Hsu and Zimmer (1988) similarly reported five cases of eating disorders in women over 55 years of age.

In a more extensive study Dally (1984) reported 50 cases of 'late onset marital anorexia nervosa'. Of these, 11 were then aged between 41 and 80, with the onset of the disorder for this subgroup occurring between ages 23 and 35. In all these cases the onset was before the menopause.

There are three possible explanations for why the older women in Chapter 2 scored in a manner not predicted by the literature: older women may be more prone to anxiety about weight than has previously been recognised; weight anxiety in older women may differ from the weight anxieties of younger women; or the EDI is not an appropriate screening instrument for older women.

The studies presented in this Chapter, therefore, address two inter-related issues: whether the internal structure of the EDI resembles the subscale structure suggested by Garner et al. (1983) amongst a broad sample of women; and the nature of weight anxiety amongst older women and whether, the internal structure of the EDI replicates its subscales, amongst the latter group of women.

More specifically, the present studies were therefore to examine the following:

1. the factor structure of the EDI in a sample drawn from a normal female population - in the light of earlier studies it was expected that there would be discrepancies between the factor structure and the EDI subscales;

2. the nature of weight anxiety in older women; several questions were posed; are older women anxious about their weight?; if so, is that anxiety a factor of their cohort, of

their age (i.e. post-menopausal), or is it merely the result of more general social pressures?; does weight anxiety in older women resemble the weight anxiety of younger women?; does the subscale structure of the EDI reflect the nature of older women's weight anxiety?

5.2 Study 1: An Analysis of the Internal Structure of the EDI

5.2.1 Method

310 subjects completed the EDI (Garner et al., 1983) (see Appendix 1). The subjects were women aged between 16 and 65 whose mean age was 24.4. The sample was one of convenience. Subjects were already taking part in three undergraduate studies of weight anxiety in women. As with the study in Chapter 2 care was to taken to avoid a student sample, and the women were recruited from attenders at a family planning clinic, a social club, hospital and university staff and other sources. For details of the EDI see Chapter 1.

5.2.2 Results and Discussion

Mean, standard deviation and range for the EDI can be seen in Table 5.1.

Table 5.1: Mean, Standard Deviation and Range for Total EDI Score

	Mean	Standard Deviation	Range
EDI Total Score	29.3	17.6	2 - 78

Factors were extracted using the principal components method and the factors were subjected to varimax rotations. A sort value of 0.4 was used in conjunction with an eigen value of 1.5. Seven factors were extracted, accounting for 60.8% of the variance.

The factors extracted were markedly different than the constructs or subscales outlined by the authors of the inventory and its internal structure as measured by a factor analysis. Table 5.2 shows the subscales according to Garner et al. (1983) and Table 5.3 shows the results of the factor analysis. Item 53 ('I have thought of vomiting to lose weight') was excluded from the analysis since no subject scored on this item.

Table 5.2: To Show the Subscales of the EDI (Garner et al., 1983)

EDI Subscales	Items
Drive For Thinness	1, 7, 11, 16, 25, 32, 49
Body Dissatisfaction	2, 9, 12, 19, 31, 45, 55, 59, 62
Bulimia	4, 5, 28, 38, 46, 53, 61
Perfectionism	13, 29, 36, 43, 52, 63
Interpersonal Relations	15, 17, 23, 30, 34, 54, 57
Introceptive Awareness	8, 21, 26, 33, 40, 44, 47, 51, 60, 64
Ineffectiveness	10, 18, 20, 24, 27, 37, 41, 42, 50, 56
Maturity	3, 6, 14, 22, 35, 39, 48, 58

Importantly, the first factor accounted for 33.5% of the variance with 35 of the 64 items meeting the criteria for extraction on this factor. Items from all the subscales of the EDI

except 'body dissatisfaction' contributed to this factor, and four subscales are represented on this factor by more than half their items: 'maturity fears'; 'ineffectiveness'; 'introceptive awareness'; and 'bulimia'. See Table 5.4. This indicates that over half the items measure some unified aspect of psychological distress. This factor has some relevance to anorexia and bulimia, since there are items which relate to the 'drive for thinness' and the 'bulimia' subscales. However, the size of the variance explained suggests that there is not the specificity of the EDI subscales that has been suggested by Garner et al.

Table 5.3: Items, Factors and Loadings

Factor 1

Item	Load	Item	Load	Item	Load	Item	Load	Item	Load
56	0.84	33	0.80	25	0.75	41	0.69	13	0.65
6	0.84	46	0.80	8	0.75	49	0.69	5	0.64
35	0.84	27	0.80	48	0.75	64	0.67	14	0.61
3	0.83	10	0.80	60	0.74	34	0.67	32	0.52
18	0.82	28	0.79	47	0.74	54	0.67	16	0.46
44	0.81	21	0.77	51	0.71	42	0.67	43	0.44
24	0.81	61	0.76	38	0.70	40	0.66	52	0.44

Factors 2 - 7

	Factor 2		Factor 3		Factor 5		Factor 7	
	Item	Load	Item	Load	Item	Load	Item	Load
	9	0.80	62	0.82	15	0.79	58	0.63
	7	0.80	55	0.82	57	0.74	22	0.67
	59	0.77	19	0.78	30	0.60	39	0.63
	45	0.77	31	0.78	17	0.48		
	11	0.74	12	0.65	23	0.46		
	2	0.68	Factor 4		Factor 6			
	32	0.66	37	0.74	36	0.81		
	16	0.61	20	0.69	63	0.81		
	4	0.50	50	0.65	52	0.62		
	49	0.45	23	0.54	43	0.45		
	64	0.48	26	0.41	29	0.45		

Table 5.4: Relationship of Items that Load on Factor 1 to EDI Subscales

EDI Subscales	Items
Maturity Fears	3, 6, 14, 35, 48
Bulimia	61, 5, 28, 38, 46, 61
Drive for Thinness	16, 32, 49
Ineffectiveness	10, 18, 24, 27, 41, 42, 56
Introceptive Awareness	8, 21, 33, 40, 44, 47, 51, 60, 64
Perfectionism	13, 43, 52
Interpersonal Distrust	34, 54

Table 5.5: EDI Items Loading on Both Factor 1 and Other Factors

Item	Factor 1 Load	Other Factor	Other Factor Loads
16 I am terrified of gaining weight	0.46	2	0.61
32 I am preoccupied with the desire to be thinner	0.52	2	0.66
43 My parents expected excellence of me	0.44	6	0.45
49 If I gain a pound I worry that I will keep gaining	0.69	2	0.45
52 I feel I must do things perfectly or not do them at all	0.44	6	0.62
64 When I am upset I worry that I will start eating	0.67	2	0.48

The remaining six factors account for 26.5% of the variance and 34 items are loaded on these factors. Several items appeared in both Factor 1 and in other factors and these can be seen in Table 5.5. Item 23 ('I can communicate easily with others') appeared in both Factor 4 and Factor 5. One item (number 1 - 'I eat sweets and carbohydrates without feeling nervous') was not loaded on any factor. Apart from Factor 6, which consisted of five out of six 'perfectionism' items, the remaining factors were substantially incomplete representations of the EDI subscales.

Two factors warrant further comment. First, Factor 2 comprised items from the 'bulimia', 'drive for thinness' and 'body dissatisfaction' subscales. This factor is similar to that found by Welch et al. (1988) which represented shape, weight and eating. However, there are notable exceptions (e.g. 'I eat or drink in secrecy' and 'I like the shape of my buttocks') which do not load on this factor. Second, Factor 3 consisted of only five of the nine items of the 'body dissatisfaction' subscale whereas in previous studies this subscale was well replicated (see: Welch et al., 1988; and Raciti and Norcross, 1987). The 'body dissatisfaction' items which did not load on this factor were all those which took the same form ('I think that my stomach/thighs/hips/buttocks is/are too big/large'). These items (2, 9, 45 and 59) all load on Factor 2. Thus items on the original 'body dissatisfaction' subscale factored in a distinct fashion with Factor 3 comprising all the positive items ('I think my stomach is just the right size') whilst Factor 2 is loaded with negative 'body dissatisfaction' items.

This distinction between positive and negative items can also be seen elsewhere in the factor analysis. Items loading on Factor 1 are almost all negative (e.g. 'I feel inadequate'; 'When I am upset I worry that I will start eating again') and many of these are emotional in tone. In contrast items loading on the remaining factors (excluding those from Factor

3) are generally more positive, less emotional, and factual (e.g. 'I trust others' or 'I eat when I am upset'). This differentiation may help us to understand the results of the factor analysis. Perhaps subjects answer in distinct ways to positive versus negative, and emotional versus factual statements when responding to the EDI. It is also possible that these different types of responses are more general and may play some mediating role in the cognitive processing of weight anxiety. For example, when responding to negative questions subjects may develop a temporary 'negative' set and may then have a heightened response to similarly worded questions or statements. A similar effect is possible with respect to positive or emotional questions.

Further research is needed to assess the stability of the factor structure of the EDI but since there is little consistency between this study and the previous ones the prospects are not favourable. Even if this structure is stable the effectiveness of the EDI as a screening instrument is questionable. It may be that despite the ad hoc way in which the subscales of the EDI were produced, these subscales measure something of relevance to eating disordered women, but this needs to be demonstrated empirically as has recently been suggested by Welch et al. (1990). If this is so then the EDI might still provide a useful screening tool since its subscale structure may be specifically relevant to clinically weight anxious women.

5.3 Study 2: Weight Anxiety in Older Women

5.3.1 Method:

There were 97 female subjects whose ages ranged from 50 to 84. The subjects were recruited from a subject panel maintained by the Department of Psychology and the University of Nottingham, from church over sixties groups and from attenders at academic conferences and summer schools. In addition some comparisons were made with a group of young women whose ages ranged from 17 to 29 (n = 37), once more care was taken to avoid a student-biased sample.

Subjects completed two questionnaires, the EDI and a general information questionnaire designed for the study. Questions concerning weight and height characteristics, dieting patterns and family and career details were asked. In particular, these asked for details of past dieting, ideal body weight, marital status, number of children and work patterns (see Appendices 1 and 9).

5.3.2 Results and Discussion

Lifestyle and Employment Patterns

Weight attitudes and employment patterns were examined in relation to weight anxiety. Means, standard deviations and ranges for the demographic details are shown in Table 5.6. Table 5.7 shows the results of the tests of significance (binomial test) for the dieting, family and career questions. Few women were 'Dieting now' ($p < 0.001$) or were worried about being underweight ($p < 0.001$). Most women had at some time been employed ($p < 0.001$) and a significant number of women were employed part-time. In addition

significant chi-squares were found for 'Why do you diet?' (p < 0.001) - mainly for health reasons - and 'What is your marital status?' (p < 0.001) - most women were married.

Table 5.6: Demographic Data

Variable	Mean	Standard Deviation	Range
Age	60.6	7.5	50 - 84
Height (M)	165.4	7.1	143 - 183
Weight (Kg)	66.3	10.1	44 - 102
Body Mass Index	24.2	3.2	17 - 34
Ideal Weight (Kg)	61.1	7.0	48 - 82
Number of Children	2.0	1.2	0 - 6
Number of Dependent Children	0.3	0.6	0 - 3
Number of Dependent Relatives	0.1	0.5	0 - 3
Job Satisfaction	4.1	1.1	1 - 5

Table 5.7: Comparisons of Responses

Variable	Response		Binomial
	Yes	No	
Have Dieted	56	41	0.155
Are Dieting	19	78	0.001
Overweight	50	47	0.839
Underweight	9	88	0.001
Were Employed	95	2	0.001
Full Time	39	}	0.055
Part Time	20	}	
Are Employed	46	51	0.685
Full Time	16	}	0.019
Part Time	30	}	
Career	44	53	0.385

The results indicate that although few of the women were dieting, those that dieted did so for health reasons. This is different from the findings reported in Chapter 2 where those women who were dieting were doing so for themselves, but is not a surprising finding since there is more medical pressure on older women not to be overweight because of the danger to their hearts. Many of them were anxious about being overweight. That few older women were 'Dieting now' is similar to the earlier findings which suggest that although there is an intention to lose weight, actual dieting is less common.

That most women had been employed at some time is not unexpected, since even those women who had not worked since marriage would probably have done so before marriage.

Mean, standard deviation and range for the total EDI score can be seen in Table 5. 8.

Table 5.8: Mean, Standard Deviation and Range for Total EDI Score

	Mean	Standard Deviation	Range
EDI Total Score	26.1	15.0	1 - 67

High Versus Low Weight Anxiety

From the groups of older women, two smaller samples were selected. Although the subscale structure of the EDI was not replicated for the sample as a whole (see below), that is not to say that the total score on the EDI is not reliable as a predictor of weight anxiety. Therefore, further analyses were carried out based on the total EDI score. All subjects who scored less than sixteen were included in a 'low' scoring sample (n = 27) and those scoring greater than 33 were included in the 'high' scoring sample (n = 27). The demographic data of these two groups can be seen in Table 5.9. Comparisons were made between these groups using t-tests and chi-square, the findings of which can be seen in Table 5.10. Those women with higher weight concern were found to have dieted more (p < 0.01) than those with low weight anxiety. Similarly, they were more likely to be dieting at present and to be worried about being overweight (p < 0.01). The high weight anxiety group were more likely to give health as a reason for dieting (p < 0.001). In addition those women who were more anxious were also less likely to be employed at present (p < 0.01)

Table 5.9: To Show the Demographic Data for High and Low EDI Scorers

Variable	Mean		Standard Deviation		Range	
	High	Low	High	Low	High	Low
Age	62	58	1.3	1.3	52 - 75	50 - 76
Weight (Kg)	67	64	1.4	2.4	53 - 80	44 - 101
Height (M)	164	165	1.4	1.4	143 - 172	152 - 180
B.M.I.	25	23	0.5	0.6	19 - 30	17 - 31
Ideal Weight. (Kg)	61	60	1.1	1.5	47 - 70	49 - 82

Table 5.10: Results of Comparisons of High and Low EDI Scorers

Variable	F	Significance
Age	3.4	0.07
Weight (Kg)	0.8	0.36
Height (M)	0.3	0.59
Body Mass Index	3.46	0.07
Ideal Weight (Kg)	0.45	0.30
Job Satisfaction	0.47	0.50
χ^2		
Dieted	7.39	0.01
Dieting	3.85	0.05
Overweight	10.57	0.01
Underweight	0.91	0.50
Why Diet	20.89	0.001
Marital Status	2.60	0.75
Were Employed	2.11	0.25
Full/Part Time	4.97	0.10
Are Employed	16.49	0.01
Full/Part Time	1.19	0.25
Career	1.17	0.25

This last finding is particularly interesting. Among the explanations for this finding are the following: those women who work are less anxious about their weight; or those women who are less anxious about their weight choose to work. The latter explanation is

less probable since the women who are anxious about their weight are unlikely to have an eating disorder which might prevent them from working. So given that women who work seem less anxious about their weight why should this be so? It could be that women who work have less time to worry about their weight or else working increases self-esteem and thus reduces weight anxiety (since it is recognised that high levels of weight anxiety are related to low levels of self-esteem). It is unclear at this stage which of these explanations is more likely but further research should elucidate this. There were no other differences between the groups with respect to either family or employment.

The differences in responses to the dieting questions were not unexpected and simply reflect higher levels of weight anxiety. However, it is notable that there were no significant differences between body mass, age or ideal weight. These finding suggest that there is no simple predisposing factor, such as greater actual weight or age, for weight anxiety. Nor are those with higher weight anxiety more likely to have lower weight ideals than women with low weight anxiety, which one might expect.

Older Versus Younger Women

The sample of older women was compared with a sample of younger women. Table 5.11 shows the demographic details for the younger sample and Table 5.12 shows the results of the comparisons. The older women were heavier ($p < 0.001$) and had greater body mass ($p < 0.001$). In addition the older women had a higher body weight ideal ($p < 0.001$). There were significant differences between these two groups when the difference between actual and ideal weights were compared. Older women were found to have greater differences between actual and ideal weights ($p < 0.02$).

Table 5.11: Demographic Data For the Young Group

Variables	Mean	Standard Deviation	Range
Age	22.5	0.5	16 - 29
Height (M)	164.6	1.2	143 - 175
Weight (Kg)	56.5	1.1	44 - 72
Body Mass Index	20.9	0.4	17 - 27
Ideal Weight (Kg)	54.1	0.9	39 - 66
Total EDI Score	24.3	2.3	3 - 57

It appears that similar patterns of dieting behaviour occur for both older and younger women. The main differences between the two groups occur because the older women were generally heavier and estimate their ideal weights to account for this. However, although the older women's ideal weights were heavier than the younger women's, the differences between actual and ideal for the older women was greater. This suggests that perhaps the older women are only partially compensating for their increased weight, in some respects their weight concern might be greater and perhaps more unrealistic than that of the younger women.

It would have been especially interesting to have asked the younger women questions about their employment status since it may be that not working is an important factor in increasing weight anxiety. Although it had been intended to compare EDI subscale scores both for high and low weight concern groups and for old and young groups the results of the factor analysis findings precluded comparisons since the subscales were not replicated

by the factor analysis and therefore no strength could be placed on findings from analyses of the subscales.

Table 5.12: Results of Comparisons of Young and Old Groups

Variable	F	Significance
Weight (Kg)	26.7	0.001
Height (M)	0.07	0.790
Body Mass Index	34.3	0.001
Ideal Weight (Kg)	24.8	0.001
Total EDI Score	0.65	0.400
Weight Minus Ideal	2.10	0.014

	χ^2	
Dieted	0.46	n.s
Dieting	0.31	n.s
Overweight	1.54	n.s
Underweight	0.02	n.s
Why Diet	5.76	n.s

EDI Factor Analysis

The results of the factor analysis of the EDI indicated that, in a sample of older women, the internal factor structure of the EDI differed from the subscales outlined by the authors of the inventory. Although, ideally, it would be desirable to have a larger subject to item ratio the findings suggest that the subscales may not be relevant to older women (and indeed may not be relevant to younger women either) and so the EDI may not be an effective screening instrument for older women.

A principal components extraction was completed and a varimax rotation was used. Only coefficients of 0.35 or greater were considered. An eigen value of 1.68 was used, twelve factors emerged which together accounted for 62.8% of the variance. They are shown in Table 5.13. It should also be noted that question 53 ('I have thought of vomiting to lose weight') had zero variance and had to be omitted from the analysis.

Twelve factors were extracted from this analysis when only eight subscales had been outlined by the authors of the inventory. There were a few similarities (see Table 5.14). Two factors were extracted which closely resembled two of the subscales: Factor 1 which was similar to 'body dissatisfaction'; and Factor 5 which closely resembled 'perfectionism'. Two other factors had resemblances to the subscales. Factor 2 seemed to combine both the 'bulimia' and the 'drive for thinness' subscales and Factor 7 had similarities to the 'interpersonal distrust' subscale. The remaining eight factors bore little resemblance to the EDI's subscales.

Why did question 53 have zero variance? Two possibilities could account for the failure of this item to score: either the question is too blunt as it stands and would be more effective if rephrased; or the presence of vomiting in weight concern is very small. This latter suggestion seems unlikely, so perhaps the question needs more subtle phrasing.

There were patterns amongst some of those factors which did not relate to the EDI subscales. The most clear cut of these were for Factors 9 and 10. Factor 9 reflected a confidence in adulthood. Items which emerged for this factor included: 'I would rather be an adult than a child' (item 22); 'I feel secure about myself' (item 37); 'I have close relationships' (item 30); and 'The best years of your life are when you become an adult'

(item 58). Factor 10 suggested emotional uncertainty with items such as: 'I have feelings I can't quite identify' (item 60); and 'I get confused by what emotion I am feeling' (item 21).

Other variables also seemed to factor in a particular fashion. For example both Factors 3 and 4 represent aspects of self-esteem. The first reflects low self esteem whilst the second reflects uncertainty about self-esteem. Items factoring on the first include: 'I feel ineffective as a person' (item 10); 'I feel I can never achieve my standards' (item 42); and 'I am terrified of gaining weight' (item 16). Items loading on Factor 4 include: 'I can communicate with others easily' (item 23); 'I feel inadequate' (item 27); 'I feel secure about myself' (item 37); and 'I wish I were someone else' (item 24).

Factor 12 has a pattern which reflects parental influence with item 29 - 'As a child, I tried very hard to avoid disappointing my parents and teachers' - and item 43 - 'My parents have expected excellence of me'. This might be of particular importance to older women since they may be caring at some level for their parents or their parents might have recently died. No patterns were discernible for the remaining factors - Factors 11, 6 and 8.

Table 5.13: Factor Analysis of EDI Items

Factor	EDI Item	Load		Factor	EDI Item	Load
	2	0.60			4	0.41
	7	0.39			13	0.65
	9	0.76		5	36	0.65
	12	0.61			52	0.75
1	19	0.80			63	0.72
	31	0.80			3	0.78
	45	0.78			16	0.39
	55	0.84		6	22	0.55
	59	0.79			26	0.45
	62	0.81			44	0.86
	6	0.45			15	0.53
	11	0.41			17	0.35
	14	0.52		7	30	0.42
	16	0.37			54	0.68
	25	0.69			56	0.61
2	32	0.41			57	0.50
	34	0.36			5	0.90
	38	0.87		8	33	0.90
	40	0.84			35	0.62
	49	0.66				
	61	0.92				
	64	0.91				

Table 5.13 cont.: Factor Analysis of EDI Items

Factor	EDI Item	Load	Factor	EDI Item	Load
	7	0.36		22	0.37
	10	0.83		26	0.35
	16	0.49	9	30	0.37
3	32	0.70		34	0.45
	37	0.56		37	0.39
	41	0.53		39	0.48
	42	0.77		58	0.65
	50	0.41		8	0.75
	51	0.39	10	21	0.56
	6	0.43		24	0.48
	20	0.77		60	0.70
	23	0.60		1	0.41
	24	0.50	11	28	0.69
4	26	0.75		48	0.71
	27	0.75		18	0.46
	37	0.42	12	29	0.45
	46	0.85		43	0.81
	50	0.41			

Table 5.14: To Show Similarities Between Subscales and Factors: * Indicates Where Each

Item Loads

Item	Factor 2	EDI Subscale Bulimia	Drive	Load.
1			*	
4		*		
5		*		
6	*			0.45
11	*		*	0.41
14	*			0.52
16	*		*	0.37
25	*		*	0.69
28		*		
32	*		*	0.41
34	*			0.36
38	*	*		0.87
40	*			0.84
46		*		
49	*		*	0.66
53				
61	*	*		0.92
64	*			0.91

Table 5.14 cont.: To Show Similarities Between Subscales and Factors: * Indicates

Where Each Item Loads

	1	Body Dissatisfaction	
2	*	*	0.60
7	*		0.39
9	*	*	0.76
12	*	*	0.61
19	*	*	0.80
31	*	*	0.80
45	*	*	0.78
55	*	*	0.84
59	*	*	0.79
62	*	*	0.81
	5	Perfectionism	
4	*		0.41
13	*	*	0.65
36	*	*	0.65
52	*	*	0.75
63	*	*	0.72

Table 5.14 cont.: To Show Similarities Between Subscales and Factors: * Indicates

Where Each Item Loads

	7	Interpersonal	
15	*	*	0.53
17	*	*	0.35
23		*	
30	*	*	0.42
34		*	
54	*	*	0.68
56	*	*	0.61
57	*	*	0.50

Since the factors extracted in the analysis did not replicate the subscales outlined by Garner et al. (1983) for this sample of older women two alternatives remain. First, it could be that the EDI is not assessing the constructs intended by Garner et al. (1983). Second, it could also be that the EDI may not be an effective instrument for screening older women for eating disorders.

Overview

The results of the factor analysis suggested that the subscale structure of the EDI was not appropriate for use with older women. The internal structure of the EDI for this group differed from the structure suggested by the authors of the inventory. There are three implications of this finding. One is that the nature of weight anxiety in older women is different from that of younger women, but that the total levels of weight anxiety are the same. The second is that the EDI as a whole is not an appropriate measure of weight

anxiety in older women. The third is that the EDI's internal structure is not as robust as at first thought for any non-clinically weight anxious women. These possibilities need further investigation.

The first of the above explanations was examined when the old and young groups of women were compared. Although the subscale structures were not compared other aspects of weight anxiety were examined. It was found that on the whole the weight anxiety of both groups was similar. For example there were no differences in dieting behaviour or in reasons given for dieting, nor were there differences between the two groups for total EDI score. Differences were found for weight and Body Mass Index but these are not remarkable since women generally get heavier with age especially after both child-bearing and the menopause. Similarly one would expect differences in ideal weight between old and young. What was surprising though was that the older women had weight ideals that were more removed from their actual weights than the younger women, suggesting that although the older women adapt in part to their heavier weights they adopt a less attainable ideal.

Returning to the older women only it was particularly interesting to find that working women are less anxious about their weights that those who do not work. However, the causal relationship between weight anxiety and work remains unclear, although it is likely that employment status mediates weight anxiety. This may either be because working increases self-esteem which is known to be inversely related to weight anxiety or because the working women have less time to worry about their weight.

Future research should be directed towards two areas. First, a replication study is needed to see whether the subscales or the factors can be substantiated. If neither are replicated, then

it would suggest that the internal structure of the EDI is unstable, at least for older women. If this is the case, or if the factor structure is replicated then it would suggest that the EDI is not an effective tool to use with older women. Second, it would be interesting to discover why the subscale structure of the EDI is not applicable in the study of older women, i.e. what it is about older women's weight anxiety that differs from the weight anxiety of younger women?

5.4 Summary

The studies examined the internal structure of the EDI for both younger and older samples of women, and examined, more generally, the weight anxiety of older women. In both studies the factor structure of the EDI did not replicate the subscale structure outlined by Garner et al. (1983).

In the first study, of a sample of women with a broad age-range, the items were found to factor in a distinct manner, differentiating between negative and positive items and between emotional and factual items. These results suggest that the subscale structure is not robust or reliable for this non-student population and may not be so for other populations either. This finding was supported by the second study of older women.

In the second study, of a sample of women 50 years old or over, the factor analysis of the EDI also failed to replicate its subscale structure indicating that it might not be an effective screening instrument for older women. In addition older women with high levels of weight anxiety were compared with older women with low levels. Differences were found between the two groups on dieting questions, with the high weight anxious women

more likely to engage in dieting behaviour. Moreover, it was found that those women who were working were less likely to have high levels of weight anxiety than those women who were not in employment. Comparisons of weight anxiety were made between the older women and a group of younger women. There were similar patterns of weight anxiety between the two groups. However the older women were heavier and had higher weight ideals than the younger women. Of particular interest was the finding that the older women were more likely to have greater differences between actual and ideal weights than the younger women.

Overall, the results of these two studies suggest that the subscale structure of the EDI is not replicated by factor analysis for two groups of women. The results indicate that Garner et al.'s subscale structure is either unstable or not appropriate for non-student women. Although the subscales may not be valid or reliable measures in non-clinical populations it is possible that the EDI as a whole is useful and valid as a general screening tool to identify those who may become eating disordered. More research is needed to clarify the role of the subscales in the EDI before any firm conclusions can be drawn as to the EDI's strength as a screening instrument.

Chapter 6

A Comparison of the Eating Disorders Inventory and The Setting Conditions for Anorexia Nervosa Scale

6.1 Introduction

Concerns about the design of screening instruments for eating disorders were discussed in Chapter 1. It was argued that questionnaires need to be designed in a thorough and psychometrically sound manner. This is particularly the case if the findings of the measures are to be used either as a basis for clinical intervention or for scientific research. Many measures, however, contain subscales derived from clinical experience and not from a broader pool of items, subjected to thorough item analysis, and possible factor analysis (Garner and Garfinkel, 1979; Garner et al., 1984; Palmer et al., 1987; Phelan, 1987).

In Chapter 5 reservations were expressed about the effectiveness of the EDI as a screening instrument for eating disorders. The doubts arose initially from the manner in which it was designed and latterly because factors extracted using factor analysis did not map on to its subscales.

Another instrument, the Setting Conditions for Anorexia Nervosa Scale (SCANS), was introduced in 1986 (Slade and Dewey, 1986) which purported to overlap considerably with the EDI both in concept and content. In addition the questionnaire's design was not dissimilar to the EDI's.

The SCANS was derived from a functional-analytic model of anorexia nervosa outlined by Slade (1982). According to this functional model five antecedent conditions were suggested for anorexia nervosa and these lent themselves to a simple questionnaire response format. Each condition was ordered in importance and assigned an appropriate number of items so there would be forty items in total. The antecedent conditions were 'dissatisfaction', 'perfectionism', 'social and personal anxiety', 'adolescent problems' and 'need for control'. The questionnaire was administered to five groups: people with anorexia (including one man) (n=20); women with bulimia (n=20); schoolgirls (n=227); female college students (n=141); and student nurses (93% female) (n=354). The data from the two all women normal samples was then subjected to a principal components analysis. They limited the solutions to five factors since, they argued, they had a priori reasons for doing so. Their factors accounted for 40.7% of the variance. These components were 'general dissatisfaction and loss of control', 'social and personal anxiety', 'perfectionism', 'adolescent problems' and 'need for weight control'. Slade and Dewey then carried out a second analysis of the component structure, this time using data from the student nurses. This time they were able to account for 41.4% of the variance.

There are several reasons for questioning the methodology used by Slade and Dewey. First, they only chose five out of a possible seven setting conditions from Slade's functional analytic model; second they chose those conditions because they lent themselves to a simple questionnaire format; third, they limited their factor solution to only five components - since they only wanted five components; fourth, their solution, on both occasions only accounted for approximately 40% of the variance - so over half the variance was left unexplained; and finally they preset the need for forty items.

In addition Slade and Dewey argued that there was much commonality between the EDI and the SCANS. Since evidence from previous chapters raises doubts about both the design and the efficacy of the EDI and given the reservations expressed about the SCANS's design it seemed appropriate to examine the two measures factor analytically and to compare and contrast them using correlations.

6.2 Method

Subjects were seventy nine female volunteers who were undergraduates in the psychology department. Their mean age was 20.4 years. They completed both the EDI and the SCANS. In addition subjects answered questions about their weight and dieting history. See Appendices 1 and 2 for the EDI and the SCANS.

6.3 Results and Discussion

The internal structure of both the EDI and the SCANS was analysed using a factor analytic procedure. Factors were extracted using principal components analysis and varimax rotation. An eigen value of 2.0 and a sort of 0.35 was used for the analysis of the EDI and an eigen value of 1.36 and a sort of 0.35 was used in the analysis of the SCANS. Nine factors were extracted for the EDI accounting for 59.8% of the variance and seven factors accounting for 60.8 % of the variance for the SCANS.

The results suggested that there were both similarities and differences between the internal structure and the subscale structure of the EDI. The factor analysis of the SCANS

suggested that there were some similarities with the subscale structure put forward by

Slade and Dewey. Table 6.1 shows the SCANS subscales and items.

Table 6.1: The SCANS Subscales

Subscale	Items
General Dissatisfaction and Loss of Control	1, 2, 4, 6, 8, 9, 12, 14, 17, 18, 19, 26, 28, 32
Perfectionism	7, 20, 23, 25, 29, 33, 35, 38
Social and Personal Anxiety	3, 5, 11, 15, 21, 24, 28, 30, 31, 37
Adolescent Problems	16, 27, 36
Weight Control	39, 40

Statistical comparisons were made between the EDI and the SCANS. Product moment coefficients were calculated between the subscales of the EDI and the subscales of the SCANS. Significant correlations were found between many of the EDI and SCANS subscales. This suggests that there are similarities between the two measures. However this is at a more global level than suggested by Slade and Dewey and does not suggest the expected specificity.

6.3.1 SCANS Factor Analysis

Mean, standard deviation and range for the total SCANS are shown in Table 6.2.

Table 6.2: Mean, Standard Deviation and Range for Total SCANS Score

	Mean	Standard Deviation	Range
Total SCANS Score	102.6	14.0	72 - 30

The subscale structure of the SCANS was designed around five distinct subscales but seven components were extracted in the factor analysis. It was possible to explain more of the variance (60.8%) than Slade and Dewey, when they had restricted their solution to five factors. The first five factors in this analysis accounted for 52.4% of the variance, whereas Slade and Dewey's five accounted for 40.7%. The first two factors closely resembled the 'general dissatisfaction and loss of control' and 'perfectionism' subscales. 12 out of a possible 14 items of the 'general dissatisfaction and loss of control' subscale loaded on Factor 1, which had in addition three items from the 'social and personal anxiety' subscales. Factor 2 comprised six out of a possible eight items of the 'perfectionism' subscale. Half of the items from the 'social and personal anxiety' subscale were loaded on Factor 3. The remaining items from this subscale were loaded on Factor 4, 6 and 7. Factor 4 also comprised all items from the 'adolescent problems' subscale. Factor 5 contains only the two 'weight concern' items. The last two factors comprise items from 'general dissatisfaction and loss of control', 'perfectionism' and 'social and personal anxiety' subscales.

A more detailed examination of the items which contribute to the factors reveals that Factor 3 consists of those items from 'social and personal problems' which refer to social confidence. Factor 5 resembles body control and Factor 6 appears to reflect anxieties about how one appears to others. It is less easy to infer meaning to Factor 4, although it appears to concern anxiety about performance and adolescence. Factor 7, on the other hand, reflects the conflicts between enjoyment and self-control. Table 6.3 shows the items and loadings for each factor. The relationship between the subscales and factor analysis can be seen in Table 6.4.

Table 6.3: SCANS Items and Factor Loadings

Factor 1		Factor 3		Factor 7	
Item	Load	Item	Load	Item	Load
2	.76	21	.73	30	.55
6	.70	24	.72	8	.54
28	.69	37	.27	32	.54
9	.68	11	.62	3	-.38
19	.67	5	.54		
18	.62	17	.37		
5	.61	**Factor 4**			
4	.58	36	.77		
3	.58	27	.74		
17	.57	16	.64		
12	.57	38	-.61		
1	.53	14	.45		
24	.36	31	.42		
14	.39	11	.42		
8	.39	**Factor 5**			
Factor 2		39	.89		
33	.84	40	.88		
25	.78	26	.76		
20	.75	**Factor 6**			
35	.68	23	-.73		
7	.65	15	.63		
29	.38	31	.61		
		12	.54		

Table 6.4: SCANS Subscales and Factor Loadings (* = items which load on more than

one factor, the primary factor is given)

General Dissatisfaction			Perfectionism			Social and Personal Anxiety		
Item	Factor	Load	Item	Factor	Load	Item	Factor	Load
1	1	.53	7	2	.65	3*	1	.58
2	1	.76	20	2	.75	5*	3	.61
4	1	.58	23	6	-.73	11*	3	.62
6	1	.70	25	2	.78	15	6	.63
8	1	.39	29	2	.38	21	3	.73
9	1	.68	33	2	.84	24*	3	.72
12*	1	.57	35	2	.68	28	1	.69
14*	1	.39	38	4	-.61	30	7	.55
17*	1	.57				31	4	.42
18	1	.62				37	3	.67

General Dissatisfaction			Adolescent Problem			Weight Control		
19	1	.67						
26	5	.76	16	1	.58	39	5	.89
28	1	.69	27	4	.74	40	5	.88
32	7	.54	36	4	.77			

Seven items from the 'general dissatisfaction and loss of control' and 'social and personal

anxiety' subscales were extracted on more than one factor. These can be seen in Table 6.5.

Table 6.5: Items Which Load on Two Factors

Item	Primary Factor	Load	Secondary Factor	Load
3	1	.57	7	-.38
5	1	.61	3	.54
11	3	.62	4	.42
12	1	.57	6	.54
14	4	.45	1	.39
17	1	.57	3	.37
24	3	.72	1	.36

6.3.2 EDI Factor Analysis

Table 6.6 shows the mean, standard deviation and range for the total EDI score.

Table 6.6: Means, Standard Deviation and Range for Total EDI Score

	Mean	Standard Deviation	Range
Total EDI Score	31.0	17.7	2 - 101

The EDI, as has already been discussed, has eight subscales as defined by its authors, but nine factors were extracted. In the earlier factor analyses of the EDI (in Chapters 5 and 6) there was little similarity between the EDI subscales and the extracted factors, in the

present factor analysis there is greater similarity. Three EDI subscales were well replicated: 'body dissatisfaction'; 'perfectionism'; and 'ineffectiveness'. Two subscales, 'drive for thinness' and 'maturity fears', were also quite well replicated. However, 'bulimia', 'interpersonal distrust' and 'introceptive awareness' were not well represented by the factor analysis. Table 6.7 shows the items and factor loadings, whilst Table 6.8 illustrates the relationship between the subscales and the factor analysis. From Table 6.8 it is clear that although Factors 1, 5 and 7 comprise mainly items from 'body dissatisfaction', 'maturity fears' and 'perfectionism', the remaining factors represent combinations of other subscales. It appears that both Factor 3 and Factor 9 represent concerns about food - Factor 3 relates to food and weight, whilst food and other people are the item contents of Factor 9. Both Factors 8 and 6 appear to relate to emotional control and confusion. Factor 2 has the most items loading on it and comprises of items mainly from 'interpersonal distrust' and 'ineffectiveness' subscales, with one item from 'introceptive awareness'. This factor appears to represent those characteristics needed for coping.

Table 6.7: The Relationship Between Factors Loading and EDI Subscales

Factor 1	Item	Load	Factor 3	Item	Load	Factor 6	Item	Load
	9	.86		47	.78		33	.74
	62	.86		64	.72		61	.73
	55	.85		38	.71		3	.58
	19	.83		53	.70		20	.54
	59	.82		32	.68		27	.46
	31	.81		16	.61		41	.38
	45	.75		40	.52		44	.35
	2	.60		49	.51	Factor 7	43	.71
	12	.57		6	.49		13	.67
	7	.53		1	.42		36	.63
	11	.49		7	.38		63	.51
Factor 2	23	.80		11	.48		29	.47
	41	.79		29	.42		52	.43
	37	.70	Factor 4	8	.80		12	-.38
	10	.68		60	.68	Factor 8	17	.72
	50	.67		35	.64		51	.64
	15	.67		25	.63		18	.57
	34	.67		44	.63		4	.50
	57	.61		28	.63		56	.39
	27	.61		51	.43		21	.37
	42	.59	Factor 5	22	.73		57	.42
	26	.56		58	.66		20	.38
	24	.46		14	.63	Factor 9	46	.76
				48	.62		5	.53
				39	.61		7	.5
				30	.50		4	.41
							34	.37
							11	.35

Table 6.8: Subscales and Factor Loadings (*= items which load on more than one factor,

the primary factor is given)

Ineffectiveness			Maturity Fears			Body Dissatisfaction		
Item	Factor	Load	Item	Factor	Load	Item	Factor	Load
10	2	.68	3	6	.58	2	1	.60
18	8	.57	6	3	.49	9	1	.86
20*	6	.54	14	5	.63	12*	1	.56
24	2	.46	22	5	.73	19	1	.83
27*	2	.61	35	4	.64	31	1	.81
37	2	.70	39	5	.61	45	1	.75
41*	2	.79	48	5	.62	55	1	.85
42	2	.59	58	5	.66	59	1	.82
50	2	.67	Drive for Thinness			62	1	.86
56	8	.39	1	3	.42	Perfectionism		
			7*	1	.53	13	7	.69
			11*	1	.49	29	7	.47
			16	3	.61	36	7	.63
			25	4	.63	43	7	.71
			32	3	.68	52*	7	.43
			49	3	.51	63	7	.51

Table 6.8 cont: Subscales and Factor Loadings (*= items which load on more than one

factor, the primary factor is given)

Introceptive Awareness			Interpersonal Distrust			Bulimia		
Item	Factor	Load	Item	Factor	Load	Item	Factor	Load
8	4	.80	15	2	.67	4*	8	.50
21	8	.37	17	8	.72	5	9	.53
26	2	.56	23	2	.80	28	-	-
33	6	.74	30	5	.50	38	3	.71
40	3	.52	34*	2	.67	46	9	.76
44*	4	.63	54	-	-	53	3	.70
47	3	.77	57*	2	.61	61	6	.73
51*	8	.64						
60	4	.68						
64	3	.72						

12 items load on two or more factors and these can be seen in Table 6.9.

Table 6.9: Items Which Load on More then One Factor

Item	Primary Factor	Load	Other Factors	Load
4	8	.50	9	.41
7	1	.53	3/9	.39/.5
11	1	.49	3/9	.48/.35
12	1	.57	7	-.38
20	6	.54	8	.38
27	2	.60	6	.46
34	2	.67	8	.37
41	2	.79	6	.38
44	4	.63	6	.35
51	8	.64	4	.43
52	7	.43	3	.42
57	2	.61	9	.37

6.3.3 Summary of Factor Analyses

The SCANS subscale structure was replicated in part. The 'general dissatisfaction and loss of control', 'perfectionism' and 'weight control' subscales were extracted more or less intact from the factor analysis. Half of the 'social and personal anxiety' subscale was also extracted in a meaningful way. The subscale 'adolescent problems' and the remaining items of the 'social and personal anxiety' subscales were more dispersed in their extraction. The results give some support to the original contention that its subscale structure would not be robust.

It was expected that the EDI would also not be replicated, especially in the light of evidence from Chapters 5, however, on this occasion the factor analysis offered more support for subscale structure than had previously been found. Five out of eight subscales were well reflected, especially 'body dissatisfaction', 'perfectionism' and 'maturity fears'. However, three factors were extracted which resembled constructs other than the subscales, namely coping, food, weight and control, and emotional control/confusion.

The factor analyses for both the SCANS and the EDI showed that there was partial support for their subscale structures. However, although the subscale structures of both instruments were extracted in part, the evidence is not sufficient to suggest a robust replication. This suggests (especially given the evidence of earlier chapters) that: the EDI either does not have a stable subscale structure or that it is useful only for very specific groups of women, i.e. students, as were used in Garner et al.'s validation; and that the SCANS must also be used with caution.

6.3.4 Comparison of the SCANS and the EDI

The authors of the SCANS claim that one of its assets is its similarity to the EDI as a whole and more particularly between some of the SCANS subscales and some of the subscales of the EDI, (see Table 6.10). Product moment coefficients were calculated between total and subscale scores of the SCANS and EDI

Table 6.10: Similarities Between the SCANS and EDI Subscales as Suggested by Slade
and Dewey (1986)

SCANS	EDI
General Dissatisfaction and Loss of Personal Control	Ineffectiveness
Social and Personal Anxiety	Interpersonal Distrust
Perfectionism	Maturity Fears

As expected, a large significant correlation was found between the total scores on the EDI and total scores on the SCANS. Similarly, significant correlations were also found between total EDI and four out of five SCANS subscales and between total SCANS and six of the EDI subscales. In addition, several significant correlations were found between SCANS subscales and EDI subscales. These findings are shown in Table 6.11.

The SCANS's 'general dissatisfaction and loss of control' subscale and the EDI's 'interpersonal distrust' and 'ineffectiveness' subscales correlate well both with each other and with other subscales. Interestingly both perfectionism subscales correlate only with each other and not with other subscales or with either total SCANS or EDI. Expected significant correlations were found between five subscales: both of the SCANS's 'general dissatisfaction and loss of control' and 'weight control' subscales; and the EDI's 'bulimia', 'drive for thinness' and 'body dissatisfaction' subscales.

Table 6.11: Correlations Between the EDI and the SCANS: Totals and Subscales

(* = p<0.05; ** p < 0.01)(Abbreviations for EDI subscales: DFT = drive for thinness; BUL = bulimia; BD = body dissatisfaction; I = ineffectiveness; IA = introceptive awareness; ID = interpersonal distrust; MF = maturity fears; P = perfectionism)(Abbreviations for SCANS subscales: GD = general dissatisfaction; SPA = social and personal anxiety; P = perfectionism; AP = adolescent problems; WC = weight control).

		SCANS					
		Total	GD	SPA	P	AP	WC
	Total	.71**	.65**	.45**	ns	.29*	.53**
	DFT	.43**	.42**	ns	ns	ns	.58**
	BUL	.36**	.38**	.27*	ns	ns	ns
	BD	.33*	.29*	ns	ns	ns	.66**
EDI	I	.58**	.62**	.49**	ns	.28*	ns
	IA	.47**	.50**	ns	ns	ns	ns
	ID	.58**	.45**	.63**	ns	.50**	ns
	MF	ns	ns	ns	ns	ns	ns
	P	ns	ns	ns	.63**	ns	ns

There was no significant correlation between the SCANS's 'adolescent problems' and either the EDI's 'perfectionism' or 'maturity fears' subscales. There are a number interesting aspects in the relationships between the EDI's 'perfectionism' and 'maturity fears' subscales and the SCANS's 'perfectionism' and 'adolescent problems' subscales. First, intuitively one would expect significant relationships between both perfectionism

subscales and significant relationships between 'adolescent problems' and 'maturity fears'. Second, according to Slade and Dewey, there should be a significant relationship instead between the SCANS's 'perfectionism' subscale and the EDI's 'maturity fears' subscale. Third, what is in fact found is a significant correlation between the perfectionism subscales, which would be predicted from the first point: but there was no relationship between 'maturity fears' and 'adolescent problems'. Indeed there were no significant correlations between 'maturity fears' and any SCANS subscale. So the relationships between these four subscales although intuitive were not predicted.

The relationship that was expected by Slade and Dewey between 'general dissatisfaction and loss of control' and 'ineffectiveness' was confirmed as was the relationship between 'interpersonal distrust' and 'social and personal anxiety'.

The significantly large levels of correlation between the SCANS's 'general dissatisfaction and loss of control' subscales and other subscales, and also of the EDI's 'ineffectiveness' and 'interpersonal distrust' subscales and other subscales suggest that these two subscales are more general and less specific in their influence than would be desirable. These findings suggest that both subscales function at more global levels and reflect some general level of psychological distress or vulnerability. However, significant correlations were found between those measures specifically related to weight anxiety and also to the 'general disturbance and loss of control' which suggests that the SCANS may be measuring such disturbance.

6.4 Summary

The results of the factor analysis of the SCANS indicated that the although there was some support for its subscale structure there was not enough evidence to suggest an effective replication. More of the variance was explained in this factor solution than had been suggested by Slade and Dewey. Five factors reflected, in part, some of the SCANS's subscales, in contrast to the original expectation that there would be only limited resemblance. Three out of five factors reflected the subscales, whilst half of another subscale was extracted as a factor in a meaningful manner. In addition, since seven factors were extracted when there were only five subscales this indicates that the five factor solution was not as appropriate as its authors had claimed.

It had been expected that the EDI's subscale structure would not be well replicated, since in previous chapters it had not been possible to extract factors which closely resembled its subscales. On this occasion, there was more similarity between the factor structure and the subscale structure, than had been previously found. However, nine factors were extracted when there are only eight subscales. Three subscales were reflected in the factor analysis and two other factors had some resemblance to the subscale structure. The remaining three subscales were not well replicated. Factors accounting for these items reflected concerns about emotional control, food and weight and coping. Although, on this occasion there was more similarity between the two structures than has been previously found, it is clear that reservations must still be held about its efficacy. Either the inventory's subscale structure is unstable (and on this occasion it factored in a similar way to the subscales) or it is effective with specific populations. In the previous studies the subjects were women over fifty and women whose mean age was 24.4, in this study the women were younger (mean age 20.4 years) and were all undergraduate students. This

may suggest that the EDI is appropriate for a student population but less so for either older or employed women. Whichever is the case care must be taken in interpreting findings from the EDI. The more likely explanation, however, is that the subscales are unreliable.

Comparisons were made between the total scores of the SCANS and EDI. These correlations, as expected, indicated that there was a significant relationship between the two measures. This relationship had been suggested by Slade and Dewey. Further there were significant correlations between the subscales of the two. Particularly notable were the significant relationships between 'general dissatisfaction and loss of control' and all but two of the EDI's subscales, the exceptions being 'perfectionism' and 'maturity fears'. Similar significant relationships were found between the EDI's 'ineffectiveness' and 'interpersonal distrust' subscales and all but two of the SCANS's subscales ('perfectionism' and 'weight control'). From the EDI 'perfectionism' only correlated with the SCANS's 'perfectionism' subscale and vice versa. Also no SCANS subscale correlated with the EDI's 'maturity fears' subscale

The results suggest that although there is a significant relationship between the two questionnaires this relationship is global and not specific. Further, only some of the significant relationships were predicted, other intuitive relationships were confirmed, whilst other relationships were not confirmed.

Finally, as to the effectiveness of the SCANS as a measure of eating disturbance and its relationship with the EDI it is not possible to draw firm conclusions. Only partial support was found for the hypothesis that the questionnaire's subscale structure would not be reflected by the factor structure. The relationship between the EDI and the SCANS was

illustrated. However, serious doubts remain about both the SCANS and the EDI's design

methodology and the a priori assumptions of both questionnaires. For the SCANS the

low level of variance explained by the five factor subscale structure remains a serious

flaw.

Chapter 7

Discussion: Weight Anxiety, Eating Disorders, Attribution and Assessment

7.1 Introduction and Overview

In the course of this thesis it has been shown that weight anxiety amongst women is prevalent. Many women express anxiety about their weight and many have dieted at some time in the past, although few were dieting at the time of questioning. This anxiety about weight was found amongst women of all ages, from the just adult to those who have retired. The numbers of women with a weight anxiety confirm the importance of this topic as a valuable area of research. In addition, women with clinically diagnosed eating disorders were studied. The women who comprised this latter sample provided much information and insight into weight anxiety.

The studies presented in this thesis examine two components of weight anxiety and eating disorders. The first component addresses the issue of whether attribution is relevant to the development and maintenance of these weight-related stresses. If attribution is important, then a detailed study of attribution could lead to a clearer understanding of that anxiety. It was suggested that attribution might mediate between the social and the cognitive in the development of eating disorders. Finally, it was suggested that attributions would differ between non-eating disordered and eating disordered women and between different eating disorder conditions. The second component examines the standardised assessment of clinical and non-clinical weight anxiety, and in particular the Eating Disorder Inventory

(EDI)(Garner et al., 1983b). The propositions are more succinctly detailed below, followed by a brief outline of the results.

Three attribution propositions were highlighted:

1. weight-related attributions will lead to a clearer understanding of weight anxiety;

2. attributions contribute to the differential reactions to weight anxiety;

3. that the attributions will identify the interaction between the social and the cognitive influences of behaviour.

The results of the studies support the propositions. It has been found that attribution may provide a useful theoretical basis from which to study weight anxiety and eating disordered behaviour. There is evidence that a study of attribution has led to a clearer understanding of the differential reactions to weight-related pressure. It has been shown that there are attributions associated with eating disorders and attributions associated with non-clinical anxiety. There is cautious confirmation too that different types of eating disordered behaviour can be distinguished through a study of attribution. There is also support also for the relevance of attribution as a mediator between the social and the cognitive influences of behaviour.

Two propositions regarding eating disorder and weight anxiety assessment were identified:

1. that the internal structure of the EDI (and a similar measure) will not replicate the subscale structure of the instrument;

2. that the assessment design has not been ideal.

The EDI was found not to have a replicable subscale structure, and the doubts about the nature of its design were confirmed. Finally, there was considerable evidence to suggest

that the design of eating disorder assessment instruments is not trouble-free, and is in many respects problematic.

The Discussion section of this thesis is presented in six sections (excluding this one). The first will examine in more detail the propositions and results of the attributional studies. Each study will be examined individually. The second section will discuss the findings of the attributional studies in broader terms. The implications of the studies will be discussed and will be related to the literature. A model of weight anxiety will be presented drawn from the findings of the attributional studies. Finally, areas of future research will be highlighted. The third section examines the propositions and findings concerning eating disorder assessment and assessment of weight anxiety. Once more each study will be examined separately. The fourth section will discuss assessment more fully. The implications of the results will be discussed and their relationship with the literature, including more recently designed assessment measures. A proposal will be made concerning the design of an assessment instrument for eating disorders. Finally, suggestions for future research will be discussed. In the fifth section conclusions will be drawn and a number of questions will be addressed. These include: is attribution relevant to weight anxiety and eating disorders?; is it possible to determine, using attribution, why women react in a variety of ways to social and personal pressure about weight?; are there implications to be drawn from this research for clinicians; what has been learnt about eating disorder assessment; and finally, how useful is the EDI? The final section will summarise the propositions, results and the conclusions which can be drawn from this thesis.

7.2 Propositions and Findings: Attribution, Weight Anxiety and Eating Disorders

7.2.1 Chapter 2: Women's Attributions of Weight Anxiety

Essentially, the study aimed to examine non-clinical weight anxiety within an attributional framework. Women were asked to rate the relevance of several descriptive words to fat or thin women. It was expected that weight-related attributions could be extracted in a factor-analytical manner and would resemble common stereotypes of fat and thin women. It was suggested that 'thin' factors might centre around drive (e.g. ambition and success), while 'fat' factors might concern the home and family - these being common media stereotypes. Factors were expected to differentiate between fat and thin, but it was also expected that more both general weight-related factors and possibly some broader 'people' factors would be extracted.

The results showed that weight-related attributions could be successfully extracted. The factors resembled clear stereotypes of fat and thin women. 'Thin relevant', 'fat relevant', 'thin only' and 'fat only' factors were extracted. These factors mainly reflected common stereotypes associated with weight.

The second proposition argued that the factors extracted for both thin and fat women would centre around drive and the home and family. This was confirmed. Factors associated with drive were extracted for the 'thin only' analyses, e.g. drive and efficient. Similarly 'fat only' factors were motherly and trustable. However, unexpectedly, the factors relevant to fatness were not only associated with nurturing, nor were they otherwise negative, they included stylish and goodlooking. Nor were the thin factors

entirely positive, e.g. wary. It appears that the attributions and stereotypes associated with fatness and thinness are more complex than is often suggested.

Finally, attributional factors concerning weight were found to distinguish effectively between fat women and thin women. Some variables and some factors were found to be important for thin women only, e.g.beauty and drive. Others were found only to be important for fat women, e.g. cheerful, passionate, trustworthy. Some variables and factors may reflect more general weight-related issues, whilst others may merely reflect non-specific 'people' attributions, e.g. popular, goodlooking. Overall, the attributional factors extracted resembled common stereotypes of fat and thin women. The results showed that attribution would provide a useful framework from which to study weight anxiety, and eating disorders.

7.2.2 Chapter 3 and Chapter 4: Clinical Weight Anxiety and Attribution and Attributions of Clinical Weight Anxiety With Repertory Grid Technique

Chapter 3 and Chapter 4 address the same propositions, examining the attributions of both non-eating disordered and eating disordered women. The eating disordered women had anorexia, bulimia or over-ate. The propositions addressed were: a) women with eating disorders would differ in their attributions from those without; b) that there would be differences in attribution between the eating disorder groups; and c) that attributions contribute differentially to the development and maintenance of different weight anxieties and eating disorders.

Chapter 3: Card Sorts

The card sort results demonstrated that there were common clusters of variables across all four groups (Anorexic, Bulimic, Over-Eater and Non-Eating Disordered groups). These included: 'Honesty' and 'Sympathy'; 'Health' and 'Wellbeing;' and 'Neat' and 'Orderly'. There were similarities between some groups: the convergence of clusters in the Over-Eater and Bulimic groups; the isolation of the clusters in the Anorexic and Non-Eating Disordered group; and the association of 'Success', 'Competence' and 'Ambition' for all but the Anorexic group. However, each group showed clusters which distinguished them from the others. For example, the association of 'Sympathy' and 'Ambition' in the Bulimic group, the tightness of the clusters in the Anorexic group, and the association of 'Beauty' and 'Cheerfulness' for the Over-Eater group. Although there were no clusters which uniquely distinguished the eating disorder groups from the Non-Eating Disordered groups, the Non-Eating Disordered group had a unique clustering pattern which reflected the common anxieties about appearance, drive and emotion.

There is a mismatch between the 'thin' attributions of drive in Chapter 2 and the Anorexic group clusters which did not reveal drive at all. The Bulimic group in contrast was distinguished by its attributions of drive and appearance. The Over-Eater group's attributions seen in the card sorts represented clearly the 'thin' attributions of Chapter 2. The Non-Eating Disordered group showed, distinct clusters reflecting drive, appearance and emotion. The study distinguished between the Non-Eating Disordered and the eating disordered groups and between the different types of eating disorder. It is possible to suggest tentatively factors which might determine differential reactions to weight anxiety (these will be discussed in Section 3).

The analyses of the attributions studied using repertory grid technique were conducted at several levels. An example of an individual grid was presented. The consensus grids of the four groups when analysed, presented analyses of group attributions, which allowed an understanding of the attributions of each separate group. This was followed by comparisons between pairs of groups, which enabled an assessment of the similarities and differences between groups according to their attributions. Finally, analyses were conducted for the eating disordered groups as a whole, and comparisons were made with the Non-Eating Disordered group.

Differences were found between the eating disordered groups and the Non-Eating Disorder group. These were highlighted in the comparisons of the two groups (when all the eating disorder data was pooled). The most notable differences between the two groups were found for the attributions of 'Attractive', 'Feminine' and 'Successful'. It appears that 'Attractive' was important for the Non-Eating Disordered group, and 'Successful' and 'Feminine' for the eating disordered group. Differences in elements between the groups were found for 'Me', 'Fat Other' and 'Who I'd Most Like to Be'. These represent most aspects of weight concern. These results offer some confirmation for the proposition that attributions can distinguish between eating disordered and non-eating disordered women.

Differences were also found between the eating disordered groups. The attribution of 'Feminine' distinguished the Over-Eater group from the other eating disordered groups, and 'Confident' distinguished the Anorexic group from the Bulimic group. Differences were found in the relative importance of elements, especially of 'Fat Other', 'Who I'd Most Like to Be' and 'Fat Friend'. For example 'Fat Other' was an important differentiator between the Bulimic, Over-Eater and Non-Eating Disordered groups. In contrast, the

elements 'Ideal Me', 'Thin Other' and 'Ideal Other' showed similarities in attributional patterns for all the groups. It appears that elements of fatness are more influential in weight-related attributions.

One of the most striking findings of these analyses was the overwhelming negative image of fatness. Fatness was almost invariably associated with the negative poles of the constructs, suggesting strong negative attributions. This is in marked contrast to the positiveness of the fat stereotypes found in Chapter 2. It was also found that fatness was attributed in a fairly diverse (though always negative) manner between the groups. This is in contrast to the narrow ways in which thin elements were attributed. There is some evidence that attributions of fatness may determine people's weight anxiety behaviour. These findings suggest that attribution may provide some insight into why there are differential responses to weight anxiety. This will be explored in further detail later.

7.3 Discussion: Attribution, Weight Anxiety and Eating Disorders

7.3.1 Summary of Findings

The findings of the attributional studies demonstrated that attributions provided a valuable framework within which to examine weight anxiety and eating disorders. It was found that a study of weight-related attributions could lead to a clearer understanding of weight anxiety, and that the weight-related attributions of non-eating disordered women were based around common stereotypes associated with weight. Attributions were a useful tool in distinguishing between eating disordered and non-eating disordered women. There were differences between the two groups which might be associated with the development of eating disorders. Further, attributions also appear valuable in distinguishing between

different types of eating disordered women. There were particular attributions associated with the different groups of women with anorexia, with bulimia and with over-eating. Thus attributions may contribute to differential reactions to weight anxiety. Finally, for these groups, attributions were shown to identify the interaction between the social and the cognitive influences of behaviour. It was clear throughout these studies that social pressures and cultural beliefs were present. However, the manner in which they were expressed, and the interactions with personal weight anxiety varied between the eating disordered and the non-eating disordered groups.

7.3.2 Implications and Relationship to Literature

The studies of attribution presented in this thesis clearly demonstrate the salience of fatness in weight anxiety. It is also evident that stereotypes associated with fatness are influential. Several studies, both in the weight and attribution fields, have suggested that fatness is both salient and evokes powerful stereotypes (Cash et al., 1990; Harris et al., 1990; Hiller, 1981; Rodin et al., 1984; Striegel-Moore et al., 1986). Hiller (1984), for example, suggested that an overweight body image was associated with negative personality attributes and negative experiences. The findings of this thesis, particularly from the work presented in Chapter 4 support this - negative constructs were consistently associated with fatness (and by implication, perhaps, with negative experiences). Rodin et al. (1984) argued, similarly, that obesity carries a strong stigma. Although the results of Chapter 4 support this, the data presented in Chapter 2 suggests that fatness is not always viewed so negatively.

Much of the research has argued that 'thinness' as a cultural ideal is a crucial facet of weight anxiety and eating disorders (Garner and Garfinkel, 1980; Garner et al., 1983;

Garner et al., 1980; Rodin et al., 1984; Schwartz, Thompson, and Johnson, 1983; Striegel-Moore et al., 1986). The present results indicate, in contrast, that the 'ideal' is unrelated to thinness. Instead, the evidence suggests that it is a desire to escape fatness, rather than a desire to achieve thinness that is the motivating factor in eating disorders. It would appear that there is a 'fat' - 'dream persona' continuum, and not a continuum of 'fat' - 'thin'.

One striking finding is the importance of 'Feminine' in differentiating between the Over-Eater group and the rest. It appears that 'Feminine' may have a specific meaning to this group. One study addresses similar issues (Mori, Chaiken, and Pliner, 1987). They argued that 'eating lightly' was one way in which women could preserve their femininity. This might suggest a dilemma for the over-eater group who are unable to 'eat lightly'. It is possible, that since they cannot preserve their femininity this way, they developed specific attributions to deal with this.

Poor self-esteem has often been identified as a key feature in eating disorders, weight anxiety and in the attributions associated with obesity (Harris et al., 1990; Major, Carrington, and Carnevale, 1984; Mayhew and Edelmann, 1989; Tennen and Herzberger, 1987; Thompson and Thompson, 1986; Wagner et al., 1987). Although no direct measures of self-esteem have been made here, there is evidence that self-esteem was poor. Often 'Me' was associated with anti-constructs, and many non-eating disordered women considered themselves over-weight when there was no objective evidence that they were so. Indeed, in the eating disorder assessment analyses, self-esteem is an important aspect of both older and younger women's weight anxiety. The attributions of attraction and drive have both been identified in the literature as important aspects of weight anxiety. For example, Bell, Kirkpatrick and Rinn (1986) found that competence was associated

with thinness amongst subjects with anorexia. In contrast, the obese figure was rated as least happy, popular and competent. These findings were supported by the studies presented here, where fatness was associated with negative attributions, and thinness was associated with drive (particularly amongst non-eating disordered subjects). Rodin (1984) argued that being thin was central to the contemporary ideal of female attraction. In fact, the results of the attributional studies suggested that this was not entirely the case. Although amongst the non-eating disordered respondents in Chapter 2, attraction was attributed to thinness, it was also attributed to fatness. Further, in the studies presented in Chapter 4, attraction was more often related to the dream persona than to thinness per se.

The role of 'Me' in the attributional studies appeared to differentiate between the eating disordered and non-eating disordered groups. For the Anorexic, Bulimic and Non-Eating-Disordered groups, 'Me' loaded in a distinct fashion on both components. This finding confirms those of Mottram (1985) who suggested that the 'present self' was isolated in a group of anorexia subjects, though this was not the case for women without an eating disorder. On the other hand, Fransella and Crisp (1979) found, unexpectedly, that 'self at normal weight' and 'ideal weight' were positively correlated. This was not supported by the repertory grid analyses presented in Chapter 4. In a similar vein, both Heesacker and Neimeyer (1990) and Adams-Webber (1985) suggested that self-other distinctions were important factors in repertory grid analysis, the latter paper referring particularly to eating disorders. This is confirmed by the findings of the over-eater group, where self-other distinctions were especially important.

Finally, the results of the attributional studies offer support for suggestion that the study of attribution is a useful framework in which to understand weight anxiety and eating disorders. It is possible to use attribution as a mediator between the social and the

cognitive influences of behaviour. In addition, there is evidence that both collective

beliefs and stereotypes are also influential in the development and maintenance of weight

anxiety. These findings support the work of several authors, working both within

attribution and within weight anxiety (Green, Lightfoot, Bandy, and Buchanan, 1985;

Harris et al., 1990; Moscovici and Hewstone, 1983; Wadden and Stunkard, 1987).

7.3.3 Models of Weight Anxiety

The repertory grid analysis provided insight into the attributions associated with weight

anxiety amongst both eating disordered and non-eating disordered women. Throughout the

analyses, presented in Chapter 4, a clear pattern of weight anxiety emerged. This pattern

was of a continuum, not of 'fat' - 'thin', but of 'fat' - 'dream persona'. The differences

between the groups lies in the attributions of fatness, both in relationship to self and to

others. In the comparisons of groups, the attributions of both 'Me' and 'Fat Other' had

specific associations in the differentiation of groups, as did attributions of 'Attractive' and

'Confident'. These findings are further discussed in the context of descriptive models of

weight anxiety.

An Attributional Model of Weight Anxiety

The analyses of the individual grids revealed patterns of attributions, which both

discriminated and associated the different eating disordered groups. The central themes to

emerge from these analyses was the salience of fatness and the existence of a 'fatness' -

'dream-persona' continuum. A model of weight anxiety for the groups, showing the

similarities and contrasts, can be described.

The model suggests that fatness is the key feature of weight anxiety amongst the groups. This is in line with the 'intense fear of gaining weight or becoming fat' requirement of the diagnostic criteria for anorexia. The finding is in line, too, with much of the attribution literature (see discussion in section 7.3.2). In contrast, though, to many of the literature's assertions is the unimportance of thinness, and the relative importance of the 'dream persona'. It appears that instead of the 'fatness' - 'thinness' continuum, there is instead a 'fatness' - 'dream-persona' continuum, which forms the first principal component in all the analyses. This might explain why women rarely achieve their weight goal. For example, if the women with anorexia are striving not to be fat, rather than striving to be thin, this could explain why they don't stop dieting, and occasionally starve themselves to death. If one then considers the 'dream-persona' end of the continuum, it is hardly surprising that women do not stop being anxious about their weight, since they are always attempting to reach their ideal - an almost always impossible feat, since 'nobody is perfect'.

At the fatness end of the continuum, the extreme is represented either by the 'Fat Other', or by 'Fat Me'. The division between the groups is interesting. For both the women with bulimia and the women without an eating disorder it is the 'Fat Other' that is the extreme. These groups, generally of normal weight, appear to be motivated by what they see in others, and not what they see in themselves. The Anorexic and Over-Eater groups, in contrast, are motivated by fear of themselves as 'fat'. These two groups are at the opposite ends of the weight spectrum, but both share a belief that they are fat. This suggestion is further supported, in the case of the Over-Eater group, by the presence of 'Me' amongst the fatness elements. It appears that 'Me' and 'Fat Me' are attributed in much the same way, perhaps reflecting actual weight as well as perceived weight.

The constructs which are associated with fatness are always anti-constructs. 'Confident', 'Competent', 'Successful' and 'Attractive' are always rated negatively in association with fatness (and 'Me' for the Over-Eater group). This is particularly interesting since these are the attributions associated with drive and appearance.

Interesting distinctions between these constructs emerge, when one looks at their pro-constructs in relation to the 'dream persona'. There is more diversity. For example, 'Ideal Me' is seen as '(very) Successful' by the Anorexic group, but as '(very) Competent' and '(very) Confident' by the Over-Eater group, whereas the Bulimic group sees 'Admired Other' as '(very) Attractive', and the Non-Eating Disorder group sees 'Who I'd Like to Be' as '(very) Passionate'.

In the Anorexic, Bulimic and Non-Eating Disorder groups the second principal component, in combination with the first, appears to represent 'Me'. In each case this element loads in a very distinct manner, and appears to represent some isolation from the fat, thin and 'dream persona' attributions. This suggests a detachment of the present self from the weight issues, almost as if the self is looking on. Why should this be so? It would appear that whilst it is possible to view others or abstract selves directly in relationship to weight, it is less easy to do so for the present self. That is for 'Me' there are interacting factors, perhaps to do with current mood, current circumstances, mitigating factors, and so on. It is not possible, in this thesis to examine these further, but they are an important area for future research.

A Model of Attributions which Distinguish Between Weight Anxiety Groups

From a careful consideration of the grid comparisons it is possible to construct a model of the attributional patterns associated with the four groups: Non-Eating Disorder; Bulimic; Anorexic; and Over-Eater.

One important feature is the role of 'Me' in distinguishing between all four groups. It appears that 'Me', that is 'as I am now', may be associated with whether a person simply worries about their weight or goes on to develop an eating disorder, and if they do what type of eating disorder they develop. In a similar fashion 'Fat Other' also plays an important part in differentiating between the Over-Eater, Bulimic and Non-Eating Disorder groups. Indeed, fatness has important associations for these groups - other important attributions surround 'Fat Me' and 'Fat Friend'.

The characteristic attributions are also important. Two constructs often associated with drive and appearance are good differentiators between the eating disorder groups - 'Confident' and 'Attractive'. It would appear that these constructs have individual associations in the attributional patterns for eating disorder groups, which differ between the groups. These two facets of weight anxiety attribution have been recognised as important by other studies (Hiller, 1981; Mayhew and Edelmann, 1989; Smart et al., 1976).

There are specific attributions which characterise each group. There is little for the Non-Eating Disordered group, except that 'Fat Me' has particular relevance. Similarly, the Bulimic group attaches special importance to 'Fat Me', and also to the attribution of 'Passionate'. The Anorexic group, in contrast, attributes specific relevance to 'Thin Me' and 'Boyfriend'. The analysis of the Over-Eater comparisons yielded the greatest

information. These findings are perhaps the most important. It is clear that 'Feminine' has specific attributional meaning for this group. At almost every stage of the comparisons this construct distinguished between this group and the others. Precisely, what significance this has is unclear, but it is certainly an area worthy of future research. Other interesting attributions distinguished this group from the others. 'Fat Friend' was regarded as important. The component structure also yielded important features. There is a clear self-other continuum, a classic aspect of attribution theory (Anderson, 1985; Jones and Nisbett, 1972; Ruble, 1973). This would suggest an isolation of over-eaters from others. Fatness too, was an important aspect of the component space, in a more striking way than for the other groups.

Finally, there are specific attributions which distinguish between pairs of groups. 'Success' and its relationship with the 'dream persona' is a particularly important distinguisher between the Anorexic and Over-Eater groups: a classic example of the relevance of drive and ideals to weight anxiety, and interesting in that they distinguish between the two extremes of weight. The Bulimic/Non-Eating Disorder comparison, revealed, unlike other comparisons, divergent pro-constructs, which indicates that the two groups differ in the attribution of positive characteristics, in a manner which is not supported by the other comparisons. That is there appears to be divergence from the collective belief surrounding the pro-constructs. The association of fatness and anti-constructs, notable for the differentiation between the groups, can be seen for both the Bulimic/Anorexic and Bulimic/Over-Eater comparisons.

This suggests that thinness is a socially defined stereotype. Indeed the 'dream persona' was found to be a more important attributional element than thinness. It is possible that there is a 'fat' - 'dream persona' continuum in attribution rather than the often suggested 'fat' -

'thin' continuum. This would suggest that women are running *away* from *fatness*, with thinness being the socially acceptable reason (hence its uniformity). This might explain why women are never satisfied and women with anorexia keep on starving even when emaciated.

7.3.4 Future Research

It was suggested in Chapter 2 that future research should be directed at examining the influence of fat and thin stereotypes on weight anxiety: and whether there are differences in the attributions to thin and fat by women who show disturbed eating behaviour. This has been examined to some extent in the studies presented in Chapters 3 and 4. However, more emphasis was placed in these studies on attributions rather than stereotypes. It would be valuable to examine the influence of stereotypes per se on the development of weight anxiety, especially amongst non-eating-disordered women. On similar lines, it is important to examine further, with this group, the interplay between attributions, stereotypes and collective beliefs.

In the previous section two models of weight anxiety and eating disorders were presented. The models pose a number of questions which should be addressed in future research. First, the models need to be examined to see if they are indeed meaningful, that is are they relevant or pertinent to eating disorders and weight anxiety. Second, if the models are found to be useful, then it would be valuable to investigate the relationships between the components and to determine their implications. Third, research needs to be carried out, using a model as a basis, to explain how and why eating disorders differ, at a more detailed level than has been possible here.

7.4 Propositions and Findings: Weight Anxiety and Eating Disorder Assessment

7.4.1 Chapter 5: The Internal Structure of The Eating Disorders Inventory and Weight Anxiety in Older Women

The first study presented in Chapter 5 examined the proposition that there would be notable differences between the EDI's subscale structure proposed by the inventory's authors and the structure extracted by factor analysis. The results confirmed the hypothesis. Discrepancies were found between the two structures.

The factor analysis revealed a seven factor structure, accounting for 60.8% of the variance. The first factor accounted for over 33% of the variance and contained more than half the items of the questionnaire. Items from all subscales except 'body dissatisfaction' loaded on this factor. It appeared that this factor represented a measure of general psychological distress (with some 'drive for thinness' and 'bulimia' items). Almost all the items loading on this factor were negative in tone.

The second factor comprised items from the eating disorder subscales (body dissatisfaction, drive for thinness and bulimia). However, the 'body dissatisfaction' items which loaded on this factor are negative and emotional in tone. Those items from this subscale which are more positive and factual loaded on factor 3.

It is possible that the subjects respond in distinct ways to the phrasing of the items. Subjects perhaps distinguish between the emotional and the factual and the negative and

positive emphasis of questions. It is possible, that these different responses mediate in the cognitive processing of weight anxiety. The results clearly demonstrate that the subscale structure of the EDI is far from robust.

The aims of the second study was to examine the nature of weight anxiety in older women and to assess the appropriateness of the EDI as a screening instrument for women over fifty years of age. Several questions were addressed:

a. are older women anxious about their weight?;

b. if so, is it a cohort, age (i.e. post-menopausal), or social pressure effect?;

c. is weight anxiety different for older women, than for younger women?;

d. does the subscale structure of the EDI reflect the nature of older women's weight
    anxiety?

The results confirmed that many older women were anxious about their weight. More than half the women described themselves as overweight and most of those had dieted in the past, although few were currently doing so.

It was not possible to discover whether the weight anxiety was the result of cohort or post-menopausal pressure. However, those women who were anxious about their weight were more likely not to be working. This would indicate that lifestyle is an influential factor in older women's weight anxiety.

Weight anxiety in older women was found to be similar to that of younger women. It was interesting to note that although these older women had adjusted their ideal weight to accommodate their age-related increased weight, they had only partially compensated for

it. In other words, the older women had a less realistic ideal weight than the comparison group of younger women.

Finally, the factor analysis of the EDI differed from the subscale structure. This suggests that the subscales at least are not appropriate to the assessment of weight anxiety in older women.

7.4.2 Chapter 6: A Comparison of the Eating Disorders Inventory and the Setting Conditions for Anorexia Nervosa Scale

The final study presented in the thesis examined the subscale structure of the EDI and the SCANS (Slade and Dewey, 1986). It was once more expected that the internal structure of the EDI would differ from its subscale structure, as would the SCANS's internal structure differ from its subscale structure. Finally, it was suggested that the two instruments would correlate highly.

The differences between the internal and subscale structures of the EDI were less marked than in the previous studies. The 'body dissatisfaction', 'perfectionism' and 'ineffectiveness' subscales were well replicated. This could be because student samples were used in both this study and Garner et al.'s 1983 paper. Perhaps, therefore, the EDI is only really validated (and appropriate) for a student population.

The results of the factor analysis of the SCANS indicated that the although there was some support for its subscale structure there was not enough evidence to suggest an effective replication. Seven factors were extracted and accounted for more of the variance than Slade and Dewey had been able to do with a five factor solution. Two factors

resembled the 'general dissatisfaction and loss of control' and 'perfectionism' subscales. The third factor contained half of the items from the 'social and personal anxiety' subscale.

Finally, the SCANS and the EDI were highly correlated. Their total scores and most subscale totals were significantly correlated. The results indicate that the relationship between the instruments is global rather than specific, since most of the subscale correlations are high.

7.5 Discussion: Weight Anxiety and Eating Disorder Assessment

7.5.1 Summary of Findings

The studies of weight anxiety and eating disorder assessment were designed to address two issues. The first was that the internal structure of the EDI would be found to differ from the subscale structure intended by Garner et al. (1983). The second issue concerned the design of assessment measures, and in particular the design of the EDI, which were not considered to be ideal.

The studies of the EDI demonstrated that the subscale structure was not replicable by factor analysis. Three different samples were used, a sample of non-eating disordered women (whose average age was 24.4), a sample of older women (whose average age was 60.6), and a sample of undergraduates (whose average age was 20.4). In each case the factor analysis was different. The undergraduates EDI factor analysis produced the solution which approximated most closely to the subscale structure, although still not to an adequate extent. In all cases more factors were extracted than subscales. The most clearly replicable factor was the 'perfectionism' subscale. Those subscales which related most

directly to weight anxiety and eating disorders were partly replicable. The inability to replicate satisfactorily the subscale structure leads to the suggestion that the a priori assumptions on which the EDI were based were not satisfactory. The instability of the factor solution across different groups suggests that the subscale structure is unreliable.

A number of additional issues are raised by these analyses.

1. that the internal structure of the EDI (and a similar measure) will not replicate the subscale structure of the instrument;

2. assessment design is often not flawless.

7.5.2 Implications and Relationship to Literature

Within each of the chapters which examined assessment of eating disorders, the results were related to other literature. In this section these relationships will be summarised and the implications examined. More recent assessment measures will also be discussed in the context of instruments for further research use.

The results of the studies in Chapters 5 and 6 suggested that the Eating Disorder Inventory does not have a stable internal structure. It was not possible to establish a replicable factor structure either, although different groups of subjects were used which might limit this conclusion. Several studies have questioned the specificity of Garner et al.'s subscales (Cooper et al., 1985; Hurley et al., 1990; Welch et al., 1988). For example both Cooper et al. and Hurley et al. suggested that several of the EDI subscales measured general psychological disturbance and did not discriminate between those with eating disorders and those with other psychiatric conditions. Welch et al. (1988) demonstrated a three factor structure which represented concerns about dieting and weight,

self-esteem, and perfectionism. Certainly, in the analyses conducted for this thesis these were recurring themes.

More recently, research has been carried out which examined the factor structure of the EDI in a patient setting (Welch et al., 1990). Using a sample of 271 eating disordered patients, they extracted an eight factor solution which resembled the subscales suggested by Garner et al. (1983). The results were contrasted with their earlier finding of a three factor solution (referred to above) among women without an eating disorder. They argue that these findings confirm that the EDI subscales are reliable and psychometrically robust when used in an eating disorder setting, supporting the argument of Garner et al. (1983) who argued that the instrument might not reflect the same psychopathology in both eating and non-eating-disordered groups. It was argued in the introduction to this thesis, however, that the subscales should be relevant to both eating disordered and non-eating-disordered subjects. Certainly, if the EDI is to be used as a screening instrument, and particularly if the subscale structure is to be used, then it it is important that that structure is applicable to both women with and without eating disorders. The results, of the studies in this thesis indicate that the internal structure varies from group to group, and that there are often more false positives than are desirable. The subscale structure of the EDI should be accepted only with much caution, and the instrument as a whole should be used carefully, and only (in a screening situation at least) in conjunction with another assessment procedure (this is stressed, it must be said by Garner et al. themselves).

Turning to the SCANS (Slade and Dewey, 1986), few studies have, as yet, used this instrument, so it is difficult to relate the findings of Chapter 6 to the literature. However, Slade and his colleagues have continued to develop and examine the instrument (see for example, Slade, Dewey, Kiemle and Newton, 1990 and Slade, Newton, Butler and

Murphy, 1991), and these will be discussed. Slade et al. (1990) present larger validation samples, than their original paper: 39 with anorexia, 35 with bulimia and a previous history of anorexia; 32 with bulimia without a history of anorexia; and 1163 non-eating disorder subjects. They argue that the eating disorder subjects score very much higher on all five subscales than the non-eating disordered subjects. In the second study they examined perfectionism and dissatisfaction amongst both non-eating disordered and eating-disordered subjects. They correlated these subscales with the scales of the Eysenck Personality Questionnaire (which was also used in Chapter 2)(Eysenck and Eysenck, 1975). The results indicated that the General Dissatisfaction subscale of the SCANS correlated significantly with Neuroticism, Introversion and Psychoticism subscales of the EPQ, whilst the Perfectionism subscale of the SCANS correlated with the Lie scale of the EPQ. Although it is likely that work will continue on the SCANS, it is unclear whether this instrument will be widely adopted. The reservations, expressed in both the Introduction and Chapter 6 remain, particularly with respect to its similarities to the EDI.

Finally, two more recently developed instruments will be discussed (Cooper et al., 1987; Coker and Roger, 1990). The first of these is the Body Shape Questionnaire. It was developed to address concerns about body shape amongst women with and without eating disorders. Cooper et al. (1987) argue that there are no other instruments which measure the 'phenomenal experience of concerns about body shape together with their antecedents and consequences' (p. 486). The instrument was carefully designed and its validity was established. It would have been interesting to have used this instrument, particularly, in the study of normal weight anxiety, in Chapter 2, where attributions of fatness and thinness were examined in more detail. Unfortunately, I was not aware of its existence, until after the study had been designed. The second questionnaire of interest, is the Eating Habits Questionnaire (Coker and Roger, 1990). Essentially, this instrument addressed

many of the criticisms that have been levelled at other measures. Its construction is clearly described, at each stage of its design new subjects were used, and it was not based on clinical preconceptions. After a thorough review of the literature (and references were given), a pool of 80 items was selected that had established face validity. The questionnaire was then administered to a large sample of male and female undergraduates (from a full range of disciplines). The data was factor analysed and a three-factor solution was extracted, and 57 items met the criteria for inclusion. Both internal and test-retest reliability was established, as was concurrent validity (using both the BITE and the EAT (Garner and Garfinkel, 1979; Henderson and Freeman, 1987)). Finally, predictive validity was established in two studies. The value of this instrument lies in the care that was taken in its design. Had it been available at the beginning of the studies presented in this thesis, it would have been a valuable measure for the assessment of weight anxiety, with respect to eating. It does not address, however, other aspects of weight anxiety, but it was not designed to do so.

7.5.3 Proposal for Assessment Design

The studies presented in Chapters 5 and 6 highlight the need for careful design and analysis. Two design procedures are particularly relevant: factor analysis; and establishing norms. The first procedure is valuable in identifying the internal structure of the instrument. Throughout this thesis, factor analysis has been used to examine the internal structure of the EDI. It has been shown that the development of subscales on a priori assumptions is less than ideal. It is more productive to examine the structure of the assessment procedure after it has been designed, because it permits the discovery of aspects of, say, weight anxiety, which are relevant, but which might not have occurred to the designer. Factor analysis is also carried out to examine whether, especially in the case

of screening instruments, the structure of the questionnaire holds for all groups. It is important, in a screening instrument, that the structure is similar for both ends of the clinical/non-clinical continuum. Finally, it is important to establish norms for all the groups which might use the assessment instrument. For example, norms have been established for adolescents and students for the EDI (Rosen, Silberg, and Gross, 1988; Shore and Porter, 1990) but have not been established for non-student young women, nor for older women. These would have been useful in the studies reported in Chapter 5. It is important to obtain a representative cross-section of the populations for which the test is designed (Anastasi, 1988).

Assessment design requires the co-operation of large numbers of respondents, and a suspension of a priori beliefs, in order to develop an effective measure of weight anxiety, which can be effectively used to screen for anxieties which may require professional help. Particular problems arise for this subject area, since there are relatively few women with eating disorders. However, all efforts should be made to address fully aspects of reliability, validity and structure.

7.5.4 Future Research

Although the EDI has been extensively examined in this thesis, there is further research which could be undertaken. In the studies presented in Chapter 5 and 6, the internal structure of the inventory was examined. However, it has not been possible, within the limitations of this thesis, to attempt any replications of the findings. This is a necessary next step.

In Chapter 6 it was shown, that amongst a student population, the internal structure of the EDI had some resemblance to the subscale structure outlined by Garner et al. (1983). It would be valuable, to carry out another study of the EDI with another young or student sample. If the internal structure was replicable, then it could be argued that amongst a young or student population at least, the EDI and its subscale structure may be useful. In a similar vein, it would be productive to examine once more the internal structure of the EDI, amongst a larger sample of women of fifty years or over. There are three possible outcomes. The first is that the internal structure, identified in Chapter 5, would not be replicable. This would suggest that the structure of the EDI amongst this age-group, is not stable. The second, outcome is that the internal structure would be replicated. This would imply that the nature of weight anxiety amongst older women differs from younger female students, or that many of the issues raised in the structure (such as self-esteem) are perhaps related to general wellbeing and cohort differences and not to weight anxiety per se. The third outcome, which is probably the least likely, is that the subscale structure of the EDI would be replicated. If this were the case, more questions would be raised than answered. The third study of relevance, in this context, is another study of the internal structure of the EDI for a more general, and non-age specific sample of women, as was carried out in Chapter 5. The same outcomes are possible for this analysis: non-replication of the internal structure, suggesting instability; replication, suggesting stability, and encouraging a different view of weight anxiety issues; and thirdly, a replication of the subscale structure, leaving more uncertainty.

The other main strand to future research relevant to assessment design, is the development of an instrument which addresses the reservations, expressed in this thesis about previous assessment design. For this to be effective, many women and men would be needed, especially people with different types of eating disorder. It would be particularly

interesting to incorporate some of the knowledge gained from the study of attribution. Issues such as drive, attractiveness, negativity relating to fatness, aspirations towards the 'dream persona' might all be valuable areas in assessing weight anxiety and eating disorders. The assessment instrument would be a screening tool with well established validity and reliability, and an established, replicable subscale structure, not based on a priori assumptions.

7.6 Conclusions: Weight Anxiety, Eating Disorders, Attribution and Assessment

7.6.1 Is Attribution Relevant to the Study of Weight Anxiety and Eating Disorders?

In the studies presented in this thesis one of the main issues addressed was whether attribution theory could provide a theoretical basis from which to gain a better understanding of weight anxiety and eating disorders. The studies presented in Chapters 2, 3, and 4 have illustrated that attribution theory does have something to offer. In each of these studies, attributions regarding weight issues have been shown to be associated with the development and maintenance of weight anxiety.

In the introductory chapter, attribution theory was outlined, and several necessary adaptations reviewed. In a strict adherence to attributional theory, it is not possible to address the issues of weight anxiety adequately. However, by adopting a more relaxed stance attribution theory has proved very useful. Much of the work presented supports the arguments of Hewstone (1989) of the role of collective beliefs and societal attribution. A number of techniques and approaches have been embraced from other social psychology

traditions. In the study presented in Chapter 1 stereotypical views of fatness and thinness emerged, unprompted, from amongst many possible outcomes. In Chapter 4, repertory grid techniques, from Personal Construct Theory, were employed to shed light on individual, and group attributions, and to shed light on inter-group differences. In Chapter 3, attributions of weight anxiety were examined using card sorting methods taken from the knowledge elicitation literature. This flexibility, within an attributional framework, has allowed a study of the interactions between the social processes and the cognitive processes in weight anxiety and eating disorders, and has proved fruitful.

The relevance of attribution to weight anxiety and eating disorders has been highlighted in several ways (tentatively, given the small group sizes): there is evidence that attributions are made; there is an interaction between cultural stereotypes and attributions; attributions of drive and attractiveness are important; attributions of fatness are central; there are differences between eating disordered and non-eating disordered women; and there are differences between groups with different types of eating disorder.

The last two of these will be examined in more detail in the next section (Section 7.6.2), the first four will be addressed here. In each of the Chapters concerned with attribution (2, 3, and 4) evidence was presented which confirmed that an attributional perspective was a relevant and effective way of examining weight anxiety. In the first study attributions were elicited which resembled common weight-related stereotypes, for example thin women were seen as having 'drive', whilst fat women were identified as 'motherly'. The clarity of these stereotypes was striking and unexpected. It appeared that the cultural stereotypes had been somehow internalised. Throughout the studies both attributions of 'drive' and 'attractiveness' were common themes. However, each had specific associations for non-eating disordered women, and for eating disordered women. Amongst the latter

groups, these associations were not always expected, for example drive was not necessarily important for the women with anorexia, contrary to the literature. The most striking finding was the dominance of 'fatness' over all else, particularly amongst the women with eating disorders (this was not found in Chapter 2, however). There is evidence that the fear of fatness, rather than the thin ideal, may be the driving force behind weight anxiety and eating disordered behaviour. This theme will be returned to in the next section.

7.6.2 Can a Study of Attributions Explain Why Women React Differently to Weight Anxiety Pressures?

The attributional studies presented in this thesis, permit the suggestion that attribution is a valuable tool for examining weight anxiety. It has already been argued that these studies illustrate differences between women with and without eating disorders, and differences between those with anorexia, bulimia and those who over-eat. However, these studies do not allow us to disentangle causal relationships. It is not possible to say with any certainty whether the attributions are the cause of eating disordered behaviour, or whether they are a result of the behaviour. Further studies would be needed of a more prospective or longitudinal nature to clarify these relationships.

It is possible to highlight, however, promising areas for future study and to make tentative suggestions as to the causal relationships. It is possible, also to say in which areas people differ. In the previous section, two areas were mentioned but not addressed: that women with and without eating disorders differed in their attributions; and that there were differences between eating disorder groups. These two will be addressed more fully here.

The prominence of fatness in attributions is an important feature differentiating between eating and non-eating disordered groups, and between eating disordered groups. Throughout the repertory grid analyses presented in Chapter 4, the negativity of fatness was noticeable. In every case fatness of some sort was associated with anti-constructs, e.g. '(not very) Attractive', '(not very) Successful'. However, the pattern of relationships between the fat elements and the constructs was not uniform. Attributions of fatness differentiated successfully between all the groups. On some occasions 'Fat Other' was the most negatively rated element, whilst on others it was 'Fat Me'. The differences in the interpretation of fatness seems to provide the key to further understanding of causal relationships. Certainly the self-other divide played an important role in the attributional patterns.

The 'dream persona' was found to be an important attributional element. This was in marked contrast to the unimportance of the attributions related to thinness. It appears that ideals (perhaps related to the perfectionism traits identified in the anorexia literature) are the contrast to fatness: a fatness-ideal continuum. The manner in which this continuum differs between groups, perhaps is one reason why women react in a variety of ways to weight anxiety.

Both drive and attraction have been widely identified as important facets of eating disordered characteristics. In the studies in this thesis both have been found to have differentiated between eating disordered and non-eating disordered women. In the card sort analyses, both were key delineated features of non-eating disordered women's attributions, where a more complex pattern was identified for those women with eating disorders. One

particularly unexpected finding was the lack of importance for the anorexia group of these two attributions, contrary to the literature. It is unclear why this should be so.

Most information about attributions was gained for the women who over-eat. It is possible to say how, though not why, these women differ from other women with eating disorders and from those without eating disorders. There is a close, perhaps not unexpected, relationship between 'Me' and 'fatness'. In addition 'Fat Other' was also an important element in the attributions of the over-eater group. There was very specific attributions attached to 'Feminine', in marked contrast to the other groups. Two distinguishing factors were the strength of the self-other continuum, and the power of the 'fatness' attributions.

Finally, it is possible to say a little about why non-eating disordered women are anxious about their weight. Essentially, it appears that these women have internalised cultural stereotypes, frequently portrayed in the media, about the importance of weight to success and attraction. Their attributions, in general, are clear cut and distinct. These findings, although not unprecedented, do shed some light on the debate about weight anxiety and eating disorders being on a continuum or not. The results suggest that it is less likely that there is a continuum, more perhaps that there are distinct features, which distinguish those who have and do not have eating disorders.

7.6.3 What are the Implications for Clinicians?

The findings of the attributional studies have relevance for clinicians. Attribution does provide a framework in which to study eating disorders. At an individual level much can be gained from examining attributions, and it is possible that these could form a

framework for cognitive therapy. Many of the themes to arise from these studies have implications for cognitive therapy. The findings of this thesis might contribute to the development of cognitive therapies specifically designed to alleviate eating disorders.

The importance of a fear of fatness, and not a drive toward thinness, is also of relevance for clinicians. It would be possible to explore the reasons and consequences of the fear, during therapy. Similarly, an exploration of the relevance of the dream persona might also be valuable.

Of value to the clinician as a therapeutic tool might be a discussion of the differences between actor and observer. The relationships between the self as both actor and observer were seen as important, particularly for the women who over-ate. There is often conflict between what people feel other people believe and what they themselves believe, and this may have relevance to clinicians work with clients. The interplay between the personal and the social, too, may be important.

7.6.4 What has been Learnt about Eating Disorder Assessment?

Much has been learnt about the assessment of eating disorders in the course of this thesis. For the most part, assessments of eating disorders and weight anxiety using self-report measures are less than ideal. Many are flawed from an over-reliance on clinical experience. Others are tested on too few subjects, and yet others are based on student populations. The principal studies have been of the EDI (Garner et al., 1983), which sadly, is imperfect. From these studies it is possible to highlight the important factors which must be accounted for in assessment instrument design.

The primary problem of many of the instruments, especially the EDI is the reliance on a priori assumptions about the nature of eating disorders, based solely on clinical experience. Certainly clinical experience has a role to play, but depending on such experience alone, runs the risk of designer subjectivity. A broader stance is more appropriate: examining the literature; group discussions; asking clients to complete diaries; and drawing from clinical experience. In tandem with this, is the need to avoid imposing a structure too soon. It is not wise to begin with the structure, e.g. the subscales, and then finding the items to suit. The subscale structure does not always reflect the internal structure that emerges from respondents' responses.

Validation, too, is an essential element of assessment instrument design. In the field of eating disorders it is often difficult to obtain enough eating disordered volunteers to carry out successful validation. In many instances, the non-eating disordered women respondents come from undergraduate samples. Although, students are often at risk of developing eating disorders, the need to carry out validation on other groups of non-eating disordered women is also important, after all, non-students develop eating disorders as well. The EDI was first validated on student and anorexia samples, but only later were women with bulimia and women who were obese and formally obese included. The instrument was designed to assess all aspect of weight anxiety, and to distinguish between bulimia and anorexia subjects. By the time the bulimia and obese subjects were included the items had already been established, and it is clear that there was an unwillingness to alter items.

The final aspect of assessment instrument design which is important to consider is the need for screening instruments to be appropriate for both ends of the (possible) continuum. If subscales are to be used it is essential that they can be applied to both the

eating disordered and the non-eating disordered women. Garner et al. (1983) and Welch et al. (1990) both suggested that the subscale structure might only be applicable to eating disordered women. This is a problematic argument. If the instrument is to be used to screen for eating disorders then it is essential that it is appropriate for both women with and without eating disorders. If it is not an appropriate instrument for women without eating disorders then that should be stated.

The design of assessment and screening instruments for weight anxiety and eating disorders must be thorough and cautious. There is need for large numbers of subjects, careful item design and comprehensive item analysis. Items should be carefully validated and reliability should be established. Factor analysis is useful in establishing the instrument's internal structure. Finally, if the instrument is for screening purposes or for both women with and without eating disorders, then the instrument should hold for both groups.

7.6.5 How Useful are the Eating Disorders Inventory and the Setting Conditions for Anorexia Nervosa Scale?

In the introductory chapter (Chapter 1) the EDI was identified as a screening instrument for eating disorders, and for differentiating between anorexia and bulimia. Several problems with its design were highlighted, and these were addressed in studies presented in this thesis. The last question to be addressed is how useful is the EDI as a screening instrument and as a measure of weight anxiety amongst women with no known history of eating disorders.

The subscale structure of the EDI was the principal area of study. It was shown that the subscale structure was based on a priori assumptions based on clinical experience. The subscales were arrived at first and items were designed to fit the subscales. This design procedure is not recommended by any of the experts in questionnaire design. The subscales were not found to be replicable amongst non-student, non-eating disordered women nor amongst women over 50 who were not eating disorders. Only amongst an undergraduate sample were the subscales approximately replicated. This indicates either that the subscales vary from sample to sample (but the internal structure may be replicable within each population) or that the internal structure (and the subscale structure) is inherently unstable. In either case, it is not recommended that any strength is attached to the subscale structure, until further work is carried out.

It is uncertain whether the total score should be relied upon. Certainly, most non-eating disordered women fall below the clinical cut-off. However, more women than expected, particularly amongst older women, did score within the clinical range. It is possible, though unlikely, that there is an undiscovered eating disorder problem amongst older women. There did appear to be more potentially false positives than would have been predicted. It is suggested that if the EDI is to be used then it should be used with caution, particularly, when high scores are achieved. Amongst the older women these high scores were often achieved through scores more appropriate to low self-esteem and cohort factors, than on eating disorder items. It might be more useful to use another more thoroughly designed instrument such as that the Eating Habits Questionnaire (Coker and Roger, 1990), and examine how it functions with different groups of eating disordered and non-eating disordered.

Finally, is the SCANS a useful instrument? It has inherent problems since it claims similarity to the EDI, and certainly correlates highly with it. The results of the factor analysis of the SCANS indicated that although there was some support for its subscale structure there was not enough evidence to suggest an effective replication. As yet it is not widely used, and there is no evidence as to its prospective value, although that is what it is designed for. It is also very general, and runs the risk of generating too many false positives, although there is no evidence that it does so. It will be interesting to follow its progress.

7.7 Summary: Weight Anxiety, Eating Disorders, Attribution and Assessment

The studies reported in this thesis address two issues: attribution and weight anxiety; and assessment design. Five specific propositions were addressed:

1. that the attributions women make about weight-related issues will lead to a clearer understanding of weight anxiety;

2. that attributions contribute to the differential reactions to weight anxiety;

3. that the attributions will identify the interaction between the social and the cognitive;

4. that the internal structure of the EDI (and a similar measure) will not replicate the subscale structure of the instrument;

5. that the difficulties of assessment design will be highlighted and recommendations made for the future

The studies have shown that attribution theory provides an effective framework from which to study weight anxiety and eating disorders. New insight has been gained into the

interactions between the social and the cognitive. The most important finding has been that there is an over-riding negative stereotype associate with fatness (though not revealed in the study presented in Chapter 2), and a central fear of fatness amongst both eating disordered and non-eating disordered women. For some groups this fear operates through the self, for other groups it operates through the other. The importance of the 'dream persona' is also apparent. In contrast thinness is less clearly defined, and appears to be much less important. Concepts of attraction and drive are important features of weight anxiety, and are particularly well delineated amongst the non-eating disordered women. Within the limitations of the studies causal relationships have not been examined, but will prove fruitful areas of future research.

Attributions have been shown to contribute to differential reactions to weight anxiety. Differences between groups were found. There were both differences between eating disordered and non-eating disordered women, and between women with anorexia, bulimia and those who over-eat. The clearest attributions differentiated the Over-Eater group from the rest. Femininity was a key facet in distinguishing the over-eater group. The self-other continuum was also particularly marked. Both 'Me' and 'Fat Other' played notable parts in the construct systems of the over-eater groups. In this case 'Me' was closely related to the fatness elements. The Non-Eating Disorder group was characterised most effectively by the card sort analysis. The clusters which emerged were representative of cultural stereotypes: attraction; drive; and emotion. More complex attributions were found for the Anorexic and Bulimic groups, although the anorexia group was less associated with drive than had been expected.

There was clear evidence that attributions mediated between the social and the cognitive. This is most clearly illustrated by the similarities of the Non-Eating Disordered group to

the social stereotypes, and the greater distance between the two for the Anorexic group. It appears that as the weight anxiety becomes more entrenched and more severe the interaction between the social and the cognitive, mediated by attribution, becomes more complex, and more difficult to access. However, attribution does provide a framework with which to study these interactions and to gain a clearer understanding of factors which might contribute to eating disordered behaviour. In the future, studies of the causal relationships of eating disorders using an attributional perspective would be most interesting and potentially very valuable.

Turning to assessment instrument design for weight anxiety and eating disorders, the main measure of study was the Eating Disorder Inventory (EDI) (Garner et al., 1983). It was suggested, that given the design of the EDI and the a priori assumptions on which it was based, it would be valuable to examine its internal structure. It was argued that it would not be possible, using factor analysis, to replicate the subscale structure outlined by the authors of the inventory. This was confirmed both for non-student women and for non-student older women. There was some evidence, though, that with a student sample, some subscales were replicable. Another instrument the SCANS (Slade et al., 1986) was also identified as having potential design problems, especially since it was claimed to resemble the EDI The results of the analyses found that the subscale structure of this instrument were fairly well replicated. However, some reservations remain, and it will be interesting to see what future research reveals.

In conclusion, this thesis has shown that attribution provides an effective framework within which weight anxiety and eating disorders can be studied. There are clear differences in attributions between eating and non-eating disordered women, and between women with anorexia, bulimia and women who over-eat. There are attributions which highlight

differences between groups and attributions which are associated with a particular group. Assessment and screening instrument design has also been examined. It has been shown that the internal structure of the EDI does not resemble the subscale structure identified by the authors of the inventory. It is concluded that, in general, assessment design for eating disorders are not ideal.

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Appendices

Appendix 1

The Eating Disorder Inventory

(Garner, Olmsted and Polivy, 1983)

Instructions

This is a scale which measures a variety of attitudes, feelings and behaviours. Some of the items relate to food and eating. Others ask your feelings about yourself. THERE ARE NO RIGHT OR WRONG ANSWERS SO TRY VERY HARD TO BE COMPLETELY HONEST IN YOUR ANSWERS. RESULTS ARE COMPLETELY CONFIDENTIAL.

Read each question and place an (X) under the column which applies best to you. Please answer each question *very* carefully. Thank You.

Always	*Usually*	*Often*	*Some-times*	*Rarely*	*Never*	
( )	( )	( )	( )	( )	( )	1. I eat sweets and carbohydrates without feeling nervous.
( )	( )	( )	( )	( )	( )	2. I think my stomach is too big.
( )	( )	( )	( )	( )	( )	3. I wish that I could return to the security of childhood.
( )	( )	( )	( )	( )	( )	4. I eat when I am upset.
( )	( )	( )	( )	( )	( )	5. I stuff myself with food.
( )	( )	( )	( )	( )	( )	6. I wish I could be younger.
( )	( )	( )	( )	( )	( )	7. I think about dieting.
( )	( )	( )	( )	( )	( )	8. I get frightened when my feelings are too strong.
( )	( )	( )	( )	( )	( )	9. I think my thighs are too large.
( )	( )	( )	( )	( )	( )	10. I feel ineffective as a person.

()	()	()	()	()	()	11. I feel extremely guilty after overeating.
()	()	()	()	()	()	12. I think my stomach is just the right size.
()	()	()	()	()	()	13. Only outstanding performance is good enough in my family.
()	()	()	()	()	()	14. The happiest time in your life is when you are young.
()	()	()	()	()	()	15. I am open about my feelings.
()	()	()	()	()	()	16. I am terrified of gaining weight.
()	()	()	()	()	()	17. I trust others.
()	()	()	()	()	()	18. I feel alone in the world.
()	()	()	()	()	()	19. I am satisfied with the shape of my body.
()	()	()	()	()	()	20. I feel generally in control of things in my life.
()	()	()	()	()	()	21. I get confused about what emotion I am feeling.
()	()	()	()	()	()	22. I would rather be an adult than a child.
()	()	()	()	()	()	23. I can communicate with others easily.
()	()	()	()	()	()	24. I wish I were someone else.
()	()	()	()	()	()	25. I exaggerate to magnify the importance of weight.
()	()	()	()	()	()	26. I can clearly identify what emotion I am feeling.
()	()	()	()	()	()	27. I feel inadequate.

Always	Usually	Often	Some- times	Rarely	Never	
()	()	()	()	()	()	28. I have gone on binges where I have felt that I could not stop.
()	()	()	()	()	()	29. As a child, I have tried very hard to avoid disappointing my parents and teachers.
()	()	()	()	()	()	30. I have close relationships.
()	()	()	()	()	()	31. I like the shape of my buttocks.
()	()	()	()	()	()	32. I am preoccupied with the desire to be thinner.
()	()	()	()	()	()	33. I don't know what's going on inside me.
()	()	()	()	()	()	34. I have trouble expressing my emotions to others.
()	()	()	()	()	()	35. The demands of adulthood are too great.
()	()	()	()	()	()	36. I hate being less than best at things.
()	()	()	()	()	()	37. I feel secure about myself.
()	()	()	()	()	()	38. I think about bingeing (overeating).
()	()	()	()	()	()	39. I feel secure about myself.
()	()	()	()	()	()	40. I get confused as to whether or not I am hungry.
()	()	()	()	()	()	41. I have a low opinion of myself.
()	()	()	()	()	()	42. I feel that I can never achieve my standards.
()	()	()	()	()	()	43. My parents have expected excellence of me.
()	()	()	()	()	()	44. I worry that my feelings will get out of control.

() () () () () () 45. I think my hips are too big.

() () () () () () 46. I eat moderately in front of others and stuff

myself when they are gone.

() () () () () () 47. I feel bloated after eating a small meal.

() () () () () () 48. I feel that people are happiest when they

are children.

() () () () () () 49. If I gain a pound, I worry that I will keep

gaining.

() () () () () () 50. I feel that I am a worthwhile person.

() () () () () () 51. When I am upset, I don't know if I am sad,

frightened or angry.

() () () () () () 52. I feel that I must do things perfectly or not

do them at all.

() () () () () () 53. I have thought of trying to vomit in order

to lose weight.

() () () () () () 54. I need to keep people at a certain distance

(feel uncomfortable if someone tries to

get too close).

() () () () () () 55. I think that my thighs are just the right the

size.

() () () () () () 56. I feel empty inside emotionally.

() () () () () () 57. I can talk about personal thoughts or

feelings.

( ) ( ) ( ) ( ) ( ) ( ) 58. The best years of your life are when you

become an adult.

( ) ( ) ( ) ( ) ( ) ( ) 59. I think my buttocks are too large.

( ) ( ) ( ) ( ) ( ) ( ) 60. I have feelings I can't quite identify.

( ) ( ) ( ) ( ) ( ) ( ) 61. I eat or drink in secrecy.

( ) ( ) ( ) ( ) ( ) ( ) 62. I think that my thighs are just the right

size.

( ) ( ) ( ) ( ) ( ) ( ) 63. I have extremely high goals.

( ) ( ) ( ) ( ) ( ) ( ) 64. When I am upset, I worry that I will start

eating.

Appendix 2

The SCANS (Slade and Dewey, 1986)

	Very Satisfied	*Somewhat Satisfied*	*About Average*	*Somewhat Satisfied*	*Very Satisfied*
1. In general how satisfied do you feel with your attainments to date (i.e. school, college, work)?	( )	( )	( )	( )	( )
2. In general how satisfied do you feelabout yourself?	( )	( )	( )	( )	( )
3. In general if you had to compare yourself with the average person what grade would you give yourself?	( )	( )	( )	( )	( )
4. In general how satisfied are you with your life at the moment?	( )	( )	( )	( )	( )

	Very Often	*Fairly Often*	*Sometimes*	*Almost Never*	*Never*
5. Over the last couple of years have you felt confident?	( )	( )	( )	( )	( )
6. Over the last couple of years have you felt in control of your life?	( )	( )	( )	( )	( )
7. Over the last couple of years how often have you felt able to accept a below par performance from yourself?	( )	( )	( )	( )	( )

	Very Often	Fairly Often	Sometimes	Almost Never	Never
8. Over the last couple of years how often have you felt generally fed up?	( )	( )	( )	( )	( )
9. How often in the last couple of years have you felt in total control?	( )	( )	( )	( )	( )
10. Over the last couple of years how often have you got behind with the things you have to do?	( )	( )	( )	( )	( )
11. Over the last couple of years how often have you found it easy to talk with someone of the opposite sex?	( )	( )	( )	( )	( )
12. Over the last couple of years how often have you felt useless?	( )	( )	( )	( )	( )
13. Over the last couple of years how often have you felt you were a mature and responsible adult?	( )	( )	( )	( )	( )
14. Over the last couple of years how often have you wished you were really good at something or other?	( )	( )	( )	( )	( )

	Very Often	*Fairly Often*	*Sometimes*	*Almost Never*	*Never*
15. Over the last couple of years how often have you been worried that you will say or do the wrong thing in company?	( )	( )	( )	( )	( )
16. Over the last couple of years how often have you wished you were a child again?	( )	( )	( )	( )	( )
17. Over the last couple of years how often have you felt happy with life?	( )	( )	( )	( )	( )
18. Over the last couple of years how often have you wanted to have more control over some area of your life?	( )	( )	( )	( )	( )

	Very Much Like You	*Much Like You*	*Somewhat Like You*	*Very Little Like You*	*Not at All Like You*
19. Think of a person who feels a failure in life. Is this person:	( )	( )	( )	( )	( )
20. Think of a person who is a perfectionist. Is this person:	( )	( )	( )	( )	( )
21. Think of a person who tries to avoid talking to strangers. Is this person:	( )	( )	( )	( )	( )

	Very Much Like You	Much Like You	Somewhat Like You	Very Little Like You	Not at All Like You
22. Think of a person who would like to be treated in a more adult fashion. Is this person:	( )	( )	( )	( )	( )
23. Think of a person who is not particularly concerned with standards. Is this person:	( )	( )	( )	( )	( )
24. Think of a person who finds it easy to relax. Is this person:	( )	( )	( )	( )	( )
25. Think of a person who tries to be perfect in their work. Is this person:	( )	( )	( )	( )	( )
26. Think of a person who would like to have more control over their body. Is this person:	( )	( )	( )	( )	( )
27. Think of a person who would like to be a child again. Is this person:	( )	( )	( )	( )	( )
28. Think of a person who feels they have much to be proud of. Is this person:	( )	( )	( )	( )	( )

	Very Much Like You	Much Like You	Somewhat Like You	Very Little Like You	Not at All Like You
29. Think of a person who can (could) never do enough to please one or both parents. Is this person:	( )	( )	( )	( )	( )
30. Think of a person who finds (found) adolescence a very enjoyable time. Is this person:	( )	( )	( )	( )	( )
31. Think of a person who is worried about what others might think. Is this person:	( )	( )	( )	( )	( )
32. Think of a person who would like to have more self-control. Is this person:	( )	( )	( )	( )	( )
33. Think of a person who sets high standards for themselves. Is this person:	( )	( )	( )	( )	( )
34. Think of a person who is able to concentrate on a number of things at once. Is this person:	( )	( )	( )	( )	( )
35. Think of a person who is generally not concerned about doing their best. Is this person:	( )	( )	( )	( )	( )

	Very Much Like You	*Much Like You*	*Somewhat Like You*	*Very Little Like You*	*Not at All Like You*
36. Think of a person who is not sure whether they would prefer to be an adult or a child. Is this person:	( )	( )	( )	( )	( )
37. Think of a person who is generally confident about the impression they create on others. Is this person:	( )	( )	( )	( )	( )
38. Think of a person who is not usually concerned about their performance. Is this person:	( )	( )	( )	( )	( )
39. Think of a person who is not at all concerned about their weight. Is this person:	( )	( )	( )	( )	( )
40. Think of a person who is not at all concerned about their body size and shape. Is this person:	( )	( )	( )	( )	( )

Appendix 3

Characteristic Questionnaire

Characteristics Associated with Thinness

Certain characteristics are often associated with being thin (e.g. thin women are often said to be shy). What characteristics do you associate with women who are thin?

This questionnaire is in two parts. The first (A) is designed to discover the weights under which you would describe someone as thin. The second (B), bearing in mind the answers to (A), asks you to consider which characteristics you might use in describing thin women.

A. Please read and answer each question in turn, and supply the weight you consider appropriate:

1. Consider a thin woman, under how much would she weigh?

_____stones _____lbs

2. Consider a woman of average build and height, how much would she weigh if she were thin?

_____stones _____lbs

B. Considering the weight answers given in (A), how relevant are the characteristics listed below to thin women? Note the characteristics are neutral and should not imply a value judgement. Rate each characteristic on a 5-point scale, where 1 is very irrelevant, 3 of neutral relevance, and 5 very relevant. Answer each question in turn, and record your immediate response with a tick. Do not change your initial responses.

Tick as appropriate	Very Irrelevant 1	Irrelevant 2	Neutral 3	Relevant 4	Very Relevant 5
Adventurous					
Affectionateness					
Agreeableness					
Ambition					
Angularity					
Assertion					
Attractive to Others					
Attractive to Self					
Bespectacled					
Beauty					
Bone Structure					
Caution					
Cheerfulness					
Cleanliness					
Competence					
Complexion					
Contentedness					
Cuddliness					
Dominance					
Energy					
Fashionability					

Tick as appropriate	Very Irrelevant 1	Irrelevant 2	Neutral 3	Relevant 4	Very Relevant 5
Femininity					
Foot Size					
Generosity					
Hair Condition					
Hair Style					
Handsomeness					
Happiness					
Healthiness					
Height					
Honesty					
Independence					
Indulgence					
Industriousness					
Intelligence					
Leg Length					
Logicality					
Neatness					
Orderliness					
Particularity					
Passion					
Posture					

Tick as appropriate	Very Irrelevant 1	Irrelevant 2	Neutral 3	Relevant 4	Very Relevant 5
Presentation					
Prettiness					
Refinement					
Restraint					
Self-Confidence					
Self-discipline					
Selflessness					
Sensuality					
Seriousness					
Slimness					
Sociability					
Spontaneity					
Straightforwardness					
Successfulness					
Sympathy					
Temperament					
Tenseness					
Thoroughness					

Characteristics Associated with Fatness

Certain characteristics are often associated with being fat (e.g. fat women are often said to be motherly). What characteristics do you associate with women who are fat?

This questionnaire is in two parts. The first (A) is designed to discover the weights under which you would describe someone as fat. The second (B), bearing in mind the answers to (A), asks you to consider which characteristics you might use in describing fat women.

A. Please read and answer each question in turn, and supply the weight you consider appropriate:

1. Consider a fat woman, over how much would she weigh?

_____stones _____lbs

2. Consider a woman of average build and height, how much would she weigh if she were fat?

_____stones _____lbs

B. Considering the weight answers given in (A), how relevant are the characteristics listed below to fat women? Note the characteristics are neutral and should not imply a value judgement. Rate each characteristic on a 5-point scale, where 1 is very irrelevant, 3 of neutral relevance, and 5 very relevant. Answer each question in turn, and record your immediate response with a tick. Do not change your initial responses.

Tick as appropriate	Very Irrelevant 1	Irrelevant 2	Neutral 3	Relevant 4	Very Relevant 5
Adventurous					
Affectionateness					
Agreeableness					
Ambition					
Angularity					
Assertion					
Attractive to Others					
Attractive to Self					
Bespectacled					
Beauty					
Bone Structure					
Caution					
Cheerfulness					
Cleanliness					
Competence					
Complexion					
Contentedness					
Cuddliness					
Dominance					
Energy					
Fashionability					

Tick as appropriate	Very Irrelevant 1	Irrelevant 2	Neutral 3	Relevant 4	Very Relevant 5
Femininity					
Foot Size					
Generosity					
Hair Condition					
Hair Style					
Handsomeness					
Happiness					
Healthiness					
Height					
Honesty					
Independence					
Indulgence					
Industriousness					
Intelligence					
Leg Length					
Logicality					
Neatness					
Orderliness					
Particularity					
Passion					
Posture					

Tick as appropriate	Very Irrelevant 1	Irrelevant 2	Neutral 3	Relevant 4	Very Relevant 5
Presentation					
Prettiness					
Refinement					
Restraint					
Self-Confidence					
Self-discipline					
Selflessness					
Sensuality					
Seriousness					
Slimness					
Sociability					
Spontaneity					
Straightforwardness					
Successfulness					
Sympathy					
Temperament					
Tenseness					
Thoroughness					

Appendix 4

E.P.Q. (Eysenck and Eysenck, 1975)

Instructions

Please answer each question by putting a circle around the 'Yes' or the 'No' following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the questions.

Please Remember to Answer Each question

1.	Do you have many different hobbies?	Yes	No
2.	Do you stop to think things over before doing anything?	Yes	No
3.	Does your mood often go up and down?	Yes	No
4.	Have you ever taken the praise for something you knew somebody else had really done?	Yes	No
5.	Are you a talkative person?	Yes	No
6.	Would being in debt worry you?	Yes	No
7.	Do you ever feel 'just miserable' for no reason?	Yes	No
8.	Were you ever greedy by helping yourself to more than your share of anything?	Yes	No
9.	Do you lock up your house carefully at night?	Yes	No
10.	Are you rather lively?	Yes	No
11.	Would it upset you a lot to see a child or animal suffer?	Yes	No
12.	Do you often worry about things you should not have done or said?	Yes	No

13.	If you say you will do something, do you always keep your promise no matter how inconvenient it might be?	Yes	No
14.	Can you usually let yourself go and enjoy yourself at a lively party?	Yes	No
15.	Are you an irritable person?	Yes	No
16.	Have you ever blamed someone for doing something you knew was really your fault?	Yes	No
		Yes	No
17.	Do you enjoy meeting people?	Yes	No
18.	Do you believe insurance schemes are a good idea?	Yes	No
19.	Are your feelings easily hurt?	Yes	No
20.	Are all your habits good and desirable ones?	Yes	No
21.	Do you tend to keep in the background on social occasions?	Yes	No
22.	Would you take drugs which may have strange or dangerous effects?	Yes	No
23.	Do you often feel 'fed-up'?	Yes	No
24.	Have you ever taken anything (even a pin or a button) that belonged to someone else?	Yes	No
25.	Do you like going out a lot?	Yes	No
26.	Do you enjoy hurting people you love?	Yes	No
27.	Are you often troubled about feelings of guilt?	Yes	No
28.	Do you sometimes talk about things you know nothing of?	Yes	No
29.	Do you prefer reading to meeting people?	Yes	No
30.	Do you have enemies who want to harm you?	Yes	No
31.	Would you call yourself a nervous person?	Yes	No
32.	Do you have many friends?	Yes	No

33. Do you enjoy practical jokes that can sometimes really hurt people?   Yes   No

34. Are you a worrier?   Yes   No

35. As a child did you do as you were told immediately and without grumbling?   Yes   No

36. Would you call yourself happy-go-lucky?   Yes   No

37. Do good manners and cleanliness matter much to you?   Yes   No

38. Do you worry about awful things that might happen?   Yes   No

39. Have you ever broken or lost something belonging to someone else?   Yes   No

40. Do you usually take the initiative in making new friends?   Yes   No

41. Would you call yourself tense or 'highly-strung'?   Yes   No

42. Are you mostly quiet when you are with other people?   Yes   No

43. Do you think marriage is old-fashioned and should be done away with?   Yes   No

44. Do you sometimes boast a little?   Yes   No

45. Can you easily get some life into a rather dull party?   Yes   No

46. Do people who drive carefully annoy you?   Yes   No

47. Do you worry about your health?   Yes   No

48. Have you ever said anything bad or nasty about anyone?   Yes   No

49. Do you like telling jokes and funny stories to your friends?   Yes   No

50. Do most things taste the same to you?   Yes   No

51. As a child were you ever cheeky to your parents?   Yes   No

52. Do you like mixing with other people?   Yes   No

53. Does it worry you if you know there are mistakes in your work?   Yes   No

54.	Do you suffer from sleeplessness?	Yes	No
55.	Do you always wash before a meal?	Yes	No
56.	Do you nearly always have a 'ready answer' when people talk to you?	Yes	No
57.	Do you like to arrive at appointments in plenty of time?	Yes	No
58.	Have you often felt listless and tired for no reason?	Yes	No
59.	Have you ever cheated at a game?	Yes	No
60.	Do you like doing things in which you have to act quickly?	Yes	No
61.	Is (or was) your mother a good woman?	Yes	No
62.	Do you often feel life is very dull?	Yes	No
63.	Have you ever taken advantage of someone?	Yes	No
64.	Do you often take on more activities than you have time for?	Yes	No
65.	Are there several people who keep trying to avoid you?	Yes	No
66.	Do you worry a lot about your looks?	Yes	No
67.	Do you think people spend too much time safeguarding their future with savings and insurance?	Yes	No
68.	Have you ever wished that you were dead?	Yes	No
69.	Would you dodge paying taxes if you were sure could never be found out?	Yes	No
70.	Can you get a party going?	Yes	No
71.	Do you try not to be rude to people?	Yes	No
72.	Do you worry too long after an embarrassing experience?	Yes	*No*
73.	Have you ever insisted on having your own way?	Yes	No
74.	When you catch a train do you often arrive at the last minute?	Yes	No
75.	Do you suffer from 'nerves'?	Yes	No

76.	Do your friendships always break up easily without it being your fault?	Yes	No
77.	Do you often feel lonely?	Yes	No
78.	Do you always practice what you preach?	Yes	No
79.	Do you sometimes like teasing animals?	Yes	No
80.	Are you easily hurt when people find fault with you or the work you do?	Yes	No
81.	Have you ever been late for an appointment or work?	Yes	No
82.	Do you like plenty of bustle and excitement around you?	Yes	No
83.	Would you like other people to be afraid of you?	Yes	No
84.	Are you sometimes bubbling over with energy and sometimes very sluggish?	Yes	No
85.	Do you sometimes put off until tomorrow what you ought to do today?	Yes	No
86.	Do other people think of you as being very lively?	Yes	No
87.	Do people tell you a lot of lies?	Yes	No
88.	Are you touchy about some things?	Yes	No
89.	Are you always willing to admit it when you have made a mistake?	Yes	No
90.	Would you feel very sorry for an animal caught in a trap?	Yes	No

Appendix 5

Demographic Questionnaire 1

Age: _____

Height: _____

Present Weight: _____

Have you dieted in the past?: _____

Are you dieting now?: _____

Are you worried about being overweight?: _____

Are you worried about being underweight?: _____

What would you consider your ideal weight to be?: _____

If you diet, what is your motivation? (E.g. health, appearance etc.): _____

Appendix 6

Card Sorts

Each of the following words were written on individual cards:

Affectionate	Ambitious
Assertive	Attractive
Beauty	Cheerful
Clean	Competent
Complexion	Healthy
Honest	Independent
Neat	Orderly
Particular	Posture
Presentation	Slim
Social	Spontaneous
Straightforward	Successful
Sympathetic	Thorough
Wellbeing	

Appendix 7

Repertory Grid

Constructs

Healthy (A)	Feminine (D)	Passionate (G)
Competent (B)	Successful (E)	Confident (H)
Attractive (C)	Generous (F)	

Plus seven elicited constructs and four elicited elements.

Please rate each element on each construct on a 7-point scale, where 1 is 'not at all', 4 is 'neutral' and 7 is 'very'.

Constructs / Elements	A	B	C	D	E	F	G	H
Me								
Fat Friend								
Thin Other								
Ideal Me								
Thin Friend								
Admired Other								
Fat Other								
Thin Me								
Who I'd Most Like to Be								
Fat Me								
Malefriend/Boyfriend								

Appendix 8

Example of the Full INGRID Analysis: The Bulimic Group

The variation about each construct can be seen in Table A. Two constructs together account for nearly forty percent of the variation. These are 'Feminine' and 'Attractive'. This would suggest that these are the constructs which are most discriminating. In contrast, for the Bulimic group, 'Generous' and 'Competent' show the least variation, which would indicate that these are the constructs which are less effective as discriminators. Perhaps, for example, all elements are rated as being '(very) Generous'.

Table A: The Variation About the Constructs

Construct	Variation	As Percent
Healthy	14.3	11.7
Feminine	22.3	18.2
Passionate	15.5	12.7
Competent	9.9	8.1
Successful	12.2	10.0
Confident	15.4	12.6
Attractive	25.2	20.6
Generous	7.2	5.9

Table B shows the matrix of between construct correlations. There are no negative or low correlation coefficients, which is unexpected. It would appear that all the constructs for

the bulimic group are interrelated. Particularly high correlations are between 'Successful' and 'Confident' and between 'Confident' and 'Attractive'.

Table B: Correlation Matrix of Constructs

	Femin'	Passi'n'	Compet'	Succes'	Confid'	Attract'	Gener'
Healthy	0.86	0.96	0.90	0.91	0.89	0.91	0.94
Feminine		0.89	0.79	0.84	0.85	0.87	0.73
Passionate			0.90	0.87	0.86	0.90	0.86
Competent				0.94	0.97	0.92	0.85
Successful					0.99	0.97	0.87
Confident						0.98	0.84
Attractive							0.83

The analysis of the relative importance of the elements in the construct system of the bulimic group can be seen in Table C. There is a large range of importance from the element 'Thin Other' (which is the least important) to the element 'Fat Other' (which is the most important).

Table C: The Total Deviations and Sum of Squares for the Bulimic Group

Element	Total	Sum of Squares	As Percent
Me	-4.8	6.6	5.38
Ideal Me	10.1	13.8	11.28
Fat Other	-16.5	36.0	29.47
Thin Friend	2.4	1.9	1.55
Admired Other	9.1	10.7	8.81
Thin Other	-1.1	1.4	1.19
Fat Friend	-5.8	5.6	4.56
Thin Me	7.7	8.7	7.09
Who I'd Most Like to Be	12.5	20.0	16.41
Boyfriend/Malefriend	-3.4	3.7	3.03
Fat Me	-10.3	13.7	11.24

The INGRID analysis of the Bulimic consensus grids extracted two components which accounted for 94.82% of the variance. The first component accounted for 90.74% of the variance and could stand alone. This is graphically illustrated by Figure D which shows the elements and constructs in the component space for the Bulimic group. It is very apparent that both the elements and constructs are differentiated by Component 1.

Some interesting patterns can be found amongst the elements. The first is that only two elements are clearly differentiated by Component 2: 'Me' and 'Boyfriend/Malefriend'. Of the two 'Me' is the most notable. It would appear that 'Me' is regarded as distinct from the

other elements and could perhaps be said to be isolated. Those elements associated with fatness are to be found on the negative axis of both Component 1 and Component 2. In contrast those elements associated with thinness are found on the positive axis of Component 2 and those associated with, what could be termed a 'dream persona' are to be found on the positive axis of Component 1. The salience of fatness and especially 'Fat Other' is emphasised by the distance of 'Fat Other' from the 'dream personas'. In addition the relative unimportance of 'Thin Other' is clearly shown. It is however, interesting that 'Me' and 'Fat Other' are somewhat distanced. It could be that although fatness is crucial to the construct system of the Bulimic group, it is still viewed as a distinct issue, only of part relevance to 'Me'.

The constructs are, like most of the elements, clearly differentiated by Component 1. Only the construct 'Feminine' is clearly differentiated by both components. All the pro-constructs load on the positive axis of Component 1. Those constructs which were associated with drive in Chapter 2 are clustered, and, surprisingly, with 'Generous' too. The construct 'Attractive' is also closely situated to this cluster. All these constructs are loaded, slightly, on the negative axis of Component 2. The constructs 'Healthy', 'Passion' and 'Feminine' are loaded on the positive axis of Component 2. The former two occupy similar component space. However, 'Feminine' is more distinct and loads more distinctly on Component 2 than any of the other constructs. It would appear that this construct has a specific role in the construct systems of the Bulimic group. Certainly from the earlier result, it appears that the rating on this construct was quite variable, which suggests that it is a specific differentiator amongst elements.

The most clear interactions, not surprisingly, are those between 'Fat Other' and the anti-constructs and the 'dream personas' and the pro-constructs. It is clear that the 'Fat Other' is

regarded as '(not very) Healthy', '(not very) Passionate', '(not very) Attractive', '(not very) Competent', '(not very) Confident', '(not very) Successful', '(not very) Feminine' and, unexpectedly, '(not very) Generous'. This last finding was unexpected since in previous analyses 'Generous' was often associated more with fatness than thinness. The element 'Me' also interacts with the anti-constructs, as do 'Fat Friend' and 'Fat Me'. The salience of fatness is strikingly negative. The element 'Thin Other' also falls just to the anti-construct side of the components, however, since the loadings are so small it could be regarded more as a neutral rating. The other interaction to note is between the construct 'Feminine' and the element 'Boyfriend/Malefriend'. This element loaded as an anti-construct for 'Feminine' and perhaps defined this construct. Considering aspects of the 'dream persona', the element 'Who I'd Most Like to Be' interacted most with the pro-constructs associated with drive and 'Generous', whilst 'Admired Other' was seen as '(very) Attractive' and 'Ideal Me' was seen as 'Healthy'. These are subtle differences but interesting nevertheless. What is also curious, in the light of the findings of Chapter 2, is that 'Passionate', for the Bulimic group, is aligned with both 'Thin Me' and 'Thin Friend'. In the earlier results 'Passion' was extracted as a 'Fat Only' attribution. This highlights the difference between women with bulimia and women without an eating disorder.

Figure D: Diagrammatic Representation of the Bulimic Group's Consensus Space
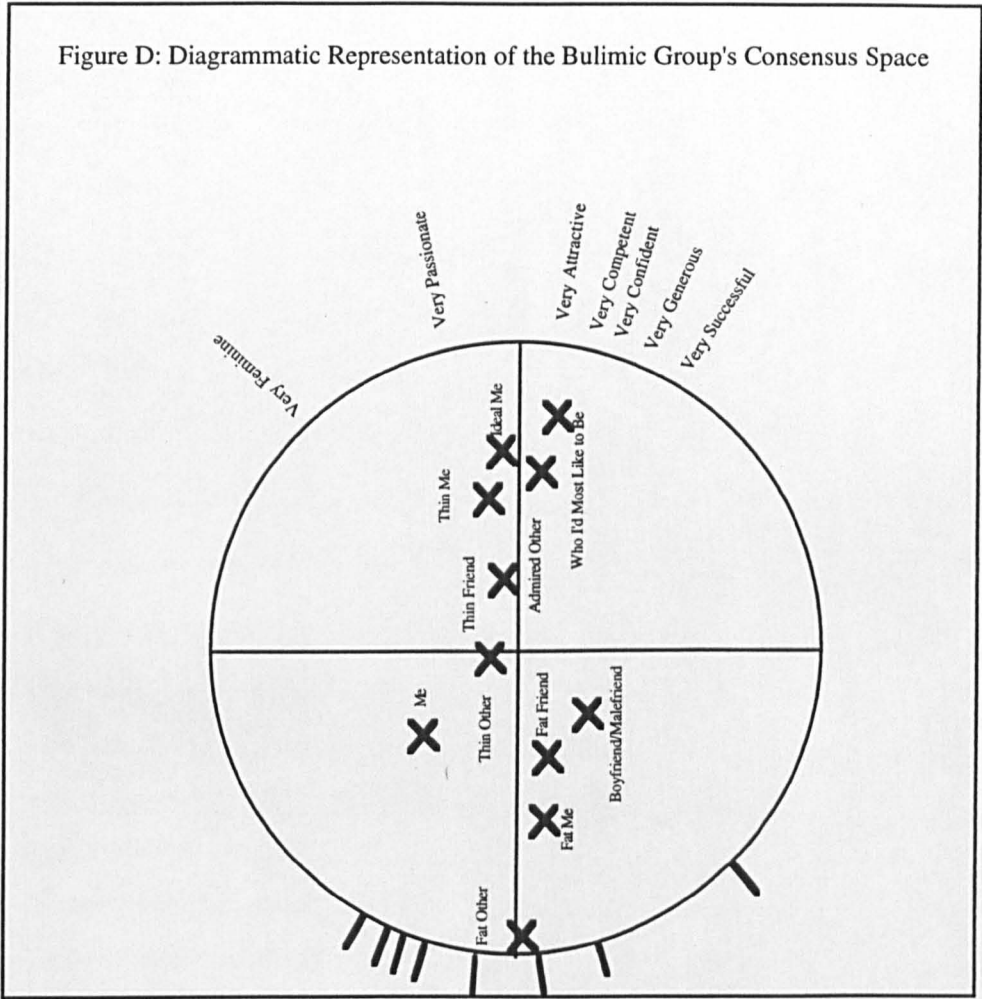
Appendix 9

Demographic Questionnaire 2

Age: _____

Height: _____

Present Weight: _____

Have you dieted in the past?: _____

Are you dieting now?: _____

Are you worried about being overweight?: _____

Are you worried about being underweight?: _____

What would you consider your ideal weight to be?: _____

If you diet, what is your motivation? (E.g. health, appearance etc.): _____

Marital status?:   Single/Married/Divorced/Widowed/Stable Relationship?

Number of children (if any)?: _____

Number of dependent children (if any)?: _____

Number of dependent relatives (if any)?: _____

Have you ever been employed?: _____

Are you currently employed?: _____

If so are you: Full-Time/Part-Time?

If you are not currently working, but have been in the past, was your job:

      Full-Time/Part-Time?

If you are working or have worked, how satisfying is/was your job (Please circle)?

1	2	3	4	5
Very Unsatisfying		Neutral		Very satisfying

Do/Did you regard your job as a career?: _____