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Expected responses within interpersonal relationships among individuals with eating disorders: a cognitive-interpersonal perspective.

Shelley McKeown

Abstract

Interpersonal issues are prominent within the development and maintenance of eating disorders. Research however, is limited in this area, especially that focusing on interpersonal cognitions which also appear to be neglected by cognitive-behavioural models. The current study aimed to consider the application of the cognitive-interpersonal framework (Safran, 1990a, 1990b) to further the understanding of eating disorders, by exploring interpersonal schemas of individuals with and without eating disorders.

Three groups of females (non-dieters, dieters and clinical eating disorders) were recruited to participate in the study and aimed to reflect a proposed spectrum of eating distress. Individuals completed the Interpersonal Schema Questionnaire, (ISQ; Hill & Safran, 1994) which assessed expectations about how significant others would respond in certain situations.

The current study employed a Multivariate Analysis of Variance (MANOVA) to explore differences in interpersonal schemas between the three groups. Results indicated that individuals with eating disorders differed from non eating-disordered individuals on the type of responses expected from significant others, the degree of complementarity within those responses and how desirable they experienced those responses. Overall, individuals with eating disorders presented with 'hostile' interpersonal schemas indicating that they expected more hostility from others in a variety of situations.

Results are discussed within a cognitive-interpersonal framework (Safran, 1990a, 1990b). It appeared that individuals with eating disorders were 'stuck' in unhelpful ways of relating that were reinforced through 'hostile' interpersonal schemas. It is suggested that individuals may regenerate their eating disorders through such perpetuating cognitive-interpersonal cycles.

The current study strengthens the argument for the combination of cognitive and interpersonal theories to enhance the effectiveness of the assessment and treatment of eating disorders. Additionally, results invite further research on interpersonal cognition and the role of such in eating disorders.

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1. INTRODUCTION

Cognitive behavioural models have dominated the conceptualisation and treatment of eating disorders in recent years. The therapeutic focus of these models remains limited to thoughts about shape, food and weight. The current review of the literature however, indicated that in addition to thoughts about shape, food and weight, interpersonal variables such as communication and interactions within relationships, could also have a role in the development and maintenance of eating disorders.

Thoughts about weight, together with interpersonal variables, are both important aspects of eating disorders and the treatment of either in isolation, would suggest that the potential effectiveness of treatment remains limited. Therefore, it would seem logical to explore and incorporate both areas into the treatment of eating disorders. This combination could arguably serve to enhance the effectiveness of outcomes in therapy.

One way to achieve this combination would be through the application of the cognitive-interpersonal framework (Safran, 1990a, 1990b), which focuses on the combination of cognitive and interpersonal theories. The framework promotes the role of interpersonal schemas (beliefs/expectations held about relationships) in relation to individuals' psychological well-being and interpersonal relationships.

The current chapter begins with an outline of the eating disorders and associated issues, such as prevalence and aetiology. This is followed by a brief overview and evaluation of the interpersonal and cognitive focus within eating disorders, as well as interpersonal theory and its application to eating disorders. Finally, the combination of these two approaches is introduced with the cognitive-interpersonal framework proposed by Safran (1990a, 1990b).

A review of research that has implemented the framework is discussed, highlighting implications for the current study. Recent studies that have explored interpersonal schemas in eating disorders are also discussed (Erol *et al.*, 2000; Keskingöz & Soygüt, 2002).

1.1. Overview of eating disorders

The ‘Diagnostic and Statistical Manual of Mental Disorders’ (4th edn) (APA, 1994) broadly places eating disorders into three categories: anorexia nervosa; bulimia nervosa; and eating disorder not otherwise specified (EDNOS). Diagnostic criteria for each eating disorder can be obtained in Appendix A.

Anorexia nervosa

The term ‘anorexia’ means ‘loss of appetite’, however this is rarely the case for individuals experiencing the eating disorder known as anorexia nervosa. Research has demonstrated that individuals do indeed withstand intense hunger during their experience of the disorder. However, the anxiety and panic experienced around eating and weight gain enhances the individual’s need for control of food and dietary restraint (Palmer, 2000).

Anorectic-type symptoms have been documented in the literature for as long as 300 years, although the term ‘anorexia nervosa’ has only been used since the 1870s (Gull, 1874). Over that time, treatments have evolved from pharmacologically-based interventions through to psychological therapies (Silverman, 1997).

Individuals are suggested to experience anorexia nervosa when they present with a low body weight (weight 15 per cent below that identified for the individual’s age and height), a morbid fear of becoming fat, severe restriction of food intake and body image disturbance.

Anorexia nervosa is reported to be more common among females than males and typically is associated with adolescence and young adulthood, although this is not exclusive (Bird, 1999; Smolak & Murnen, 2001). Roth and Fonagy (1996) reported a prevalence rate for clinical cases of anorexia nervosa between 0.5 and 2 per cent over a number of studies. A recent report by Bird (1999) on behalf of The Mental Health Foundation suggested that 1 per cent of women in the UK aged between 15-30 years experience anorexia nervosa. The report also highlighted that 50 per cent of cases will occur before the age of 20 years, and typically persist for approximately six years. More recently, the National Institute for Clinical Excellence (NICE, 2001) has reported an estimated prevalence rate of anorexia nervosa between 0.5 per cent and 1 per cent.

In many reviews exploring the prevalence and incidence of eating disorders however, it is common to find an array of methodologies, measures and samples, which make conclusions difficult. In addition, subclinical levels of eating disorders are thought to be more prominent than first thought, especially in non-clinical populations (Shisslak *et al.*, 1995). Within such populations, many individuals may be reluctant to admit that they experience such distress with food and body image, thus resulting in many undetected cases of eating disorders (Palmer, 2000).

Bulimia nervosa

The term 'bulimia' in its simplest form means 'episodic overeating' and although similar in some respects to anorexia nervosa, the disorder known as bulimia nervosa is distinct and relatively new; the term emerging only over the last 30 years through the work of Russell (1979).

Episodes of binge eating to the extent where loss of control is identified are central to bulimia nervosa. In addition, episodes of purging (self-induced vomiting/laxative abuse) and non-purging behaviours (dietary restraint/excessive exercise) are common compensatory behaviours for bingeing. Like anorexia nervosa, bulimia nervosa is associated with undue fears about weight gain and disturbed body image. The disorder is more common in females, and occurs more so in early adulthood (Roth & Fonagy, 1996).

Prevalence rates again vary according to studies, and rates within clinical populations generally appear to fall between 1 and 3 per cent (Roth & Fonagy, 1996; NICE, 2001). Bird (1999) reported an estimated 1 and 2 per cent of adult women in the UK have bulimia nervosa.

Eating disorder not otherwise specified (EDNOS)

A number of individuals referred to eating disorder clinics do not present with 'typical' or 'full' diagnostic criteria for eating disorders such as anorexia or bulimia nervosa, as defined by DSM-IV (APA, 1994). Many individuals will present with features of anorexia or bulimia nervosa, although such features may be of less intensity, and present with some and not all criteria essential for a complete diagnosis. Individuals with this presentation are classified as having an eating disorder not otherwise specified (EDNOS) or as a number of studies suggest, 'subclinical eating disorders' (Button & Whitehouse, 1981; Shisslak *et al.*, 1995).

It has been suggested (L. Benson, personal communication, 16 June 2003) that the majority of individuals referred to a local eating disorders treatment unit in England during 2002, received a diagnosis of EDNOS (46 per cent). Furthermore, over half of those diagnosed with EDNOS (56 per cent) were suggested to experience partial syndrome anorexia and bulimia

nervosa. This also appears to be the case where subclinical cases are reported in non-clinical populations (Palmer, 2000; Shisslak *et al.*, 1995).

A spectrum of eating disorders

Many studies imply that a spectrum of eating disorders exists (Mintz & Betz, 1988; Nylander, 1971; Shisslak *et al.*, 1995; Tylka & Mezydlo-Subich, 1999). These studies have suggested that eating pathology varies across a spectrum from 'non-restraining' individuals to 'dieters' to 'subclinical levels of eating disorders' and finally 'clinical levels of eating disorder' (e.g. anorexia nervosa). However, the literature appears inconclusive as to whether or not such a spectrum is a progressive continuum (Shisslak *et al.*, 1995).

A number of authors have reported construct validity in favour of the continuum hypothesis (Tylka & Mezydlo-Subich, 1999). Tylka and Mezydlo-Subich (1999) argued that a continuum does exist although remained ambivalent about the nature of that spectrum. In studies that favoured a continuum hypothesis, results appear to reflect a progression of eating pathology. It is also known however, that although some individuals will progress along such a spectrum (given that dieting is a risk factor in the development of eating disorders: Hill, 1993; Nevenon & Broberg, 2000; Palmer, 2000) others will not, and either fluctuate between or remain stable at certain points of the spectrum (Shisslak *et al.*, 1995).

A review by Shisslak and colleagues (1995) highlighted that a more bell-shaped pattern of eating pathology exists and that dieters and subclinical groups are greater than non-dieters and clinical eating disorders in the general population. In addition, the authors pointed out that there is limited research evidence to suggest what might stop (protect) an individual from progressing along the spectrum and developing clinical eating disorders such as anorexia nervosa.

A study by Kalodner and Scarano (1992) reviewed research that examined factors about individuals along the spectrum, focusing on the pre-clinical points. The review explored 'normal eaters', 'repeat dieters', 'binge eaters', 'purgers' and 'sub-threshold bulimia'. It was highlighted that there were subtle differences between the groups but a common thread ran throughout, in relation to behaviour and attitudes surrounding body image and food. The sub-threshold group appeared most significant in that they presented with many features similar to clinical groups. Similarities (of less intensity) included attitudes about food, weight and shape as well as behaviours such as bingeing and purging. Kalodner and Scarano (1992) pointed out that research is needed to explore differences between the groups to identify protective factors, which could prevent women from developing full-blown eating disorders.

Despite their conclusions, Kalodner and Scarano (1992) only commented on how factors such as weight, appearance and body shape varied along the spectrum. Although the authors did review limited psychological issues such as ineffectiveness, distorted self-awareness and interpersonal distrust, they highlighted that these issues were more pertinent to clinical levels of eating disorder and seemed not to exist on a spectrum. They did not comment on the differences in interpersonal variables or relationship interactions that might exist along the spectrum of eating disorders. This appears to imply that interpersonal aspects do not play an important role in eating distress and disorders, in comparison to thoughts about weight, shape and food.

The idea of a spectrum is a useful concept in the selection of participants for research studies. Recruitment of participants in that way would allow exploration of differences between groups along the spectrum. Patterns of interpersonal behaviour in relationships could be explored and provide further information on how dieters differ from non-dieters, as well as how they might differ from individuals with clinical eating disorders.

Comorbidity

Comorbidity with other mental health difficulties is common among eating disorders. This is especially evident for depression, anxiety, substance misuse (typical with bulimia) and obsessional tendencies (typical with anorexia). In addition, it is not uncommon for many individuals with eating disorders to experience comorbid personality disorders (Roth & Fonagy, 1996).

Aetiology

A plethora of research has explored the development and maintenance of eating disorders, and there are distinctive features for each specific disorder. It is well established that eating disorders are associated with psychological underpinnings that give rise for the need to control food intake. The aetiology of eating disorders however, is multifaceted and it is beyond the remit of this study to review such features in depth. A brief outline of factors associated with eating disorders is presented below.

Common factors associated with eating disorders include family dynamics such as attachment issues, communication issues, unhelpful dynamics/discourse around food and maternal modelling around dieting behaviours (Rieves & Cash, 1996; Steinberg & Phares, 2001; Ward *et al.*, 2000); individual factors such as personality, low self-esteem, coping style and relationships (Button *et al.*, 1997; Troop *et al.*, 1998); and cultural factors such as western society's promotion of the 'body ideal' and cult of thinness (Haworth-Hoepfner, 2000).

Cultural factors are explored further below in a brief review of eating disorders within different ethnic groups. It has been suggested that disturbed eating distress and attitudes are prevalent in other ethnic groups besides white females (Wildes *et al.*, 2001). Differences in ethnicity might have implications for recruitment of participants in the research of eating disorders.

Overall, it should be noted that eating disorders are complex in nature and what might have originally contributed to the onset of the disorder, may not necessarily be what is maintaining it.

Eating disorders in other cultures

The literature suggests that white females report more eating distress and disorders than non-white females. Such results however, are not conclusive due to methodological differences in studies (Wildes *et al.*, 2001). A number of studies have demonstrated that what was once thought of as a 'western world phenomenon' is now evident in a number of other cultures in the non-western world (Le Grange, 1996; Miller & Pumariega, 1999).

Miller & Pumariega (1999) suggested evidence for anorexic-type symptoms in India. In India however, dietary restraint appears to be more associated with religious customs rather than the pursuit of thinness. Despite this, the authors highlighted that such differences may reflect the fact that even DSM-IV (APA, 1994) is a culturally bound diagnostic system, which fails to acknowledge other meanings behind anorexic symptoms. Furthermore, a study by Le Grange (1996) highlighted that both South African black and caucasian individuals, demonstrated disturbed eating pathology and behaviours as measured by standard eating disorder instruments.

It is also known that within the western world and especially the UK and America, many ethnic groups are experiencing eating distress and unhelpful eating attitudes associated with eating disorders (Wildes *et al.*, 2001; Miller & Pumariega, 1999). This is especially so for non-clinical populations, where much of the research supporting this has been conducted on college students (Wildes *et al.*, 2001).

The process of acculturation (becoming assimilated into a different culture) is a favoured explanation for the experience of eating distress in ethnic minority groups, who are living in the UK or America. In addition, media influences and the experience of Western society's pressure to be thin and perfect adds further demands on ethnic groups to conform to the western 'ideal body'. Further research is needed to confirm the suggestion of the role of acculturation (Le Grange, 1996). Further to the role of culture *per se*, Haworth-Hoepfner (2000) advocated the role of the family in the mediation of cultural ideas about thinness, and how family members convey such messages to other family members.

Despite the apparent increase of eating pathology in different ethnic groups, the number of clinical cases from ethnic minorities presenting to services within the UK, at least, remain limited (Lacey & Dolan, 1988; Ratan *et al.*, 1998). The literature suggests an apparent increase in the prevalence of eating pathology in various cultural groups and consequently, there no longer appears a necessity to exclude any ethnic groups from participating in research studies.

1.2. Understanding eating disorders

A number of theories and models have been proposed to guide the conceptualisation and treatment of eating disorders. The current review of the literature suggested that interpersonal issues (e.g. disturbed relationships, communication, etc) were consistently reported factors in the development and maintenance of eating disorders and arguably should gain a more dominant role in the treatment of such.

Additionally, cognitive-behavioural (CB) models have provided insight into the role of thoughts about food, weight and shape in eating disorders. Cognitive-behavioural models however, appear to be more successful and dominant in the treatment of anorexia and bulimia nervosa compared to interpersonal based treatments. The success and popularity of CB models may be due to their time-limited, structured protocols, which are easily communicated to patients and clinicians alike. Furthermore, CB models owe much of their success to the body of outcome research that has supported their efficacy (DOH, 2001; Hawton *et al.*, 1989; Persons & Tompkins, 1997; Roth & Fonagy, 1996).

Both interpersonal research studies and cognitive-behavioural models however, have a number of limitations that inhibit one's understanding of eating disorders and subsequently their treatment; these limitations are discussed below. Of note is that a number of other theories exist that have contributed to the understanding of eating disorders (e.g. social learning theory), however it is beyond the remit of this study to explore these further. The main focus is on interpersonal and cognitive theories, which are presented below.

1. 3. Psychological distress in the context of interpersonal relationships

Many mental health problems can be viewed in the context of interpersonal relationships. Disrupted and distressed interpersonal relationships can precipitate or maintain mental health problems (Segrin, 1998, 2000). Additionally, mental health problems can lead to difficult interpersonal relationships; consequently a vicious circle is common (Klerman & Weissman, 1993; Segrin, 1998, 2000).

The interpersonal context of distress is not a new formulation for understanding mental health problems. Freud stressed the importance of family relationships, especially early ones, in relation to psychological difficulties (Segrin, 1998, 2000). Neo-Freudians continue to stress this formulation within object-relations theory and a focus on current interpersonal relationships (e.g. Bruch, 1973).

Many major psychological difficulties have been associated with interpersonal distress, most notably depression, schizophrenia and personality disorders (Segrin, 1998, 2000). A recurrent theme of maladaptive interpersonal interactions and communication appears central to psychological difficulties, as is the meaning of relationships for individuals. Additionally, stressful interpersonal environments combined with personal vulnerabilities can initiate psychological difficulties for an individual (Segrin, 1998, 2000).

As with mental health problems, eating disorders can also be understood within a context of interpersonal distress. A number of authors have commented on interpersonal aspects, such as disrupted relationships and have speculated on their role in the development and maintenance of the disorders (e.g. Nevenon & Broberg, 2000). These studies however, also have a number of shortcomings, which are explored below.

1. 4. Interpersonal aspects of eating disorders

Many studies have explored family relationships and dynamics of such in relation to eating disorders (Steinberg & Phares, 2001; Ward *et al.*, 2000). Dysfunctional patterns of interaction, (low) family cohesion and adaptability, and high levels of expressed emotion (especially open critical comments) have all been found. Other studies have reported limited ability with the expression and communication of emotion, excessive parental overprotectiveness and control (Rhodes & Kroger, 1992; van Furth *et al.*, 1996).

More specifically, the mother-daughter relationship has gained much attention in relation to eating disorders (Rieves & Cash, 1996). Studies have indicated that eating-related distress and disorders are associated with a number of interpersonal factors: attachment issues with mothers; social modelling of dieting behaviours and evaluation of shape/weight from mother to daughter; control issues; and maternal expectations of daughters. However one has to be careful when exploring this research for it has been criticised as contributing to the culture of 'mother-blaming' (Rabinor, 1994).

Non-familial relationships have also been explored in the research. O'Mahony & Hollwey (1995), focused on the interpersonal functioning of several groups of women (those with anorexia nervosa, dancers, models and athletes versus the general public). The authors explored interactions in terms of loneliness and the individuals' ability to relate to others. Results suggested that individuals experiencing anorexia nervosa demonstrated a significant relationship between eating symptomatology and interpersonal interactions. In addition, the anorexic group reported significantly higher levels of loneliness compared to the other groups.

Other studies have reported that eating-disordered individuals experience difficulties in communication, limited social support and low levels of perceived social competence in relationships (Grissett & Norvell, 1992; Troop *et al.*, 1998; Wilfley *et al.*, 2003).

Many psychodynamically- orientated theories postulate the importance of relationships in eating pathology (e.g. Bruch, 1973). A longitudinal study by Thelen *et al.* (1990) exploring bulimia and interpersonal relationships reviewed such theoretical perspectives, suggesting that bulimic individuals have difficulties in their interpersonal relationships with men. The authors suggested that such individuals' interpersonal style reflected a need to seek approval from others in order to maintain self-worth. However, the authors also highlighted that this can lead to over-dependency in relationships and possible pattern of rejection.

Thelen *et al.* (1990) concluded that individuals with bulimia nervosa reported more negative interpersonal relationships with men, however, the measure of interpersonal relationships used in the study appeared to access one's satisfaction and levels of 'comfort' with relationships rather than interpersonal patterns of behaviour within such relationships. In addition, results should be viewed with caution as the authors reported limited validation of the measure.

Although there is a large body of research advocating the role of interpersonal variables in eating disorders, there are a number of shortcomings with that literature. Many results are discussed in the context of levels of interpersonal distress or difficulties. Results of studies appear to focus on satisfaction or quality of relationships, and not the specific interactions that may exist within the relationships or even underpin the difficulties.

It seems logical and relevant to explore specific interactions within relationships, as one could hypothesise that disturbance in relationships for individuals with eating disorders, reflected difficulties in how they interact and how they expect others to respond to them. Safran (1984, 1990a, 1990b) advocated that one's expectation of another within a relationship will determine how one behaves in that relationship. Subsequently, this behaviour can be adaptive or maladaptive with consequences for one's psychological well-being. This hypothesis is expanded on further later in the chapter.

The exploration of specific interactions within relationships may have been neglected in the research literature for a number of reasons. One possibility may reflect limited validity with measures that record patterns of interpersonal behaviour. Kiesler (1983) highlighted this shortcoming in a variety of measures for interpersonal behaviour.

In addition, a number of other theoretical frameworks are favoured to facilitate the understanding of problematic social relationships and eating disorders. These revolve around social learning theory (especially maternal modelling), the influence of the media, diathesis-stress model of vulnerability and psychodynamically orientated theories (e.g. attachment and object relations theories). Reported research does not appear to incorporate interpersonal theory (Sullivan, 1953) as a basis for understanding eating disorders.

Overall, interpersonally-orientated research studies do not appear to acknowledge or explore interpersonal cognition, and have been inclined to concentrate on behaviour. Consequently, studies that aim to understand how individuals interact and expect others to relate back, by exploring the thoughts individuals might hold about relationships, could hold relevant information for treatment.

1.5. Research exploring interpersonal interactions

A review of the literature revealed two studies that have highlighted the importance of interpersonal interactions and thoughts about relationships in relation to psychological well-being. These studies have focused on internal working models of attachment (Friedberg & Lyddon, 1996) and personal constructs of the self and others (Button 1990).

Friedberg & Lyddon (1996) studied self-other working models of attachment in relation to eating disorders, implementing Bartholomew's (1990) four-category model of attachment (secure, preoccupied, dismissing, and fearful). The authors aimed to identify personal styles of insecure attachment related to eating pathology. Personal styles were explored through integration of attachment theory and Guidano's (1987) concept of 'personal cognitive organization'. Guidano (1987) suggested that individuals experiencing eating disorders have a distinct 'personal cognitive organization' that reflects a 'loose' boundary between the self and others. Friedberg & Lyddon (1996) highlighted that in attachment terms, this 'personal cognitive organization' is referred to as 'preoccupied' attachment. Results of the study were consistent with previous attachment studies and reported that preoccupied and secure attachment models significantly discriminated between an eating-disordered and non-clinical sample.

Friedberg & Lyddon's (1996) use of attachment theory however, failed to explore specific interpersonal styles of interaction. There was no indication as to how individuals with eating disorders might expect others to interact in relationships. Friedberg and Lyddon (1996) implemented definitions that explored working models separately. For example the 'preoccupied' attachment style is suggested to reflect a negative self-model and positive other-model, thus reflecting how the individual views the 'self' or how they view other

individuals, not how they view the self and other together in a relationship. The authors do however, highlight how the attachment style might manifest in an interpersonal interaction.

Friedberg and Lyddon (1996) suggested that individuals with 'preoccupied' attachment style would show evidence of dependency on others, interpersonal domination, over-involvement, and a tendency to be more emotionally expressive or idealize others. Such individuals may also disclose more in relationships and feel that they have a loss of control in friendships.

There are a number of shortcomings with Friedberg & Lyddon's (1996) study, including a small sample of eating disordered individuals (N=17), but also the fact that individuals experiencing eating disorders were recruited from both inpatient and outpatient samples. Individuals receiving inpatient care tend to present with more severe eating pathology, medical complications and significant psychiatric comorbidity (Andersen *et al.*, 1997), and therefore may have differences in their internal working model of relationships compared to those receiving outpatient care whilst remaining in the community.

A study by Button (1990) focused on construing of the self and others in individuals with psychological difficulties. The study proposed that extreme (negative) construing of the self was not only associated with psychological difficulties, but also the perceptions or construing of others. Button (1990) suggested that such negative construing of the self and others reflected an individual's rigid and inflexible construct system. For example, an individual might construe the self in terms of 'worthless', 'unlovable' or 'not important in relationships' and consequently, such self-construing might equate to other-construing in terms of 'no-one loves me', 'they are controlling' or 'they will hurt me'.

Button (1990) was however, unable to confirm that rigid construing was more common in those individuals with psychological difficulties compared to the general population. This result possibly reflected a small sample as suggested by the author. Results did however, indicate a higher degree of negative self-construing in those individuals with psychological difficulties (Button, 1990).

The concept of self-construing proposed by Button (1990, 1993) appears to parallel 'rigid' thinking proposed by cognitive theory in relation to psychological difficulties which is discussed below. In addition, Button's (1990) study also appeared to acknowledge construing/cognitions about relationships, which have received limited attention in the research literature concerning cognitive and interpersonal aspects of eating disorders.

1. 6. Cognitive theory and psychological distress

Schema theory of emotional problems (Beck, 1976) suggests that emotional difficulties are linked to unhelpful thinking and interpretations of internal or external events. Appraisals of these events are stimulated by beliefs (schemas) held in memory from early experiences.

Once activated, schemas (beliefs & assumptions about the self, others and the world) that are unhelpful (rigid & counterproductive) may bias our interpretation of stimuli and emerge as negative automatic thoughts (NATs). The NATs are usually in response to critical incidents that may contradict the individual's belief system. These NATs can then be associated with a variety of emotions, behaviours and cognitive biases, which may maintain an individual's emotional difficulties. For example, an individual who holds the belief and assumption that, 'I must be perfect in all I do or others will see me as a failure' could be activated in preparation for exams. If this belief is not fulfilled from the exam, a critical incident of failure may elicit

NATs such as, 'I am a failure', 'I am worthless' and/or 'I will never be successful' and consequently generate symptoms of depression and anxiety.

The main aim of cognitive therapy is to identify and challenge unhelpful thoughts related to psychological difficulties, as well as providing alternative ways of thinking and coping in a cognitive format. Originally developed for depression, (Beck, 1976; Beck *et al.*, 1979), cognitive therapy has been extended to treat a number of psychological problems, for example anxiety, somatic disorders, marital disorders and eating disorders (Hawton *et al.*, 1989).

1. 7. Cognitive theory and eating disorders

Cognitive theory has had a major influence in the research of eating disorders and many studies have explored the cognitive content of individuals with eating disorders. Consequently, cognitive therapy is prominent in the treatment of eating disorders, yielding many successful manualised treatment packages which focus on unhelpful thoughts about weight, shape, and food (Cooper, 1995; Fairburn & Cooper, 1989; Freeman, 2002; Garner *et al.*, 1997; Roth & Fonagy, 1996; Wilson *et al.*, 1997). Furthermore, the Department of Health guidelines suggest cognitive-behavioural therapy (CBT) as one of the treatments of choice for bulimia nervosa (DoH, 2001). There are a number of limitations however, with these models and these are discussed below.

Cognitive theorists view eating disorders (anorexia and bulimia nervosa) as the attempt to overcome low self-esteem by defining the self in terms of weight and shape, thus developing schemas that reflect *thinness equals happiness and self-esteem* (e.g. Pike *et al.*, 2000). The pursuit of thinness is central, and is associated with attitudes, beliefs and assumptions around one's appearance, which in turn, promote dietary restraint and other behaviours to promote weight loss.

Fairburn *et al.* (1999) proposed a maintenance model of anorexia nervosa based on cognitive and behavioural principles. The authors proposed that the extreme need to control eating is central and suggested that such control reflects the need for self-control, arising from low self-worth. Maintenance of the eating disorder stems from dieting behaviours, self-starvation and extreme concerns around shape and weight, which in turn reinforce dieting behaviours. A similar model has been proposed for bulimia nervosa (Fairburn, Marcus *et al.*, 1993), which emphasises the role of low self-esteem in the downward spiral of dietary restraint and binge eating.

It is apparent however, that consideration for interpersonal aspects is absent from the predominating CBT models. Both CBT models for anorexia and bulimia nervosa, fail to acknowledge the role of interpersonal distress or poor relating within relationships, and the possible need to gain control over such in the development and maintenance of eating disorders.

The assumption of low self-esteem or cognitions about weight, shape and food in the role of eating disorders does not preclude the role of interpersonal relationships in the development and maintenance of eating disorders, which is limited within the current cognitive frameworks. An interpersonal focus may provide an additional and important avenue for the treatment of eating disorders, and as previously discussed a number of studies have consistently highlighted the influence of disturbed interpersonal relationships, for example, on eating disorders and vice versa (Broberg *et al.*, 2001; Segrin, 1998, 2000).

In addition to the cognitive-behavioural models, research has also focused on the types of thoughts associated with eating disorders, although these studies also have limitations. One such study by Butow *et al.* (1993) explored cognitive processes in dieting disorders through

repertory grid and questionnaire methodology. The authors explored differences in cognitive style between anorexic, bulimic, normal restraining and non-restraining participants.

Butow and colleagues (1993) reported that eating-disordered participants exhibited similar (rigid) assumptions and thinking (errors) about control and weight, to those proposed by cognitive theory in relation to psychological distress such as depression (Beck, 1976). The authors suggested that individuals with eating disorders appeared to apply a major 'rule' to food and general eating situations: control over eating and weight. In addition, concerns about weight were dominant and the eating-disordered individuals applied rigid rules to maintain such concerns. Many of these rules were expressed through 'black or white' thinking styles, and the eating-disordered individuals tended to see themselves either completely in control or completely out of control, especially in relation to eating situations. Furthermore, results from the repertory grid indicated that food did not hold any social/sensory meaning for eating-disordered individuals and ultimately, such individuals held extreme negative self-evaluations. This was especially so for the anorexic group. A main focus on thoughts around food and weight however, proposes a number of difficulties with this study and these are discussed below in combination with other studies.

A preliminary study by Cooper & Turner (2000) explored the underlying assumptions and core beliefs in anorexia nervosa and dieters. The authors reported that anorexics presented with more underlying assumptions than dieters that weight and shape are a means of acceptance by others and themselves. In addition, the anorexic group demonstrated more assumptions about their control over food and their beliefs expressing negative self-evaluation. The dieting group in turn presented with more similar assumptions and beliefs

than normal controls, although of less intensity. Once more, there were limitations with the focus of this study and these are discussed below.

One could hypothesise that individuals with eating disorders apply similar rigid styles of thinking, rules and meanings in relation to interpersonal relationships. Such rigidity within interpersonal relationships might make it difficult for individuals to maintain relationships and could have a role in the development and maintenance of eating disorders. The current review of the literature however, suggests that research has failed to fully explore this proposed hypothesis of interpersonal cognition.

Over the last two to three years however, cognitive studies have begun to investigate deeper levels of thinking, away from thoughts about food, weight and shape. They have concentrated on for instance, core beliefs and meta-beliefs (Leung *et al.*, 1999; Waller *et al.*, 2000). Waller *et al.* (2000) explored the cognitive content of women with bulimia nervosa compared to a group of non eating-disordered women using Young's Schema Questionnaire (YSQ; Young, 1994). Waller and his colleagues (2000) reported that four core beliefs as measured by the YSQ were central to bulimic disorders: defectiveness/shame (perceived defects that make one unlovable); emotional inhibition (emotional expression has aversive consequences); failure to achieve (inadequacy leading to failure to meet goals); and insufficient self-control (cannot or need not control impulses and feelings).

Waller *et al.* (2000) also concluded that certain core beliefs were associated with certain bulimic behaviours (e.g. bingeing and vomiting). For example, binge eating may be associated with core beliefs around 'emotional inhibition', where intolerable emotions motivate the bulimic to binge in order to cope with such emotions. The authors highlighted

the importance of including schematic levels of thought in clinical practice in addition to negative automatic thoughts and dysfunctional assumptions. Although Waller *et al.* (2000), explored such self-schemas in relation to food and the individual, the authors have not indicated how such schemas might also play a role in interpersonal relationships.

A further study by Leung *et al.* (1999) also compared core beliefs, as measured by Young's Schema Questionnaire (YSQ; Young, 1994) between anorexic, bulimic and non eating-disordered women. Similar to the study by Waller *et al.* (2000), results highlighted significant differences between the core beliefs of eating and non eating-disordered women, with the latter attaining less pathological scores on the YSQ. Leung and colleagues (1999) indicated that significant differences were apparent between the clinical groups (anorexia and bulimia nervosa) on the belief of 'entitlement' (the belief that one can act without consideration for others), which was higher in bulimics. The generalisability of these results is questionable, as it appears that Leung *et al.* (1999) recruited non eating-disordered individuals through personal contact; a non-randomised sampling process known as 'snowballing' (Clarke-Carter, 1997).

Both of the above studies have highlighted the need to incorporate deeper levels of cognitions in therapy. However, the exploration of schemas on an interpersonal level remains limited. Overall, it would appear that cognitive models and the research literature have failed to explore interpersonal aspects, specific to interactions within relationships: interpersonal cognitions (e.g. Fairburn, Marcus *et al.*, 1993; Fairburn *et al.*, 1999; Leung *et al.*, 1999; Waller *et al.*, 2000). Such studies have tended to concentrate on the beliefs an individual holds about shape, weight, food or themselves (self-schemas). Furthermore, studies have only attempted to explore interpersonal aspects through the beliefs one holds about others in relation to the world (other-schemas).

Consequently, cognitive-behavioural therapies (CBT) can seem incomplete despite their focus on negative automatic thoughts, dysfunctional assumptions, and core self-schemas. Indeed a number of studies have highlighted that CBT is only partially successful, attaining recovery and remission rates no better than other psychological therapies (Fairburn, Jones *et al.*, 1993; Mitchell *et al.*, 1996). Furthermore, the apparent success of interpersonal therapy (IPT) with eating disorders (DoH, 2001; Roth & Fonagy, 1996; Fairburn, 1993, 1997), suggests that a cognitive focus on food, shape and self-schemas alone is not sufficient to successfully treat eating disorders.

As discussed earlier, the failure to acknowledge interpersonal cognitions and specific interactions within relationships was also evident within a variety of interpersonally-based research studies. One could argue that both cognitive and interpersonal factors are important to enable the understanding and treatment of eating disorders, and as a result such factors should not be considered in isolation of one another. There is a need for a more comprehensive model in the treatment of eating disorders, which arguably should include an interpersonal focus (Waller & Kennerley, 2003). Therefore, one would anticipate that treatments based on a more combined approach of cognitive and interpersonal factors may lead to better outcomes for eating disordered patients.

One way to explore a more combined approach is through the cognitive-interpersonal framework (Safran, 1990a, 1990b) which integrates interpersonal and cognitive theories, and can bring a more fruitful understanding of relationships, psychological well-being and possibly eating disorders. As discussed above, cognitive theory focuses on thoughts in relation to psychological difficulties, aiming to challenge and re-construct alternative ways of thinking about a situation or difficulty. Cognitive theories are well promoted within the literature and it seems that interpersonal theory is less well known. Therefore, before

introducing the reader to the cognitive-interpersonal framework, it appears helpful to provide an overview of interpersonal theory.

1.8. Interpersonal theory

It is acknowledged in many studies that Sullivan (1953) was the founder of interpersonal theory. His book entitled, 'The Interpersonal Theory of Psychiatry' advocated that the study of psychiatry should be the study of people and what goes on between them. Leary (1957), Wiggins (1982) and Kiesler (1983) are well known followers of his work. However, other writers in the field during the early 1950s also postulated criteria which together have now become the essential features of interpersonal theory (e.g. Freedman *et al.*, 1951). Interpersonal theory revolves around three main constructs: a circumplex model of interpersonal behaviour; complementarity; and rigidity. These constructs are detailed below.

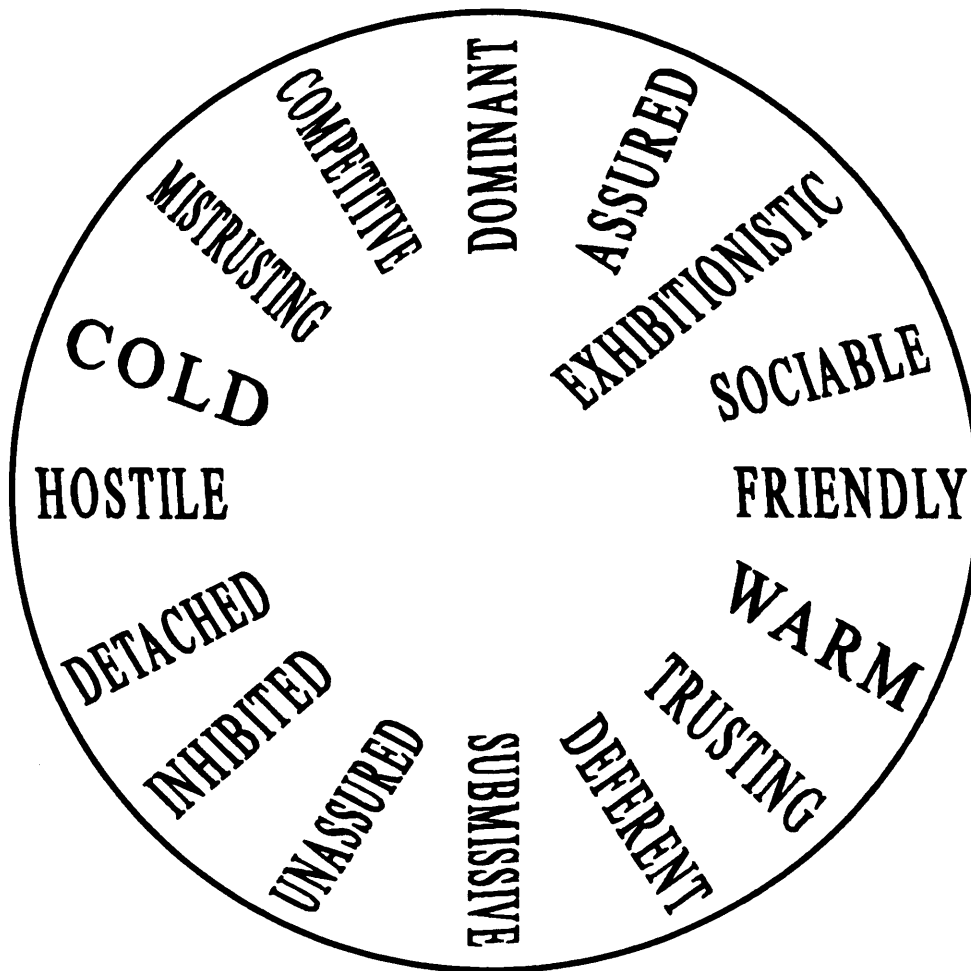
Circumplex model (Kiesler, 1983)

The interpersonal circle/circumplex model has evolved over many years (Laforge *et al.*, 1985) and the most recent model is Kiesler's (1983) circumplex model. The interpersonal circle/circumplex is a model of the interpersonal domain of personality. The model aims to provide an operational guide for understanding interpersonal interactions and thus is a comprehensive classification of 16 interpersonal behaviours.

The circumplex model advances two main assumptions: firstly, that interpersonal interactions vary along a circular continuum with similar behaviours placed beside each other; and secondly, those interpersonal interactions are a joint expression of two dimensions, dominance or control (versus submissiveness) and love or affiliation (versus hostility).

The most recent model is depicted in Figure 1.

Figure 1 – Circumplex model of interpersonal behaviours, Kiesler (1983).



Kiesler's (1983) interpersonal circle is suggested to build upon previous interpersonal circles (e.g. Wiggins, 1979, 1982) and incorporate the content of four major adult measures of two-dimensional interpersonal behaviour from previous research (e.g. Interpersonal Checklist, ICL; LaForge & Suczek, 1955)

Kiesler (1983) reported that previous measures such as the ICL, failed to incorporate a full range of criteria to allow a complete circle to exist. Consequently, Kiesler (1983) suggested that his interpersonal circle provided a comprehensive range of theoretical, methodological, and empirical constructs, which are precise enough to validate interpersonal theory, allowing formal guidance for assessment and therapy of abnormal behaviour.

Kiesler's (1983) interpersonal circle is not a way of classifying personality. As Birtchnell (1990) highlighted, the variables within the circle (e.g. dominance, hate, etc) are not normally considered to be personality types and as suggested earlier, they are interpersonal behaviours (Kiesler, 1983).

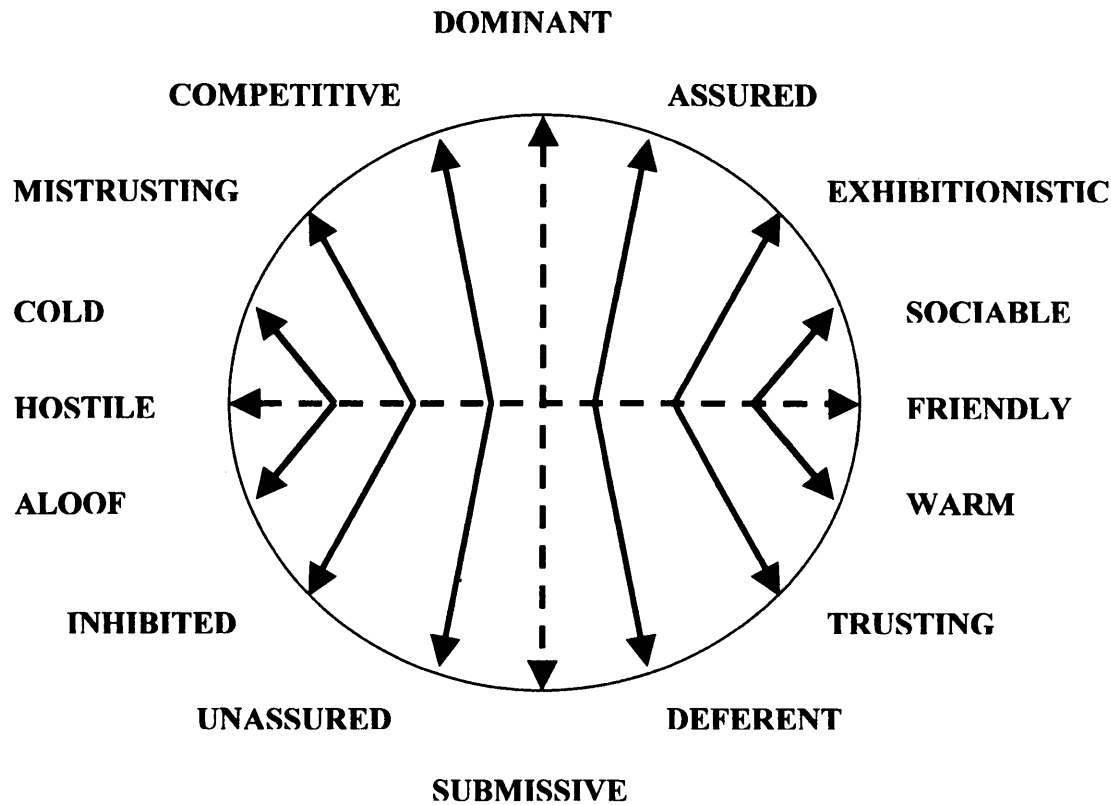
Complementarity

Kiesler (1983) introduced the construct of complementarity to the interpersonal circle in order to understand interpersonal interactions. Complementarity suggests that interpersonal behaviour from one person aims to force/pull a restricted type of complementary behaviour from another (e.g. if one is friendly, one expects others to respond in a friendly manner back; or if one is dominant one expects others to reciprocate with submissive behaviour, etc).

This is especially so for significant relationships. The construct of complementarity suggests that in daily interactions, one (unconsciously) negotiates what degree of dominant/submissive behaviour is elicited and what degree of hostility and friendliness will be combined. By receiving complementary interpersonal acts, one can reinforce one's sense of 'self' and original interpersonal behaviours. Over time one develops consistent patterns of interactions, which become self-sustaining and reinforcing. Based on their own interpersonal patterns of relating, individuals will learn to expect certain interactional patterns from others. Consequently, this can be adaptive or maladaptive.

A review of the research literature revealed that the construct of complementarity has received limited attention and as Kiesler (1983) suggested, it can indicate important information about human interaction, especially for therapeutic relationships. Complementary interpersonal behaviours are depicted in Figure 2.

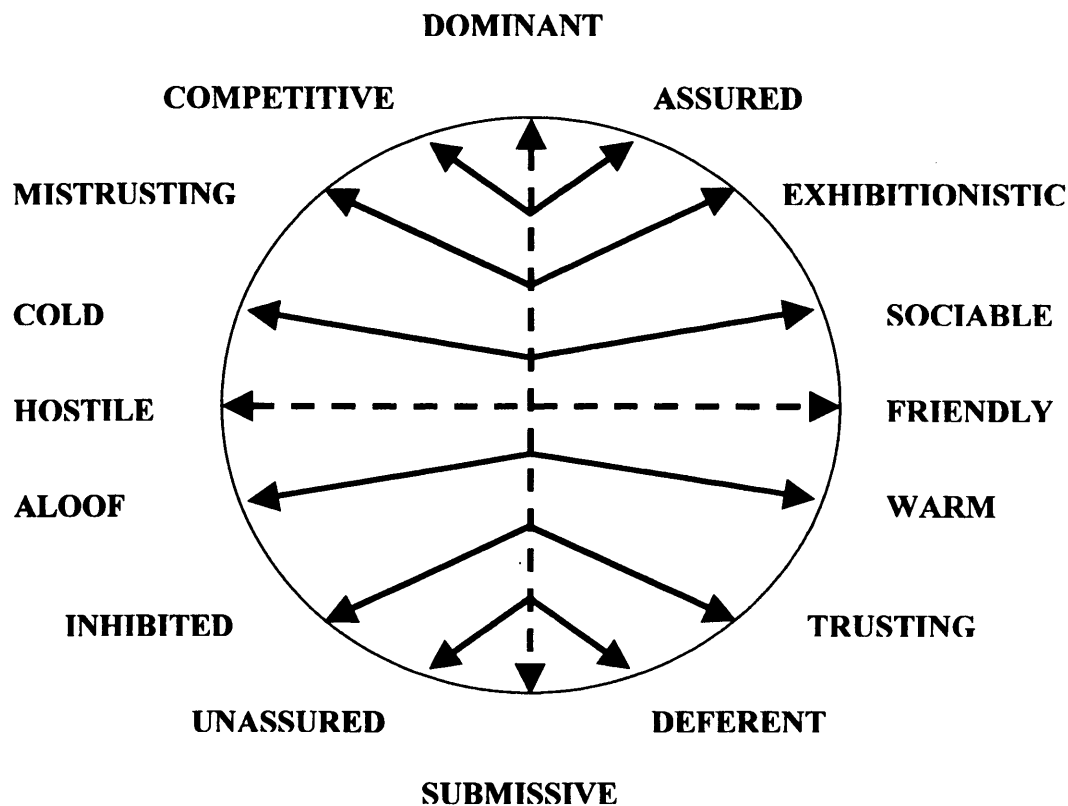
Figure 2: Complementary interactions of interpersonal behaviours (Kiesler, 1983).



Kiesler (1983) suggested that not everyone responds to others in a reciprocal fashion and when this occurs, non-complementary responses are said to take place. Kiesler (1983) also highlighted that such responses promote unsustainable relationships.

Interpersonal theory suggests that those individuals with psychological difficulties and difficulties in relationships, demonstrate a non-complementary pattern of interpersonal behaviour. Such behaviours tend to be rigid and therefore result in limited interactions in relationships. For example, an individual who demonstrates friendly interactions would expect friendly reactions in return, however, if the other response to friendly behaviour is hostile (because that person might expect hostile responses), then a non-complementary interaction has occurred. Consequently, the interaction is unlikely to be sustained. Non-complementary responses are depicted in Figure 3.

Figure 3: Non-complementary interactions of interpersonal behaviour (Kiesler, 1983).



Rigidity

According to interpersonal theory (Kiesler, 1983; Sullivan, 1953), individuals relate to one another in positive (adaptive) or negative (maladaptive) ways, based on their experience with earlier models of relating (usually parent-child interactions). Interpersonal theory advocates that people can be poor or good relaters, or both. Poor relating (i.e. relating that lacks competence in one or more areas of the circle, resulting in limited, inflexible and mainly negative interactions) can be associated with psychological difficulties, whereas adaptive, flexible and positive relating is associated with psychological well-being.

A review of the literature however, suggested a number of shortcomings with the interpersonal circle and this might reflect the limited implementation of the model in research to date. Birtchnell (1990) queried the position of the variables that are placed around the circle in a certain order with the intention of blending together in that order. Birtchnell (1990)

suggested that the position of such variables has not been objectively measured and thus confirmed. In response to this claim however, a mathematical law of order called a 'circumplex' (Guttman, 1954 as cited in Kiesler, 1983) illustrates that different variables within a certain dimension can be arranged in a circular sequence, based on their correlations with one another. Therefore, interpersonal behaviours that are highly correlated with one another will lie beside each other on the circumplex.

In addition, Kiesler, (1983) suggested that previous measures based on the circumplex model (e.g. Interpersonal Checklist, ICL; LaForge & Suczek, 1955) were disappointing in terms of validity when attempting to operationalise interpersonal behaviour. The circumplex model of interpersonal theory appears complex and it would seem that with no valid measure to implement it, many researchers and clinicians have preferred to adopt alternative models of exploring interpersonal behaviour.

One such alternative model is the structural analysis of social behaviour (SASB; Benjamin, 1974). The SASB model has been praised for its use in psychotherapy settings and is suggested to be one of the most scientific and clinically perceptive models to date (Benjamin, 1982; McLemore & Hart, 1982). However it appears that the SASB model is more adept at exploring internalised parent-child interactions as opposed to adult interactions, and those actions towards the self. In addition, the model is complex and time consuming for time-limited research and appears best suited to the development of interpersonal formulations within psychotherapy.

The interpersonal octagon (Birtchnell, 1994) is another alternative model to the interpersonal circle. The octagon provides a way of defining positive (competent) and negative

(incompetent) relating behaviours and is based along two dispositions: the adjustment of distance; and status between the self and other. It is similar in some respects to the interpersonal circle but different in that there is no bipolarity of axes (e.g. dominance-submissive). The octagon model does not appear to implement the construct of complementarity, which is a main concept in interpersonal theory. However, its main focus appears to lie with how the individual relates and does not seem to allow the exploration of how individuals would expect others to relate back. Further models do exist which explore similar concepts (e.g. core conflictual relationship theme; Luborsky, 1997), however they appear complex and lengthy, involving detailed clinical time and formulation and therefore, unsuitable for research studies.

Despite such shortcomings, it is argued that interpersonal theory remains a worthy method of understanding interpersonal behaviour. Previous studies discussed above could be explained within this context. Button's (1990) proposal of rigid other-construing appears to parallel the inflexible interpersonal patterns of relating suggested by interpersonal theory. Interpretations of others, such as 'no-one loves me', 'they are controlling' or 'they will hurt me' might compare with the hostile, cold, dominant and mistrusting variables of the interpersonal circle. Furthermore, Safran (1984, 1990a, 1990b) demonstrated that it is a useful theory to integrate with cognitive theory and therefore, in combination, they can bring a fruitful understanding of relationships and psychological well-being. Overall, it seems reasonable to hypothesise that a general formulation of psychological difficulties based on interpersonal theory may also apply to eating disorders.

To summarise, interpersonal theory would suggest that individuals demonstrating limited and inflexible interpersonal interactions that are non-complementary in nature may experience distressing relationships and in severe cases, psychological difficulties. If it is possible to

explore and modify a person's interpersonal functioning in therapy, it may help the person become more interactive and enable them to accomplish a variety of interpersonal behaviours and interactions.

Kiesler (1983) suggested that one way would be for the therapist to demonstrate different behaviours from the circumplex model to enable the client to learn new ways of relating to others, subsequently reinforcing their sense of 'self' in relationships. However this method appears to rely on behavioural/experiential learning and limits the potential for cognitive challenging to bring change in interpersonal relating. Cognitive challenging techniques appear to be the basis of successful cognitive models in the treatment of psychological difficulties (Beck, 1976; Beck et al., 1979), and one could argue that it would be impractical to exclude them completely from therapy.

1.9. Interpersonal theory and eating disorders

Interpersonal theory advocates the importance of complementary and positive relating in relationships for the development and maintenance of psychological well-being (Birtchnell, 1990; Birtchnell, 1994; Kiesler, 1983; Leary, 1957; Sullivan, 1953) and indeed such themes from the theory have a prominent role in interpersonal therapy (IPT), (e.g. focus on interpersonal conflicts and deficits; Klerman & Weissman, 1993). However, interventions that implement an interpersonal approach to therapy have not been systematically derived from interpersonal theory. Therefore, the theory remains relatively unexplored in the research and development of treatments for eating disorders.

On the basis of interpersonal theory, one could hypothesise that difficulties in interpersonal relating have an important role in the development and maintenance of eating disorders. Studies that have explored interpersonal variables within eating disorders highlight disturbed interpersonal relationships, distress and poor quality of those relationships (Grissett & Norvell, 1992; Troop *et al.*, 1998; Wilfley *et al.*, 2003). It may be that specific (non-complementary, negative and rigid) interactions within relationships underpin such distress.

Therefore, in line with interpersonal theory, it may be that individuals experiencing eating disorders expect non-complementary responses from others and themselves adopt rigid negative ways of relating to others (Kiesler, 1983). Theoretically, therapeutic intervention with a focus on enhancing positive complementary ways of relating would promote quality in relationships and subsequently improvements in eating habits and attitudes.

Madison (1997) appears to be one of the first to have applied interpersonal theory and the circumplex model to eating disorders. At the time of his research there were only two other published papers integrating the interpersonal circle in the assessment of individuals with eating disorders. This research however, (Humphrey, 1989, 1994 as cited in Madison, 1997) utilized the structural analysis of social behaviour (SASB) model (Benjamin, 1974). The focus was also limited to family dynamics.

Madison (1997) incorporated an earlier version of the circumplex model devised by Wiggins (1979) and thus the Interpersonal Adjective Scale (IAS), which was developed to operationalise that particular model. The author suggested that individuals with eating disorders present with a 'hostile' interpersonal style. They would display such hostility through submissive self-deprecation and withdrawal, yet would also look for control through

manipulation or resentment, or both. Madison's results also indicated a group of individuals with a different style of interpersonal relating. Such individuals demonstrated more positive affiliative styles of interrelating (for example, warm, agreeable, gregarious, extraverted) and this had implications for treatment.

Although eating disordered individuals appear similar in relation to thoughts about weight, body image and food, they may not hold such similarity in relation to interpersonal style and therefore interpersonal issues should be addressed in combination with cognitive factors (Madison, 1997).

Importantly, Madison concluded that presentation of two different interpersonal styles would need two different approaches to treatment. Based on the construct of complementarity, 'hostile relating' would expect hostile responses from others, which would confirm their negative style of relating. Therefore an individual presenting with 'hostile relating' may benefit from strategies to promote warm and affiliative ways of relating, as well as techniques that would promote more active participation in relationships.

Madison highlighted that therapists should be aware of the potential for such clients to force complementarity from their therapist (for example, distance the client, undertake subtle forms of hostility). In addition, Madison (1997) suggested that those who demonstrated more friendly and warm styles of relating might have a difficulty in tolerating conflict and demarcating relationships. Therapists might therefore need to be aware of reinforcing such friendliness and willingness to please in the therapeutic environment.

Madison's (1997) research concentrated on the interpersonal style of the individuals and therefore, how they presented in relationships. He failed to explore what interpersonal responses those individuals expected from others in certain situations. In other words, Madison (1997) studied the interpersonal behaviours and not what expectations (beliefs) the individuals might have held about such relationships. It seems important to explore an individual's expectations about interpersonal interactions as it has been suggested that anticipation/expectations of others can bias one's interactions with others and subsequently reinforce behaviour as that described by Madison (1997), (Kelly, 1955; Safran, 1984, 1990a).

Due to the nature of the clinical setting, Madison's (1997) sample reported a number of prominent comorbid disorders (e.g. personality disorder and depression) and such heterogeneity could have confounded results of the study. Furthermore, Madison's (1997) recommendations for therapy focused on behavioural learning and experiential-based interventions similar to Kiesler (1983), that is, learning new interpersonal ways of relating through the observation and experience of relating from the therapist. Experiential-based interventions are an important element of therapy, however, change by this means appears a lengthy form of treatment, which could prove costly in terms of money and time.

In addition to experiential change, a cognitive focus on interpersonal relating could provide alternative strategies for intervention. A combination of cognitive and interpersonal theories might allow this perspective on treatment.

1.10. Combining cognitive and interpersonal approaches

As discussed in previous sections, there is evidence that both interpersonal and cognitive concerns are prominent in eating problems. Discussions have also highlighted that both concerns have, so far, remained independent of each other in the conceptualisation and

treatment of eating disorders. Garner *et al.* (1997) suggested that ‘pure’ cognitive therapists appear reluctant to incorporate interpersonal themes into their therapy. Garner *et al.* (1997) advocated that the integration of an interpersonal focus within therapy might be perceived by cognitive therapists, as too similar to psychodynamic ways of working. This would mean exploring past and current ways of interpersonal functioning within a cognitive-behavioural framework. Indeed, Fairburn (1993) has cautioned that combining cognitive and interpersonal therapies is difficult, if not impossible, due to their different styles and approaches. Fairburn (1993) however, was referring to the combination of structured therapies: CBT and IPT, not cognitive and interpersonal theories that backed up the techniques.

Despite this, there is increasing evidence of how the interpersonal process can be combined into cognitive therapy through what is known as interpersonal schemas (core beliefs about relationships). This has been restricted so far to marital therapy and working with personality disorders (Baucom & Epstein, 1990; Beck & Freeman, 1990; Linehan, 1993 as cited in Garner & Garfinkel, 1997), and as yet has not been extended completely to the field of eating disorders. Some early therapeutic work does appear to accept the prominence of interpersonal schemas and has been included in work with eating disordered clients (Garner, Garfinkel *et al.*, 1982; Garner & Bemis, 1985; Guidano & Loitti, 1983). However, this appears to have been short-lived.

Garner *et al.* (1997) suggested that individuals with eating disorders tend to apply the same types of schematic (belief) processing and dysfunctional assumptions to relationships as they do in other areas of their life. Therefore, it would seem logical to explore this aspect further as

it may provide additional elements to the therapy of eating disorders. Safran (1990a, 1990b) has proposed a framework to combine cognitive and interpersonal approaches.

1.11. Cognitive – interpersonal framework (Safran, 1990a, 1990b)

Another way of exploring interpersonal interactions proposed by Kiesler (1983) is through the cognitive features underlying such interactions. This can be facilitated by means of a cognitive-interpersonal framework (Safran, 1990a, 1990b), through what is termed interpersonal schemas (core beliefs about interpersonal relationships).

The cognitive-interpersonal framework was developed in conjunction with the circumplex model of interpersonal behaviours (Kiesler, 1983) and principles from cognitive theory. The framework has been applied to other psychological issues such as depression and personality disorders, (Hill & Safran, 1994; Safran & McMain, 1992; Soygüt & Savaşır, 2001; Soygüt & Türkçapar, 2001) and could prove beneficial to further one's understanding and treatment of eating disorders.

To understand interpersonal behaviour fully, Safran (1990a) suggested that there is a need to combine interpersonal and cognitive theories. Safran highlighted that there is a dynamic interaction between cognitive and interpersonal factors, and therefore it is important to explore their combined and separate roles in the development and maintenance of psychological problems and subsequently therapy itself.

Safran (1990a) suggested that one's patterns of interpersonal behaviour are developed and maintained by means of interpersonal schemas within cognitive-interpersonal cycles. Such schemas appear to underpin the process of complementarity.

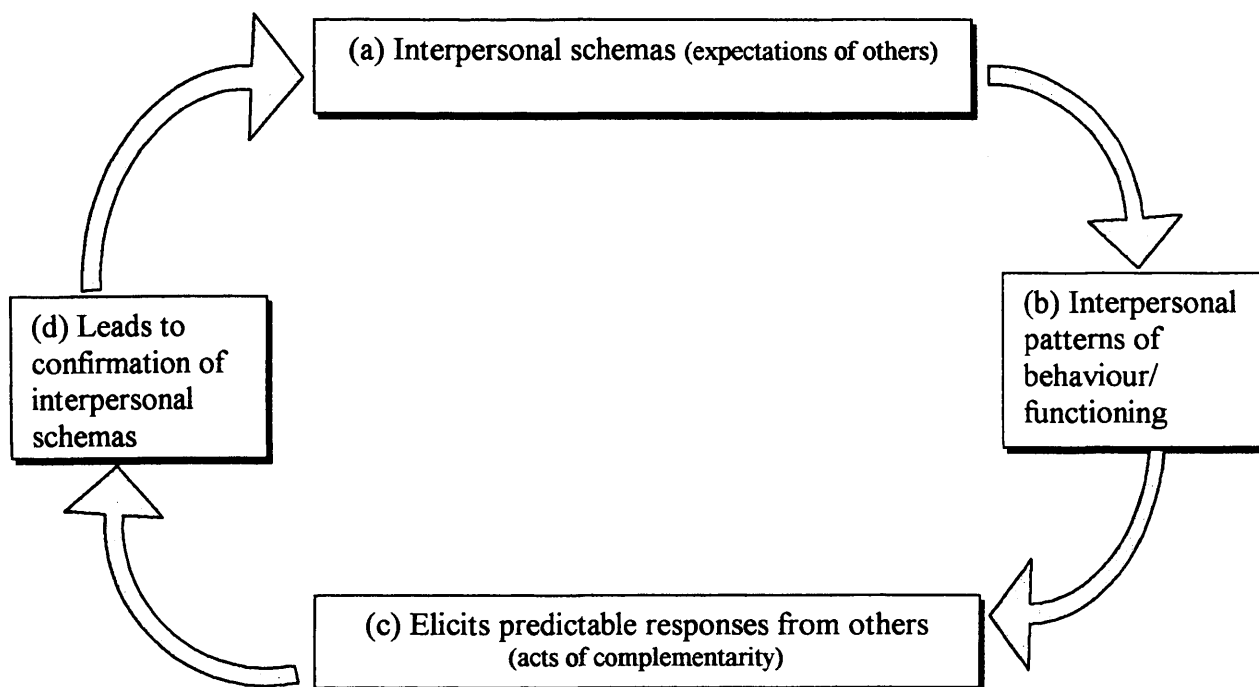
1.11.1 Interpersonal schemas

Interpersonal schemas are generic knowledge structures (core beliefs) based on previous interactions with others and contain information relevant to the maintenance of interpersonal relationships. In this respect they are similar to what Bowlby (1969) termed 'internal working models' and are models of how we interact with others and expect others to interact back to us. Hill & Safran (1994) defined an interpersonal schema as:

An interpersonal schema is conceptualised as a generalized representation of self-other relationships. The interpersonal schema is initially abstracted on the basis of interactions with attachment figures, permitting the individual to predict interactions in a way that increases the probability of maintaining relatedness with these figures.... In theory, an interpersonal schema contains information of the form: 'If I do X, others do Y.' (p.367).

Over time, one's experience of interacting with others (e.g. through complementary behaviour) reinforces one's beliefs about how interactions within relationships should occur, giving rise to a pattern of behaviour in relationships. A subsequent cycle of reinforcement emerges and this cycle is depicted in Figure 4.

Figure 4: Cognitive-interpersonal cycle (adapted from Safran, 1984, 1990a, 1990b).



Difficulties in interpersonal relating and subsequent psychological problems may occur when unhelpful/maladaptive cycles are established. According to Safran (1990a, 1990b) interpersonal difficulties are maintained through unhelpful interpersonal schemas. For example, individuals' interpersonal schemas enable them to predict interactions with others. However such schemas often fail to adapt to new circumstances and continue to shape interactions.

Therefore, individuals who expect others to be hostile in response to their actions (corresponding position (a) in Figure 4) will selectively interpret even neutral interactions as hostile and adopt a hostile pattern of relating (b). This in turn can 'pull' hostile responses from others in the interaction (c). This creates much anxiety and anger for the individual, confirming their expectations of others' hostility, which in turn will reinforce their interpersonal schemas (d), maintain their interpersonal behaviour and perpetuate their cognitive-interpersonal cycle (Safran & Segal, 1990).

Using Safran's (1990a, 1990b) framework, it is possible to investigate interpersonal interactions/patterns of behaviour in eating disordered clients. It may be that individuals with eating disorders are 'stuck' in maladaptive cognitive-interpersonal cycles. Such individuals may experience inflexible and rigid schemas about how they expect others to behave in relationships. Consequently, such schemas would restrict their range of interpersonal behaviours and interactions, subsequently impeding relationships.

As Safran (1990a, 1990b) suggested, limited interactions and impoverished relationships with others can create a threat to our own security and in turn this can be a source of anxiety and interpersonal distress. For some individuals it could be hypothesised that this interpersonal distress is channelled through eating difficulties and disorders.

To explore this framework, Safran developed an Interpersonal Schema Questionnaire (ISQ; Hill and Safran, 1994) based on Kiesler's 1983 circumplex model of interpersonal behaviours. The questionnaire has been implemented in a number of studies to date as discussed below.

1.12. Research into interpersonal schemas

Since the development of the cognitive-interpersonal framework and Interpersonal Schema Questionnaire (ISQ), a number of studies have incorporated them both to explore a range of topics. Soygüt and Türkçapar (2001) developed Safran's (1990a, 1990b) ideas, exploring cognitive interpersonal features of antisocial personality disorder (ASPD).

Soygüt and Türkçapar (2001) concluded that individuals with ASPD expected less complementary responses from significant others in friendly, dominant and submissive situations. Results indicated that ASPD individuals expected more complementary response from others in hostile situations and viewed such responses as undesirable. The authors

suggested that such expectations reflect interpersonal schemas that predict lack of control and negative responses from others in relationships. Therefore, such individuals may demonstrate a dysfunctional cognitive-interpersonal cycle where they continue to display interpersonal behaviour based on rigid interpersonal schemas. These results however, were based on a unique sample of male military personnel recruited from a military hospital in Turkey and therefore the generalisability of results to other populations, including those with ASPD is questionable.

Baldwin & Keelan (1999) explored interpersonal expectations in relation to self-esteem and gender. The authors utilised the ISQ in their study with a large sample of college students (N=182). Overall, results highlighted that participants expected complementary responses in relation to 'affiliation' and 'dominance'. The authors also concluded that individuals with high self-esteem reported greater confidence that they would receive complementary interactions from others, (i.e. that being friendly would pull friendly responses from others). In addition, this was more so for females compared to males. Given that individuals with eating disorders/disturbed eating attitudes and behaviours are reported to experience low self-esteem (Button *et al.*, 1997), one would predict that they would probably not feel confident in drawing friendly responses from others, indeed they would probably expect hostile, negative responses.

Interpersonal schemas have been explored in relation to depression (Soygüt & Savaşır, 2001). Although a non-clinical sample of university students participated, results suggested that those individuals who scored highly on the Beck Depression Inventory: i.e. above 17 (BDI; Beck *et al.*, 1987), expected less complementary responses from others in a range of situations. They expected more complementary responses from others in hostile situations and

reported such responses as undesirable. Again this result was interesting, as previous studies have demonstrated that individuals with eating disorders experience some level of comorbid depression (e.g. Roth & Fonagy, 1996). Therefore one would expect that individuals experiencing some level of eating distress or disorder would expect some degree of non-complementary responses from others and find these responses as undesirable.

The current review of the literature suggested that only two studies to date have begun to explore interpersonal schemas of individuals with eating disorders, implementing the Interpersonal Schema Questionnaire (ISQ).

1. 13. Interpersonal schemas and eating disorders

Since the study by Madison (1997), a number of studies have implemented the circumplex model as a basis for research into eating disorders. The Interpersonal Schema Questionnaire (ISQ) devised by Hill and Safran (1994) has allowed further exploration of the nature of interpersonal patterns of relating in eating disordered populations.

A study by Erol *et al.* (2000) explored interpersonal schemas in anorexia nervosa compared to a control sample of 'healthy females' using the Turkish version of the ISQ. Although a small sample of nineteen anorexic individuals was recruited, significant differences emerged between the two groups. The authors concluded that all participants interpreted their father's responses in situations of passivity and dominance as undesirable, however, anorexics expected lower amounts of dominant responses from friends. The authors highlighted that such findings relate to the effort placed by individuals with anorexia nervosa to maintain superficial autonomy in relationships.

Two further studies (Keskingöz, 2002; Keskingöz & Soygüt, 2002) explored the relationships between attachment styles, interpersonal schemas and eating patterns among non-clinical and clinical participants. In an initial study (Keskingöz, 2002), results suggested that a significant relationship existed between insecure attachment style, dysfunctional interpersonal schemas and unhealthy eating attitudes in college students.

A further study (Keskingöz & Soygüt, 2002) compared women with anorexia nervosa and non eating-disordered women. Results suggested that all participants would expect complementary responses from their fathers and friends in hostile situations. However, individuals with anorexia nervosa expected less complementary responses from all significant others in dominant situations. According to the circumplex model and interpersonal theory, psychologically adjusted individuals would expect submissive responses from others in dominant situations. This suggests that individuals with anorexia nervosa would expect a non-complementary response of dominance. Keskingöz & Soygüt, (2002) concluded that individuals with eating disorders might feel unable to exert control within relationships and therefore feel less powerful and valued in interpersonal relationships.

Keskingöz & Soygüt, (2002) only compared two groups: anorexic inpatients (N= 17) and college controls (N = 25). They did not expand the two group dichotomy of clinical versus non-clinical. In addition, the study used an inpatient sample, which would indicate a severe level of eating disorder, and one could hypothesise that their interpersonal patterns of behaviour might differ from outpatients, who are apparently more stable in terms of weight, comorbidity and physical complications (Andersen *et al.*, 1997).

The current literature review revealed limited research exploring interpersonal cognitions and eating disorders. Future research needs to build on work done by Hill and Safran (1994) and Soygüt & Savaşır (2001) exploring the applicability of the ISQ with clinical samples. In addition the work of Erol *et al.* (2000), and Keskingöz and Soygüt (2002) exploring interpersonal schemas in eating disorders.

1. 14. Summary

A variety of research has demonstrated that eating disorders can be understood within a context of interpersonal relationships. An individual's experiences of those relationships can therefore have a role in the development and maintenance of eating disorders. Additionally, cognitive-behavioural models have furthered our understanding of eating disorders through the focus on thoughts about weight, food and shape. The result has been the development of many successful cognitive-behavioural treatments (CBT) and models for eating disorders.

Despite the development of such treatments, cognitive-behavioural models have failed to acknowledge the role of interpersonal variables (i.e. interpersonal cognitions) in the conceptualisation and treatment of eating disorders. The focus on thoughts about weight, shape and food is not comprehensive and arguably should include social and interpersonal issues as well. In contrast, research studies with an interpersonal focus, have also failed to explore the thoughts that one might have about relationships and the role of such in eating disorders. Furthermore, such studies have not incorporated interpersonal theory as a way of understanding eating disorders and consequently, its potential remains relatively unexplored in comparison to cognitive models.

It seems logical that for effective therapeutic outcomes, interpersonal and cognitive aspects should not be treated in isolation, and the combination of both could allow a more comprehensive treatment base for eating disorders. Of note is that the treatment of eating disorders is necessarily complex in nature with generally high dropout, relapse, and mortality rates, and limited follow-up success (Garner & Garfinkel, 1997; Herzog *et al.*, 1993; Palmer, 2000). Therefore it would seem worthwhile to explore any alternative methods of interventions such as the combination of cognitive and interpersonal theories that could enhance the understanding of such complexities and improve treatment outcomes.

Safran (1990a, 1990b) proposed a combination of cognitive and interpersonal theories in his cognitive-interpersonal framework. The framework focuses on interpersonal schemas (beliefs held about relationships) and provides an additional way of understanding psychological distress. Exploration of interpersonal schemas within eating disorders could have implications for theory and treatment.

1. 15. Aims of the current study

The current study aimed to consider the application of the cognitive-interpersonal framework to further the understanding of eating disorders by exploring how individuals with and without eating disorders expect significant others to react in certain interpersonal situations.

1. 16. Research questions

Q. What expectations do individuals with eating disorders have about how others will respond/interact with them in relationships?

Q. How do the expectations of those with eating disorders differ from those individuals without eating disorders?

1. 16.1 Hypotheses

- 1. Individuals with eating disorders will expect more negative (hostile) responses and less positive (friendly) responses from significant others than non eating-disordered groups.***
- 2. Individuals with eating disorders will expect non-complementary responses in comparison to individuals without eating disorders, who in turn will expect complementary responses in interpersonal interactions with significant others as measured by the ISQ.***
- 3. Individuals with eating disorders will perceive the responses from significant others as undesirable.***
- 4. Eating disordered individuals will show more consistency in their expected responses (as measured by the ISQ) within a range of situations compared to non-clinical groups, highlighting their rigid and limited schemas.***

2. METHOD

2.1. Design

The current study was cross-sectional in nature with a between groups design. The independent variable reflected the type of eating pattern (group) and consisted of three levels: non-dieters; dieters; and clinical eating disorders. The dependent variables were scores on the Interpersonal Schema Questionnaire: complementarity; consistency; desirability; and type of responses within dominant, friendly, submissive and hostile situations.

2.2. Participants

A total of 57 females aged between 18 and 40 years ($M = 25.26$, $SD = 6.1$) participated in the study. Females comprised three groups: non-dieters; dieters (non-clinical groups); and a clinical eating disorder group. These three groups aimed to reflect the proposed spectrum of eating distress.

Clinical group

The clinical group of eating disordered females ($N = 21$) comprised twelve individuals who fulfilled the diagnostic criteria for eating disorder not otherwise specified (EDNOS), which included partial syndrome anorexia and bulimia nervosa (DSM-IV; APA, 1994). Two individuals met DSM-IV criteria for anorexia nervosa and seven individuals met criteria for bulimia nervosa. Within this group, participants were aged between 18 years and 40 years, and they were all of white ethnic origin. The current study aimed to define clinical eating disorders as those that were appropriate for a formal diagnosis in accordance with DSM-IV (APA, 1994).

Participants with eating disorders were recruited from a specialised NHS service for adults with eating disorders in the Midlands of England. Those participants included in the clinical group had received a diagnosis of anorexia or bulimia nervosa or EDNOS as described by DSM-IV (APA, 1994) from a formal assessment in the service. A complete list of diagnostic criteria can be obtained in Appendix A.

In addition, clinical participants were currently waiting for therapy as an outpatient. Excluded were those individuals aged below 18 years and above 40 years, those receiving inpatient care, those with a diagnosis of binge-eating disorder and those with major comorbid mental health problems. Binge-eating disorder was excluded to limit the heterogeneity of the sample and the age group chosen is suggested to reflect the typical age group of those experiencing eating disorders and those that present to adult services - late adolescence and young adulthood (Palmer, 2000; Vanderlinden & Vandereycken, 1997).

Non-clinical groups.

The non-clinical groups comprised two subgroups: dieters and non-dieters. The dieters comprised 22 individuals who reported 'restrained' eating over the last six months and were aged between 20 and 39 years. The majority (68 per cent) were of white ethnic origin. The second subgroup of non-dieters comprised 14 individuals who reported no restrained eating within the last six months. Non-dieters were aged between 20 and 36 years and 93 per cent reported to be of white ethnic origin. Table 2 in chapter three provides further information on the ethnic variation of non-dieters and dieters.

It was acknowledged that within the non-clinical groups, undetected levels of eating disorder could be present and that such individuals may present with different traits than those accessing services that have been formally assessed (Palmer, 2000). All non-clinical

participants were screened for high levels of disturbed eating, indicative of an eating disorder through the Eating Dissatisfaction Scale (EDS-5; Rosenvinge et al., 2001).

Non-clinical groups were undergraduate students recruited from two local universities (School of Psychology and School of Nursing and Midwifery) by means of a screening through the Dieting Status Measure (DiSM; Strong & Huon, 1997), (Appendix C) and self-reported status of current dieting behaviour. Non-dieters were also assessed on self-reported dieting status obtained through the DiSM (Strong & Huon, 1997).

Exclusion criteria included those individuals with a reported Body Mass Index (BMI) of more than 30, which is indicative of obesity (National Health Service, 2002), those individuals aged below 18 years and above 40 years, those with possible comorbid mental health problems as indicated by the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983), and those with a previous reported history of eating disorder.

2.3. Measures

Four questionnaires were used in the current study. These included:

- The Interpersonal Schema Questionnaire (ISQ; Hill and Safran, 1994);
- The Dieting Status Measure (DiSM; Strong & Huon, 1997);
- Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983); and
- Eating Dissatisfaction Scale (EDS-5; Rosenvinge *et al.*, 2001).

Interpersonal Schema Questionnaire (ISQ; Hill & Safran, 1994)

The Interpersonal Schema Questionnaire (ISQ), as shown in Appendix B, was developed by Hill & Safran (1994) to assess interpersonal schemas. It aims to evaluate how people expect three ‘significant other’ individuals to respond (i.e. expected degree of affiliation/friendliness

and dominance) to a range of similar interpersonal behaviours on their part, thus assessing self-other interactional schemas. It consists of 16 scenarios (based on 16 segments of Kiesler's, 1983 circumplex model) and participants respond to these situations with respect to three 'significant others': mother/mother figure; father/father figure; and friend/close friend or romantic partner. For each scenario the participants are asked firstly to imagine themselves behaving in a certain way (e.g. one that matches the circumplex). For example, a dominant situation would be, 'Imagine that you and (name of significant other) are collaborating on something. You have more knowledge and expertise in this area than (name of significant other), so you take the lead in making decisions'. Participants are then asked to think how the three significant others would respond (again choosing descriptions based on the circumplex model). There are eight responses:

- (A) Would take charge, or try to influence me;
- (B) Would be disappointed, resentful or critical;
- (C) Would be impatient, or quarrelsome;
- (D) Would be distant, or unresponsive;
- (E) Would go along with me, or act unsure;
- (F) Would respect me, or trust me;
- (G) Would be warm, or friendly; and
- (H) Would show interest, or let me know what he/she thinks.

Participants are also asked to rate the desirability of each response (1= undesirable to 7 = desirable).

The ISQ provides flexible scoring depending on the research objectives and can be obtained in a number of areas. Hill & Safran, (1994) provide an overview of possible scoring methods.

In the current study, responses were reported within four subscale situations: dominant; submissive; friendly; and hostile. Within each situation, participants can receive a score for the type of response expected (negative/positive), desirability of responses within those situations, consistency of responses and degree of complementarity.

Desirability of responses is calculated from the mean desirability rating of responses expected within specific situations. Consistency of responses can be obtained by the participant receiving a score of '1' if responses are the same across situations with significant others. Scores for complementarity involve recoding responses to correspond with their position on the circumplex model. Scores range between -0.875 and $+0.875$, where positive scores depict complementary responses and negative scores represent non-complementary responses. Types of responses can be combined into negative and positive. Negative responses correspond to answers 'B', 'C', 'D', and 'E', which indicate reduced degrees of affiliation. Positive responses correspond with answers 'A', 'F', 'G' and 'H', which represent high levels of affiliation. Scores reflect the number of times those responses were endorsed in each situation.

It was beyond the scope of the current study to explore each specific situation individually, as measured by the ISQ or additional subscales relating to significant others: mother; father; and friend.

The original paper describing the development of the ISQ (Hill & Safran, 1994) focused on scores indicative of the two major poles of the circumplex model: control and affiliation. The authors reported that the scale was a valid representation of Kiesler's (1983) circumplex model, demonstrating no correlation between the axes of control and affiliation ($r. = .07$).

Additionally, the authors focused on scores in relation to the amount of control and affiliation that was expected from others. In this capacity the authors quote good internal consistency of scores in relation to control, affiliation and desirability (Cronbach's alpha .62, .81, and .90 respectively). Test-retest correlations also provide additional evidence of reliability.

The ISQ has demonstrated good reliability and validity with non-clinical participants and has been able to discriminate between varying levels of depression scores (Baldwin & Keelan, 1999; Hill & Safran, 1994; Soygüt & Savasir, 2001). The ISQ has also been used in research exploring personality disorder (Soygüt & Türkçapar, 2001) and more recently, with Turkish samples of individuals experiencing eating disorders (Erol *et al.*, 2000; Keskingöz & Soygüt, 2002).

Dieting Status Measure (DiSM; Strong & Huon, 1997)

The Dieting Status Measure (DiSM), as shown in Appendix C, allows categorization of individuals according to the stage or level of their dieting behaviour. The DiSM can distinguish non-dieters from dieters and further, those who diet only 'sometimes' compared to 'always'. There are six categories: never dieters; triers; ex-dieters; sometimes dieters; often dieters; and always dieters. Participants are required to read six statements relating to the six categories and decide which one best describes them over the last six months. For the purpose of the present research, the 'sometimes', 'often' and 'always' categories were collapsed to form a 'serious dieter' group. The 'never', 'triers' and 'ex' categories formed the other comparison group entitled 'non-dieters'.

The DiSM demonstrates good levels of reliability and validity for the measure. Strong and Huon (1997) employed a Cross-products ratio to compare self-other reports of dieting. This ratio provides one index of reliability. The authors suggested that an individual was three

times more likely to be identified as a dieter by their friend if that individual perceived himself or herself in that way.

The DiSM is also reported to demonstrate good concurrent validity with three dieting-related subscales (drive for thinness, body dissatisfaction and dieting behaviour) of the Eating Disorders Inventory (EDI) (Garner *et al.*, 1983). The authors reported correlations of .63, .49 and .63 for the three subscales of ‘drive for thinness’, ‘body dissatisfaction’ and ‘dieting behaviour’ respectively.

Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983)

The HADS, as shown in Appendix D was originally designed to provide a screening tool for anxiety and depression in general hospital settings. However many studies have shown that the scale is a valid tool in other settings such as primary care and the community (Snaith, *n.d.*; Crawford *et al.*, 2001). The scale comprises 14 items, all of which are self-administered.

Participants are asked to think about how they have felt over the past week in relation to issues around anxiety and depression. Scoring is on a Likert scale and yields two subscales: anxiety and depression. Scores are categorised into 4 levels (0-7 normal; 8-10 mild; 11-14 moderate and 15-21 severe). Scores over eleven are suggested to be indicative of ‘definite cases’ of anxiety and depression (Bowling, 2001). The HADS is quick and easy to complete and it avoids some of the somatically-based items found, for example in the Beck Depression Inventory (Beck *et al.*, 1987), which could be confounded by illness or injury.

A number of studies have reported good reliability and validity for the scale (Crawford *et al.*, 2001; Moorey *et al.*, 1991; Zigmond & Snaith, 1983). Crawford *et al.* (2001) reported normative data from a large sample of the general adult population in the UK. This data

provided comparison data for the current study in addition to the test's authors recommended 'cut-off' scores. Additionally, Crawford *et al.* (2001) highlighted the appropriateness of cut-off scores around 10-11 when using the HADS with non-clinical populations.

Elevated levels of anxiety are not surprising for the general population and the recommended cut-off scores suggested by Crawford *et al.* (2001) are in accordance with a number of well validated epidemiological studies. Furthermore, the HADS has been implemented in a previous study exploring eating problems in the general population (Button, *et al.*, 1997), results of which provided further comparison data for the current study.

Eating Dissatisfaction Scale (EDS-5; Rosenvinge et. al., 2001)

The Eating Dissatisfaction Scale (EDS-5), as shown in Appendix E, was developed as a screening instrument for problematic eating disorders in normal populations. The authors reported that the EDS-5 is sensitive to eating pathology and associated cognitions and thus is a suitable screen for community samples. The five items ask about how the respondent feels about eating and attitudes associated with such. Each item is rated on a 7-point Likert scale. The authors concluded from their developmental and validity studies that a cut-off score of '16' was indicative of a diagnosis of eating disorder.

Although a relatively new measure, the authors reported acceptable levels of reliability, concurrent and construct validity. A high level of internal consistency is reported ($r = .86$), as well as concurrent validity with subscales from the Eating Disorders Inventory (EDI) (Garner *et al.*, 1983) and the Eating Disorders Examination (EDE) (Fairburn and Cooper, 1993).

Rosenvinge *et al.* (2001) concluded that the EDS-5 is a psychometrically sound instrument of disturbed eating patterns, detecting characteristics as equally well as the more common yet

somewhat lengthy measures (e.g. EDI). The EDS-5 is a simple and brief measure, favourable for community samples, although early in its use the authors make note that the further comparisons should be made between the EDS-5 and self-report version of the EDE (EDE-Q; Fairburn & Beglin, 1994).

2.4. Procedure

Ethical approval for the study was granted from local research and ethics committee (LREC), as well as the ethics committees from both universities. Letters of approval are in Appendix F.

Over a period of seven months (October 2002–April 2003), clinical participants were selected on a weekly basis from the therapy waiting list following allocation meetings of a local eating disorders service.

Each participant was forwarded a research pack in the post (see Appendix G), which included an invitation letter from the principal investigator and named clinician at the time of their assessment. In addition, an information sheet about the study and the Interpersonal Schema Questionnaire were enclosed. Consent was assumed if participants returned questionnaires (which were anonymous) in the stamped addressed envelopes (SAE) provided. After a period of three weeks, a reminder letter was sent to enhance response rates (Appendix H). A total of seventy questionnaires were distributed with fifteen returned after the first attempt. A further seven were returned in the second attempt, yielding an overall response rate of 31 per cent. One questionnaire was returned uncompleted and therefore excluded from the analysis, leaving the subsequent sample number quoted above ($N = 21$).

Non-clinical participants were selected from Schools of Psychology and Nursing at two local universities. Following permission being granted from the lecturers within each school,

participants were introduced to the study by the principal researcher at the beginning of a lecture. Research packs were distributed throughout the lecture (Appendix G). Each pack included a letter of invitation, information sheet about the study, as well as the questionnaires (EDS-5, ISQ, HADS and DiSM).

Self-addressed envelopes were provided for the participants to return their completed questionnaires. The principal researcher attended the lecture three weeks after the initial allocation to remind participants of the study.

A total of one hundred and forty questionnaires were circulated and forty-eight were returned, giving a response rate of 34 per cent. From this initial sample, a total of twelve questionnaires were excluded; seven questionnaires were not completed, four participants did not fulfil the inclusion criteria, and one participant was excluded during the analysis stage of the study, leaving subsequent sample numbers quoted above (non-dieters, $N = 14$ and dieters, $N = 22$).

2.4.1. Analysis of Results

Results were analysed using Statistical Package for Social Scientists (SPSS), which allowed descriptive and inferential statistical analysis. Further discussion of the analysis is presented in the 'results' section.

3. RESULTS

3.1. Analysis plan

Sample characteristics for each of the three groups are summarised according to age, body mass index (BMI), ethnicity and diagnosis. Following this, summary descriptive statistics for dependent variables are presented in combination with inferential analysis for each hypothesis. Further information about dependent variables is discussed below. Finally, post-hoc analyses employed Scheffe tests with a number of hypotheses.

Inferential statistical analysis

The main type of data gathered in the study was ‘interval’ therefore, in accordance with the design and research questions of the study, scores were analysed using a Multivariate Analysis of Variance (MANOVA). This form of analysis is suggested to reduce the chances of Type I errors, which could occur if one were to perform a series of individual analyses of variance (ANOVA) (Clarke-Carter, 1997).

Four one-way between-group MANOVAs were performed to explore group differences in expected interpersonal responses of significant others. Four dependent variables were used: type of response; complementarity; desirability; and consistency of expected responses from significant others and these were reported within dominant, friendly, submissive and hostile situations. The independent variable was eating distress and there were three levels: non-dieters; dieters; and clinical eating disorder.

Preliminary assumption testing of the dependent variables for MANOVA was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices and multicollinearity, with no serious violations noted. Exceptional to this were scores on the dependent variable of consistency, which were not normally

distributed (Kolmogorov-Smirnov statistic indicated p values less than 0.05) and a number of outliers were present.

It has been suggested that MANOVA can tolerate a few outliers (Tabachnick & Fidell, 1996 as cited in Pallant, 2001). Furthermore, it is a parametric test, which has been reported to maintain robustness where minor violations in assumptions occur (Clarke-Carter, 1997; Howell, 1992). Pre-analysis of the data however, revealed that one participant demonstrated extreme outliers in their dependent variable scores (i.e. scores three times greater than their mean scores) and consequently, that participant was excluded from the main analysis.

The remaining distribution of scores did not appear to affect MANOVA results, as the maximum Mahal Distance for dependent variables was below the corresponding critical value of 18.47 (Pallant, 2001). In addition, Box's Test of Equality of Covariance Matrices reported a larger significance value than 0.001, suggesting no violation of the homogeneity of variance-covariance matrices. Furthermore, Levene's Test of Equality of Error Variances also confirmed equal variances.

A large number of comparisons with data can increase the risk of Type I errors and this can also apply to unplanned comparisons (Brace *et al.*, 2003). Post-hoc analysis however, employing the Scheffe test has been suggested to reduce the chance of creating such errors and is suggested to be the most cautious (Pallant, 2001).

An alpha level of 0.05 was used for all statistical tests. Furthermore, a minimum of thirteen participants were required to detect an effect size of 0.8 between three groups with 80 per cent power, at an alpha level of 0.05 (Howell, 1992).

3.2. Sample characteristics

Details of age and body mass index (BMI) are displayed in Table 1.

Table 1 Mean age and BMI of participants.

	Non-dieters		Dieters		Eating Disorder			
	(N = 14)		(N = 22)		(N = 21)			
	Mean	S.D.	Mean	S.D.	Mean	S.D.	<i>F</i>	<i>p</i>
Age	23.36	4.2	24.73	5.9	27.00	6.9	1.79	0.18
BMI	22.58	3.1	23.79	3.3	20.27	3.2	5.81	0.01

A one-way ANOVA indicated that there was no significant difference in age between the three groups: $F(2, 57) = 1.79, p = 0.18$.

A small significant difference in BMI was reported between the three groups: $F(2, 48) = 5.81, p = 0.01$. Further analysis with the Scheffe test revealed that the significant difference was between the clinical group and dieters ($p = 0.01$), where dieters reported higher BMIs than eating-disordered individuals.

In relation to diagnosis, results indicated that within the eating disorders group, 10 per cent were diagnosed with anorexia nervosa, 33 per cent were diagnosed with bulimia nervosa and the majority were diagnosed with EDNOS (57 per cent). Additionally, within the non-dieter, dieter and eating disordered groups, the majority of participants reported their ethnic background as white (93 per cent, 68 per cent and 100 per cent respectively). Ethnicity is summarised in Table 2.

Table 2 Summary of participants' ethnicity.

	Non-dieters	Dieters	Eating Disorder
	(N=14)	(N=22)	(N=21)
White	13	15	21
Indian	1	0	0
Chinese	0	1	0
Not stated	0	6	0

A Fisher's Exact Probability test was performed on the ethnic diversity of the three groups, as six cells in the Pearson's Chi-Square analysis had an expected frequency count less than five. Results indicated that there was no significant difference in the proportion of ethnicity between the non-dieters, dieters and eating disordered participants ($\chi^2 = 4.27$, d.f. = 4, $p = 0.25$).

Non-dieters and dieters completed the Hospital Anxiety and Depression Scale (HADS). Results suggested that non-dieters and dieters mean reported anxiety scores ($M = 6.71$, $SD = 2.9$ and $M = 7.72$, $SD = 3.9$ respectively) and depression scores ($M = 3.36$, $SD = 2.0$ and $M = 2.82$, $SD = 2.4$ respectively) were within the 'normal range' as suggested by Zigmond and Snaith (1983) for clinical significance. Furthermore, these scores were representative of the general population when compared with existing research data (Bowling, 2001; Button *et al.*, 1997; Crawford *et al.*, 2001).

A one-way ANOVA indicated no significant difference between the two groups on reported levels of anxiety: $F(1, 35) = 0.70$, $p = 0.41$ or depression, $F(1, 35) = 0.48$, $p = 0.49$.

On the contrary, non-dieters and dieters reported scores from the Eating Disturbance Questionnaire (EDS-5) were well above the critical score (16) suggested by Rosenvinge and colleagues (2001), ($M = 18.07$, $SD = 6.8$ and $M = 22.50$, $SD = 4.0$ respectively).

A one-way ANOVA indicated that there was a significant difference between the two groups on the amount of reported eating dissatisfaction: $F(1, 35) = 6.04$, $p = 0.02$. Further interpretation of this result is presented in the discussion (chapter four).

3.3. Statistical analysis of hypotheses

Hypothesis 1: Individuals with eating disorders will expect more negative (hostile) and less positive (friendly) responses from significant others than the non-clinical groups.

Participants were scored on the amount of positive (friendly) and negative (hostile) responses that they expected from significant others. Results are depicted in Tables 3 and 4.

Friendly responses

Table 3 Expected positive (friendly) responses of significant others.

	Non-dieters		Dieters		Eating Disorder			
	(N=14)		(N=22)		(N=21)			
	Mean	S.D.	Mean	S.D.	Mean	S.D.	F	p
Dominant situation	6.64	1.4	5.95	1.9	6.29	1.5	0.72	n/s
Friendly situation	7.57	1.4	8.00	1.4	6.52	1.9	4.54	0.01
Submissive situation	6.42	1.9	7.05	1.5	5.33	1.9	4.94	0.01
Hostile situation	3.21	1.6	4.18	2.1	2.05	1.4	7.94	0.00

Note. n/s indicates a non-significant result.

Statistical analysis with MANOVA indicated that there was a statistically significant difference between groups on the amount of friendly responses expected across situations: $F(2, 57) = 4.72, p = 0.00$; Wilks' Lambda = 0.53; partial eta squared = 0.27.

The value of partial eta squared indicates a large effect of the independent variable on expected amount of friendly scores. The effect size suggested that 27 per cent of the variance in the expectation of friendly scores could be explained by level of eating distress.

Subsequent analysis of the type of responses expected across situations was considered using a Bonferroni adjusted alpha level of 0.012. A significant difference was evident in friendly: $F(2,57) = 4.54, p = 0.01$, partial eta squared = .15, submissive: $F(2,57) = 4.54, p = 0.01$, partial eta squared = 0.15 and more clearly in hostile situations: $F(2,57) = 7.94, p = 0.00$, partial eta squared = 0.23. F -values and significance values are presented in Table 3.

Post-hoc comparisons using the Scheffe test indicated that individuals with eating disorders differed significantly from dieters on the amount of friendly responses expected in friendly, submissive and hostile situations ($p = 0.02, 0.01$, and 0.00 respectively). There were no significant differences between non-dieters and dieters or between the clinical group and non-dieters.

Hostile responses

Table 4 Expected negative (hostile) responses of significant others.

	Non-dieters		Dieters		Eating Disorder			
	(N=14)		(N=22)		(N=21)			
	Mean	S.D.	Mean	S.D.	Mean	S.D.	<i>F</i>	<i>p</i>
Dominant situation	2.14	1.4	3.05	2.0	2.43	1.6	1.34	n/s
Friendly situation	1.21	1.4	1.00	1.4	2.19	2.1	2.93	n/s
Submissive situation	2.36	1.9	1.82	1.5	3.38	1.8	4.65	0.01
Hostile situation	5.57	1.7	4.82	2.1	6.67	1.6	5.62	0.01

Note. n/s indicates a non-significant result.

Results from MANOVA indicated an overall statistically significant difference between groups on the amount of hostile responses expected across situations: $F(2, 57) = 4.24$, $p = 0.00$; Wilks' Lambda = 0.56; partial eta squared = 0.25.

Once more, the value of partial eta squared indicated a large effect of the independent variable on the expected amount of hostile responses. The effect size suggested that 25 per cent of the variance in the expectation of hostile scores could be explained by level of eating distress.

Further analysis of the type of responses expected across situations was considered using a Bonferroni adjusted alpha level of 0.012. A significant difference was evident in submissive: $F(2, 57) = 4.65$, $p = 0.01$, partial eta squared = 0.15 and more clearly in hostile situations: $F(2, 57) = 5.62$, $p = 0.01$, partial eta squared = 0.17. *F*-values and significance values are depicted in Table 4.

Post-hoc comparisons using the Scheffe test indicated that individuals with eating disorders differed significantly from dieters on the amount of hostile responses expected in submissive and hostile situations ($p = 0.02$ and 0.01 respectively). There were no significant differences between non-dieters and dieters or between the clinical group and non-dieters.

To summarise, individuals with eating disorders differed significantly from dieters on their expected responses from significant others. Individuals with eating disorders expected less friendly and more hostile responses than dieters and this was especially apparent in hostile situations.

Hypothesis 2: Individuals with eating disorders will expect non-complementary responses in comparison to individuals without eating disorders, who in turn will expect complementary responses in interpersonal interactions with significant others.

Details of the degree of expected complementarity from significant others is presented in Table 5.

Table 5 Complementarity of expected responses from significant others.

	Non-dieters (N=14)		Dieters (N=22)		Eating Disorder (N=21)			
	Mean	S.D.	Mean	S.D.	Mean	S.D.	<i>F</i>	<i>p</i>
Complementarity (D)	.18	.19	.23	.15	.10	.30	1.78	n/s
Complementarity (F)	.53	.20	.58	.22	.39	.30	2.70	n/s
Complementarity (S)	.09	.31	.11	.35	.03	.17	0.44	n/s
Complementarity (H)	.14	.27	.06	.23	.32	.18	6.83	0.00

Note. Situations in parentheses: Dominant (D), Friendly (F), Submissive (S) and Hostile (H).
n/s indicates a non-significant result.

There was a statistically significant difference between groups on the expected complementarity of responses across situations: $F(2, 52) = 2.35, p = 0.02$; Wilks' Lambda = 0.69; partial eta squared = 0.17.

The value of partial eta squared indicated a large effect of the independent variable on expected complementarity. The effect size suggested that 17 per cent of the variance in complementary scores could be explained by level of eating distress.

Further analysis of complementarity across situations was considered using a Bonferroni adjusted alpha level of 0.012. A significant difference was evident in hostile situations: $F(2, 52) = 6.83, p = 0.00$, partial eta squared = 0.22. F -values and significance values are presented in Table 5.

Post-hoc comparisons using the Scheffe test indicated that individuals with eating disorders differed significantly from dieters on the degree of complementarity expected in hostile situations ($p = 0.00$). There were no significant differences between non-dieters and dieters or between the clinical group and non-dieters.

To summarise, there was no evidence of non-complementarity in the eating-disordered group and all groups had positive scores on this measure, indicating a varying degree of complementarity. Contrary to expectation, within hostile situations however, eating-disordered individuals expected more complementary responses than dieters.

Hypothesis 3: Individuals with eating disorders will perceive the responses from significant others as undesirable.

The expected desirability of responses from significant others is depicted in Table 6.

Table 6 Desirability of responses from significant others.

	Non-dieters		Dieters		Eating Disorder			
	(N=14)		(N=22)		(N=21)			
	Mean	S.D.	Mean	S.D.	Mean	S.D.	<i>F</i>	<i>p</i>
Desirability (D)	5.21	.84	5.15	.82	4.41	1.4	3.20	n/s
Desirability (F)	5.73	.78	5.94	.91	5.11	1.2	4.34	n/s
Desirability (S)	4.87	.94	5.24	.85	4.20	1.0	7.34	0.00
Desirability (H)	4.06	.76	4.40	.74	3.23	.81	12.63	0.00

Note. Situations in parentheses: Dominant (D), Friendly (F), Submissive (S) and Hostile (H).
n/s indicates a non-significant result.

Overall, the MANOVA indicated that groups differed significantly on their reported desirability of expected responses across situations: $F(2, 57) = 4.02$, $p = 0.00$; Wilks' Lambda = 0.58; partial eta squared = 0.24.

The value of partial eta squared indicates a large effect of the independent variable on the reported desirability of responses from others. The effect size suggested that 24 per cent of the variance in the desirability of expected scores could be explained by level of eating distress.

Further analysis of the desirability of expected responses across situations was considered using a Bonferroni adjusted alpha level of 0.012. Significant differences were evident in two situations: submissive, $F(2,57) = 7.34$, $p = 0.00$, partial eta squared = 0.21; and hostile

situations, $F(2,57) = 12.63$, $p = 0.00$, partial eta squared = 0.32. Refer to Table 6 for F -values and significance values.

Post-hoc comparisons using the Scheffe test indicated that individuals with eating disorders differed significantly from dieters on the desirability of expected responses in friendly, submissive and hostile situations ($p = 0.02$, 0.00 , and 0.00 respectively). Individuals with eating disorders also differed significantly from non-dieters in hostile situations ($p = 0.01$). There were no significant differences between non-dieters and dieters.

In summary, individuals with eating disorders found the expected responses of significant others to be less desirable than dieters and non-dieters. Once more, this was especially evident in hostile situations.

Hypothesis 4: Eating disordered individuals will show more consistency in their expected responses (as measured by the ISQ) within a range of situations compared to non-clinical groups, highlighting their rigid and limited schemas.

Details of the consistency of expected responses from significant others in each situation is presented in Table 7.

Table 7 Consistency of responses expected from significant others.

	Non-dieters		Dieters		Eating Disorder			
	(N=14)		(N=22)		(N=21)			
	Mean	S.D.	Mean	S.D.	Mean	S.D.	<i>F</i>	<i>p</i>
Consistency (D)	.17	.21	.08	.17	.19	.17	2.27	n/s
Consistency (F)	.28	.34	.36	.31	.38	.35	0.36	n/s
Consistency (S)	.14	.21	.14	.17	.05	.12	2.02	n/s
Consistency (H)	.07	.14	.06	.13	.05	.16	0.12	n/s

Note. Situations in parentheses: Dominant (D), Friendly (F), Submissive (S) and Hostile (H).
n/s indicates a non-significant result.

Results from a MANOVA indicated that there were no statistically significant differences between groups on the consistency of expected responses across situations: $F(2, 57) = 1.42$, $p = 0.20$; Wilks' Lambda = 0.81; partial eta squared = 0.10.

To summarise, individuals with eating disorders did not differ significantly in their expectation of consistent responses from significant others compared to non-dieters and dieters.

4. DISCUSSION

The chapter begins with an overview of the aims of the current study. This is followed by a summary and interpretation of the results in relation to each hypothesis. A discussion of the clinical implications, and the strengths and limitations of the research is presented. Finally, recommendations for future studies are proposed.

4.1. Overview of the study

Interpersonal issues are prominent within the development and maintenance of eating disorders. Research however, is limited into this area, especially interpersonal cognitions, which also appear to be neglected by cognitive-behavioural models. The current study aimed to consider the application of the cognitive-interpersonal framework (Safran, 1990a, 1990b) to further the understanding of eating disorders, by exploring how individuals with and without eating disorders expected significant others to react (interpersonal schemas) in dominant, friendly, submissive and hostile interpersonal situations.

According to interpersonal theory (Kiesler, 1983) and the cognitive-interpersonal framework (Safran, 1990a, 1990b), individuals that expect and engage in negative, non-complementary and rigid (consistent) relating can experience psychological and relationship difficulties. Therefore, when compared to a group of non-dieters and dieters, it was anticipated that individuals with eating disorders would expect more negative (hostile) responses from others. Furthermore, it was hypothesised that individuals with eating disorders would expect the responses of others to conflict with their interaction within each interpersonal situation, and therefore not complement each other in terms of that proposed by interpersonal theory (Kiesler, 1983). For example, within friendly situations a non-complementary response would involve hostility, and in dominant situations a response that was not submissive would also indicate a non-complementary response within interpersonal interactions. It was also

suggested that individuals with eating disorders would perceive the responses of significant others as undesirable, and expect those responses from others to be consistent across the four situations when compared to non-dieters and non-dieters. Results of these hypotheses are summarised and discussed below.

4.2. Summary and interpretation of results

Hypothesis one: Individuals with eating disorders will expect more negative (hostile) and less positive (friendly) responses from significant others than the non-clinical groups.

Results lend some support for hypothesis one, indicating that individuals with eating disorders expected more hostile and less friendly responses from others when compared to dieters in friendly, submissive and hostile situations. Furthermore, it appeared that they interpreted neutral situations (e.g. friendly, submissive) as hostile. Safran (1984, 1990a, 1990b) found that, one's expectations could bias the way one thinks and behaves around other people. Subsequently, such expectations would be expected to influence the way individuals with eating disorders behave within relationships. No significant differences emerged however, between individuals with eating disorders and non-dieters.

Current findings are consistent with interpersonal theory and the cognitive-interpersonal framework, suggesting that individuals with psychological difficulties (e.g. eating disorders) tend to hold interpersonal schemas that anticipate negative responses from others (Kiesler, 1983; Safran & Segal, 1990). In line with the cognitive-interpersonal framework, individuals with eating disorders expecting hostile responses from others will behave in a hostile manner, and based on the construct of complementarity, will evoke hostility from others; confirming their interpersonal schemas (Safran, 1990a; Safran & Segal, 1990). Furthermore, the expectation of hostile responses across a variety of situations supports Safran's (1990a,

1990b) suggestion that such schemas often fail to adapt to new circumstances (e.g. friendly situations) and therefore continue to shape interactions.

Consequently, the participants in the current study with eating disorders appeared ‘stuck’ in unhelpful cognitive-interpersonal cycles that may be self-reinforcing. On the whole, it may be that individuals regenerate their eating disorders through dysfunctional cognitive-interpersonal cycles. It is possible that unhelpful cycles such as that described, underpin disturbed and distressed relationships which previous research has demonstrated can be a source of anxiety to one’s sense of self and is associated with disturbed eating (Grissett & Norvell, 1992; Nevonen & Broberg, 2000; Troop *et al.*, 1998; Wilfley *et al.*, 2003). Further longitudinal research about the development of such schemas is required to confirm this hypothesis.

Current results indicating that elevated levels of hostility were expected from others by eating-disordered individuals, also confirms existing research findings exploring interpersonal schemas and eating disorders (Erol *et al.*, 2000; Keskingöz, 2002; Keskingöz & Soygüt, 2002). Such expectations however, have implications for therapy, which are discussed below.

Hypothesis 2: Individuals with eating disorders will expect non-complementary responses in comparison to individuals without eating disorders, who in turn will expect complementary responses in interpersonal interactions with significant others.

Results from the current analysis did not support hypothesis two. Positive scores suggested that all individuals expected some degree of complementarity from significant others. Although individuals with eating disorders did not demonstrate an expectation of non-complementary responses from others, they did however, expect more complementarity of

responses in hostile situations when compared to dieters. These results contradict the suggestion made by interpersonal theory that individuals with psychological difficulties (e.g. eating disorders) will engage in non-complementary behaviours within relationships. Results are however, congruent with the construct of complementarity from interpersonal theory, in that hostile behaviour 'pulls' hostile behaviour.

Apart from hostile situations, there was however a non-significant trend towards lower levels of complementarity in the eating-disordered group. This result may reflect the small sample examined in the study. The power analysis may therefore have overestimated the effect size and it is conceivable that larger numbers of participants may have yielded a significant difference between the groups in the predicted direction for situations, other than hostility.

Additionally, participants within the clinical group were outpatients, which as a group are suggested to present with less severe pathology in terms of medical, physical and comorbid complications (Andersen *et al.*, 1997). It may be that more severe cases of eating disorders, in terms of the complications suggested by Andersen and colleagues (e.g. inpatients), are those individuals that expect non-complementarity within their relationships.

Furthermore, the inconclusive results obtained in relation to expectation of non-complementarity may also reflect the combination of all DSM-IV eating disorder diagnoses into one group. There may be differences between diagnostic groups in the degree of complementarity expected from others. The majority of participants (57 per cent) within the clinical group of the current study were diagnosed as EDNOS. Individuals with anorexia nervosa were under-represented and the literature suggests that as a separate group, the characteristics of such individuals are known to differ from other eating disorders in general (Button, 1993).

Despite this outcome, individuals with eating disorders did expect complementarity within hostile situations. Previous research has commented on eating-disordered individuals' perceived lack of confidence and power within relationships, suggesting that individuals with eating disorders may feel that they are not in control of their relationships (Friedberg & Lyddon, 1996; Keskingöz & Soygüt, 2002). Such studies have however, referred to mainly dominant and friendly situations. The current study found that individuals with eating disorders expected more complementarity in hostile situations compared to dieters. Therefore control within relationships may lie within hostile situations.

It may be that individuals with eating disorders feel more confident in hostile situations compared to dominant, friendly and submissive situations. This might indicate that hostile situations are familiar for eating-disordered individuals and consequently, they will seek out individuals and relationships that can confirm their expected hostility. Such experiences will however, serve to perpetuate existing interpersonal schemas and unhelpful cognitive-interpersonal cycles.

The apparent familiarity with hostile situations for individuals with eating disorders may stem from early family interactions and experiences. A number of research studies have consistently demonstrated that individuals with eating disorders are likely to experience difficulties in family dynamics/interactions and the expression of emotions within such (Rhodes & Kroger, 1992; Rieves & Cash, 1996; Steinberg & Phares, 2001; van Furth *et al.*, 1996). Further discussion on the experiences of early interactions is presented below.

Furthermore, previous research has demonstrated that individuals with low self-esteem do not feel confident in eliciting friendly or complementary responses from others (Baldwin &

Keelan, 1999), therefore, given that individuals with eating disorders are suggested to experience low self-esteem (Button *et al.*, 1997), it is not surprising that they do not feel confident in relationships or perceive that they can influence others' reactions through their own expectations and behaviours, except in hostile situations.

The expectation of more complementarity within hostile situations for eating-disordered individuals can also be explained through a parallel theoretical framework. Personal construct theory (Kelly, 1955), would suggest that anticipation/expectations of interpersonal interactions is governed by familiar constructs and predictions, which help guide an individual in relationships, therefore making the interaction understandable, predictable and safe. Consequently, it would appear that individuals with eating disorders might be able to predict hostile situations on the basis of their interpersonal schemas, and therefore feel confident and in control in those situations.

Unfortunately, one could suggest that maintaining predictability within hostile situations may have repercussions for the development and sustainability of relationships. As a result, a vicious cycle of disturbed relationships seems logical and consequential; this disturbance can create heightened levels of distress within relationships, becoming a possible source of eating disturbance. For the eating disordered individual however, it would seem that sustaining predictability and control, even though relationships are diminished, has greater importance and safety than the risk and anxiety of invalidating such schemas.

Hypothesis 3: Individuals with eating disorders will perceive the responses from significant others as undesirable.

Consistent with previous research (Erol *et al.*, 2000; Keskingöz and Soygüt, 2002) and interpersonal theory (Kiesler, 1983), individuals with eating disorders perceived the responses from others as undesirable. In the current study, undesirable responses were evident when eating-disordered individuals were compared with dieters in friendly and submissive situations, and when compared to both dieters and non-dieters in hostile situations.

Experiences of undesirability within the eating-disordered group may be understood within the context of self-evaluation. Experiencing others' responses as undesirable, may reflect anxiety and negative feelings about the self, which according to Button (1990, 1993) and the theory of personal constructs (Kelly, 1955) are linked to the construing of others and relationships. How one construes the self (e.g. unworthy, unlovable or greedy) can influence how one construes others (e.g. they don't want me). Additionally, research has demonstrated that individuals with eating disorders can evaluate themselves in an extremely negative way (Cooper & Turner, 2000; Butow *et al.*, 1993; Button, 1990, 1993), which may not be surprising given the association of low self-esteem and depressed mood. Therefore, a negative evaluation of the self and others may influence how desirable one perceives interactions with others. Indeed, as suggested in the introduction (chapter one), the concept of 'self-other' construing appears to parallel Safran's concept of interpersonal schemas.

Findings of undesirability from the current study echo those of previous studies exploring interpersonal schemas and eating disorders (Erol *et al.*, 2000; Keskingöz, 2002; Keskingöz & Soygüt, 2002). In the current study however, it would appear that experiencing significant

others' responses as undesirable, is more pronounced within hostile situations for individuals with eating disorders.

Hypothesis 4: Eating disordered individuals will show more consistency in their expected responses (as measured by the ISO) within a range of situations compared to non-clinical groups, highlighting their rigid and limited schemas.

The general expectation of hostility within relationships across a variety of situations seems to suggest that individuals with eating disorders hold inflexible and rigid interpersonal schemas. It is such rigid schemas that maintain maladaptive cognitive-interpersonal cycles (Safran, 1990a, 1990b; Safran & Segal, 1990). The current results however, suggested otherwise and hypothesis four was not supported.

It seems unlikely that the small sample sizes can explain this result, as there were no consistent differences in the consistency scores across situations. One explanation however, may be due to the combination of diagnoses within the clinical group, which might have concealed differences in the amount of consistent responses expected from others between the individuals; it may be that one diagnosis expects more consistency than others. The numbers of participants in the clinical group however, were too small to divide into separate diagnostic groups.

It is suspected that the expectancy of more consistent responses from significant others may be held by individuals with anorexia nervosa on the grounds that the research literature has highlighted that they demonstrate more rigid patterns in thinking and construing compared to other eating disordered groups (Butow *et al.*, 1993; Cooper & Turner, 2000). Indeed, Button (1993) highlighted that individuals with anorexia nervosa demonstrated more rigid construing

compared to those with bulimia nervosa. Therefore, one could propose a further hypothesis that individuals with anorexia nervosa would differ in interpersonal schemas compared to other eating disordered groups.

Overall findings

Overall, the current study indicates that individuals with eating disorders appeared to anticipate relationships and certain situations as hostile through ‘hostile’ interpersonal schemas. There is however, limited research exploring the development of such schemas and a number of explanations have been suggested.

Safran (1990a) highlighted the role of attachment figures. It is known that early experiences of relationships (e.g. attachment figures) contribute to the development of schemas that allow the prediction of interactions within future relationships (Bowlby, 1969; Hill & Safran, 1994; Safran, 1990a). Therefore, the development of ‘hostile schemas’ could be understood within the context of attachment theory and Bowlby’s (1969) ideas around ‘internal working models’ and the role of insecure attachment. It may be that individuals with eating disorders experienced hostility within relationships when they were younger and this experience served to facilitate predictions of future hostility within relationships. On the basis of learning theories such as instrumental conditioning and social learning (Thorndike, 1898; Bandura, 1965, 1977 as cited in Bernstein *et al.*, 1991) one could suggest that individuals with eating disorders have learnt to expect hostility from others. Recent research has demonstrated an association between interpersonal schemas and insecure attachments (Keskingöz, 2002; Keskingöz & Soygüt, 2002). Further research is needed however, to explore this association in depth.

Alternatively, Hill & Safran, (1994) suggested that such interpersonal schemas might reflect impotence within relationships and may stem from experience of anticipated abandonment. One could also suggest that such impotence within relationships may be understood through the concept of 'control' as advocated within cognitive theory for eating disorders. Cognitive theory of eating disorders suggests that one's self-esteem is achieved through control over food, weight and shape. This could also extend to relationships and therefore, the focus of control may extend beyond that of food, weight and shape to encompass relationships.

Results of the current study highlighted that dieters expected less complementarity in hostile situations, compared to individuals with eating disorders, which suggests a degree of flexibility in their relating. In addition, results from the Hospital Anxiety and Depression Scale (HADS) suggested that dieters reported 'normal' levels of anxiety and depression when compared to the available norms for the general population (Bowling, 2001; Button *et al.*, 1997; Crawford *et al.*, 2001). Once more, these findings parallel existing research on interpersonal schemas and interpersonal theory, where individuals with low levels of psychopathology are suggested to demonstrate flexible and adaptive ways of relating within relationships (Hill & Safran, 1994; Kiesler, 1983; Sullivan, 1953; Soygüt & Savaşır, 2001).

Congruent with the spectrum and continuum hypothesis of eating disorders however (Tylka & Mezydło-Subich, 1999), it was expected that non-dieters would expect more complementarity, positive responses from others and find these responses as more desirable than dieters. The current study however, found no significant difference between the two groups (non-dieters and dieters), and on the contrary, the non-significant trend was for dieters to expect more complementarity, positive responses from others and find these responses as more desirable. In accordance with interpersonal theory, this trend would suggest that dieters are more adaptive and flexible when relating to others than non-dieters, and that as a group,

dieters demonstrated high levels of psychological well-being. Moreover, dieters' reported levels of anxiety and depression (as suggested by the HADS) did not differ significantly from non-dieters.

This unexpected trend suggesting that dieters appeared more interpersonally adept than non-dieters contradicts the continuum hypothesis suggested by a number of research studies (e.g. Tylka & Mezydlo-Subich, 1999). Furthermore, this finding appears to support a review study by Kalodner & Scarano (1992), which demonstrated that the role of interpersonal variables in eating disorders may only be specific to clinical groups and did not exist along the spectrum of eating distress.

The non-significant trend suggesting that dieters were more adaptive in their expectations of interpersonal relationships may be understood within the context of 'normality'. It seems that in today's current society, dieting could be considered a normal phenomenon (Polivy & Herman, 1987). There are numerous studies indicating high levels of dieting among young people (Heatherton *et al.*, 1997; Lau & Alsaker, 2001; Strong & Huon, 1997) and therefore, it may be that the perceived belonging, normality and closeness with one's peers achieved through group (i.e. dieting) membership, could be associated with psychological well-being and therefore sustainable relationships. Dieting may provide a way of social integration, which as a process, has been suggested to allow individuals with similar attitudes and behaviours to bond together (Moreland, 1987 as cited in Baron & Byrne, 1994). The literature suggests that belonging to a group, can have a number of social and psychological benefits, such as the development of self-concept (Greenberg & Baron, 1993 as cited in Baron & Byrne, 1994). This would certainly seem to be the case for individuals attending dieting groups such as 'Weight Watchers' although research is needed to confirm this.

The significant difference between individuals with eating disorders and dieters may suggest elements of protective factors for dieters, which distinguishes them from the clinical group. It is acknowledged that to truly establish protective factors, a prospective study is more appropriate, however it seems relevant to hypothesise that the way an individual relates or expects others to relate back to them could play a role in protecting them from developing an eating disorder. Individuals with eating disorders had clearly different interpersonal schemas than dieters, one that expected an overall hostility in relating. The expectation of positive, complementary and flexible ways of relating (as suggested by dieters) is described to promote healthy psychological well-being and relationships and therefore may have a role in protecting some dieters from developing a clinical eating disorder.

Interpersonal schemas depicted within the current study appear to map existing findings of interpersonal behaviour with eating disorders (Madison, 1997). It seems logical that behaviours such as those described by Madison (1997) such as hostility, withdrawal, control through resentment and manipulation for example, fit with hostile interpersonal schemas found in the current study. This association also appears to resonate with the cognitive-interpersonal framework understanding of psychological difficulties, where expectations guide one's interactions with others. Further research however, would be needed to confirm this proposed association between interpersonal schemas and behaviour.

On a general level however, results of the current study are also consistent with other studies exploring patterns of interpersonal schemas in alternative psychological difficulties, such as depression and personality disorders (Hill & Safran, 1994; Soygüt & Savasir, 2001; Soygüt & Türkçapar, 2001). It seems that individuals that experience psychological difficulties and disturbed relationships are generally 'stuck' in unhelpful and self-perpetuating cognitive-interpersonal cycles that hold schematic beliefs expecting hostility from others. Therefore

such cycles and interpersonal schemas may not be specific to eating disorders, although no study to date has explored the differences between such groups.

4.3. Implications of research

Results imply a number of implications for the assessment and treatment of eating disorders. Additionally, there are theoretical implications in light of cognitive and interpersonal theories.

Results of the current study may increase the feasibility of combining interpersonal and cognitive theories, which in turn could be applied to the treatment of eating disorders. This combination would strengthen the role of cognitive theory (via schemas) and interpersonal theory (acknowledging the role of interpersonal interactions in eating disorders).

Assessment of eating disorders and the associated cognitive factors could be enhanced through the understanding of interpersonal aspects. Safran (1984, 1990a) indicated that to enable effective treatments, one has to assess an individual's complete cognitive-interpersonal cycle. This could be achieved through the use of interpersonal markers in therapy (e.g. non-verbal cues such as eye gaze or lack of), which can assist in the elaboration of feelings and thoughts about what the individuals might be expecting from others in the interaction.

As suggested above, one example of an interpersonal marker could be eye contact; a non-verbal characteristic of interpersonal difficulty, which Cipolli *et al.* (1989) demonstrated was reduced in anorexic females. In relation to interpersonal schemas, individuals who found it difficult to make eye contact or engage in conversation, might for example, expect the other person to reject them, not be interested in them or think that they are not friendly. Additionally, by not making eye contact such individuals would not be aware of how the other person is interacting. Consequently, this might lead to non-engaging behaviours such as

withdrawal, which the other person could interpret as, ‘they are not interested’. Therefore, possible interpersonal schemas around rejection are confirmed and the opportunity to disconfirm such schemas is limited.

As Safran (1984, 1990a) suggested, unhelpful cycles such as the one described, serve to create anxiety and distress within relationships. In the case of eating disorders, individuals might regenerate their disturbed eating through such cycles, possibly as a way to cope with the distress of relationships. This proposal however, warrants further research.

Results from the current study suggested that individuals with eating disorders expect hostility from others in a variety of situations. This finding would appear to suggest that such individuals could expect a limited range of responses from others, and it may be that the possibility of ‘rigid thinking’ could also extend to interpersonal relationships, confirming existing research of Garner *et al.* (1997). Previous research has suggested that such rigidity can make it difficult to maintain relationships, which can create disturbance and distress. In consequence, distressed and disturbed relationships have been shown to be associated with eating disorders (Grissett & Norvell, 1992; Nevenon & Broberg, 2000; Troop *et al.*, 1998; Wilfley *et al.*, 2003). Therefore, access to interpersonal schemas could serve to strengthen the application of cognitive therapy to eating disorders. Challenging unhelpful (rigid) schemas about relationships is in keeping with the techniques proposed by cognitive therapy (Beck, 1976), which aim to improve psychological well-being. Confronting and challenging interpersonal schemas provide an additional element to treatment, alongside that of challenging beliefs about food, weight and shape. Accessing clients’ thoughts about interpersonal behaviours and relationships could provide an avenue for further exploration and challenging around interactions within relationships.

Furthermore, therapy could explore how such interpersonal schemas might relate to eating disorders and how individuals could adopt alternative schemas to help facilitate change in patterns of behaviour within relationships, which according to interpersonal theory should result in improvements in psychological well-being and thus eating distress.

Knowing a patient's expectations about relationships can facilitate the therapist's understanding of what happens in therapy or what might become an obstacle to maintaining therapy (Safran, 1984, 1990b). Additionally, Madison (1997) proposed that the therapist can become part of the client's interpersonal world and therefore the client can expect certain reactions, possibly hostile, from their therapist. This expectation seems particularly relevant in light of the current study and it may be that clients with eating disorders exhibiting 'hostile schemas' might seek to confirm their expectations and validate their negative sense of self in therapy. It seems important to enable the client to move away from this type of interpersonal schema and develop control in other areas of relating (e.g. developing positive, friendly interpersonal schemas). One possible method to achieve this could be through the exploration of non-hostile expectations and complementarity within relationships. In conjunction with this the therapist could facilitate the challenging of 'hostile' schemas.

Another way to challenge individuals' 'hostile' schemas could be within the client-therapist relationship. Building on suggestions by Kiesler (1983) and Madison (1997), the therapist could take a more direct approach within the therapeutic relationship by not confirming (invalidating) the expectation of hostility. This invalidation is suggested to threaten the client's sense of self and create a sense of anxiety (Kelly, 1955; Safran, 1984, 1990b). Safran (1984, 1990b) suggested that by being aware of an individual's anxiety within the therapy allows the therapist to provide important feedback for the client on their interpersonal behaviour. Furthermore, in light of the cognitive-interpersonal framework, feedback on

interpersonal behaviour that impedes relationships can provide a cognitive ‘marker’ for exploration within the therapy.

Safran (1984, 1990b) also proposed that the cognitive-interpersonal framework encourages the therapist (in a non-psychodynamic approach) to become aware of his or her own feelings and behaviour in the therapy, that could arise in response to the client’s interactions. Such information offers clues to the client’s interpersonal schemas and can provide feedback for the client.

Overall it is noted that such implications for therapy are not new, but it would appear that the current study strengthens the argument to combine cognitive and interpersonal theories in order to achieve a comprehensive assessment and treatment of eating disorders. The maximum effectiveness of therapy for eating disorders can be achieved when all elements of the cognitive-interpersonal framework are assessed and targeted. It has been suggested that both the cognitive and interpersonal aspects of behaviour need to be modified for long term change (Kiesler, 1983; Safran, 1990b; Safran & Segal, 1990).

4.4. Strengths and limitations of the study

It is acknowledged that the current study was small-scale in nature and consequently there is a need for replication with larger samples in a variety of contexts. Despite this there are a number of strengths of the current study.

Firstly, the study aimed to build on previous research (Hill & Safran, 1994; Soygüt & Savaşır, 2001; Soygüt and Türkçapar, 2001) exploring the use of the ISQ within clinical populations and recent studies exploring interpersonal schemas within eating disorders (Erol *et al.*, 2000; Keskingöz & Soygüt, 2002). Current results supported and contributed to these findings, as

well as the understanding of interpersonal schemas and eating disorders through a cognitive-interpersonal perspective.

Additionally, in spite of the current popularity of interpersonal psychotherapy (IPT) with eating disorders, there is relatively little research evidence about interpersonal issues, especially interpersonal cognition with eating disorders. Therefore, the current study highlights the potential for more research in this area and the exploration of what impact or change specific therapies (e.g. IPT) have on interpersonal cognition.

The Interpersonal Schema Questionnaire (ISQ) provided a fruitful method for exploring the expectations held by individuals with eating disorders about others within relationships, rather than interpersonal behaviour of the individual per se. Additionally, it was a useful research tool with flexible scoring systems adaptive to the type of research question. As suggested by Hill & Safran (1994), the ISQ could provide an individual outcome measurement within therapy, allowing exploration of possible change in interpersonal schemas. Furthermore, given the time constraints of the study, the ISQ enabled quick access to self-reported interpersonal themes, which Hill & Safran (1994) highlighted, for research purposes is more 'user-friendly' than clinician-rated based procedures.

Furthermore, results encourage the potential revitalisation of interpersonal theory as a means of understanding relationships and psychological well-being, more specifically it provides an alternative avenue for work with eating disorders. The key element from the current study is the importance of combining cognitive and interpersonal theories, to understand and provide a potentially effective way of working with individuals with eating disorders.

Safran (1984, 1990b) indicated that the cognitive-interpersonal framework provides a unified and structured way to combine both theories and consequently, a method of assessment and treatment for eating disorders. A complete review of how to assess the framework can be obtained in Safran (1984). Although Safran's research is nearly 20 years old, the current study has revitalised his cognitive-interpersonal framework and ideas, as worthy approaches to facilitate the understanding and treatment of eating disorders.

In addition to the strengths of the current study, a number of shortcomings and confounding variables are also acknowledged. Comorbid issues with the eating-disordered group (e.g. depression, personality disorders) were controlled for, however they cannot be ruled out and it is known that depression especially, is common among individuals experiencing eating disorders (Roth & Fonagy, 1996). It would have been beneficial to compare all groups on the HADS, as opposed to using separate (assessment) information to control for comorbidity among the clinical group. Therefore, comparison of other psychiatric groups (e.g. depressives) with eating disordered groups seems worthwhile to help to identify what patterns of interpersonal schemas are specific to eating disorders and not just psychopathology in general.

The findings of 'hostile' schemas by the current study appeared to confirm the presentation of a hostile style of relating as described by Madison (1997). The current study was however, unable to confirm an additional 'positive' style of relating suggested by Madison (1997), through what would be expected 'positive' interpersonal schemas. Time and sampling constraints meant that all diagnoses were combined into one group. Sample numbers were small and the study would have benefited from separating individuals by diagnosis. For example, separating the clinical group into three groups: anorexia nervosa; bulimia nervosa; and EDNOS. The research literature suggests that individuals within these groups differ in a

number of psychological issues (Butow *et al.*, 1993; Leung *et al.*, 1999; Roth & Fonagy, 1996) and ultimately could differ in their interpersonal schemas. Therefore, placing them together as one group limits the potential of gaining information about specific interpersonal schemas. It may be that one group held similar (positive) schemas to those reported by Madison (1997).

Clinical participants were recruited from a therapy waiting list to reduce possible confounding variables related to therapy. It was anticipated that individuals engaging in therapy would have begun to experience changes in their relationships, especially those receiving interpersonal psychotherapy (IPT). It is true however, that other issues may have affected interpersonal schemas whilst participants were on the waiting list. For example, specific events in a person's life or the assessment process. However no observable evidence warranted this concept and research literature advocates that interpersonal patterns/schemas of relating are difficult to change and remain somewhat stable (Horowitz, 1991).

The current study did not control for the length of time an individual experienced an eating disorder and on reflection, it is hypothesised that the duration of an eating disorder may have affected one's interpersonal schemas, possibly in terms of rigidity. It is not known however, whether interpersonal schemas develop out of eating pathology or vice versa, ultimately a longitudinal piece of research would be needed to explore this.

A further shortcoming relates to the questionnaire pack distributed to participants. It is interesting to consider those individuals who did not return their questionnaires and what additional information they might have contributed. The length of the questionnaire might have influenced their non-responding and consequently the response rate. Viljoen & Wolpert

(2002) highlighted in their review of the literature that questionnaires over four pages were considered lengthy and therefore, can lower return rates.

Although effort was made to enhance the return rate of questionnaires (e.g. using a stamped address envelope, anonymity, etc.), it may have also proved beneficial to provide participants with prior notification of the research through a letter from their clinician or academic tutors. A recent review of the literature by Viljoen & Wolpert (2002) indicated that prior notification of research could increase response rates. The authors did not however, quantify how much notification would be optimal.

Finally, developmental issues need to be taken into account. The question arises about what factors are operating with the age group of the current study (18-40years), and how they might influence interpersonal schemas. It might be worth comparing students and young adults with older adults, children and adolescents, as there might be differences in one's interpersonal style as one develops or gets older and experiences life events.

The developmental stage of the current study (late adolescence/young adulthood) might have affected how non-clinical groups responded to questions on the Eating Dissatisfaction Scale (EDS-5). It was possible that undetected levels of eating disorder were present in dieters and non-dieters. The current study attempted to control for this through the administration of the EDS-5, and create a 'subclinical' group of eating disorders. Results however, generated reservations about the usefulness of the questionnaire as a valid measure with university students, and consequently the formation of a further 'subclinical' group was not feasible. The majority of participants, especially dieters, reported high scores ($M = 22.50$, $SD = 4.0$) well above the 'cut-off' score of 16, which was suggested to be indicative of disturbed eating pathology (Rosenvinge *et al.*, 2001).

High scores on the EDS-5 seem likely, given the age of the sample (young adulthood) and context (university). It appears ‘normal’ in today’s society to score highly on questions such as, ‘Have you felt that you are too fat?’ or ‘Are you satisfied with your eating habits?’ Students may have answered such questions in relation to eating habits around ‘fast food’ as opposed to a balanced meal. It seems inevitable that eating patterns will fluctuate at university, especially in women; people are dissatisfied with their eating habits (with reliance on convenience foods) and can experience peer pressure to be thin. Additionally, a question on the EDS-5 about rituals to control eating was probably on reflection, vague and not sensitive to behaviours such as purging or extreme exercise. Furthermore, this question may have been mis-interpreted by non-white participants of the study, for example the word ‘ritual’ could mean activities in relation to fasting for some religions. This question however, was not addressed in the current study.

Furthermore, the current study did not review the reliability of the EDS-5 with the sample specific (university students in England) to the current study and therefore, it may be that this particular scale was not reliable (internally consistent) with the current sample. The original development of the scale was conducted on teaching and nursing students in Norway (Rosenvinge *et al.*, 2001). Alternatives to the EDS-5 (although longer) would be the Eating Disorders Examination–Questionnaire (EDE-Q) (Fairburn & Beglin, 1994) or the Eating Attitudes Test (EAT-26) (Garner, Olmsted *et al.*, 1982).

4.5. Recommendations for future research

In addition to comparing other psychiatric and non-psychiatric groups with eating disorders, future research could explore the non-clinical spectrum of eating distress by comparing interpersonal schemas among different levels of restrained eating/eating distress. More importantly, it would be beneficial to access those individuals representative of ‘subclinical’

eating disorders in the community. The clinical sample used in the study represented those individuals accessing services, however as the literature suggests there is a large number of individuals experiencing eating distress and clinical levels of eating disorder in the community (Palmer, 2000; Shisslak *et al.*, 1995). It would be worthwhile exploring community samples that don't access services as this might yield information in relation to prevention work, which might be different from therapy.

Future studies could expand the potential of the ISQ and explore those subscales pertinent to significant others (mother, father and friend). These were not incorporated in the current study due to the remit of the hypotheses being addressed, although observations from scoring the questionnaire did appear to suggest that differences were evident between parents and friends. For example, in the type of response that was found to be desirable.

There is a substantial amount of research highlighting the association of disturbed and distressed relationships with eating disorders, and it would be interesting to explore (longitudinally) the role of interpersonal schemas in such and how schemas might underpin distressed and disturbed relationships.

Longitudinal studies could also provide evidence for the development of interpersonal schemas and eating disorders. The question arises whether eating disorders are the result of maladaptive cognitive-interpersonal cycles or vice versa. It is proposed that such cycles develop out of one's early experiences with attachment figures (Safran, 1990a, 1990b; Hill & Safran, 1994) and previous research has demonstrated an association between working models of attachment and interpersonal schemas (Keskingöz, 2002; Keskingöz & Soygüt, 2002). The research literature could benefit from future exploration of this association.

4.6. Conclusion

The current study aimed to establish whether individuals with eating disorders engaged in unhelpful cognitive-interpersonal cycles that might have a role in the maintenance of their eating distress.

Individuals with eating disorders held 'hostile' interpersonal schemas that might reinforce unhelpful cognitive-interpersonal cycles, which in turn, could perpetuate disturbed relationships and possibly disturbed eating. It appears that individuals with eating disorders repeatedly expected hostility within relationships and this might underpin their eating disorders. Although hostile interpersonal schemas do not appear to be specific to eating disorders per se, it still seems a relevant avenue for assessment and treatment.

The perpetuation of unhelpful cognitive-interpersonal cycles has a number of therapeutic implications and it is suggested that a focus on individuals' cognitive-interpersonal cycles could provide an effective combination of cognitive and interpersonal approaches to the treatment of eating disorders. Current results propose that by integrating interpersonal and cognitive theories by way of the cognitive-interpersonal framework (Safran, 1990a, 1990b), a more comprehensive assessment and treatment of eating disorders could be achieved.

Appendix A

DSM-IV criteria for eating disorders (APA, 1994).

Appendix A DSM-IV criteria for anorexia nervosa, bulimia nervosa and EDNOS
(APA, 1994).

Anorexia nervosa

- A. Refusal to maintain body weight at or above a minimally normal weight for age and height.
- B. Intense fear of gaining weight or becoming fat, even though underweight.
- C. Disturbance in the way one's body weight or shape is experienced, undue influence of body weight on self-evaluation, or denial of the seriousness of the current low body weight.
- D. In postmenarcheal females, amenorrhoea, i.e., the absence of at least three consecutive menstrual cycles.

Bulimia nervosa

- A. Recurrent episodes of binge eating. An episode of binge eating is characterised by both of the following:
 - (1) eating in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances.
 - (2) A sense of lack of control over eating during the episode (e.g. a feeling that one cannot stop eating or control what or how much one is eating)
- B. Recurrent inappropriate compensatory behaviour in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise.
- C. The binge eating and inappropriate compensatory behaviours both occur, on average, at least twice a week for three months.

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- D. Self-evaluation is unduly influenced by body shape and weight.
- E. The disturbance does not occur exclusively during episodes of anorexia nervosa.

EDNOS

This diagnosis is applied to those individuals who have eating disorders but do not meet the criteria for anorexia or bulimia nervosa.

DSM-IV gives examples of such.

- A. For females, all of the criteria for anorexia nervosa are met except that the individual has regular menses.
- B. All the criteria for anorexia nervosa are met except that, despite significant weight loss, the individual's current weight is in the normal range.
- C. All of the criteria for bulimia nervosa are met except that the binge eating or inappropriate compensatory mechanisms occur at a frequency of less than twice a week or for duration of less than 3 months.
- D. The regular use of inappropriate compensatory behaviour by an individual of normal body weight after eating small amounts of food (e.g. self-induced vomiting after the consumption of two cookies).
- E. Repeatedly chewing and spitting out, but not swallowing, large amounts of food.

Appendix B

Interpersonal Schema Questionnaire (ISQ; Hill & Safran, 1994).

Appendix B Interpersonal Schema Questionnaire (ISQ; Hill & Safran, 1994).

Please read these instructions carefully.

This questionnaire is designed to assess the types of responses people receive when they act in certain ways. Try to imagine yourself in each of the following situations and imagine how the person you are with would respond. A list of responses is attached.

For each situation please circle the letter of the response that SEEMS CLOSEST to how the person you imagine you are with would respond. Each response contains more than one description and the person does not have to fit with all of them. For example if you felt that the person would be 'disappointed' but not 'resentful' or 'critical', you would still circle option B from the response sheet.

On the scale below the circled response, please indicate how desirable you feel that response is for you. For example if the other person's response would make you feel happy, circle a number toward the desirable end of the scale. If the response would make you feel unhappy, uncomfortable or if it is something you would prefer to avoid, circle a number toward the undesirable end of the scale. If you feel either way or neutral about the response, circle number 4.

The questions call for you to imagine yourself in various situations with your mother, father and a friend. If you do not know or remember your mother and/or father, please think of someone who is a mother and/or father figure for you (e.g. an aunt, uncle, grandparent, step-parent, guardian etc).

For the friend please think of the person you are closest to (e.g. husband, wife, partner, friend etc) – whoever you have your closest relationship with.

Please indicate below the relationship and gender of your 'friend' –

Relationship with 'friend': _____

Gender of 'friend': _____

Please detach response sheet from the back of the questionnaire to allow completion of your responses.

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5. Imagine yourself in a game (e.g. tennis, scrabble, etc.) with You act very competitive and work hard to win the game.

How do you think she would respond to this? A B C D E F G H

I would find this response:

	1	2	3	4	5	6	7
	Undesirable					desirable	

6. Imagine yourself being preoccupied with your own thoughts and detached from

How do you think she would respond to this? A B C D E F G H

I would find this response:

	1	2	3	4	5	6	7
	Undesirable					desirable	

7. Imagine yourself in an unmotivated and lazy mood, where you feel like just going along with whatever is doing.

How do you think she would respond to this? A B C D E F G H

I would find this response:

	1	2	3	4	5	6	7
	Undesirable					desirable	

8. Imagine yourself expressing genuine interest and concern for

How do you think she would respond to this? A B C D E F G H

I would find this response:

	1	2	3	4	5	6	7
	Undesirable					desirable	

9. Imagine a situation where you feel has disappointed you.

How do you think she would respond to this? A B C D E F G H

I would find this response:

1	2	3	4	5	6	7
Undesirable						desirable

10. Imagine yourself in a serious mood, where you are reserved and not sociable with
.....

How do you think she would respond to this? A B C D E F G H

I would find this response:

1	2	3	4	5	6	7
Undesirable						desirable

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11. Imagine yourself confiding in, something that is very important to you.
- How do you think she would respond to this? A B C D E F G H
- I would find this response: 1 2 3 4 5 6 7
 Undesirable desirable
12. Imagine feeling uninhibited and spontaneous with
- How do you think she would respond to this? A B C D E F G H
- I would find this response: 1 2 3 4 5 6 7
 Undesirable desirable
13. Imagine that you have had a terrible day and are feeling peeved off with the whole world. You are definitely not feeling affectionate or pleasant toward anyone.
- How do you think she would respond to this? A B C D E F G H
- I would find this response: 1 2 3 4 5 6 7
 Undesirable desirable
14. Imagine not feeling very confident or sure of yourself, and feeling dependent on
- How do you think she would respond to this? A B C D E F G H
- I would find this response: 1 2 3 4 5 6 7
 Undesirable desirable
15. Imagine yourself feeling warm and affectionate toward
- How do you think she would respond to this? A B C D E F G H
- I would find this response: 1 2 3 4 5 6 7
 Undesirable desirable
16. Imagine yourself acting independently and confidently about something you have never done before, and not feeling that you need assistance from
- How do you think she would respond to this? A B C D E F G H
- I would find this response: 1 2 3 4 5 6 7
 Undesirable desirable

Repeat all 16 questions for participant's father (or equivalent) and close friend/romantic partner.

Appendix C

The Dieting Status Measure (DiSM; Strong & Huon, 1997).

Appendix C The Dieting Status Measure (DiSM; Strong & Huon, 1997).

Following is a list of possible descriptions about the practice of dieting in order to lose weight. Consider *dieting* to mean *any change in your eating habits performed with the specific intention of losing weight*. Your task is to indicate which statement *best* describes you over the last 6 months by placing an X next to the most appropriate statement. Place an X to *one* statement only.

1. I have NEVER dieted in order to lose weight ()
2. I am probably best described as a TRIER, because
I have given it a go but never really got very far ()
3. I would regard myself as an EX-DIETER. I used to
regularly go on a diet to lose weight, but no longer
do so ()
4. I SOMETIMES diet in order to lose weight, but not
on a regular basis ()
5. I OFTEN diet in order to lose weight ()
6. I am ALWAYS dieting in order to lose weight ()

Appendix D

***Hospital Anxiety and Depression Scale
(HADS; Zigmond & Snaith, 1983).***

Appendix D Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983).

The following questions relate to how you feel.

Read each item below and underline the reply that comes closest to how you have been feeling over the past week. Do not take too long over your replies; your immediate reaction to each item will probably be more accurate than a long thought out answer.

I feel tense or 'wound up'

Most of the time
A lot of the time
From time to time, occasionally
Not at all

I feel as if I am slowed down

Nearly all the time
Very often -
Sometimes
Not at all -

I still enjoy the things I used to get a sort of

Definitely as much
Not quite so much
Only a little
Hardly at all

I get a sort of frightened feeling like 'butterflies' in the stomach

Not at all
Occasionally
Quite often
Very often

I get a sort of frightened feeling as if something awful is about to happen

Very definitely and quite badly
Yes, but not too badly
A little, but it doesn't worry me
Not at all

I have lost interest in my appearance

Definitely
I don't take as much care, as I should
I may not take quite as much care
I take just as much care as ever

I can laugh and see the funny side of things

As much as I always could
Not quite as much now
Definitely not so much now
Not at all

I feel restless as if I have to be on the move

Very much indeed
Quite a lot
Not very much
Not at all

Worrying thoughts go through my mind

A great deal of the time
A lot of the time
Not too often
Very little

I look forward with enjoyment to things

As much as I ever did
Rather less than I used to
Definitely less than I used to
Hardly at all

I feel cheerful

Never
Not often
Sometimes
Most of the time

I get sudden feelings of panic

Very often indeed
Quite often
Not very often
Not at all

I can sit at ease and feel relaxed

Definitely
Usually
Not often
Not at all

I can enjoy a good book or radio or television programme

Often
Sometimes
Not often
Very seldom

Appendix E

Eating Dissatisfaction Scale (EDS-5; Rosenvinge et al., 2001).

Appendix E Eating Dissatisfaction Scale (EDS-5; Rosenvinge et al., 2001).

Please answer the following questions based on your experience in the last 30 days.

1. Are you satisfied with your eating habits?

Very satisfied 1 2 3 4 5 6 7 Very unsatisfied

2. Have you eaten to comfort yourself because you were unhappy?

Never 1 2 3 4 5 6 7 Everyday

3. Have you felt guilty about eating?

Never 1 2 3 4 5 6 7 Everyday

4. Have you felt that it was necessary for you to use a strict diet or other eating rituals to control your eating?

Never 1 2 3 4 5 6 7 Everyday

5. Have you felt that you are too fat?

Never 1 2 3 4 5 6 7 Everyday

Appendix F

Letters of ethical approval.

3.304

Shelley McKeown

RE: Project Code: 304

Following receipt of your proposal, and subsequent revision I am happy to confirm the School of Nursing and Midwifery Human Research Ethics Sub-committee has empowered me to take chair's action to approve the project.

You may need to produce this letter of approval when approaching course leaders for permission to address students and inform them about the study.

On completion of the project please forward a copy of the final report of the project to the sub-committee. This final report will be held in the
as a resource for others.

May I on behalf of the committee wish you good luck with this project.

Yours sincerely

Chair, School of Nursing and Midwifery Human Research Ethics Sub-committee

Enc

14 February 2003

Ms S McKeown

Dear Ms McKeown

'Investigating the beliefs of individuals with eating disorders about how they interact and expect others to interact in interpersonal relationships' – our ref: 6717

The Chair of the Local Research Committee has considered the amendments submitted in response to the Committee's earlier review of your application. The documents considered were as follows:

As set out in your letter dated 10th January 2003.

The Chair, acting under delegated authority, is satisfied that these accord with the decision of the Committee and has agreed that there is no objection on ethical grounds to the proposed study. I am, therefore, happy to give you the favourable opinion of the committee on the understanding that you will follow the conditions set out below:

Conditions

- You do not recruit any research subjects within a research site unless favourable opinion has been obtained from the relevant REC.
- You do not undertake this research in an NHS organisation until the relevant NHS management approval has been gained as set out in *the Framework for Research Governance in Health and Social Care*.
- You do not deviate from, or make changes to, the protocol without prior written approval of the REC, except where this is necessary to eliminate immediate hazards to research participants or when the change involves only logistical or administrative aspects of the research. In such cases the REC should be informed within seven days of the implementation of the change.
- You complete and return the standard progress report to the REC one year from the date on this letter and thereafter on an annual basis. This form

should also be used to notify the REC when your research is completed and in this case should be sent to this REC within three months of completion.

- If you decided to terminate this research prematurely you send a report to this REC within 15 days, indicating the reason for the early termination.
- You advise the REC of any unusual or unexpected results that raise questions about the safety of the research.
- The project must be started within three years of the date on which REC approval is given.
- You should be able to assure the Ethics Committee that satisfactory arrangements have been made for the labelling, safe storage and dispensation of drugs and pharmaceutical staff are always willing to provide advice on this.

Your application has been given a unique reference number. Please use it on all correspondence with the REC.

Yours sincerely

**Chairman
Leicestershire Research Ethics Committee**

Appendix G

Research packs for clinical and non-clinical participants.

APPENDICES

Appendix G Research packs for clinical and non-clinical participants.

(A) Letter of invitation for non-clinical participants

NHS Trust Headed Paper

Date

Dear Participant

Re: Research Study 'Investigating the beliefs of individuals with eating disorders about how they interact and expect others to interact in Interpersonal relationships'

My name is Shelley McKeown and I am a Trainee Clinical Psychologist at (*name of university*). I am currently working at a local eating disorders service and part of my training involves carrying out a research study. The study will be conducted at the eating disorder service, (*names of universities*).

The study has been designed to explore the beliefs of individuals with and without eating disorders about how they interact and expect others to interact in interpersonal relationships. **Your participation will provide information about individuals without eating disorders.**

If you decide to take part you will be asked to complete a booklet questionnaire, which will ask questions about dieting, as well as how you feel and how you expect others to behave in certain situations.

As you are currently attending (*names of universities*), your responses would be very valuable. It is hoped that the results of this study will help to inform therapeutic services for individuals experiencing eating distress and/or disorders within the NHS.

If you would like to take part in this study, (details of which are given on the information leaflet enclosed), please complete the questionnaire enclosed with this letter and return it in the envelope provided. The questionnaire should take no more than 15-20 minutes.

I would like to thank you for taking time to read this letter and hope to hear from you soon. If you have any queries, please feel free to contact me, on the telephone number below or at the Centre for Applied Psychology – Clinical section within the (*department building*) building at (*name of university*).

Yours sincerely

Shelley McKeown
Trainee Clinical Psychologist
Eating Disorders service – (*name of unit*)
Telephone No:

(B) Information leaflet for non-clinical participants

NHS Trust Headed paper

INFORMATION LEAFLET FOR NON CLINICAL PARTICIPANTS

Investigating the beliefs of individuals with eating disorders about how they interact and expect others to interact in interpersonal relationships

Principal Investigator: Shelley McKeown

You may contact Shelley at: *Base for conducting study*

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take your time to read the following information carefully and discuss it with people if you wish to do so. If there is anything that is not clear or you would like more information on, please do not hesitate to contact me. Take time to decide whether or not you wish to take part. Thank you for taking the time to read this.

1. What is the purpose of the study?

At present there is little research into how people who might/might not experience eating distress interact and expect others to interact in relationships. Additionally there is little research about how such interactions might contribute to eating difficulties.

I am studying for a Doctorate in Clinical Psychology at the (*name of university*) and would like to study such interactions by getting information about the thoughts that you might have about relationships. It is hoped that this study will be completed in June 2003 and the findings will be used to inform therapeutic services for individuals experiencing eating distress and/or disorders.

2. What will be involved if I take part in the study?

It is up to you to decide whether or not you would like to take part. If you would like to take part please complete the questionnaire enclosed with this form. It should take no longer than 15-20 minutes to complete and can be returned in the pre-paid/pre-addressed envelope provided. The questionnaire will have questions related to dieting, your thoughts about how you expect others to behave in certain situations, and how you are feeling about yourself at the current time. If you do not wish to participate in this study or if you wish to withdraw from the study you may do so without justifying your decision. This will not affect your future study in any way.

4. Are there any disadvantages to taking part?

No. There are unlikely to be any disadvantages or risks of taking part in the study. Some of the questions ask about personal thoughts and behaviours and therefore some people may find this distressing. If you find that you feel upset when taking part, remember that you do not have to complete the questionnaires if you do not wish to.

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Additionally feel free to contact me and/or your GP if you would like to discuss any concerns that you might have about your own dieting behaviours.

5. What are the potential benefits of taking part?

Your participation in this study will provide information about those who do not experience an eating disorder. Therefore it is hoped that the study will produce information to expand our knowledge of non eating-disordered populations and how we then might help treat individuals more effectively that are experiencing some form of eating distress.

6. Will information obtained in the study be confidential?

All information obtained from the questionnaire will be strictly confidential and anonymous. No medical records are needed for the study and no outside agencies are to use the information gathered.

On completion of this study it is anticipated that the findings and any implications for treatment will be published in relevant journals. However NO participant will be identifiable in any report or publication relating to the study and you will be informed where you can obtain a copy of the published results.

7. What if I am harmed by the study?

As suggested earlier it is unlikely that there will be any disadvantages to taking part in the study and thus unlikely that you should come to any harm. However research is covered for mishaps in the same way, as for patients undergoing treatment in the NHS i.e. compensation is only available if negligence occurs. (*name of trust*) NHS Trust provide indemnity cover for this study.

Thank you for your time and co-operation.

(C) Letter of invitation for clinical participants

NHS Trust headed Paper

Date

Dear

Re: Research Study ‘Investigating the beliefs of individuals with eating disorders about how they interact and expect others to interact in interpersonal relationships’

My name is Shelley McKeown and I am a Trainee Clinical Psychologist, currently working with the eating disorders service at the *(name of unit)*. During my final year of training and time with the service, I will be carrying out a research study.

The study has been designed to explore the beliefs of individuals who experience eating disorders about how they interact and expect others to interact in interpersonal relationships.

If you decide to take part you will be asked to complete a questionnaire, which will ask questions on how you feel and how you expect others to behave in certain situations.

As you are currently attending the eating disorders clinic as an outpatient, your responses would be very valuable. It is hoped that the results of this study will help to inform therapeutic services for individuals experiencing eating disorders.

If you would like to take part in this study, (details of which are given on the information leaflet enclosed), please complete the questionnaire enclosed with this letter and return it in the pre-paid envelope provided. The questionnaire should take no more than 10-15 minutes to complete.

I would like to thank you for taking time to read this letter and hope to hear from you soon. If you have any queries, please feel free to contact me, (or your key worker/therapist) on the telephone number below.

Yours sincerely

Shelley McKeown
Trainee Clinical Psychologist
Eating Disorders service – *(name of unit)*

Telephone No: *(number)*

(D) Information leaflet for clinical participants

NHS Trust Headed Paper

INFORMATION LEAFLET FOR PARTICIPANTS

Investigating the beliefs of individuals with eating disorders about how they interact and expect others to interact in interpersonal relationships

Principal Investigator: Shelley McKeown

You may contact Shelley at: *(Base for conducting research)*

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take your time to read the following information carefully and discuss it with people if you wish to do so (e.g. key worker/therapist). If there is anything that is not clear or you would like more information on, please do not hesitate to contact me. Take time to decide whether or not you wish to take part. Thank you for taking the time to read this.

1. What is the purpose of the study?

At present there is little research into how people experiencing eating disorders interact and expect others to interact in relationships. Additionally there is little research about how such interactions might contribute to their eating difficulties.

I am studying for a Doctorate in Clinical Psychology at the *(name of university)* and would like to study such interactions by getting information about the thoughts that you might have about relationships. It is hoped that this study will be completed in June 2003 and the findings will be used to inform therapeutic services for individuals experiencing eating disorders.

2. What will be involved if I take part in the study?

It is up to you to decide whether or not you would like to take part. If you agree to take part then you will be required to complete the questionnaire enclosed with this information pack and return it in the pre-paid envelope provided. The questionnaire focuses on your thoughts about how you expect others to behave in certain situations. It should take no longer than 10-15 minutes to complete and you are free to answer the questions in your own time.

However if you do not wish to participate in this study or if you decide to take part and then wish to change your mind, it is ok to do so. You do not have to justify your decision and your future treatment will not be affected.

3. Are there any disadvantages to taking part?

No. There are unlikely to be any disadvantages or risks of taking part in the study. Some of the questions ask about personal thoughts and behaviours and therefore some people may find this distressing. If you find that you feel upset when taking part, remember that you do not have to complete the questionnaires if you do not wish to. Additionally feel free to contact me and/or your therapist if you would like to discuss any concerns that you might have.

4. What are the potential benefits of taking part?

It is hoped that your participation in this study will produce information to expand our knowledge of eating disorders and how we might help treat individuals more effectively that are experiencing some form of eating distress.

5. Will information obtained in the study be confidential?

All information obtained from the questionnaire will be strictly confidential and anonymous.

No medical records are needed for the study and no outside agencies are to use the information gathered. However it is a normal procedure that your GP will need to know of your involvement *only* with the study.

On completion of this study it is anticipated that the findings and any implications for treatment will be published in relevant journals. However, NO participant will be identifiable in any report or publication relating to the study and you will be informed where you can obtain a copy of the published results.

6. What if I am harmed by the study?

As suggested earlier it is unlikely that there will be any disadvantages to taking part in the study and thus unlikely that you should come to any harm. However research is covered for mishaps in the same way, as for patients undergoing treatment in the NHS i.e. compensation is only available if negligence occurs. (*Name of trust*) NHS Trust provides indemnity cover for this study.

Thank you for your time and co-operation.

Appendix H

Reminder letter for completion of questionnaires.

Appendix H Reminder letter for completion of questionnaires.

NHS Trust Headed Paper

Date

Dear Participant

Re: Research study - ‘Investigating the beliefs of individuals with eating disorders about how they interact and expect others to interact in interpersonal relationships’

My name is Shelley McKeown and I am currently working at the eating disorders service within the (*name of unit*). As you may recall I wrote to you about three weeks ago inviting you to take part in the above research study.

I am writing to you to remind you of this study and wondered if you would still like to complete the questionnaire that you received.

If you had any difficulties or queries about the questionnaire, please do not hesitate to contact me on the telephone number below.

However if you do not wish to complete the questionnaire or have completed and returned it already then please ignore this letter. Thank you for your participation.

I hope this has not inconvenienced you too much.

Yours sincerely

Shelley McKeown
Trainee Clinical Psychologist
Eating Disorders service – (*name of unit*)
Telephone No:

6. References

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