Motivation for Change and Psycho-education in the Treatment of Eating Disorders

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The University of Leicester
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Doctorate in Clinical Psychology

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Statement of Originality

I confirm that this is an original piece of work.

The literature review and research report contained within this thesis have not been submitted for any other degree, or to any other institution.
Motivation for Change and Psycho-education in the Treatment of Eating Disorders

Abstract

Literature Review
Within eating disorders, a lack of engagement and dropout from treatment continues to be a problem. In view of this, the transtheoretical stage of change model is examined for its potential usefulness in understanding motivation for change in eating disorders. In addition, treatments designed to enhance motivation to change are discussed.

Research Report
Objectives:
The aim of Study One was to establish the construct validity of the University of Rhode Island Change Assessment Scale (URICA) for use with an eating disorders population. Once done, then to use the scale to assess changes in motivation due to a brief psycho-education (PE) intervention (Study Two).

Method:
Study One: Clinical data from 160 participants was analysed; 24 diagnosed with anorexia nervosa (AN), 44 diagnosed with bulimia nervosa (BN), and 88 diagnosed with eating disorder not otherwise specified (EDNOS). Participants completed the URICA; the Eating Disorder Examination Questionnaire (EDE-Q); and the Stirling Eating Disorder Scales (SEDS).

Study Two: Forty-five participants diagnosed with either AN, BN, or EDNOS were recruited. Thirty-two participants completed the URICA; EDE-Q; and SEDS at three time points: time1 (referral), time 2 (start of a 4-week group based Psycho-education (PE) intervention) and time 3 (end of PE intervention).

Results:
Study One: Similar to previous findings (McConnaughy et al., 1983, 1989), the URICA was found to be internally consistent (all coefficients exceeding 0.7) and principal component analysis revealed four stages of change (Precontemplation, Contemplation, Action and Maintenance) represented by high loadings on four distinct components. Adjacent stages of change were more highly correlated than non-adjacent stages.

Study Two: Contrary to expectation, the PE intervention did not significantly enhance motivation for change. The PE intervention had no significant impact upon specific and non-specific eating disorder symptomatology.

Conclusion: The URICA was found to be construct valid with individuals with a range of eating disorders. Further studies are required in order to justify the inclusion of brief PE as part of standard treatment for eating disorders.

Critical Appraisal
The appraisal details a personal account of the concept of the research, management, and some data analysis issues. In addition, a reflection of the learning outcomes achieved.
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Finally, a huge thank-you goes to my family for their continued support, advice and faith in me, which served to control my level of stress and anxiety throughout!
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Motivational Approaches and the Treatment of Eating Disorders

Matilda Moffett

Article to be submitted to the British Journal of Clinical Psychology (see Appendix A)
Motivational Approaches and the Treatment of Eating Disorders

Matilda Moffett

Abstract (Section One)

Introduction
Eating disorders are severe and complex disorders, often associated with a chronic course. Patients with eating disorders can be difficult to engage because of their ambivalence about treatment. This is associated with high rates of treatment attrition, failure and relapse.

Review Aims
The aim of this literature review is to explore and critically evaluate the most prominent motivational approaches that have been developed and used in the treatment of eating disorders. The clinical implications of existing research and specific challenges faced by health services in meeting the mental health needs of individuals with eating disorders are discussed.

Method
A systematic search strategy of articles was conducted using keywords relevant to eating disorders and motivation using the Web of Science, Medline, Psychinfo and Pubmed databases.

Understanding Motivation to Change
The review highlighted that there is a dearth of literature in this area. The theoretical concepts associated with the transtheoretical stages of change model (TTM) are examined and considered for their usefulness in understanding client therapeutic engagement and therapeutic failure in eating disorders. Limitations in the measurement and theoretical basis of the TTM are highlighted.

Enhancing Motivation to Change
The evidence-based literature on techniques developed to enhance motivation to change is explored and discussed in an attempt to establish what strategies are effective for mediating motivation to change in clients with eating disorders.

Conclusion
Research and practice in this area is in its infancy and further research is necessary. Motivational enhancement therapy, motivational interviewing and psych-educational approaches seem promising and further research is needed to clarify the value of specific techniques designed to enhance motivation for change for individuals with an eating disorder.
1. Introduction

Miller and Rollnick (1991) defined motivation as the ‘probability that a person will enter into, continue and adhere to a specific change strategy’ (p.19). Referring to this definition, motivation to change in clients with eating disorders can often be a challenge to clinicians. Clients with eating disorders often lack motivation to change and are frequently ambivalent about treatment (Vitousek et al., 1998).

These clinical characteristics are associated with high rates of treatment attrition, failure and relapse. For example, it is estimated that up to 90 % of patients with bulimia nervosa (BN) are not under adequate treatment (Fairburn et al., 1996), whilst approximately 20 % of patients with anorexia nervosa (AN) are known to remain chronically ill over the long term (Steinhausen, 1999). Dropping out from regular treatment among patients with BN has been reported between 15% and 65% (Mahon, 2000); whilst for individuals with AN this has been reported being as much as 50% over the first year of treatment (Vandereycken, & Pierloot, 1983).

In order to address the treatment difficulties associated with people with eating disorders, increased interest has been placed on understanding the motivational dynamics for this client population. Many researchers and clinicians agree with the contention that motivational deficits are pervasive among clients with eating disorders (Geller, 2002a; Touyz et al., 2003; Vitousek, 2002; Vitousek et al., 1998). This increased interest has followed a general trend in the last decade during which motivational issues were addressed in various clinical domains such as substance use disorders (Drieschner et al., 2005).
The aim of this literature review is to discuss and summarise the evidence based literature on the most prominent motivational approaches that have been developed and used to prevent eating disorder patients from dropping out of treatment and to increase their active engagement in treatment. It is recognized that research in this area is in its infancy and it is envisaged that by providing a review of the area, clinical practice will be better informed and clinically useful research stimulated. The review begins with a brief overview of eating disorders and associated issues such as diagnosis, prevalence and aetiology.

1.1. Overview of Eating Disorders

The Diagnostic and Statistical Manual of Mental Disorders (4th edn) (American Psychiatric Association, 1994) broadly places eating disorders into three categories: anorexia nervosa (AN), bulimia nervosa (BN), and eating disorder not otherwise specified (EDNOS). Other diagnostic categories have been proposed. These include multi-impulsive bulimia (individuals with an eating disorder and co-morbid Borderline Personality Disorder traits; Fichter, Quadflieg, & Rief, 1994) and machismo nervosa (a primarily male preoccupation with weight training and muscle gain, Whitehead, 1994). However, as these diagnostic categories are not been included in the DSM-IV (APA, 1994), the focus of this literature review will be placed on the three diagnostic categories of AN, BN and EDNOS.

1.1.1. Anorexia nervosa

Anorexia nervosa has been described in various ways, for example, as a ‘morbid fear of fatness’ (Russell, 1970), a ‘pursuit of thinness’ (Bruch, 1973), and as a ‘weight phobia’ (Crisp, 1980). The essence of this ‘core psychopathology’, as it has been termed by Fairburn & Cooper (2004), is that these patients judge their self-worth or value almost exclusively in terms of their shape and weight. As a result, they are preoccupied with thoughts about their shape and weight, avoid weight gain, and many strive to be thin.
(Fairburn & Cooper, 2004). Individuals are suggested to experience AN when they present with low body weight (weight 15 per cent below that identified for the individual’s age and height), have a morbid fear of becoming fat, severely restrict food intake and have body image disturbance. In addition, various behaviours designed to control body weight are also a feature of AN which include extreme dieting, self-induced vomiting, the misuse of laxatives or diuretics, and vigorous exercising. However, these features appear to be secondary to these patients’ overvalued ideas concerning their shape and weight (Fairburn & Cooper, 2004).

Anorexia nervosa is reportedly more common among females than males, and is typically, although not exclusively, associated with adolescence and young adulthood (Smolak & Mumen, 2001). The National Institute for Clinical Excellence (NICE, 2004) reported an estimated prevalence rate of anorexia nervosa between 0.5 per cent and 1 per cent for females. AN is much less common amongst males, accounting for just 10 per cent of individuals.

The course of anorexia nervosa is very variable. A summary of 68 treatment studies published before 1989 with a length of follow-up of one to 33 years, found that 43 per cent of people recover completely, 36 percent improve, and 20 per cent develop a chronic eating disorder (Steinhausen, 1995). The overall mortality in these long-term studies ranged from 0-21 per cent from the combination of physical complications and suicide. Medical complications arising from AN include changes in all major organs, most of which are caused by starvation (Heatherington, 2000). Anorexia nervosa has the highest mortality rate for any psychiatric condition from the effects of starvation (estimated to be 3 per cent), or suicide (accounting for 3 per cent of deaths) (Steinhausen, 2002). The mortality rate appears to be higher for individuals with lower weight during their illness.
Individuals with AN rarely seek treatment voluntarily, and often present under duress from concerned relatives or friends (Treasure & Schmidt, 2001; Vitousek et al., 1998). Hall (1982) indicates that the few true volunteers for treatment are typically seeking relief from food preoccupation, depression, or anxiety rather than low weight status. The subgroup of individuals with AN who binge eat may be more motivated for treatment than pure restrictors because of their distress over loss of control, and some evidence suggests that they are more likely to engage in and profit from treatment (van Strien et al., 1992). However, other studies have found no differences in denial and resistance between restricting and bulimic anorexics (Strober, 1981).

1.1.2. Bulimia nervosa

The disorder known as bulimia nervosa is relatively new, with the term emerging only over the last 30 years following the work of Russell (1979). The term ‘bulimia’ literally translates to ‘episodic overeating’, and shares many similarities with anorexia nervosa. According to the DSM IV criteria (American Psychiatric Association, 1994) the criteria for the two diagnoses are not mutually exclusive. However, the diagnosis of bulimia nervosa is restricted to individuals of average or above average weight (Fairburn & Cooper, 2004). Like AN, BN is associated with a morbid fear of weight gain and a disturbed body image and various behaviours designed to control body weight are a feature. However in bulimia nervosa patients’ are not necessarily underweight, since their attempts to diet are punctuated by episodes of overeating or binge eating (Fairburn & Cooper, 2004). Episodes of binge eating to the extent where loss of control over the amount of food eaten is identified are central to BN. In addition, compensatory behaviours for bingeing such as episodes of purging (self-induced vomiting/laxative abuse) and non-purging behaviours
(dietary restraint/excessive exercise) are common in BN.

In a study of 30 individuals with BN the most commonly mentioned advantages were those of avoiding emotions, controlling boredom and being able to eat and not get fat (Serpell & Treasure, 2001). This finding is consistent with research suggesting that people with BN frequently display temperamental traits such as impulsivity (Welch & Fairburn, 1996) and novelty seeking (Bulik, Sullivan, Weltzin, & Kaye, 1995).

As in AN, BN mainly affects females. Only ten percent to 15 percent of affected individuals are male. An estimated two to three per cent of adult women in the UK develop bulimia nervosa, compared with the one-half to one per cent that is estimated to suffer from anorexia (NICE, 2004). Mortality rates in BN are estimated at around 3 per cent, and in common with anorexia nervosa, medical complications of the illness are diverse and can be very serious (Hetherington, 2000). Studies indicate that about 50 per cent of those who begin an eating disorder with anorexia nervosa later become bulimic (Bird, 1999). Many people with bulimia nervosa are not receiving any form of help (Hsu, 1995). It is estimated that up to 90 % of patients with BN are not under adequate treatment (Fairburn et al., 1996). Of these the majority will suffer chronicity or a relapsing course (Fairburn & Cooper, 2004). Dropping out from regular treatment among patients with BN has been reported between 15% and 65% (Mahon, 2000). Studies suggest that approximately 50 per cent of people with bulimia nervosa are asymptomatic two years after assessment if they receive effective treatment (Hsu, 1995).

There is some evidence to suggest that individuals with BN fare better in therapy than those with AN. For example, Vitousek et al. (1998) suggest that individuals with BN are more likely to volunteer for treatment, are more likely to benefit from treatment, and
possess 'a strong desire to recover' in most cases (Hamburg et al., 1989). In addition, individuals with BN are less likely to have treatment imposed on them (Treasure & Ramsay, 1998).

1.1.3. A Spectrum of Eating Disorders

There is considerable symptom overlap between AN and BN diagnoses, particularly with regard to symptoms of obsessive concern about body weight, restrictive eating, and fear of fatness (Thaw et al., 2001). A substantial minority of BN sufferers have a past history of AN, with the reverse transition also occurring, although less commonly (Nielsen & Palmer, 2003), highlighting the relationship between the disorders.

1.1.4. Eating Disorder Not Otherwise Specified (EDNOS)

DSM-IV provides a single catch-all diagnosis for eating disorders that are neither AN or BN, namely eating disorder not otherwise specified (EDNOS). Individuals with EDNOS present with many of the features of anorexia nervosa or bulimia nervosa, but such features may be of less intensity and some or all criteria essential for a complete diagnosis are not present. These individuals have also been described as having 'atypical' diagnostic criteria or a 'subclinical eating disorder' (Shisslak et al., 1995). Where subclinical cases are reported in non-clinical populations, the majority of those diagnosed with EDNOS were suggested to experience partial syndrome anorexia and bulimia nervosa (Shisslak et al., 1995).

EDNOS is common (Nielsen & Palmer, 2003), and it has been suggested that the majority of individuals referred for treatment of an eating disorder, within a specialist eating disorder service have received a diagnosis of EDNOS (62 per cent) (K. Goss, personal communication, 12 October 2005). Despite the prevalence of EDNOS, the majority of the
research literature tends to select patients for inclusion in trials using the main diagnostic
categories of AN and BN, and is largely silent on the appropriate treatment of EDNOS
(Nielsen & Palmer, 2003). The prognosis for those disorders that resemble anorexia and
bulimia nervosa depends on the severity of the associated physical and psychological
features (NICE, 2004). It is unknown whether individuals diagnosed with EDNOS are
different in their ambivalence and resistance to treatment compared with those diagnosed
with AN or BN.

1.1.5. Co-morbidity

Among eating disorders, co-morbidity with other mental health difficulties is common
(Troop et al., 2001). Depression, anxiety, and substance misuse is typical with BN and
obsessional tendencies are typical with AN (Cooper & Fairburn, 1986). Depression does
not merely co-occur with eating disorders, it can interfere with treatment, and greater pre-
treatment levels of depression have been found to predict greater post-treatment eating
disorder psychopathology (Bossert et al., 1992). In addition, it is not uncommon for
individuals with an eating disorder to experience a co-morbid personality disorder (Roth &
Fonagy, 1996).

1.1.6. The Aetiology of Eating Disorders

There has been an increase in research exploring the aetiology and maintenance of eating
disorders over the past thirty years (Goss & Gilbert, 2002). However, there is much debate
as to the aetiology of eating disorders, in particular AN (e.g. Campbell, 1995; Russell,
1995). It is beyond the remit of this study to review features in depth; however, it is well
established that eating disorders are associated with psychological underpinnings that give
rise for the need to control food intake. Common factors associated with eating disorders
include; dieting behaviours, communication issues, parental modelling and unhelpful
dynamics/discourse around food (Steinberg & Phares, 2001; Ward et al., 2000); individual personality factors, coping style, perceived external control, low self-esteem, self-directed hostility (Ward et al., 2000; Troop et al., 1998); shame and pride (Goss & Gilbert, 2002); and cultural factors such as western society’s promotion of thinness (Haworth-Hoeppner, 2000).

1.1.7. Summary

Eating disorders can be severe, chronic, and recurrent mental disorders with important psychiatric co-morbidities (anxiety, depression and personality disorder) and physical complications. As such they can place enormous burdens on the health care system. For clients, the experience of an eating disorder can be complex and ambivalent. As a result, it is important for health care professionals to recognise the consequent demands and challenges this presents.
2. Aims of the Literature Review and Search Strategy

This aim of this review is to explore and critically evaluate the most prominent motivational approaches that have been developed to prevent eating disorder patients from dropping out of treatment and to increase their active engagement in treatment. The clinical implications of existing research and specific challenges faced by health services in meeting the mental health needs of individuals with eating disorders are discussed. Finally, the literature that has implemented a motivational approach is summarized, highlighting implications for further study.

The literature search incorporated three strategies. Firstly, a search of relevant English language journals from 1979 to 2006 was conducted using the Web of Science, Medline, PsychInfo and PubMed databases. Secondly, internet based electronic journals were utilised including Swetwise Information Services, Wiley Interscience, and Elsevier Direct. Thirdly, articles cited in the journals collected were followed up. Journal searches were conducted using the following keywords: eating disorders, motivation, transtheoretical stages of change model, motivational enhancement therapy, motivational interviewing, and psycho-education.

This was a highly selective review and by no means exhaustive. Articles were chosen that were appropriate to the context of the present study. Articles were included if they met the following criteria: clearly measured readiness and motivation for change, adherence to treatment, psychological and behavioural outcomes, and included only participants with a diagnosis of eating disorder (AN, BN or EDNOS). Additionally, articles must have been available in English. Reports of research with children, internet- based treatments, case reports, or dissertations were not included. In addition, research, which has reported only medical outcomes or personality functioning, was also excluded. Some articles on
traditional approaches to the treatment of eating disorders (cognitive-behavioural therapy, psychodynamic psychotherapy, interpersonal therapy) were included where they were relevant. However, it was beyond the remit of this review to discuss the variety of psychological, biological and sociocultural treatment models in the treatment of eating disorders.

3. Understanding Motivation to Change in Eating Disorders

Motivation or readiness to change has become the focus of theoretical and empirical investigation in the field of eating disorders. The current review of the literature suggested that motivation or readiness for change was a consistently reported factor in the maintenance of eating disorders and arguably should gain a more dominant role in the treatment of such.

Recent work has highlighted the importance of the egosyntonic nature of some eating disorder symptoms (Vitousek et al., 1998) and the resultant lack of motivation to change. The term egosyntonic refers to behaviours, values and feelings which are consistent with one's ideal self-image. For example, adaptive functions of an eating disorder contribute to a sense of self-control and moral purity (Vitousek & Ewald, 1993). Eating disorders may begin as an attempt to force physical appearance to cultural ideals for thinness in females, although Vitousek et al. (1998) highlight that all theorists agree that it acquires deeper connotations over time, and comes to serve a wide range of adaptive functions. These include protecting individuals from developmental pressures for independence, maturity and sexuality (Crisp, 1980). Mahon (2000) points out that a lack of motivation will likely lead to difficulties in establishing shared goals, which will impact on therapeutic alliance and increase the risk of drop-out.
Due to their resistance clients with eating disorders have been compared with people with substance abuse problems. Both client populations are commonly described as ambivalent towards change and reluctant to present for treatment (Feld et al., 2001). The Transtheoretical Model of Change (Prochaska & DiClemente, 1986) was developed in the addictions field in an attempt to understand how people change unwanted behaviours. It has since enjoyed considerable popularity as a means of understanding client reluctance to engage in therapeutic change and therapeutic failure, and promoting behaviour change. Recent years have witnessed the increasing extension of the TTM to the treatment of eating and weight disorders. The TTM however, also has a number of shortcomings, which are explored below.

3.1. The Transtheoretical Model of Change (TTM)

The TTM (Prochaska & DiClemente, 1986) describes five stages through which people pass while trying to change. Each stage represents a motivational level of change, and movement through the stages has been described in terms of a revolving door metaphor, as depicted in Figure 1.
According to Prochaska and DiClemente (1986), the first stage is precontemplation, where an individual is not thinking about making a change. The circle of change is entered by the contemplation stage in which the individual starts to think seriously about changing his or her behaviour, but not in the immediate future. In the model, the contemplation stage is followed by the action stage, in which an individual actively attempts the change. Successful individuals will enter the maintenance stage, where an individual continues the change behaviour but it requires active or conscious effort to be sustained, and may eventually reach termination of the problem (however, termination is not officially recognised as one of the stages of change). More likely, the individual will relapse, where an individual fails to continue with the change behaviour, and will typically cycle through the stages several times before achieving long-term maintenance (Prochaska & DiClemente, 1986).
More recently Prochaska et al. (1992) presented a spiral model, which they say more accurately illustrates how people move through the stages of change (Figure 2).

![Spiral Model of Stages of Change](image)

**Figure 2.** A spiral model of the stages of change. From Prochaska & DiClemente, (1992).

The model’s underlying assumption is that individuals enter and progress in a ‘spiral’ through the following five discrete stages of change during the course of therapy in an attempt to change their problem behaviour. Unlike the revolving door model, this model allows an individual to cycle back to precontemplation more than once before eventually achieving termination of the problem. The preparation stage has recently been added between contemplation and action, where people are described as being ‘ready for action’. Relapse is no longer regarded as a stage of change but rather as an event that marks the end of the action or maintenance stage (Prochaska et al., 1992).

Cross-sectional studies have attempted to confirm the sequence of the stages by examining whether the stages of change scales for adjoining stages are more highly correlated than
those for non-adjoining stages. Some studies show this pattern of correlations (McConnaughy et al., 1989), but other studies have shown that some adjoining and non-adjoining stages are approximately equally correlated (McConnaughy et al., 1989). No longitudinal studies have documented progression through all five stages of change (Little & Givin, 2002).

3.1.1. Processes of Change

The second core dimension of the model is the process of change. Initially through analysing a large number of different systems of therapy, Prochaska and DiClemente (1994) identified 10 processes that people engage in to modify problems and work towards a new way of living (Prochaska et al., 1988). The first five stages are associated with the early stages and are cognitive/affective in nature; consciousness raising, dramatic belief, environmental re-evaluation, social liberation, and self re-evaluation. The remaining five processes are behavioural in nature, and most likely to be used in the later stages of change; stimulus control, helping relationships, counter-conditioning, contingency management and self-liberation. These ten processes of change are said to be like ‘independent variables that people need to apply to move from stage to stage’ (p. 63) (Prochaska et al., 2002). Some researchers have criticized the list of processes of change, and argue that some of the processes seem more like procedures than theoretical processes (e.g. stimulus control) (Wilson & Schlam, 2004).

Each stage is said to be characterised by a particular balance between the advantages and disadvantages of change (Prochaska, 1994). According to DiClemente (1999), clinicians can help patients reach the higher level stages by increasing their internal (or intrinsic) motivation as opposed to their external (or extrinsic) motivation to change. A key assumption is that interventions need to be matched to an individual’s specific stage of
change to be effective, and that stage-matched treatments should be more effective than mismatched or traditional action-orientated psychological treatments. Thus, the techniques that the clinician uses should be modified according to the stage in which the client presents, as trying to enforce strategies that are inappropriate to the client’s stage can lead to resistance in the client, impatience in the therapist and can impede the therapeutic process (Prochaska et al., 2002).

However, researchers have highlighted that it is difficult to match specific interventions to particular stages, as heterogeneity within hypothesized stages will complicate any stage and treatment match (Wilson & Schlam, 2004). Weinstein et al. (1998) point out that the precontemplation stage includes a number of different individuals: those unaware of the problem, those unengaged by the problem, those undecided whether to change, and those who have decided not to act. Depending on their different intentions, these different individuals would potentially require different interventions.

3.2 Measurement of the Stages of Change

There have been a variety of methods used to measure the stages of change. One method has been to use a simple algorithm to assign individuals to one of the hypothesised stages of change based on their answers to a questionnaire.

Prochaska et al. (1994), in a study of 12 problem behaviours in different populations, found the measure performed consistently well. However, Jeffery et al. (1999) found that when applied to weight loss, using a simple algorithm was not helpful or predictive. Mhurchu et al. (1997) highlighted that although easy to administer, a single symptom approach lacks the complexity to address less easily defined behaviours such as dietary
change, which require continuation of the behaviour (eating) with simultaneous adaptation (restricting some foods and increasing others).

Geller and Drab (1999) developed the Readiness and Motivation Interview (RMI). This interview approach was designed specifically for individuals with eating disorders. The interviewer and patient create a readiness profile of as many as 12 different symptoms, including restraint over eating, self-induced vomiting, and laxative misuse. A component of the RMI involves the degree to which clients with an eating disorder are making the change for themselves (internal motivation) or for other people (external motivation), because only internal motivation is said to produce lasting positive effects (Vansteenkiste et al., 2005). For each symptom, the interviewer and client determine what percentage of the client is in precontemplation, contemplation, and action stage so that the three scores add up to 100%. The client is seen as an active decision maker, and every attempt to maximise responsibility for change in the hands of the patient is encouraged. RMI scores at the beginning of treatment have been predictive of drop-out, symptom change and relapse in clients with eating disorders (Geller, 2002b, Geller et al., 2001).

In a later study, Geller et al. (2004) used RMI scores to predict decision to enroll in treatment, dropout, symptom change following treatment, and maintenance of symptom change at six-month follow-up. The authors found that the extent to which participants did not want to make changes to their dietary restriction at baseline (restriction precontemplation) was the most consistent predictor of short-term clinical outcome. The authors suggest that assessing client readiness and motivation to change dietary restriction is most useful in predicting short and long-term clinical outcomes. However, Sullivan and Terris (2001) point out that this sophisticated measure may be impractical for use in
clinical situations as motivation to change is often rather fluid, and can wax and wane in-between sessions.

McConnaughy et al. (1983) developed The University of Rhode Island Change Assessment Scale (URICA), also known as the stages of change questionnaire. This 32 item self-report measure was originally developed to evaluate the stage of change regarding the modification of any disorder or behaviour (McConnaughy et al., 1983). A clinician using the scale is able to rapidly evaluate specific stage profiles characteristic of transitions between precontemplation, contemplation, action or maintenance stage of change, or to identify subtypes of individuals within a stage (Rossi et al., 1995).

Following adaptation for eating disorders, early results suggested it might be useful for assessing ambivalence about change (Blake et al., 1997; Ward et al., 1996). In two studies a greater proportion of clients with BN were in the action stage (83%) compared to clients with AN (49%) (Blake et al., 1997; Ward et al., 1996).

Treasure et al., (1999) used the URICA to assess the stages of change in a large sample of clients with BN. The results indicated that those classified as being in the action stage showed greater improvement in bingeing, but not purging when compared with those in the contemplation stage. The URICA was also predictive of better therapeutic alliance, although initial scores were not related to drop-out.

Hasler et al. (2004) used the URICA to apply the TTM to a sample of individuals with AN, BN and EDNOS. The authors reported that diagnostic subgroup had no significant impact upon motivational stages, and suggested that these findings may have been due to modified versions of the URICA used in earlier studies (Blake et al., 1997). The authors suggest that
more specific instructions (i.e. binge eating, vomiting and dieting) given to participants may have increased differences between diagnostic subgroups.

The URICA is general in format, with participants responding to each item with respect to a 'problem for treatment', not specific behaviours related to a problem per se (for example bingeing or vomiting). The measure has been widely used to assess whether individuals are motivated to give up single problem behaviours, such as smoking and drinking. However, treating eating disorders requires changing multiple behaviours, which further complicates the assessment of stages of change. As such, Sullivan and Terris (2001) suggest that it is difficult to be sure what symptom an individual has in mind when completing the scale. For example, a clinician looking at the questionnaire could assume that a respondent with BN was ready to give up their compensatory behaviours, when in fact they were answering questions about their desire to lose weight. The authors suggest that such misunderstandings are unlikely to help therapeutic alliance or promote good treatment outcome.

Further difficulties with the URICA have been highlighted. Levy et al. (1998) found when using the URICA for assessing the stage of change in relation to weight gain in individuals with AN, clients were placed simultaneously in precontemplation, action, and maintenance stages. Ward et al. (1996) found that although the questionnaire classified the majority of clients into the action stage, this was not supported by clinical presentation, with many individuals appearing to be highly ambivalent.

As highlighted above researchers have used a variety of methods for scoring or interpreting the URICA. Researchers have used the scale either to assign individuals to a discrete stage category based on their highest score (Blake et al., 1997), or have used the scale mean
scores as continuous variables (Hasler et al., 2004; Treasure et al., 1999). Having no agreed protocol for scoring or interpreting the measure is an obvious methodological limitation and makes any generalisability of the empirical findings difficult. Wilson & Schlam (2004) discuss that measures such as the URICA and RMI allow participants to be in more than one stage at once, and as such the fundamental requirements of a stage theory are no longer met (Little & Girvin, 2002). They highlight that confusion exists when the participant’s readiness to change is measured on a continuum but the concept of stages is retained.

Regardless of any methodological limitations, the URICA successfully predicted premature termination of counselling (Smith et al., 1995) and was found to internally consistent in large samples of patients referred for psychotherapy (McConaughy et al., 1983, 1989). For the URICA to be used in assessment to inform clinical practice in the area of eating disorders, an understanding of the psychometric properties of the scale is required. Despite researchers using the URICA to measure motivation with clients with eating disorders (e.g. Hasler et al., 2004; Treasure et al., 1999), only one study to date has reported the reliability of the URICA for use with this client population. Geller et al. (2001) reported that the scale had good levels of internal consistency with a large sample of individuals with AN.

It is acknowledged that a variety of other questionnaires have been developed to assess readiness and motivation for change. However, the majority of have been created specifically for patients with AN (e.g. The Goldberg Anorectic Attitude Scale; Goldberg et al., 1980; Pros and Cons of Anorexia Nervosa Scale (P-CAN); Serpell et al., 2004; Anorexia Nervosa Stages of Change Questionnaire (ANSOCQ); Serrano et al., 2004;
Decisional Balance Scale for Anorexia Nervosa; Cocknell et al., 2003). All have provided inconsistent behavioural definitions upon which participants must base their responses.

3.2. Clinical Application of the TTM

The different stages of readiness to change are hypothesized to predict treatment participation, drop-out, efficacy, and long-term maintenance of improvement (Prochaska et al., 2002; Prochaska & Velicer, 1997) and the clinical application of these stages, and support for the varied aspects of the process of change represented by these stages have been demonstrated in many behaviour changes from cessation of smoking (Prochaska & DiClemente, 1983, 1986) alcohol (Hernandez-Avilia et al., 1998), drug abuse (Belding et al., 1995) to dietary modification, gambling and exercise adoption (DiClemente & Prochaska, 1998). More recently, the TTM has been extended to the treatment of eating and weight disorders. A review of the literature revealed only very few studies have applied the model to the treatment of eating disorders. The evidence of the clinical utility of the TTM with has been mixed.

Franko (1997) treated 16 individuals with BN with group CBT and found that those in the action stage were more likely to decrease their binge frequency than were those in the contemplation stage. Treasure et al. (1999) assessed the stages of change in 125 individuals with BN, who were then randomly assigned to either cognitive behavioural therapy (CBT) or motivational enhancement therapy (MET). The results indicated that those classified as being in the action stage showed greater improvement in bingeing, but not purging when compared with those in the contemplation stage. The authors suggest that the results indicate that the TTM may have some validity in the treatment of BN. However, Wilson and Schlam (2004) highlight that according to the TTM, CBT should
have led to a better outcome for participants in the later, as opposed to the earlier, stages of change, but it did not.

Other researchers have failed to find support for the transtheoretical model with clients with eating disorders. In a large study of patients with BN, Wolk and Devlin (2001) assessed 10 patients' stage of change prior to treatment. Individuals were then randomly assigned to either CBT or interpersonal psychotherapy (IPT). Using a staging algorithm (DiClemente et al., 1991) that assigns individuals to the precontemplation, contemplation, or preparation stage based on their intentions to stop binge eating and purging, stage of change was not related to drop-out. Within-treatment analyses revealed that stage of change was related to outcome only in IPT, a finding not predicted by the TTM. According to the model, CBT should have led to a better outcome for participants in the later stages of change rather than the earlier stages, because CBT directly address eating disorder symptoms and attempts to enhance motivation to change. However, the stage of change was ascertained only at the pre-treatment evaluation visit. In addition, adapted from studies of stage of change in other populations, readiness to change was assessed using an algorithm that had not previously been administered to individuals with eating disorders. Therefore, its reliability for this group is unknown.

The stages of change model may have a lot to offer clinicians in helping to understand some of the motivational issues present for patients with eating disorders. However, it is clear that some fundamental questions remain regard the theoretical underpinnings of the model.

In an attempt to broaden the conceptualisation of motivation, Vansteenkiste, Soenens and Vanderecken (2005) proposed the Self-determination theory (SDT) that might be relevant
to the study of eating disorders. SDT focuses primarily on the quality of motivation, claiming that two different types of high quality motivation can be distinguished: internal motivation and internalised motivation. Secondly, the model outlines that internal (as opposed to external) motivation does not equal a high qualitative level of motivation. The authors suggest that some types of internal motivation are less likely to yield lasting benefits because the behavioural regulation is insufficiently linked to what people value most. In addition, the model also considers the quality of people’s motivation. The authors suggest that these conceptual considerations have theoretical and practical utility for building a meaningful theory on motivation to change and for designing effective therapeutic interventions. However, the authors themselves state that the model has received the least application in the fields of clinical psychology, and this model has yet to be tested with clients with eating disorders.

4. Enhancing Motivation to Change

Based upon the TTM a number of techniques have been developed and used in the study of eating disorders, with the aim of enhancing motivation for change. These techniques include motivational interviewing and motivational enhancement therapy. In addition, recent attention has turned towards the use of psychoeducation programmes that may be effective for enhancing motivation for change in clients with eating disorders. A discussion of these approaches is presented below.

4.1. Motivational Interviewing

The principles of the transtheoretical model of change are linked to the development of Motivational Interviewing (MI). MI is defined as “a client-centred, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence” (Miller & Rollnick, 2002, p. 25). DiClemente and Velasquez (2002) state that the TTM has played
‘an integral role in the development of motivational interviewing’ (p. 202) and has been a ‘natural fit’ (p. 203). MI is thought to deliver the motivation required to move individuals through the different stages of change and fundamental to application of the framework is that the programme or message being promoted is delivered in a collaborative or supportive way, rather than in a confrontational way. The goal of such programmes being to increase patient’s motivation to change, which might be expected to increase the success of future treatments of the patients with eating disorders. The basic assumption being that when a decision to change behaviour is experienced as being personally taken rather than being imposed by the therapist, the effects of the actual behavioural change will be more lasting (Vansteenkiste et al., 2005).

Studies have shown that MI is an effective “stand alone” intervention. For example, Dunn (2003), reported that a single session of MI prior to a pure self-help intervention resulted in significantly greater reduction of binge eating in college students than the self-help intervention alone. However, adding MI to a weight control program did not result in significant greater weight loss for individuals with Type 2 diabetes (Smith et al., 1997). Few studies have been conducted investigating the effectiveness of MI with clients with eating disorders. At a theoretical level, MI has been applied to clients with AN (Treasure & Ward, 1997) and when MI was applied with clients with BN, early results indicated that it was effective in helping clients to reduce their compensatory behaviours (binge and purging) (Killick, & Allen, 1997). Further studies are required in order to further establish the efficacy of this approach for clients with an eating disorder.

Inspired by MI, Vitousek et al. (1998) proposed the Socratic Method as a tool to enhance motivation to change in clients with eating disorders. The approach involves being empathic towards the experiences of the client, as reflected in the acknowledgement of the
possible functions of the eating disorder symptoms and the recognition that changing behaviour is a difficult task. The aim of this method is to offer an encouraging framework so that clients can reach conclusions on their own concerning the origin of their symptoms or the advantages and disadvantages of change. The basic assumption is that when a decision to change is experienced as being taken personally rather than being imposed by the therapist, the effects of the actual behaviour change will be more long lasting. Vitousek et al. (1995) (cited in Vansteenkiste et al., 2005) develop a scale to measure concerns about change, and they found that clients with AN scored higher than clients with BN on most of the scales assessing resistance to change. The authors interpreted these results as evidence for the claim that individuals with AN demonstrate high levels of concern about the prospect of losing the perceived benefits of their egosyntonic symptoms.

4.2. Motivational Enhancement Therapy

Motivational enhancement therapy (MET) is derived from integrating the transtheoretical model of change with the skills of MI. The goal of MET is to determine which stage of change the client is in and then to assist with movement through the stages to reach the ultimate goal of sustained change. Only two studies to date have investigated the efficacy of MET for enhancing motivation for change with clients with eating disorders.

Treasure et al. (1999) randomly assigned 125 participants with BN to either four sessions of cognitive behavioural therapy (CBT) or four sessions of motivational enhancement therapy (MET). There results revealed that there were no differences between MET or CBT in terms of developing a therapeutic alliance or increasing readiness to change. In relation to therapeutic alliance, the authors suggest that simply outlining the rationale for treatment to achieve the goals that the therapist feels are important may not be enough, and that a client’s concerns about the aims of treatment and the tasks that will need to be
carried out to achieve these should be explored. Despite a focus on motivation rather than symptom reduction, MET was as effective in the short-term as CBT for reducing binge eating, vomiting and laxative abuse. Although the results of this study are promising for incorporating MET into the treatment of BN, the authors acknowledge that a major limitation of the study was that the number of participants included may have provided insufficient power to examine interaction effects. In addition, contrary to expectation, the MET did not reduce drop-out rate, nor did it lead to more clients moving into action.

In a later study, Feld et al. (2001) reported that among a sample of 19 patients with AN, BN and EDNOS, participants' motivation to change increased following a MET intervention. Despite a focus on motivation rather than symptom reduction, a decrease in depressive symptoms and an increase in self-esteem were also found. However, because a control group was not included, it was not possible to establish whether the observed changes were attributable to the effect of MET intervention. Unfortunately Treasure et al. (1999) had also failed to include a control group. In the Feld et al. (2001) study, little data were provided with respect to the context of the eating disorder service, and as such it was not possible to establish length of illness, whether participants were outpatients or what referral pathway participants had taken. In addition, the sample size was very small due to a large proportion of drop-outs (29%). This was said to highlight the ambivalence and lack of motivation that exists among clients with eating disorders, and was similar to the drop-out rate of 33% in the Treasure et al., (1999) study.

4.3. Relational/Motivational Group Model For Change

Tantillo et al. (2001) developed an integrated model for an eating disorders contemplation group based on the TTM, MI and relational theory (RT). RT asserts that women with eating disorders require mutually empathic and empowering relationships to work through
the intense denial, ambivalence and fear that keeps them stuck in the early stages of change (Tantillo et al., 2001). The model emphasizes the processes of change in the precontemplation and contemplation stages of change, but relational interventions are also incorporated at each of these stages. The model emphasizes persuasive and supportive interventions to enhance motivation for change, as opposed to a confrontational approach. Within the model, motivation is understood as a state of readiness that can change from one situation to the next and can be greatly influenced by one’s environment and relationships with others. As such, a difficulty in moving towards change occurs within the context of interpersonal interactions with the therapist or others (Tantillo et al., 2001). However, this model has yet to be tested with clients with eating disorders.

4.4. Psycho-education

Educational approaches are now an accepted and important component in the treatment of people with eating disorders (Surgenor et al., 1999). Historically, this has occurred under a range of guises ranging from pure psychoeducation with a recommended curriculum (Garner, 1997) to ensuring that some form of supportive educational information is available to patients and families (NICE, 2004).

Pure psychoeducation refers to ‘the process of disseminating information about the nature of a disorder for the purposes of fostering attitudinal and behavioural change in the recipient’ (Olmstead & Kaplan, 1995 p.56). Its focus is both educational and therapeutic. Educational activities for clients and families, which are more broadly focused, operate from a slightly different albeit overlapping conceptual base where the emphasized goals are didactic and supportive rather than primarily therapeutic (Soloman, 1996). In this model, the provision of education is presumed to foster supportive relationships with staff and family members and to increase coping behaviours amongst clients and families.
(Soloman & Draine, 1995). However, because the vast majority of these studies are multimodal treatment packages, they provide little information about the specific efficacy of psychoeducation.

### 4.4.1. The Efficacy of Psychoeducation

Few evaluative treatment studies have been conducted comparing a purely psychoeducational programme with structured treatment interventions (Davis et al., 1997) and a waiting list control (Davis et al., 1992; Olmstead et al., 1991). The above studies were conducted with clients with BN. Clients completed a brief psychoeducation programme as a first stage treatment at an eating disorder outpatient and clinic in Toronto. The primary aim of the PE intervention in the above studies was to normalise eating behaviour, with focus of the intervention being both educational and therapeutic.

Davis, Olmstead and Rockert (1990) reported that for 40 BN patients receiving treatment at an outpatient clinic, 5 sessions of group PE is superior to a waiting-list control condition in the reduction of specific and non-specific psychopathology. The PE intervention appeared to be particularly suited to patients with lower levels of specific and non-specific psychopathology (Davis et al., 1992). When compared to 19 sessions of individual cognitive behavioural (CB) therapy, PE proved to be equally effective for the healthiest 25-45% of the sample (Olmstead et al, 1991). The more intense CB therapy was associated with greater improvements for the one third of participants who were vomiting most frequently prior to treatment. The results from the above studies support the clinical efficacy of brief group PE as a first stage intervention for clients with BN. However, as no follow-up was conducted the long-term effect of the PE intervention is not known.
4.4.2. The Role of Psychoeducation

As highlighted by Vitousek et al. (1998) the style in which the PE material is presented matters at least as much as its content. The collaborative attitude promoted by a PE approach may form the basis for a solid therapeutic alliance and may therefore be beneficial across a variety of interventions (Olmstead & Kaplan, 1995). An important principle is to say enough to make scientific research meaningful, and where feasible it is preferable to provide some of the material in a group format (Olmstead & Kaplan, 1995). In addition to its efficiency, this model ensures comprehensive coverage of topic areas that may be skipped in individual sessions, makes use of visual media more practical and offers additional opportunities for clients to profit from the experience of others (Vitousek, et al., 1998).

Clients attending psychoeducational programmes are given the opportunity to learn about their disorder and strategies for self-care without the threat of having to self-disclose in the early stages of treatment. Clients receiving accurate information and awareness of the risks of having an eating disorder may increase motivation to recover (Vitousek et al., 1998). It has also been suggested that illness information improves the likelihood of independent change on the part of the client, and may increase client adherence to difficult decisions (Pomerleau & Rodin, 1986).

As described above there is limited evidence that a brief period of group PE therapy is sufficient for reducing symptoms in a small subgroup of less symptomatic clients with BN, but the primary role of PE is to act as a foundation for other interventions. Although access to the relevant information is critical, clients may require personalized assistance in applying it, the opportunity to express their fears and the support of a trusting therapeutic relationship (Olmstead & Kaplan, 1995).
No research to date has reported the effectiveness of such programmes upon enhancing motivation to change. As such, it is not known whether PE programmes are an effective motivational approach with people with eating disorders. Therefore, it would seem worthwhile to explore this method of intervention for clients with eating disorders that could enhance the understanding of the complex nature of motivation to change in eating disorders and improve treatment outcomes.

5. Conclusion

Due to the treatment difficulties associated with clients with eating disorders, there has been increased interest in the motivational dynamics operating for clients with eating disorders. In line with policy and service provision, a variety of motivational approaches have been developed and used to help prevent eating disorder patients from dropping out of treatment and to increase their active engagement in treatment. This review has considered the most prominent motivational approaches that have been developed and used with people with eating disorders.

The results of the review revealed a striking convergence of recommendations across conceptually different treatment approaches. Clinicians are encouraged to construct a frame of reference and explore environmental factors in order to help them understand the experience of individuals with eating disorders. In addition, clinicians are encouraged to acknowledge the difficulty of change and adopt an empathic stance with clients with an eating disorder. However, as the various approaches are not always linked to a more general motivational framework, a comprehensive conceptualisation of the motivational processes that might be responsible for the effectiveness of the proposed techniques is not clear. This hinders an in-depth discussion of important motivational dynamics that may have clinical utility. In addition, a full comparison or integration of the various approaches
is hampered by the broad array of definitions used (e.g. internal, external, extrinsic and intrinsic motivation).

With regard to treatment, most studies to date on readiness and motivation approaches with people with eating disorders have been clinical in nature (Tantillo et al., 2001; Treasure & Ward, 1997; Treasure & Schmidt, 2001; Vitousek et al., 1998) and only a small number of studies examining pre-post differences using treatments informed by motivational stance (e.g. Feld et al., 2001; Treasure et al., 1999). These studies were shown to be limited by small sample sizes, a lack of controls and long-term follow-up. A major methodological shortcoming of the studies was that most studies failed to report the reliability and validity information of the measures used to assess motivation for change. Only one study reported the reliability of the subscale scores of the URICA for use with clients with AN (Geller, Cocknell, & Drab, 2001).

It is acknowledged that there are inherent difficulties in conducting research with a population of clients with an eating disorder. Examination of the outcome literature is complicated by the varying degrees of severity and chronicity. An additional problem with the research is the inherent selection bias in patients who refer themselves for treatment, have had an eating disorder for a long period of time or who have had previous treatments for their eating disorder. The commonplace use of relatively small sample sizes compounds these difficulties. Only three studies (Davis, Olmstead & Rockert, 1992; Olmstead et al., 1991) reported power analysis and none of the studies reported on their analysis of missing data, presenting difficulties in establishing research quality.

Statistical power should be the aim of the research, along with sophisticated methodology to enable the untangling of the complex interrelationships between cultural, familial, and
economic factors that may affect an individual’s desire to change. Further, the majority of research to date has been conducted with clients with BN, limiting the generalisability of any empirical findings to clients with eating disorders.

Another difficulty highlighted by this review is that many studies have been conducted in Canada (e.g. Davis et al., 1992; Geller, 2002b, Geller et al., 2001; Olmstead et al., 2001). Significant differences in the provision of services, along with cultural differences suggest a cautious approach to the application of findings cross-culturally.

Clearly treating individuals with eating disorders raises numerous practical and theoretical issues for which therapists will need to be aware, and can be summarized as follows:

1. A lack of motivation to change is likely to be a common yet complex issue within eating disorders. Environmental factors may impact upon an individual’s readiness and motivation.
2. There may be differences in readiness and motivation across diagnostic subgroups.
3. It is particularly important for a therapist to appreciate and explore an individual’s willingness to engage in treatment.
4. The literature suggests that the decision to change must be seen by the client themselves to be the most desirable option.
5. ‘Motivational’ may be best described as an approach to treatment, rather than to treatment per se.
6. The manner and style in which a motivational approach is taken may be as important as its content.
7. There is a striking lack of the systematic investigation of motivational approaches with individuals with EDNOS.

8. The effectiveness of motivational approaches for BN is better supported by outcome studies, although here too, evidence is limited.

Although early findings from this review are positive, randomised control trials are needed to clarify the efficacy of interventions, and the degree to which they produce change in readiness and motivation across different symptom types. Future work should focus on an examination of whether traditional or varied approaches to motivation for change are most effective for clients with eating disorders. In addition, future work might explore which components of a motivational approach are most critical to outcome. The use of larger sample sizes and methodological rigour, such as the use of power calculations would enable the quality of studies to be more reliably established. The tracking of changes over time would be possible using longitudinal research.

There is a lack of well-validated measures used to measure motivation and readiness to change in clients with eating disorders. As a result, future research should also consider assessing the reliability and validity of measures used to assess readiness and motivation with clients with a range of eating disorders. Finally, it is vital that research begins to address the opinions and needs of individuals with eating disorders themselves.
5. References


Research Report (Option A)

Motivation for Change and Psycho-education in the Treatment of Eating Disorders

Matilda Moffett
Motivation for Change and Psycho-education in the Treatment of Eating Disorders

Matilda Moffett

Abstract (Section Two)

Research Report

Objectives:
The aim of Study One was to establish the construct validity of the University of Rhode Island Change Assessment Scale (URICA) for use with an eating disorders population. Once done, then to use the scale to assess changes in motivation due to a brief psycho-education (PE) intervention (Study Two).

Method:

Study One: Clinical data from 160 participants was analysed; 24 diagnosed with anorexia nervosa (AN), 44 diagnosed with bulimia nervosa (BN), and 88 diagnosed with eating disorder not otherwise specified (EDNOS). Participants completed the URICA; the Eating Disorder Examination Questionnaire (EDE-Q); and the Stirling Eating Disorder Scales (SEDS).

Study Two: Forty-five participants diagnosed with either AN, BN, or EDNOS were recruited. Thirty-two participants completed the URICA; EDE-Q; and SEDS at three time points; time1 (referral), time 2 (start of a 4-week group based Psycho-education (PE) intervention) and time 3 (end of PE intervention).

Results:

Study One: Similar to previous findings (McConnaughy et al., 1983, 1989), the URICA was found to be internally consistent (all coefficients exceeding 0.7) and principal component analysis revealed four stages of change (Precontemplation, Contemplation, Action and Maintenance) represented by high loadings on four distinct components. Adjacent stages of change were more highly correlated than non-adjacent stages.

Study Two: Contrary to expectation, the PE intervention did not significantly enhance motivation for change. The PE intervention had no significant impact upon specific and non-specific eating disorder symptomatology.

Conclusion: The URICA was found to be construct valid with individuals with a range of eating disorders. Further studies are required in order to justify the inclusion of brief PE as part of standard treatment for eating disorders.
1. INTRODUCTION

1.1 Overview of Study

Study One sets out to establish the construct validity of the University of Rhode Island Change Assessment Scale (URICA; McConnaughy et al., 1983) for a large sample of clients with a range of eating disorders. The primary purpose of the URICA is to enable a clinician to identify specific stage profiles characteristic of transitions between four motivational stages of change; PreContemplation, Contemplation, Action, and Maintenance. Once done, the scale will be used in Study Two to assess changes in motivational stages due to a brief psycho-education (PE) intervention with clients with a range of eating disorders. In addition, the effect of this intervention upon specific and non-specific eating disorder symptomatology will be explored.

1.2. The Problem of Therapeutic Engagement

Eating disorders are severe and complex disorders, often associated with a chronic course (Richard et al., 2005). The development of a therapeutic relationship with clients with eating disorders is often problematic and a challenge for clinicians (Vansteenkiste et al., 2005; Garfield, 1994). The clients are often ambivalent about treatment and frequently lack motivation to change (Vitousek et al., 1998). These client characteristics are associated with high rates of treatment attrition, failure, and relapse. The impact of this is serious. For example, it is estimated that up to 90% of clients with bulimia nervosa (BN) are not under adequate treatment (Fairburn et al., 1996), whilst approximately 20% of patients with anorexia nervosa (AN) are known to remain chronically ill over the long term (Steinhausen, 1999). Dropping out from regular treatment among individuals with BN has been reported to be between 15% and 65% (Mahon, 2000); whilst for individuals with AN this has been reported being as much as 50% over the first year of treatment.
1.3. Understanding Motivation to Change

Due to this difficulty in engaging with treatment, individuals with eating disorders have been compared with clients with substance abuse problems (Vitousek et al., 1998). As such it may be useful to apply some of the motivational approaches used in the field of addictions for the treatment of clients with eating disorders.

The transtheoretical stages of change model (Prochaska & DiClemente, 1982, 1986; Prochaska et al., 1992) was developed in the addiction field in an attempt to understand how people change unwanted behaviours. The model focused attention on the important need to enhance clients’ motivation to change their behaviour. The model categorises individuals into five distinct stages of readiness to change; including Precontemplation, where people are showing no intention to change. People in the Contemplation stage acknowledge they have a problem and are thinking about changing, but have not yet made the commitment to change. People in the Action stage are actively engaged in making changes, whilst people in Maintenance are working to prevent relapse\(^1\) (Prochaska et al., 1992).

Some researchers argue that it is more appropriate to construe readiness to change as a continuum, on which individuals are located at a particular point in time, rather than as a series of stages in which individuals’ progress in an invariant sequence (e.g. Sutton, 1996).

\(^1\)The preparation stage has often been included as a fifth stage in the TMC, defined as a period of time when individuals have the intention of changing, and have made some effort to do so recently, but have not yet reached criteria for effective action (Prochaska et al., 1992). However, this stage has not yet been included in other motivational studies with an eating disorder population.
Prochaska et al. (1992) suggest that linear progression through the stages is possible; however, most individuals attempting a health-behaviour change will relapse and recycle through previous stages, gradually learning how to successfully progress to maintenance.

The model has three dimensions of change: stages of change (i.e. when change takes place, or the readiness to work towards a goal); processes of change (i.e. how change is affected, and refer to the overt and covert activities an individual engages in modify thinking, behaviour or affect in relation to a problem) (Prochaska et al., 1988) and the level of change (i.e. what aspect of the problem changes) (Prochaska et al., 1992). This study will focus on stages of change.

The transtheoretical model has encouraged research across a range of health behaviours including exercise (Marcus et al., 1992), and weight loss (Prochaska et al., 1992). In recent years the transtheoretical model has been extended to the treatment of eating disorders.

1.4. Assessing Motivation as Stages of Change

Previous research applying the transtheoretical model to people with eating disorders (Blake et al., 1997; Hasler et al., 2004; Treasure et al., 1999; Ward et al., 1996) have used and adapted the University of Rhode Island Change Assessment Scale (URICA: McConnaughy et al., 1983, 1989). The primary purpose of the URICA is to enable a clinician to rapidly identify specific stage profiles characteristic of transitions between PreContemplation, Contemplation, Action, and Maintenance.

Early results showed that the URICA might be useful in assessing ambivalence about change in eating disorders. Results have shown individuals with AN appear less motivated for treatment than individuals with BN (Blake et al., 1997; Ward et al., 1996) and that
individuals with BN do better on some outcome measures than individuals with AN (Treasure et al., 1999). More recently it has been shown that among a large sample of individuals diagnosed with AN, BN and eating disorder not otherwise specified (EDNOS), diagnostic subgroup has no impact upon motivational stages (Hasler et al., 2004). Researchers have used the scale either to assign individuals to a discrete category (Treasure et al., 1999) or have used the URICA mean scores as continuous variables (Hasler et al., 2004). Having no agreed protocol for scoring or interpreting the measure makes any generalisation of the empirical findings difficult.

Some researchers have reported difficulties with the URICA, such as the apparent difficulty of the allocation of all individuals in a heterogeneous eating disorder population to the same stage (Dunn et al., 2003; Sullivan & Terris, 2001). Studies investigating change in relation to inpatient weight gain among individuals with AN found the classified stage of change was not supported by the clinical presentation of clients (Ward et al., 1996). These results suggest that either the stages of change may be less useful than proponents claim, or that the URICA is less reliable than desired. It is possible, for example, that meaningful differences between individuals in the different stages were not identified because the URICA was not a reliable measure for use in eating disorders.

A further difficulty stems from the fact that the URICA was originally designed for use with any problem behaviour (McConnaughy et al., 1983) and simply refers to ‘the problem’ rather than specifically to (for example) ‘anorexia nervosa’ (or components of anorexia such as dietary restriction). This makes it difficult for a clinician to be sure which symptom an individual has in mind when completing the questionnaire.
Geller & Drab (1999) have tried to address a number of the above issues by developing a new interview approach. They developed the Readiness and Motivation Interview (RMI) that explores an individual's motivation for changing specific eating disorder symptoms. The interviewer and client create a readiness profile of as many as 12 different symptoms, including restraint over eating, self-induced vomiting, and laxative misuse. For each symptom, the interviewer and client determine what percentage of the client is in Precontemplation, Contemplation, and Action stage so that the three scores add up to 100%. It has been shown to be a better predictor of outcome than the URICA (Sullivan & Terris, 2001). However, as Treasure and Schmidt (2001) point out, this sophisticated measure may be impractical for use in clinical situations.

Regardless of any methodological limitations, the URICA has demonstrated good internal consistency when used with people dependent on legal and illegal substances and with clients receiving counselling for a range of psychiatric disorders (Smith et al., 1995). McConnaughy et al. (1983, 1989) evaluated the psychometric properties of the scale with a large clinical sample of individuals referred for psychotherapy. The results indicated good internal consistency, and principal component analysis (PCA) supported the theoretical multidimensionality of the scale.

The URICA has now been used without major difficulties to assess motivation for change in eating disorders (Blake et al., 1997; Hasler et al., 2004; Treasure et al., 1999). For the URICA to be used in assessment to inform clinical practice in the area of eating disorders, an understanding of the psychometric properties of the scale is required. It is apparent from the literature that only one study to date has explored the psychometric properties of the URICA for use with people with eating disorders. Geller et al. (2001) reported that with a sample of clients with AN, the reliability of the subscale scores were reasonably high.
However, the construct validity of the URICA has yet to be established for clients with a range of eating disorders. The objective of this study is to explore some of the psychometric properties of the URICA with a large sample of clients with a range of eating disorders.

1.5. Enhancing Motivation to Change

There are a number of methods for enhancing motivation for change recommended in the literature, including motivational enhancement therapy, motivational interviewing, and psycho-education (Vitousek et al., 1998). However, very few attempts have been made to evaluate those strategies (Feld et al., 2001; Treasure et al., 1999).

Psycho-education (PE) group programmes have been developed for people with eating disorders. Pure psychoeducation refers to the didactic provision of information about the nature of a disorder for the purposes of fostering attitudinal and behavioural change in the recipient (Olmstead & Kaplan, 1995). Its focus is both educational and therapeutic. Educational activities for clients which are more broadly focused operate from a slightly different, albeit overlapping conceptual base where the emphasized goals are didactic and supportive rather than primarily therapeutic (Solomon, 1996).

PE appears well suited to eating disorders for a number of reasons. In line with a multi-determined model of eating disorders (Garfinkel, & Garner, 1982), PE programmes can explore socio-cultural, psychological and biological factors in the development and perpetuation of eating disorders. Such programmes are cost effective. Client feedback suggests that the information is helpful in aiding clients come to an understanding of their eating disorder. Clients are given the opportunity to learn about their disorder and strategies for self-care without the threat of having to self-disclose in the early stages of
treatment. Clients receiving accurate information and awareness of the risks of having an eating disorder may increase motivation to recover (Vitousek et al., 1998) and may increase client adherence to difficult decisions (Pomerleau & Rodin, 1996). As noted by Vitousek et al. (1998), the facilitator’s honesty, patience, and ability to avoid conflict/argument are key to the effective delivery of educational material. Challenging individuals about their ego-syntonic attitudes within this particular therapeutic context is avoided, as it would only serve to alienate the patient and invite premature termination of treatment (Davis et al., 1997).

Some evaluative treatment studies have been conducted with clients with BN receiving treatment at an eating disorder outpatient clinic in Toronto. Results have shown that five sessions of group PE is superior to a waiting-list control in the reduction of specific and non-specific psychopathology (Davis et al., 1990). The intervention was particularly suited to patients with lower levels of specific and non-specific psychopathology (Davis et al., 1990). Olmstead et al. (1991) compared 19 sessions of cognitive-behavioural therapy with PE. PE proved to be equally effective for reducing specific and non-specific eating disorder symptomatology for the healthiest 25-45% of the sample (Olmstead et al., 1991). However, the more intensive cognitive-behavioural therapy led to a greater improvement for the third of patients whose eating disorder symptoms were most severe (e.g. were vomiting most frequently prior to treatment). Such studies support the notion that brief group PE may be clinically effective and cost effective first stage intervention for clients with BN.

The objective of this study is to evaluate the effectiveness of a brief PE intervention with clients with a range of eating disorders. Specifically, the study aims to investigate the impact of a PE intervention upon motivation to change and explore its effect upon eating
disorder symptomatology. Exploration of this method of intervention could enhance under-stand the complexities of eating disorders and improve treatment outcomes.

1.6. Research Questions and Hypotheses

The research is reported in two separate sections. The first section, Study One, focuses on the psychometric properties of the URICA for clients with a range of eating disorders. The second section, Study Two, focuses on evaluating whether a brief group based PE programme increases motivation for change among clients with an eating disorder. More specific details of these two studies are provided below.

STUDY ONE

Geller et al. (2001) reported that in a large sample of individuals with AN, the internal consistency of the subscale scores on the URICA was reasonably high. McConnaughy et al. (1983, 1989) also found that with a large sample of clients with a range of psychiatric disturbances referred for psychotherapy, the URICA demonstrated good levels of internal consistency. In addition, McConnaughy et al. (1983, 1989) conducted a principal component analysis that revealed that the items of the URICA loaded on four components that matched with the theoretical four distinct stages of change (Precontemplation, Contemplation, Action, and Maintenance). Furthermore, stronger correlations were found between adjacent stages than nonadjacent stages and according to McConnaughy et al. (1989) this suggested that clients made a predictable movement from one stage to the next in an invariant sequence. Thus, the URICA seemed to be a useful instrument for assessing motivation for change for individuals with AN and psychiatric disorders.
Study One replicates the McConnaughy et al. (1983, 1989) analyses to discover whether the URICA would also be a useful instrument for assessing motivation for clients with a range of eating disorders. Thus, the research question can be summarized as follows:

1.6.1. Research Question 1:

Does the URICA have similar psychometric properties to those found by Geller et al. (2001) and McConnaughy et al. (1983, 1989) for a large sample of clients with a range of eating disorders?

STUDY TWO

Study Two uses the URICA to measure the motivation to change of individuals with an eating disorder across three time points. First of all at initial assessment, then at the beginning of a PE group, then four week later at the end of the PE group. The specific aim of the PE intervention as a first stage intervention was to increase clients’ motivation to change. The aim of this study was to investigate whether the PE was effective in increasing motivation for change for individuals with a range of eating disorders.

1.6.2. Research Question 2:

For individuals with a range of eating disorders, what impact does a 4-week group based PE intervention have upon motivation for change? Does the PE intervention have a significantly greater impact upon motivation for change than being on a 4-6 week waiting list?
1.6.2.1. Hypothesis 1:

*As the 4-week PE intervention is designed to enhance motivation for change for individuals with a range of eating disorders, it will be significantly more effective in increasing motivation for change compared to the pre-treatment 4-6 week waiting list.*

The 4-week PE intervention is targeted at improving motivation to change in individuals with a range of eating disorders. It is not targeted at improving eating disorder symptomatology and no such improvements are expected. However, previous research has demonstrated that a brief group based PE intervention is superior to a waiting list control condition in the reduction of specific and non-specific eating disorder symptomatology in BN (Davis, Olmstead & Rockert, 1990, 1992). Thus the research question is presented as follows:

1.6.3. Research Question 3:

*For individuals with a range of eating disorders, what impact does the PE intervention have upon specific and non-specific eating disorder symptomatology? Does the PE intervention have a significantly greater impact upon specific and non-specific eating disorder symptomatology than being on a 4-6 week waiting list?*

When a PE intervention was compared to 19 sessions of cognitive behavioural therapy, PE was found to be equally effective for the healthiest 25-45% of the sample (Olmstead *et al.*, 1991). This suggests that the 4-week PE intervention that is the focus of the present study may have an unexpected positive impact upon specific and non-specific eating disorder symptomatology. In particular, it is suggested that the PE intervention may be more effective for clients with lower levels of specific and non-specific eating disorder symptomatology. Thus, the research question is presented as follows:
1.6.4. Research Question 4:

For individuals with a range of eating disorders, is the PE intervention more effective for reducing specific and non-specific eating disorder symptomatology for the 'healthiest' third of the sample? Does the PE intervention have a significantly greater impact upon specific and non-specific eating disorder symptomatology than being on a 4-6 week waiting list?
STUDY ONE
2. METHOD

2.1. Design

The design for study one was cross-sectional in nature, using self-report questionnaires. The independent variables were the three eating disorder diagnostic subgroups (anorexia nervosa, bulimia nervosa and eating disorder not otherwise specified). The dependent variables were motivation to change (stage of change) and specific and non-specific eating disorder symptomatology.

2.2. Participants

Data had been collected over a five-year period (2001 – 2006) from clients who had been through a routine intake evaluation at a specialised NHS Service for adults with an eating disorder. Excluded were those individuals aged below 18 years, receiving inpatient care, a Body Mass Index (BMI) of 15 or less, recent history of deliberate self-harm, suicidal ideation, planning or intent, illegal drug use, alcohol misuse, diagnosis of psychosis, intellectual disability, a medical or physical condition known to affect eating behaviour, non-English speaking (the resources and facilities required for an interpreter were not available). A small number of individuals who were diagnosed with binge eating disorder or bulimia nervosa (multi-impulsive subtype) were excluded to limit the heterogeneity of the sample. Thus, the final sample comprised a total of 160 participants.

Diagnoses had been based upon the criteria outlined in Diagnostic and Statistical Manual of Mental Disorders (4th ed.) (DSM-IV) (American Psychiatric Association, 1994) and
from structured clinical interview by experienced clinicians (see measures section). A complete list of diagnostic criteria is included in Appendix B.

2.3. Measures

The University of Rhode Island Change Assessment Scale (URICA; McConnaughy, et al., 1983)

Stages of change were assessed using the URICA (McConnaughy et al., 1983) (see Appendix C). This is a 32 item self-report measure that consists of four subscales: Precontemplation, Contemplation, Action and Maintenance, each consisting of eight statements. In an introduction, it was explained to the participants that the expression 'problem' referred to the problem eating behaviour of the individual person. Participants rated each item on a 5-point Likert scale (strongly disagree/1, disagree/2, unsure/3, agree/4, strongly agree/5). Thus the minimum possible score for each stage was 8; the maximum possible score for each stage was 40. Missing data were handled as follows; if one out of the eight items were missing, the score for that scale was pro-rated; if two or more items were missing, the score was not calculated and regarded as missing.

The URICA has demonstrated good internal consistency for individuals (n = 150) with a range of psychiatric disturbances referred for psychotherapy (McConnaughy et al., 1983). The Cronbach alpha coefficients were as follows: Precontemplation, 0.88; Contemplation, 0.88; Action, 0.89; Maintenance, 0.88. PCA of the questionnaire responses revealed four reliable and well-defined components corresponding to the hypothesised stages of change (Precontemplation, Contemplation, Action, and Maintenance). An item loading of 0.6 or above on the principal component analysis was also demonstrated, with the four scales accounting for 58% of the total variance. Comparable findings were demonstrated in a later
study using a large sample of individuals (n = 323) referred for psychotherapy (McConnaughy et al., 1989). In a recent study Geller et al. (2001) reported that for individuals with an eating disorder (n = 99) the internal consistency of the subscale scores was reasonably high, with coefficient alphas ranging from 0.73 to 0.90.

Allocating Stage of Change

The URICA provides scores on four subscales of PreContemplation, Contemplation, Action and Maintenance. It is also possible to assign individuals to a discrete stage on the basis of the scale with the highest raw score. In the event of a tie, the stage of change is moved to the one farther along the continuum, on the basis that this must be assumed to be the farthest point reached in the change process (McConnaughy et al., 1983). For convenience this method of stage allocation will be termed the Highest Score Method. In addition, it is possible to calculate an overall or ‘Total Motivation’ score for clients completing the URICA. This is calculated by adding the ‘positive’ subscales (Contemplation, Action and Maintenance) minus the ‘negative’ subscale (PreContemplation). Each of these methods (Highest Score Method, mean scores on each of the four subscales and Total Motivation score) are used in the present study.

Allocating Stages Within a Strictly-Interpreted Stage Model

An investigation of the utility of allocating participants within the framework of a strictly interpreted stage model was conducted. The interested reader can find details of the method used and the variety of possible participant profiles in Table B (Appendix D).

The Stirling Eating Disorder Scales (SEDS) (Williams et al., 1994)

The Stirling Eating Disorder Scale (SEDS; Williams et al., 1994) (see Appendix E) was used to assess the cognitive and behavioural symptoms of participants as well as
personality characteristics associated with eating disorder psychopathology. Preliminary work has been conducted to establish cut-off scores which, as far as possible, eliminate false positives and negatives. The SEDS is an 80 item scale, consisting of 8 subscales: 4 "dietary" subscales measuring core eating disordered behaviours & beliefs and; 4 "nondietary" subscales measuring factors associated with eating disorder psychopathology.

The subscales of the SEDS are as follows:

"Dietary" Subscales

Anorexic Dietary Cognitions - If the participant scores above the cut-off score they are likely to experience feelings of guilt when eating, avoiding high carbohydrate foods, feelings of fear/disgust when overeating, feeling that they do not need as much food as other people. AN/BN cut-off score is greater than 9.0. It can be assumed that respondents attaining this score or higher are scoring in the range of eating disorder severity.

Anorexic Dietary Behaviour - If the participant scores above the cut-off score they are likely to eat low calorie foods and count calories, hide food rather than eat it, cut food into small pieces and eat very slowly, cook for others but do not eat with them. AN/BN cut-off score is greater than 14.0.

Bulimic Dietary Cognitions - If the participant scores above the cut-off score they are likely to feel ashamed of the amount of food they eat, feel frightened if they cannot get rid of the food they have eaten either by vomiting, laxatives or fasting, feel they cannot stop eating when they want to, feel that their eating patterns are out of control. AN/BN cut-off score is greater than 17.0.

Bulimic Dietary Behaviour - If the participant scores above the cut-off score they are likely to eat a lot of food even when they are not hungry, hide the evidence of their binges, take laxatives to get rid of food, try to diet but always lose control, intentionally vomit after eating. AN/BN cut-off score is greater than 14.0.
"Nondietary" Subscales

**Low Assertiveness** – If the participant scores above the cut-off score they are likely to bottle up emotions; choosing to sulk rather than have an argument. They may be afraid when people are angry with them and find it difficult to confront people. AN / BN cut-off score is greater than 15.0

**Low Self Esteem** - If the participant scores above the cut-off score they are likely to have a negative attitude about themselves – feel they are not popular, that their parents are not proud of them, feel that they are not attractive or clever. AN / BN cut-off score is greater than 14.0.

**Self-Directed Hostility** - If the participant scores above the cut-off score they are likely to feel self critical; that they should be a better person, that they deserve to be punished and have feelings of shame and anger towards self. AN / BN cut-off score is greater than 12.0.

**Perceived External Control** - If the participant scores above the cut-off score they are likely to feel that other people are controlling them, for example parents / spouse / boyfriend / girlfriend. AN cut-off score is greater than 9.0, BN cut-off score is greater than 8.0. The bases upon which the difference in cut-off scores for this subscale was made was not clarified in the SEDS manual (Williams & Power, 1995)

Each item score was individually weighted based on two criteria; its severity (on a scale of 1-7) and its level of ambiguity. The scale provides 80 True-False questions, with a fixed alternate ordering to facilitate ease of scoring. For example, “I eat a lot of food even when I am not hungry”. Here a positive response would give a weighted score of 5.1 on the Bulimic Dietary Cognitions subscale. Scale scores were the sum of the weights of items in that scale which had been given a positive response. In the case of missing data, if one out of the eight items were missing, then the score for that scale was pro-rated; if two or more items were missing, the score was not calculated and regarded as missing.
The scale was standardised on 78 Scottish clinical subjects recruited and diagnosed by practising Psychiatrists and Psychologists and 76 control subjects. The subscales have high internal consistency (Cronbach Alpha range 0.83 – 0.92), and expected differences were found between eating disorder subgroups and control groups. The anorexic patients scored significantly higher on the Anorexic Dietary Cognitions and Anorexic Dietary Behaviour subscales and the bulimic patients scored significantly higher than anorexic patients on Bulimic Dietary Behaviour and Bulimic Dietary Cognitions subscales. Concurrent validity with similar scales was found to be good, and test-retest correlations at three weeks were acceptable ($r$ range 0.85-0.96, $p = .001$) (Williams et al., 1994).

**Eating Disorder Examination Questionnaire (EDE-Q) (Fairburn & Beglin, 1994)**

The Eating Disorder Examination Questionnaire (EDE-Q: Fairburn & Beglin, 1994) (see Appendix F) is a 38 item self-report version of the Eating Disorder Examination (EDE; Cooper & Fairburn, 1987). The EDE-Q was designed to measure eating pathology over the past 28 days only (Fairburn & Beglin, 1994). It consists of four subscales designed to measure the key cognitive features of eating pathology: Eating Concern, Shape Concern, Weight Concern, and Dietary Restraint. Scoring is based on a 7-point (0-6) Likert scale, with higher scores indicating higher eating pathology. The subscales are as follows:

**Dietary Restraint**- if the patient scores highly for restraint they will be restricting their food intake and have strict dietary rules.

**Eating Concern** – if the patient scores highly for eating concern they will have a preoccupation with food, eating and/or calories, they will fear losing control and may eat in secret feeling guilty about eating.

**Shape Concern** – if the patient scores highly for shape concern they will have a preoccupation with shape, feel that shape is important, experience discomfort when seeing
the body, avoid exposure, feel fat and fear weight gain.

Weight Concern – if the client scores highly for weight concern they will have a preoccupation with weight, dissatisfied with weight, have a desire to lose weight, and find weight extremely important.

The subscales have good internal consistency and good 2-week test-retest reliability (e.g. Grilo et al., 2001; Wilfley et al., 1997).

The EDE-Q was also designed to assess the key behavioural features of eating pathology (self-induced vomiting, laxative abuse, diuretic abuse, exercising hard, and binge eating). However, for purposes of the present study, only data obtained on the cognitive subscales were included for analyses, on the basis that the key behavioural features of eating pathology were deemed to be accurately assessed on a separate questionnaire (Stirling Eating Disorder Scales; Williams et al., 1994, see above).

2.4. Procedure

Ethical approval for the study was granted from local research and ethics committee (LREC). Letters of approval are in Appendix G.

Data were collected during two initial assessment sessions, prior to the commencement of a pre-treatment psycho-education intervention at a specialist outpatient eating disorder service. All participants had previously provided verbal consent for their questionnaire and demographic data to be used for research/audit purposes, in accordance with The UK Clinical Ethics Network consent guidelines (The UK Clinical Ethics Network, 2005).
3. RESULTS

3.1. Plan of Analysis

Data were analysed using quantitative statistical techniques on the Statistical Package for Social Sciences (SPSS) computer software package. Characteristics of the participants in different diagnostic subgroups were compared using chi-square tests and analyses of variance (ANOVA).

Preliminary assumption testing of the dependent variables was conducted to check for normality, linearity, univariate and multivariate outliers, and homogeneity of variance of the data. No serious violations were noted. The only exceptions were scores of Anorexic Dietary Beliefs and Bulimic Dietary Behaviours from the SEDS, these were not normally distributed (Kolmogorov-Smirnov statistic indicated p values less than 0.05) due to the presence of a number of outliers.

Although ANOVA maintains robustness in the face of minor violations of assumptions (Clarke-Carter, 2004), the four participants who had extreme outliers in their dependent variable scores (scores three times greater than their mean scores) were excluded from the main analysis.

Cohen (1988) recommends that a reasonable minimum level of power to aim for is 0.8. For purposes of the present study a medium effect size has been assumed with an alpha level of 0.05 used for all statistical tests. For between-group analyses of variance, a minimum of sixty participants were required to detect a medium effect size, with 80 per cent power, at an alpha level of 0.05 (Clarke-Carter, 2004).
3.2. Research Findings

3.2.1. Reliability Data

The internal-consistency of all the measures was tested using Cronbach’s alpha reliability coefficient. Kline (2000) suggests that alpha should ideally be around 0.9 and not below 0.7. As with previous research using these scales, the internal-consistency of all the measures was found to be acceptable. Cronbach’s alpha coefficients are presented in Table 1.
Table 1. Internal consistency: Cronbach alpha coefficients for subscales on the Stirling Eating Disorder Scales (SEDS), University of Rhode Island Change Assessment Scale (URICA), and Eating Disorder Examination Questionnaire (EDE-Q).

<table>
<thead>
<tr>
<th>Scale Name</th>
<th>N</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEDS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subscales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assertiveness</td>
<td>154</td>
<td>0.83</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>157</td>
<td>0.79</td>
</tr>
<tr>
<td>Self-Directed Hostility</td>
<td>154</td>
<td>0.79</td>
</tr>
<tr>
<td>Perceived External Control</td>
<td>155</td>
<td>0.87</td>
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<tr>
<td>Anorexic Dietary</td>
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</tr>
<tr>
<td><strong>Cognitions</strong></td>
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<td></td>
</tr>
<tr>
<td>Anorexic Dietary</td>
<td>156</td>
<td>0.71</td>
</tr>
<tr>
<td><strong>Behaviours</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulimic Dietary Cognitions</td>
<td>153</td>
<td>0.75</td>
</tr>
<tr>
<td>Bulimic Dietary Behaviours</td>
<td>154</td>
<td>0.76</td>
</tr>
<tr>
<td><strong>URICA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subscales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precontemplation</td>
<td>117</td>
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</tr>
<tr>
<td>Contemplation</td>
<td>117</td>
<td>0.82</td>
</tr>
<tr>
<td>Action</td>
<td>117</td>
<td>0.92</td>
</tr>
<tr>
<td>Maintenance</td>
<td>117</td>
<td>0.82</td>
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<tr>
<td><strong>EDE-Q</strong></td>
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<tr>
<td><strong>Subscales</strong></td>
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<td></td>
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<tr>
<td>Eating Concern</td>
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</tr>
<tr>
<td>Shape Concern</td>
<td>160</td>
<td>0.72</td>
</tr>
<tr>
<td>Weight Concern</td>
<td>160</td>
<td>0.70</td>
</tr>
<tr>
<td>Shape Concern</td>
<td>160</td>
<td>0.71</td>
</tr>
</tbody>
</table>
3.2.2. Participant Characteristics

Twenty-four participants met diagnostic criteria for anorexia nervosa (15%; 18 restricting and 6 binge/purge type); 48 of the participants (30%) met diagnostic criteria for bulimia nervosa (purging type); and 88 participants (55%) met diagnostic criteria for eating disorder not otherwise specified (EDNOS).

Table 2 shows the characteristics of the participants in the total sample and in the eating disorder diagnostic subgroups. The three diagnostic subgroups did not differ with respect to age, gender, and illness duration, but there were significant differences with regard to Body Mass Index (BMI) and age of onset.

Table 2. Characteristics of participants in the total sample and in the diagnostic subgroups

<table>
<thead>
<tr>
<th></th>
<th>Total Sample (n = 160)</th>
<th>AN (n = 24)</th>
<th>BN (n = 48)</th>
<th>EDNOS (n = 88)</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Female Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$\chi^2 = 4.9$, ns</td>
</tr>
<tr>
<td></td>
<td>159 (99.3%)</td>
<td>24 (100%)</td>
<td>47 (97.9%)</td>
<td>88 (100%)</td>
<td></td>
</tr>
<tr>
<td><strong>Mean (SD)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>26.2 (7.8)</td>
<td>28.9 (8.9)</td>
<td>24.3 (6.2)</td>
<td>25.4 (9.9)</td>
<td>$F = 1.79$, ns</td>
</tr>
<tr>
<td>Age at onset</td>
<td>17.2 (4.5)</td>
<td>15.4 (3.6)</td>
<td>16.1 (3.4)</td>
<td>20.2 (8.6)</td>
<td>$F = 2.07$, $p &lt; .05$</td>
</tr>
<tr>
<td>Duration of illness</td>
<td>7.4 (8.2)</td>
<td>6.9 (11.3)</td>
<td>7.7 (6.7)</td>
<td>8.8 (7.9)</td>
<td>$F = 0.68$, ns</td>
</tr>
<tr>
<td>Body Mass Index (kg/m$^2$)</td>
<td>23.2 (8.9)</td>
<td>17.2 (2.2)</td>
<td>23.6 (5.6)</td>
<td>28.9 (12.2)</td>
<td>$F = 6.9$, $p &lt; 0.01$</td>
</tr>
</tbody>
</table>

Note. Figures are numbers (%) of participants for gender; mean values (SD) for age, age at onset, duration of illness and BMI. AN = anorexia nervosa, BN = bulimia nervosa, EDNOS = eating disorder not otherwise specified. df = 2.
One hundred and sixty participants completed the SEDS and EDE-Q prior to treatment.

One-way analyses of variance revealed significant differences across the diagnostic subgroups for reported bulimic dietary cognitions and bulimic dietary behaviours. The mean, standard deviations and between group comparisons are presented in Table 3.

Table 3. Mean, standard deviation and between group comparisons for scores of specific and non-specific eating disorder symptomatology

<table>
<thead>
<tr>
<th></th>
<th>Total Sample (n=160)</th>
<th>AN (n=24)</th>
<th>BN (n=48)</th>
<th>EDNOS (n=88)</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
</tr>
<tr>
<td>Anorexic Dietary Cognitions</td>
<td>26.6 (10.9)</td>
<td>29.4 (10.6)</td>
<td>27.2 (9.6)</td>
<td>25.5 (11.6)</td>
<td>(F=2.02, \text{ns})</td>
</tr>
<tr>
<td>Anorexic Dietary Behaviours</td>
<td>14.3 (9.2)</td>
<td>19.9 (6.5)</td>
<td>12.1 (8.2)</td>
<td>14.0 (9.8)</td>
<td>(F=1.77, \text{ns})</td>
</tr>
<tr>
<td>Bulimic Dietary Cognitions</td>
<td>27.2 (12.6)</td>
<td>23.3 (8.3)</td>
<td>35.2 (8.2)</td>
<td>24.1 (13.0)</td>
<td>(F=7.74, p&lt;0.01)</td>
</tr>
<tr>
<td>Bulimic Dietary Behaviours</td>
<td>20.1 (12.9)</td>
<td>11.8 (11.4)</td>
<td>30.4 (8.7)</td>
<td>16.6 (11.9)</td>
<td>(F=6.68, p&lt;0.01)</td>
</tr>
<tr>
<td>Perceived External Control</td>
<td>16.3 (10.0)</td>
<td>16.5 (10.1)</td>
<td>15.8 (9.9)</td>
<td>16.6 (10.2)</td>
<td>(F=0.13, \text{ns})</td>
</tr>
<tr>
<td>Self-Directed Hostility</td>
<td>22.5 (11.6)</td>
<td>21.8 (11.5)</td>
<td>24.1 (10.9)</td>
<td>21.8 (12.1)</td>
<td>(F=0.44, \text{ns})</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>22.7 (9.3)</td>
<td>21.8 (9.7)</td>
<td>23.0 (10.0)</td>
<td>22.9 (8.9)</td>
<td>(F=0.09, \text{ns})</td>
</tr>
<tr>
<td>Assertiveness</td>
<td>19.9 (8.7)</td>
<td>18.2 (9.5)</td>
<td>20.0 (8.7)</td>
<td>20.4 (8.5)</td>
<td>(F=0.56, \text{ns})</td>
</tr>
<tr>
<td>Dietary Restriction</td>
<td>3.7 (1.9)</td>
<td>4.0 (1.9)</td>
<td>3.8 (1.3)</td>
<td>3.6 (2.1)</td>
<td>(F=1.13, \text{ns})</td>
</tr>
</tbody>
</table>

Note. AN = anorexia nervosa, BN = bulimia nervosa, EDNOS = eating disorder not otherwise specified
One hundred and seventeen participants completed the URICA prior to treatment. One-way analyses of variance revealed no significant differences across the diagnostic subgroups for the four stages of change. The mean scores on each of the scale scores were similar to those found by McConnaughy et al., (1983, 1989). The results are presented in Table 4.

Table 4. Mean, standard deviation and between group comparisons for scores on each of the four subscales of the University of Rhode Island Change Assessment Scale (URICA)

<table>
<thead>
<tr>
<th>Stage of Change</th>
<th>Total Sample (n = 117)</th>
<th>AN (n = 22)</th>
<th>BN (n = 39)</th>
<th>EDNOS (n = 56)</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Contemplation$^2$</td>
<td>18.4 (3.3)</td>
<td>17.1 (4.3)</td>
<td>18.2 (4.7)</td>
<td>18.1 (4.5)</td>
<td>$F = 0.84,$ ns</td>
</tr>
<tr>
<td>Contemplation$^2$</td>
<td>32.3 (3.3)</td>
<td>31.5 (3.5)</td>
<td>32.7 (3.4)</td>
<td>33.9 (4.2)</td>
<td>$F = 0.90,$ ns</td>
</tr>
<tr>
<td>Action$^2$</td>
<td>26.1 (4.3)</td>
<td>25.9 (4.1)</td>
<td>28.3 (3.5)</td>
<td>27.1 (5.6)</td>
<td>$F = 0.84,$ ns</td>
</tr>
<tr>
<td>Maintenance$^2$</td>
<td>20.0 (4.6)</td>
<td>20.2 (3.8)</td>
<td>23.6 (5.7)</td>
<td>20.3 (4.4)</td>
<td>$F = 1.33,$ ns</td>
</tr>
</tbody>
</table>

Note. AN = anorexia nervosa, BN = bulimia nervosa, EDNOS = eating disorder not otherwise specified. df = 2.$^2$ Scores for continuous subscales of the URICA. Minimum score for each stage is 8, the maximum score is 40.

Using the Highest Score method, participants were allocated to one of the stages based on the highest raw score obtained among the four subscales. The results revealed that just two participants were in the Precontemplation stage (1.7 per cent), 76 in the Contemplation stage (65.0 per cent), 21 in the Action stage (17.9 per cent), and 18 in the Maintenance stage (15.4 per cent).
A chi-square analysis revealed no significant difference in the proportion of participants allocated to a stage according to diagnostic subgroup. The results are presented in Table 5.

**Table 5.** The Proportion of participants allocated to a stage of change (Highest Score Method)

<table>
<thead>
<tr>
<th>Stage of Change</th>
<th>Total Sample (n = 117)</th>
<th>AN (n = 22)</th>
<th>BN (n = 39)</th>
<th>EDNOS (n = 56)</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Contemplation</td>
<td>1.7% (2)</td>
<td>4.5% (1)</td>
<td>0</td>
<td>1.8% (1)</td>
<td>$\chi^2 = 0.21, \text{ns}$</td>
</tr>
<tr>
<td>Contemplation</td>
<td>65.0% (76)</td>
<td>63.6% (14)</td>
<td>69.2% (27)</td>
<td>62.5% (35)</td>
<td>$\chi^2 = 0.18, \text{ns}$</td>
</tr>
<tr>
<td>Action</td>
<td>17.9% (21)</td>
<td>18.2% (4)</td>
<td>12.8% (5)</td>
<td>21.4% (12)</td>
<td>$\chi^2 = 1.26, \text{ns}$</td>
</tr>
<tr>
<td>Maintenance</td>
<td>15.4% (18)</td>
<td>13.6% (3)</td>
<td>17.9% (7)</td>
<td>14.3% (8)</td>
<td>$\chi^2 = 0.30, \text{ns}$</td>
</tr>
</tbody>
</table>

Note. AN = anorexia nervosa, BN = bulimia nervosa, EDNOS = eating disorder not otherwise specified. df = 2.

It can be noted that there were 11 ties in the data; 4 between Contemplation and Maintenance, 4 between Contemplation and Action, and 3 between Action and Maintenance. Therefore, 4 out of the 18 participants in the Maintenance stage (22 per cent) were allocated on the basis of a tied score. This highlights that using the highest score method can separate individuals with nearly identical profiles into different stages. Due to the limitations of using this method of stage allocation, participants mean stage scores were used for the subsequent analyses.
3.3. Addressing research questions

3.3.1. Research Question 1:

Does the URICA have similar psychometric properties to those found by Geller et al. (2001) and McConnaughy et al. (1983, 1989) for a large sample of clients with a range of eating disorders?

As noted earlier, the internal consistency of the URICA was found to be acceptable and similar to that reported by Geller et al., (2001) and McConnaughy et al. (1983, 1989). In addition, the mean subscale scores on the URICA were found to be similar to those reported by McConnaughly et al. (1983, 1989).

**Principal Component Analysis**

The 32 items of the URICA were subjected to a principal component analysis, in order to explore the interrelationships among scale items and cross-validate the earlier study findings outlined by McConnaughy et al. (1983, 1989). Prior to performing PCA the suitability of the data for factor analyses was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The Kaiser-Mayer-Oklin value was 0.75, exceeding the recommended value of 0.6 (Kaiser, 1974) and the Barlett's Test of Sphericity (Barlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix.

Principal components revealed the presence of ten components with eigenvalues exceeding 1, (explaining 25.1 per cent, 9.9 per cent, 6.8 per cent, 6.1 per cent, 4.7 per cent, 4.4 per cent, 3.9 per cent, 3.4 per cent, 3.3 per cent and 3.2 per cent respectively) (see Appendix H (A) for initial eigenvalues). An inspection of the screeplot revealed a clear break after the
second component, and two smaller breaks after the third and fourth components (see Appendix H (B) for screeplot). Using Catell’s scree test (Catell, 1966) it was decided to retain four components for further investigation. This was further supported by the results of Parallel Analysis, which showed only four components with eigenvalues exceeding the corresponding values for a randomly generated data matrix of the same size (32 X 117 respondents) (see Appendix H (C) for a summary of the comparison). To aid the interpretation of these four components, a Varimax rotation was performed. Results are presented in Table 6.
Table 6. Pattern structure coefficients for the University of Rhode Island Change Assessment Scale (URICA) (n = 117)

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>15* (C)</td>
<td>.78</td>
</tr>
<tr>
<td>21 (C)</td>
<td>.70</td>
</tr>
<tr>
<td>2 (C)</td>
<td>.69</td>
</tr>
<tr>
<td>20 (A)</td>
<td>.67</td>
</tr>
<tr>
<td>4 (C)</td>
<td>.66</td>
</tr>
<tr>
<td>8 (C)</td>
<td>.66</td>
</tr>
<tr>
<td>7 (A)</td>
<td>.61</td>
</tr>
<tr>
<td>19 (C)</td>
<td>.52</td>
</tr>
<tr>
<td>12 (C)</td>
<td>.48</td>
</tr>
<tr>
<td>24 (C)</td>
<td>.37</td>
</tr>
<tr>
<td>16 (M)</td>
<td>.31</td>
</tr>
<tr>
<td>11 (P)</td>
<td></td>
</tr>
<tr>
<td>5 (P)</td>
<td></td>
</tr>
<tr>
<td>26 (P)</td>
<td></td>
</tr>
<tr>
<td>23 (P)</td>
<td></td>
</tr>
<tr>
<td>31 (P)</td>
<td></td>
</tr>
<tr>
<td>13 (P)</td>
<td></td>
</tr>
<tr>
<td>29 (P)</td>
<td></td>
</tr>
<tr>
<td>28 (M)</td>
<td></td>
</tr>
<tr>
<td>32 (M)</td>
<td></td>
</tr>
<tr>
<td>18 (M)</td>
<td></td>
</tr>
<tr>
<td>22 (M)</td>
<td></td>
</tr>
<tr>
<td>6 (M)</td>
<td></td>
</tr>
<tr>
<td>9 (M)</td>
<td></td>
</tr>
<tr>
<td>25 (A)</td>
<td></td>
</tr>
<tr>
<td>30 (A)</td>
<td></td>
</tr>
<tr>
<td>17 (A)</td>
<td></td>
</tr>
<tr>
<td>14 (A)</td>
<td></td>
</tr>
<tr>
<td>10 (A)</td>
<td></td>
</tr>
<tr>
<td>3 (A)</td>
<td></td>
</tr>
</tbody>
</table>

% of variance explained 15.15%  11.51%  11.10%  10.24%

Note. * These numbers refer to item numbers on the URICA (see Appendix H (D) for actual items). (C) = theoretical Contemplation item, (P) = theoretical Precontemplation item, (A) = theoretical Action item, (M) = theoretical Maintenance item. Component loadings below 0.3 are omitted (see Appendix H (D) for table of loadings for all variables).
Results showed that the first eleven items were positive, willing (theoretical *Contemplation*) items, all loaded heavily on component 1. Four other items were also loaded heavily on this component above the cut-off, albeit less strongly. The next seven items were mainly negative/fatalistic (theoretical *Pre-Contemplation*) items with items loadings heavily on component 2, with no other items loading on this component. The next seven items were mainly frustration (theoretical *Maintenance*) items, with main loadings on component 3. However, three other items loaded on this component and there were also two incidences whereby the variables loaded on more than one component. The next five items loaded on component 4. They were mostly active (theoretical *Action*) items, however, five other items loaded on this component and there were two incidences whereby the variables loaded on more than one component. These four components accounted for a total of 48 per cent of the variance, with component 1 contributing 15.2 per cent, component 2 contributing 11.5 per cent, component 3 contributing 11.1 per cent and component 4 contributing 10.2 per cent.

Overall, the findings were very similar to those reported by McConnaughy *et al.* (1983, 1989), where four distinct stages of change were revealed and accounted for 58 per cent and 45 per cent of the total variance in scores, respectively. A comparison of the present study findings with that obtained by McConnaughy *et al.* (1983, 1989) is presented in Appendix I.

**Associations between scale scores**

The relationship between the four subscales of the URICA were analysed using a Pearson product-moment correlation. The results are presented in Table 7.
Table 7. Correlation analyses for the four stages of change on the University of Rhode Island Change Assessment Scale (URICA) (n = 117)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Pre-Contemplation</th>
<th>Contemplation</th>
<th>Action</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Contemplation</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contemplation</td>
<td>-0.62**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action</td>
<td>-0.40**</td>
<td>0.59**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>-0.18</td>
<td>0.28**</td>
<td>0.41**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note. ** p < 0.01, * p < 0.05

All scales were significantly correlated with each other except the Precontemplation and Maintenance scales. Correlations involving the Precontemplation scale were negative because decreasing scores on this scale represented an increasing readiness to change, whereas increasing scores on the other two scales represented an increasing readiness to change.

The correlation between the adjacent Precontemplation and Contemplation scales (r = -0.62, n = 117, p < 0.01), Contemplation and Action (r = 0.59, n = 117, p < 0.01) and Action and Maintenance scales (r = 0.41, n = 117, p < 0.01) were stronger than the correlation between the non-adjacent Precontemplation and Action scales (r = -0.40, n = 117, p < 0.01) and Contemplation and Maintenance scales (r = 0.28, n = 117, p < 0.01). This pattern of results is similar to the findings by McConnaughy et al., (1983, 1989). The findings of McConnaughy et al., (1989) and the findings of the present study are presented in Table 8.
Table 8. Comparison of Pearson Product Moment correlation coefficients for the four stages of change on the University of Rhode Island Change Assessment Scale (URICA) (n = 117).

<table>
<thead>
<tr>
<th>Scale</th>
<th>PC</th>
<th>C</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Original</td>
<td>Present</td>
<td>Original</td>
</tr>
<tr>
<td>PC</td>
<td>-.52</td>
<td>-.62</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>-.23</td>
<td>-.40**</td>
<td>.50</td>
</tr>
<tr>
<td>A</td>
<td>-.22</td>
<td>-.18</td>
<td>.45</td>
</tr>
<tr>
<td>M</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. ** p < 0.01, * p < 0.05. a = previous study findings (McConnaughy et al., 1989, n = 323), b = present study findings (n = 117). PC = Precontemplation, C = Contemplation, A = Action, M = Maintenance.

Comparing the findings of McConnaughy et al. (1989) with the present study findings revealed no significant difference in the strength of the correlation between the adjacent Precontemplation and Contemplation subscales (z = 1.37, p = 0.09). The present study found a significantly stronger correlation between the nonadjacent Precontemplation and Action subscales (z = 3.17, p < 0.01) compared to that found by McConnaughy et al. (1989). No significant differences were found between earlier and present study findings for the nonadjacent Precontemplation and Maintenance subscales (z = 0.38, p = 0.39). However, the results revealed that the questionnaire in the earlier study demonstrated a significantly stronger correlation between the nonadjacent Contemplation and Maintenance subscales than that obtained in the present study (z = 1.81, p = 0.03).

In summary, Study One was designed to investigate the psychometric characteristics of the URICA for a sample of individuals referred for treatment at an outpatient eating disorder.
The URICA was found to be internally consistent (all coefficients above 0.7). This result was similar to the reliability data reported by Geller et al. (2001) and McConnaughy et al. (1983, 1989). Similar to the findings by McConnaughy et al. (1983, 1989), results revealed that adjacent stages more highly correlated than nonadjacent stages. In addition, PCA revealed four stages (PreContemplation, Contemplation, Action, and Maintenance) represented by high loadings. Forty-eight percent of the total variance was accounted for by these four stages and provide reasonable support for the factor structure of the measure. On the basis of these findings, the URICA was deemed a reliable scale for measuring motivation to change in clients with a range of eating disorders. Subsequently the scale was used in Study Two for the assessment of motivation prior to and following the PE intervention.
STUDY TWO
2. METHOD

2.1. Design

Study Two employed a pre-test post-test single group design (Robson, 1993). The independent variable was mode of intervention (waiting list versus PE). The dependent variables were motivation to change (stage of change) and specific and non-specific eating disorder symptomatology.

2.2. Participants

Forty-five participants comprised one eating disorder group who had been referred to a specialist outpatient service for treatment of their eating disorder. Although this is a specialised facility, a referral by a physician or a psychiatrist is not required to provide low-threshold access. All participants (n = 45) had received a diagnosis of anorexia nervosa (AN); bulimia nervosa (BN) or eating disorder not otherwise specified (EDNOS) as described by DSM-IV (APA, 1994). Diagnoses were made following a clinical assessment of eating disorder symptoms, medical and psychiatric status by clinicians based at an outpatient eating disorder service.

Excluded were those individuals aged below 18 years, those receiving inpatient care, a Body Mass Index (BMI) of 15 or less, recent history of deliberate self-harm, suicidal ideation, planning or intent, illegal drug use, alcohol misuse, diagnosis of psychosis, intellectual disability, a medical or physical condition known to affect eating behaviour, non-English speaking (the resources and facilities required for an interpreter were not available). A small number of individuals who were diagnosed with binge eating disorder or bulimia nervosa (multi-impulsive subtype) were excluded to limit the heterogeneity of
the sample.

2.3. Measures

Three questionnaires were used in the current study. The University of Rhode Island Change Assessment Scale (URICA; McConnaughy et al., 1989); The Stirling Eating Disorder Scales (SEDS; Williams et al., 1996) and The Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994). For a full description of each of these self-report measures please refer to Study One.

2.4. Procedure

Potential candidates were approached by their clinician during an assessment session for treatment at the eating disorder service. The clinician then introduced the study to the potential candidate and asked them if they would be interested in taking part. If the potential candidate provided verbal consent to take part in the research, it was explained to them that a ‘Research Pack’ would be sent to their home in the next few days. Seven days were left deliberately to give potential participants time to consider the request fully.

Each ‘Research Pack’ (Appendix J) contained an explanatory covering letter, an information sheet providing more information about the study, (‘Participant Information Sheet’), and a Consent Form (‘Participant Consent Form’). If the individual was interested in taking part, they signed the Participant Consent Form and returned it to the eating disorder service in the SAE provided.
Assessment

Participants completed the self-report measures at the following three time points:

<table>
<thead>
<tr>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-6 Week Waiting period</td>
<td>4- Week PE Intervention</td>
<td>Assessment</td>
</tr>
<tr>
<td></td>
<td>Start of Intervention</td>
<td>End of Intervention</td>
</tr>
</tbody>
</table>

Psycho-education (PE) Intervention

Following the normal waiting time of 4-6 weeks for treatment, participants attended one of three PE interventions each consisting of a minimum of 5 and maximum of 10 group members (mean = 6). The PE intervention consisted of four weekly group sessions, each lasting two hours. Each intervention programme was facilitated by a minimum of two resident clinicians experienced in the treatment of eating disorders.

The primary aim of the PE intervention was to increase patient’s motivation to change. Individuals were not expected to reveal personal information in the group but were invited to ask questions and make comments. The group facilitators were available for 30 minutes post session to answer any questions or queries about the material presented during the session. The PE programme was not targeted at helping clients to reduce their eating disorder symptomatology and it did not provide therapy or crisis support (although support from other services was arranged if necessary). The PE programme was adapted from a standardized intervention for eating disorders with proven effectiveness (Davis & Olmstead, 1992). It operated within a didactic, lecture-style format, which included video and audio presentations, practical in-session written activities and weekly homework tasks that were discussed at individual review. Each highly structured meeting was oriented
around a different theme and included topics such as the psychological and physiological sequelae of an eating disorder, the self-perpetuating nature of eating disorders, the consequences of dieting, and coping with change. For an overview of the topics and homework tasks covered during each weekly session refer to Appendix K.

Following completion of the PE intervention participants were asked to provide verbal feedback of their experience of the programme and were encouraged to make any suggestions for improvements.
3. RESULTS

3.1. Plan of Analysis

Data were screened using SPSS 12 Frequencies to identify missing variables, out of range scores, means and standard deviations. Characteristics of the participants in different diagnostic subgroups were compared using chi-square tests and analyses of variance (ANVOA).

Preliminary assumption testing of the dependent variables was conducted to check for normality, linearity, univariate and multivariate outliers, and homogeneity of variance of the data. Data were found to be acceptable in terms of goodness of fit, skew and kurtosis to allow the use of parametric statistics without further data transformation. In addition, Levene’s Test of Equality of Error Variances confirmed equal variances.

For a repeated measures analyses of variance, a minimum of twenty participants were required to detect a medium effect size, with 80 per cent power, at an alpha level of 0.05 (Clarke-Carter, 2004).

3.2. Research Findings

3.2.1. Reliability Data

The internal consistency of all the measures was tested using Cronbach’s alpha reliability coefficient. The internal consistency of the measures was found to be acceptable. The Cronbach alpha coefficients for each subscale on the SEDS, URICA and EDE-Q are summarised in Table 9.
Table 9. Internal consistency: Cronbach alpha coefficients for subscales on the Stirling Eating Disorder Scales (SEDS), University of Rhode Island Change Assessment Scale (URICA) and Eating Disorder Examination Questionnaire (EDE-Q).

<table>
<thead>
<tr>
<th>Scale Name</th>
<th>n</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEDS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subscales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assertiveness</td>
<td>31</td>
<td>0.83</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>32</td>
<td>0.78</td>
</tr>
<tr>
<td>Self-Directed Hostility</td>
<td>32</td>
<td>0.77</td>
</tr>
<tr>
<td>Perceived External Control</td>
<td>32</td>
<td>0.89</td>
</tr>
<tr>
<td>Anorexic Dietary Cognitions</td>
<td>32</td>
<td>0.79</td>
</tr>
<tr>
<td><strong>Behaviours</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anorexic Dietary Behaviours</td>
<td>32</td>
<td>0.78</td>
</tr>
<tr>
<td><strong>URICA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subscales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precontemplation</td>
<td>32</td>
<td>0.83</td>
</tr>
<tr>
<td>Contemplation</td>
<td>32</td>
<td>0.79</td>
</tr>
<tr>
<td>Action</td>
<td>32</td>
<td>0.77</td>
</tr>
<tr>
<td>Maintenance</td>
<td>32</td>
<td>0.81</td>
</tr>
<tr>
<td><strong>EDE-Q</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subscales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating Concern</td>
<td>32</td>
<td>0.90</td>
</tr>
<tr>
<td>Shape Concern</td>
<td>32</td>
<td>0.89</td>
</tr>
<tr>
<td>Weight Concern</td>
<td>32</td>
<td>0.89</td>
</tr>
<tr>
<td>Shape Concern</td>
<td>32</td>
<td>0.79</td>
</tr>
</tbody>
</table>
3.2.2. Participant Characteristics

Participants had a mean age of 26.8 years ($SD = 2.2$). Six participants (13.3 %) met DSM-IV diagnostic criteria for anorexia nervosa (2 restricting and 4 binge/purge type); 16 participants (35.6%) met diagnostic criteria for bulimia nervosa (purging type), with the majority being diagnosed with EDNOS (23; 51.1 %).

Table 10 shows the characteristics of the participants in the total sample and in the eating disorder diagnostic subgroups. The three diagnostic subgroups did not differ with respect to age, gender, and illness duration, or motivational stages but there were significant differences with regard to Body Mass Index (BMI), and age of onset.
Table 10. Characteristics of participants in the total sample and in the diagnostic subgroups

<table>
<thead>
<tr>
<th></th>
<th>Total Sample (n = 45)</th>
<th>AN (n = 6)</th>
<th>BN (n = 16)</th>
<th>EDNOS (n = 23)</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Female Gender</strong></td>
<td>44 (99.3%)</td>
<td>9 (100%)</td>
<td>15 (93.7%)</td>
<td>23 (100%)</td>
<td>$\chi^2 = 5.9, \text{ns}$</td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>26.6 (2.2)</td>
<td>28.9 (8.9)</td>
<td>24.3 (6.2)</td>
<td>25.4 (9.9)</td>
<td>$F = 1.79, \text{ns}$</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>16.2 (5.5)</td>
<td>17.4 (5.6)</td>
<td>18.1 (6.4)</td>
<td>22.2 (8.6)</td>
<td>$F = 1.07, \text{ns}$</td>
</tr>
<tr>
<td><strong>Age at onset</strong></td>
<td>7.4 (9.2)</td>
<td>6.9 (11.3)</td>
<td>5.7 (5.7)</td>
<td>6.8 (8.9)</td>
<td>$F = 0.68, \text{ns}$</td>
</tr>
<tr>
<td><strong>Duration of illness</strong></td>
<td>28.2 (9.9)</td>
<td>18.2 (2.2)</td>
<td>24.7 (5.6)</td>
<td>26.9 (12.2)</td>
<td>$F = 5.8, \text{p} &lt; 0.01$</td>
</tr>
<tr>
<td><strong>Body Mass Index</strong></td>
<td>15.7 (4.8)</td>
<td>16.1 (4.3)</td>
<td>15.0 (4.9)</td>
<td>16.0 (4.9)</td>
<td>$F = 0.85, \text{ns}$</td>
</tr>
<tr>
<td><strong>Pre-Contemplation</strong></td>
<td>33.1 (3.9)</td>
<td>32.5 (4.4)</td>
<td>33.7 (3.4)</td>
<td>33.0 (3.9)</td>
<td>$F = 0.88, \text{ns}$</td>
</tr>
<tr>
<td><strong>Contemplation</strong></td>
<td>30.0 (4.2)</td>
<td>28.9 (4.1)</td>
<td>30.3 (3.6)</td>
<td>30.2 (4.6)</td>
<td>$F = 0.86, \text{ns}$</td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td>27.6 (4.9)</td>
<td>26.2 (3.8)</td>
<td>27.6 (5.7)</td>
<td>28.2 (4.6)</td>
<td>$F = 1.40, \text{ns}$</td>
</tr>
</tbody>
</table>

Note. Figures are numbers (%) of participants for gender; mean values (SD) for age, age at onset, duration of illness and BMI. AN = anorexia nervosa, BN = bulimia nervosa, EDNOS = eating disorder not otherwise specified. df = 2. ns = non-significant result. $^2$ = scores for continuous subscales of the URICA.

Forty-three participants completed the SEDS and EDE-Q pre-treatment. Analyses of variance revealed a significant difference between diagnostic subgroups for reported bulimic dietary cognitions and bulimic dietary behaviours. The means, standard deviations and between group comparisons are presented in Table 11.
Table 11. Mean, standard deviation and between group comparisons for scores of specific and non-specific eating disorder symptomatology

<table>
<thead>
<tr>
<th></th>
<th>Total Sample (n = 43)</th>
<th>AN (n = 5)</th>
<th>BN (n = 15)</th>
<th>EDNOS (n = 23)</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
</tr>
<tr>
<td><strong>Anorexic Dietary Cognitions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>23.6 (12.8)</td>
<td>32.2 (8.0)</td>
<td>29.5 (5.2)</td>
<td>29.8 (7.9)</td>
<td>$F = 1.98, ns$</td>
</tr>
<tr>
<td><strong>Anorexic Dietary Behaviours</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14.8 (10.5)</td>
<td>21.6 (6.5)</td>
<td>21.0 (5.3)</td>
<td>23.8 (5.4)</td>
<td>$F = 1.77, ns$</td>
</tr>
<tr>
<td><strong>Bulimic Dietary Cognitions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>23.9 (12.4)</td>
<td>30.2 (8.9)</td>
<td>36.9 (5.2)</td>
<td>32.5 (7.6)</td>
<td>$F = 4.75, p &lt; 0.05$</td>
</tr>
<tr>
<td><strong>Bulimic Dietary Behaviours</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17.8 (12.0)</td>
<td>24.4 (9.1)</td>
<td>31.2 (7.8)</td>
<td>26.1 (6.8)</td>
<td>$F = 5.68, p &lt; 0.01$</td>
</tr>
<tr>
<td><strong>Perceived External Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16.2 (9.5)</td>
<td>21.4 (8.0)</td>
<td>20.5 (7.1)</td>
<td>20.7 (8.2)</td>
<td>$F = 0.12, ns$</td>
</tr>
<tr>
<td><strong>Self-Directed Hostility</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>23.0 (11.6)</td>
<td>26.4 (9.2)</td>
<td>27.2 (7.7)</td>
<td>27.6 (7.9)</td>
<td>$F = 0.44, ns$</td>
</tr>
<tr>
<td><strong>Self-Esteem</strong></td>
<td>23.1 (8.9)</td>
<td>27.2 (5.0)</td>
<td>27.0 (8.4)</td>
<td>27.9 (5.9)</td>
<td>$F = 0.09, ns$</td>
</tr>
<tr>
<td><strong>Assertiveness</strong></td>
<td>21.1 (7.7)</td>
<td>23.4 (5.2)</td>
<td>24.7 (5.7)</td>
<td>24.6 (5.1)</td>
<td>$F = 0.56, ns$</td>
</tr>
<tr>
<td><strong>Dietary Restriction</strong></td>
<td>3.6 (2.1)</td>
<td>4.0 (2.0)</td>
<td>3.8 (1.3)</td>
<td>3.6 (2.1)</td>
<td>$F = 1.11, ns$</td>
</tr>
<tr>
<td><strong>Shape Concern</strong></td>
<td>4.5 (1.5)</td>
<td>4.2 (1.3)</td>
<td>5.0 (1.1)</td>
<td>4.5 (1.6)</td>
<td>$F = 0.26, ns$</td>
</tr>
<tr>
<td><strong>Weight Concern</strong></td>
<td>4.2 (1.5)</td>
<td>4.2 (1.3)</td>
<td>4.4 (1.4)</td>
<td>4.1 (1.5)</td>
<td>$F = 0.44, ns$</td>
</tr>
<tr>
<td><strong>Eating Concern</strong></td>
<td>3.9 (1.8)</td>
<td>3.3 (1.6)</td>
<td>3.9 (1.1)</td>
<td>3.3 (1.9)</td>
<td>$F = 3.00, ns$</td>
</tr>
</tbody>
</table>

AN = anorexia nervosa, BN = bulimia nervosa, EDNOS = eating disorder not otherwise specified.
df = 2. ns = non-significant result.
Dropouts were defined as participants who attended their first assessment session but failed to complete the minimum standard of three sessions of the psycho-education programme. On this basis, 13 participants were defined as dropouts (28.9 %) and 32 participants as completers (i.e. they reached the fourth session of the PE programme). One-way ANOVAs revealed no significant differences between drop-outs and completers with regard to clinical data and self-reported scores on the SEDS EDE-Q and URICA.
3.3. Addressing Research Questions

3.3.1. Research Question 2:
For individuals with a range of eating disorders, what impact does the 4-week group based PE intervention have upon motivation for change? Does the PE intervention have a significantly greater impact upon motivation for change than being on a 4-6 week waiting list?

3.3.1.1. Hypothesis 1:
As the 4-week PE intervention is designed to enhance motivation for change for individuals with a range of eating disorders, it will be significantly more effective in increasing motivation for change compared to the pre-treatment 4-6 waiting list.

Thirty-two participants completed the URICA at each assessment. Changes in continuous scores of stages were analysed using a repeated measures ANOVA. The independent variable was time (Time 1, Time 2, and Time 3). The different stages (PreContemplation, Contemplation, Action and Maintenance) were the dependent variables.

For the Maintenance stage, there was a significant effect for time (Wilks’ Lambda = 0.97, $F (2, 30) = 4.6, p < 0.05$, multivariate partial eta squared = 0.23) indicating that scores showed a different pattern of change over time. Follow-up t-tests revealed that Maintenance scores reduced marginally between Time 1 and Time 2 ($t = 1.74, p < 0.09$) and decreased marginally between Time 2 and Time 3 ($t = 2.89, p < 0.07$). The results are presented in Table 12.
Table 12. Changes in the stage scores on the URICA at the three time points

<table>
<thead>
<tr>
<th>Stages of Change</th>
<th>TIME 1 Referral</th>
<th>TIME 2 Pre-intervention</th>
<th>TIME 3 Post-intervention</th>
<th>Analysis</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Contemplation</td>
<td>14.1 (4.9)</td>
<td>14.6 (6.0)</td>
<td>13.9 (5.5)</td>
<td>F = 0.11, ns</td>
<td></td>
</tr>
<tr>
<td>Contemplation</td>
<td>34.9 (3.2)</td>
<td>34.7 (4.6)</td>
<td>34.3 (4.1)</td>
<td>F = 0.34, ns</td>
<td></td>
</tr>
<tr>
<td>Action</td>
<td>31.4 (4.5)</td>
<td>32.2 (7.1)</td>
<td>31.6 (7.0)</td>
<td>F = 0.17, ns</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>28.9 (5.8)</td>
<td>27.1 (6.9)</td>
<td>25.1 (7.2)</td>
<td>F = 4.56, p &lt; 0.05</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Note. df = 2. n/s indicates a non-significant result. The minimum possible score for each stage is 8; the maximum possible score for each stage is 40.

From the results it was apparent that there were few significant changes in motivation following the PE intervention. It was important to reduce the possibility of a ceiling effect; that no increase in motivation was occurring because the participants were already highly motivated. The results revealed that participants were most often agreeing with

*Contemplation, Action and Maintenance* items prior to the intervention. To a lesser extent, participants were agreeing with the *PreContemplation* items (not considering making any changes). Therefore, subsequent analysis focussed on the impact of the PE intervention only for the ‘least motivated’ participants. This was achieved by calculating participants’ Total Motivation score at Time 1 and selecting the third least motivated participants for analysis (n = 10).

For the individual stages, one-way repeated measures ANOVAs revealed no significant effect for time. However, for total motivation scores there was a significant effect for time³

(Wilks’ Lambda = 0.84, \( F(2, 20) = 5.8, p < 0.01 \), multivariate partial eta squared = 0.33).

³ Statistical analyses using one-way between groups ANOVA revealed no significant differences across diagnostic subgroups for changes on the four subscales.
The value of partial eta squared suggested a large effect of the independent variable on the total motivation score. The effect size suggested that 33 per cent of the variance in total motivation scores could be explained by time. The results are presented in Table 13.

Table 13. Changes in the stage scores and total score for the ‘least motivated’ participants on the URICA at the three time points (n = 10)

<table>
<thead>
<tr>
<th>Stages of Change</th>
<th>TIME 1 Referral</th>
<th>TIME 2 Pre-intervention</th>
<th>TIME 3 Post-intervention</th>
<th>Analysis</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Contemplation</td>
<td>17.2 (3.6)</td>
<td>17.8 (3.1)</td>
<td>17.8 (5.3)</td>
<td>( F = 0.31 ), ns</td>
<td></td>
</tr>
<tr>
<td>Contemplation</td>
<td>32.0 (1.0)</td>
<td>29.9 (1.6)</td>
<td>30.8 (2.0)</td>
<td>( F = 2.99 ), ns</td>
<td></td>
</tr>
<tr>
<td>Action</td>
<td>27.6 (2.1)</td>
<td>24.4 (5.1)</td>
<td>23.9 (5.6)</td>
<td>( F = 2.55 ), ns</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>24.4 (1.1)</td>
<td>19.8 (5.3)</td>
<td>24.4 (2.4)</td>
<td>( F = 1.12 ), ns</td>
<td></td>
</tr>
<tr>
<td>Total Motivation Score</td>
<td>66.8 (14.9)</td>
<td>56.3 (15.1)</td>
<td>61.3 (16.2)</td>
<td>( F = 5.8 ), ( p &lt; 0.01 )</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Note. df = 2, ns = a non-significant result. The minimum possible score for each stage is 8; the maximum possible score for each stage is 40.

Follow-up t-tests revealed a significant decrease in total motivation \((t = 2.4, p < 0.05)\) between Time 1 and Time 2. No other statistically significant differences were found.

In sum, the results offered no support for the hypothesis that the PE intervention would have a significant impact upon the stages of change. The PE intervention did not have a significantly greater impact upon stages of change than being on a 4-6 week waiting list.
3.3.2. Research Question 3:

For individuals with a range of eating disorders, what impact does the PE intervention have upon specific and non-specific eating disorder symptomatology? Does the PE intervention have a significantly greater impact upon specific and non-specific eating disorder symptomatology than being on a 4-6 week waiting list?

Thirty-two participants completed the SEDS and EDE-Q at each assessment. One-way repeated measures ANOVAs were carried out on symptom severity at Time 1, Time 2 and Time 3 separately for each specific eating disorder symptom (i.e. concern about shape, concern about weight, concern about shape, dietary restraint, anorexic dietary behaviours and cognitions, bulimic dietary behaviours and cognitions) and non-specific eating disorder symptomatology (i.e. self-directed hostility, assertiveness, self-esteem, and perceived external control).

**Change in Specific Eating Disorder Symptomatology**

There was a significant effect for time for eating concern (Wilks’ Lambda = 0.85, $F(2, 30) = 4.0, p < 0.05$, multivariate partial eta squared = 0.23) and anorexic dietary behaviours (Wilks’ Lambda = 0.81, $F(2, 30) = 3.59, p < 0.05$, multivariate partial eta squared = 0.19).

The value of partial eta squared in each case indicates a large effect of time upon these scores.

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*Statistical analyses using one-way between groups ANOVA revealed no significant differences across diagnostic subgroups for changes for concern about shape, concern about weight, concern about shape, dietary restraint, anorexic dietary behaviours and cognitions, bulimic dietary behaviours and cognitions.*
For reported weight concern there was a significant interaction of time (Wilks’ Lambda = 0.97, \( F(2, 30) = 3.42, p < 0.05 \), multivariate partial eta squared = 0.02). The effect size was small. This indicates that despite reaching statistical significance, the actual difference in mean scores was small. A summary of the results is presented in Table 14.

Table 14. Changes in the subscale scores for specific eating disorder symptomatology on the SEDS and EDE-Q at the three time points (n = 32)

<table>
<thead>
<tr>
<th>Subscales</th>
<th>TIME 1 Referral</th>
<th>TIME 2 Pre-intervention</th>
<th>TIME 3 Post-intervention</th>
<th>Analysis</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anorexic Dietary Cognitions</td>
<td>30.0 (8.7)</td>
<td>26.1 (11.5)</td>
<td>30.0 (8.9)</td>
<td>( F = 2.46, ) ns</td>
<td></td>
</tr>
<tr>
<td>Anorexic Dietary Behaviours</td>
<td>17.2 (10.4)</td>
<td>13.0 (9.2)</td>
<td>15.1 (10.0)</td>
<td>( F = 3.59, ) ( p &lt; 0.01 ) 0.19</td>
<td></td>
</tr>
<tr>
<td>Bulimic Dietary Cognitions</td>
<td>29.4 (11.3)</td>
<td>30.9 (10.0)</td>
<td>30.1 (11.6)</td>
<td>( F = 0.32, ) ns</td>
<td></td>
</tr>
<tr>
<td>Bulimic Dietary Behaviours</td>
<td>24.4 (18.7)</td>
<td>21.2 (12.5)</td>
<td>24.1 (12.0)</td>
<td>( F = 1.26, ) ns</td>
<td></td>
</tr>
<tr>
<td>Shape Concern</td>
<td>4.7 (1.0)</td>
<td>4.2 (1.5)</td>
<td>4.4 (1.3)</td>
<td>( F = 2.09, ) ns</td>
<td></td>
</tr>
<tr>
<td>Weight Concern</td>
<td>4.4 (1.7)</td>
<td>3.8 (1.6)</td>
<td>4.5 (1.7)</td>
<td>( F = 3.42, ) ( p &lt; 0.05 ) 0.02</td>
<td></td>
</tr>
<tr>
<td>Eating Concern</td>
<td>3.8 (1.3)</td>
<td>3.3 (1.5)</td>
<td>3.5 (1.1)</td>
<td>( F = 1.62, ) ns</td>
<td></td>
</tr>
<tr>
<td>Dietary Restriction</td>
<td>4.1 (1.5)</td>
<td>3.5 (1.8)</td>
<td>3.7 (1.6)</td>
<td>( F = 3.98, ) ( p &lt; 0.05 ) 0.23</td>
<td></td>
</tr>
</tbody>
</table>

Note. df = 2, ns = a non-significant result. The minimum possible score is 0, the maximum possible score is 6.
The change in scores for weight concern, dietary restriction, and anorexic dietary behaviours at each time point are displayed in Figure 3.

Follow-up t-tests revealed that for concern about weight, there was a significant reduction in scores between Time 1 and Time 2 ($t = 2.3, p < 0.05$). There was also significant increase in participant’s Weight Concern between Time 2 and Time 3 ($t = 2.3, p < 0.05$).

There was a significant reduction in reported Dietary Restriction between Time 1 and Time 2 ($t = 2.6, p < 0.05$). For reported Anorexic Dietary Behaviours there was a significant reduction between Time 1 and Time 2 ($t = 2.6, p < 0.05$). No other statistically significant differences were found.
Change in Non-Specific Eating Disorder Symptomatology

For reported self directed hostility there was a significant effect for time (Wilks' Lambda = 0.8, $F(2, 30) = 2.9, p < 0.05$, multivariate partial eta squared = 0.12). The value of partial eta squared indicated a large effect size of the independent variable on self- directed hostility. A summary of the results is presented in Table 15.

Table 15. Changes in scores for non-specific eating disorder symptomatology on the SEDS at the three time points (n = 32)

<table>
<thead>
<tr>
<th>Subscales</th>
<th>TIME 1</th>
<th>TIME 2</th>
<th>TIME 3</th>
<th>Analysis</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Pre-intervention</td>
<td>Post-intervention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assertiveness</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>$F = 0.38$, ns</td>
<td></td>
</tr>
<tr>
<td></td>
<td>22.7 (7.7)</td>
<td>21.6 (8.4)</td>
<td>22.6 (8.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>23.1 (8.9)</td>
<td>23.0 (9.8)</td>
<td>21.8 (10.7)</td>
<td>$F = 0.57$, ns</td>
<td></td>
</tr>
<tr>
<td>Self-Directed</td>
<td>27.0 (11.4)</td>
<td>21.9 (11.9)</td>
<td>21.4 (12.8)</td>
<td>$F = 2.91$, p &lt; 0.05</td>
<td>0.12</td>
</tr>
<tr>
<td>Hostility</td>
<td>18.4 (10.1)</td>
<td>18.4 (10.4)</td>
<td>18.2 (9.6)</td>
<td>$F = 0.02$, ns</td>
<td></td>
</tr>
<tr>
<td>Perceived</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. df = 2. n/s indicates a non-significant result.

Statistical analyses using one-way between groups ANOVA revealed no significant differences across diagnostic subgroups for changes in assertiveness, self-esteem, self-directed hostility and perceived external control.
The change in mean scores for self-directed hostility at each time point are displayed in Figure 4.

![Figure 4. Changes in scores for self-directed hostility, and self-esteem at each time point](image)

Note. SDH = self-directed hostility, SE = self-esteem. (n = 32)

Follow-up t-tests revealed that for reported self-directed hostility there was a significant reduction in reported self-directed hostility between Time 1 and Time 2 ($t = 2.1, p < 0.05$). No other statistically significant differences were found.

The results revealed that the PE intervention did not significantly reduce specific and nonspecific eating disorder symptomatology for individuals with a range of eating disorders. The PE intervention was not significantly more effective for reducing specific and nonspecific eating disorder symptomatology than being on a 4-6 week waiting list.
3.3.3. Research Question 4:

For individuals with a range of eating disorders, is the PE intervention more effective for reducing specific and non-specific eating disorder symptomatology for the 'healthiest' third of the sample? Does the PE intervention have a significantly greater impact upon specific and non-specific eating disorder symptomatology than being on a 4-6 week waiting list?

In determining the 'healthiest' third of the sample, participants were defined as those who attained the lowest scores on the SEDS pre-treatment (n = 10). Of the 'healthiest' participants one person had a diagnosis of AN (10%); 3 had a diagnosis of BN (30%); and 6 had a diagnosis of EDNOS (60%). It was not possible to establish a category of severity. However, of the 'healthiest' participants, all scores for anorexic dietary cognitions were above the cut-off required for the range of eating disorder severity. All other scores were below the cut-off required for the range of eating disorder severity (Williams et al., 1994).

One-way repeated measures analysis of variance was carried out on symptom severity at Time 1, Time 2 and Time 3 separately for specific eating disorder symptomatology (anorexic dietary behaviours and cognitions, bulimic dietary behaviours and cognitions), and non-specific eating disorder symptomatology (self-directed hostility, assertiveness, self-esteem, and perceived external control). The results are presented in Table 16.
Table 16. Mean subscale scores and within group comparisons for specific eating disorder symptomatology for the ‘healthiest’ third of the sample at each time point (n = 10)

<table>
<thead>
<tr>
<th>Subscales</th>
<th>TIME 1 Baseline</th>
<th>TIME 2 Pre-intervention</th>
<th>TIME 3 Post-intervention</th>
<th>Analysis</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anorexic Dietary Cognitions</td>
<td>19.1 (5.6)</td>
<td>20.7 (5.9)</td>
<td>20.0 (5.3)</td>
<td>$F = 2.46$, ns</td>
<td></td>
</tr>
<tr>
<td>Anorexic Dietary Behaviours</td>
<td>6.1 (10.4)</td>
<td>6.3 (2.7)</td>
<td>6.8 (3.9)</td>
<td>$F = 1.59$, ns</td>
<td></td>
</tr>
<tr>
<td>Bulimic Dietary Cognitions</td>
<td>15.2 (5.3)</td>
<td>16.3 (7.1)</td>
<td>14.2 (8.4)</td>
<td>$F = 2.32$, ns</td>
<td></td>
</tr>
<tr>
<td>Bulimic Dietary Behaviours</td>
<td>8.3 (4.5)</td>
<td>8.4 (4.4)</td>
<td>7.5 (3.8)</td>
<td>$F = 1.36$, ns</td>
<td></td>
</tr>
<tr>
<td>Assertiveness</td>
<td>21.6 (5.4)</td>
<td>21.8 (7.1)</td>
<td>24.0 (6.4)</td>
<td>$F = 3.38$, ns</td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>11.6 (6.3)</td>
<td>12.3 (4.2)</td>
<td>10.7 (3.6)</td>
<td>$F = 0.67$, ns</td>
<td></td>
</tr>
<tr>
<td>Self-Directed Hostility</td>
<td>15.3 (6.4)</td>
<td>8.8 (3.2)</td>
<td>9.1 (2.8)</td>
<td>$F = 3.91$, 0.21</td>
<td></td>
</tr>
<tr>
<td>Perceived External Control</td>
<td>8.1 (2.5)</td>
<td>7.7 (2.6)</td>
<td>8.2 (3.3)</td>
<td>$F = 0.03$, ns</td>
<td></td>
</tr>
</tbody>
</table>

Note. df = 2, ns = a non-significant result.

The results revealed that there was a significant effect of time self-directed hostility (Wilks' Lambda = 0.98, $F (2, 30) = 3.19$, $p < 0.05$, multivariate partial eta squared = 0.12).
SPECIAL NOTE

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Table 16. Mean subscale scores and within group comparisons for specific eating disorder symptomatology for the ‘healthiest’ third of the sample at each time point (n = 10)

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<thead>
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<th>TIME 3</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Pre-intervention</td>
<td>Post-intervention</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M (SD)</td>
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<td></td>
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<td>ns</td>
</tr>
</tbody>
</table>

Note. df = 2, ns = a non-significant result.

The results revealed that there was a significant effect of time self-directed hostility (Wilks' Lambda = 0.98, $F(2, 30) = 3.19$, p < 0.05, multivariate partial eta squared = 0.12).
The estimated effect size was large. Follow-up t-tests revealed that there was a significant reduction between Time 1 and Time 2 for self-directed hostility ($t = 2.1, p < 0.05$).

In summary, the results revealed that the PE intervention was not effective for reducing specific and non-specific eating disorder symptomatology for the 'healthiest' third of the participant sample.
4. DISCUSSION

Initially the results will be presented and discussed in relation to the hypotheses that were
generated from the research questions described in the introduction. The relevance of the
findings to clinical work will be examined, and strengths and weaknesses will be appraised
following an appraisal of the methodology employed. Finally, findings will be discussed in
relation to their implications for new and further research into the treatment of eating
disorders.

4.1. Research Questions and Hypotheses

4.1.1. Research Question 1:

Will the URICA have similar psychometric properties to those found by Geller et al.
(2001) and McConnaughy et al. (1983, 1989) for a large sample of clients with a range
of eating disorders?

In a large sample of patients with a range of eating disorders the URICA was found to be
internally consistent ($r = 0.7$ or above). The internal consistency results were similar to, if
a little lower than those of earlier studies (Geller et al., 2001; McConnaughy et al., 1983,
1989). A principal component analysis revealed four distinct stages (Precontemplation,
Contemplation, Action, and Maintenance). These four factors accounted together for
approximately half of the total variation in questionnaire responses, and provided
reasonable support for the factor structure of the measure. The factor structure and mean
scores for each subscale were very similar to those reported in previous studies
(McConnaughy et al., 1983, 1989). In addition, analyses of the intercorrelations of the
subscales revealed significantly higher correlations between scale scores for adjacent
stages than non-adjacent stages, a finding similar to that demonstrated by McConnaughy et al., (1983, 1989). According to McConnaughy et al., (1989, 1983) this finding is consistent with the idea of a predictable movement from one stage of change to the next. In summary, the results revealed that the URICA has good construct validity for a sample of clients with a range of eating disorders attending an outpatient service for treatment of their eating disorder. However, it is advisable that test-retest reliability is conducted in future studies in order to establish whether the URICA can demonstrate stability in measuring the stages of change over time.

4.1.2. Research Question 2:
For individuals with a range of eating disorders presenting for treatment at an outpatients eating disorder service, what impact will a first stage 4-week group based PE intervention have upon the motivation for change? Does the PE intervention have a significantly greater impact upon motivation for change than being on a 4-6 week waiting list?

4.1.2.1. Hypothesis 1:
As the 4-week PE intervention is designed to enhance motivation for change for individuals with a range of eating disorders, it will be significantly more effective in increasing motivation for change compared to the pre-treatment 4-6 waiting list.

The present results offered no support for the hypothesis that the psycho-education intervention would be significantly more effective for increasing motivation for change compared to the pre-treatment 4-6 waiting list. The specific aim of the PE intervention was to increase motivation for change. The results revealed that the intervention had the greatest impact upon participants in the Maintenance stage of change and against
expectation, the number of participants in Maintenance deceased significantly after the PE intervention. However, the results indicated that the majority of participants were agreeing with the Contemplation items, and to a lesser extent agreeing with the Maintenance items; thereby reducing the sensitivity of measuring change over time. Further, in Study One, participants were allocated to the Maintenance stage only infrequently. A Total Motivation score was calculated for participants which gave an overall score for motivation (this took into account scores for all four stages of change rather than assessing change on each individual stage). Results revealed that Total Motivation scores decreased significantly during the waiting period and increased following the PE intervention. However, although this was a positive finding, the increase in scores post-intervention was not statistically significant.

A possible explanation for the findings may have been due to a mismatch between the professional perceptions of what clients ought to know about their eating disorder and what clients identified as their own educational needs. Illness information improves the likelihood of independent change on the part of the client, and may increase client adherence to difficult decisions (Pomerleau & Rodin, 1996). It may have been that participants in the present study did not experience any increase in motivation for change because the illness information provided was not relevant to their own educational needs. Another explanation may be due to the combination of diagnoses in the group, which might have concealed differences in the amount of positive change in motivation. The majority of participants (51%) within the study had received a diagnosis of EDNOS. Individuals with AN were under-represented and the literature suggests that as a separate group motivation for change and the characteristics of such individuals are known to differ from other eating disorders in general (Vitousek et al., 1998). Although no significant differences were found between the diagnostic groups, it is recognized that the numbers of
participants divided into the separate diagnostic groups was small. Further investigation of
differences between the diagnostic groups awaits further study.

However, the qualitative feedback received was generally very positive and encouraging,
with the only improvement being to have more sessions. It is well known that ambivalence
towards change is pervasive among clients with eating disorders (Vitousek, Watson, &
Wilson, 1998) and the intervention may have been too short for any significant impact
upon motivation for change to take place.

A more plausible explanation for the findings is that the URICA was not sensitive enough
to detect changes in motivation or measure changes in motivation over time. Although the
URICA was found to have good construct validity with an eating disorder population, the
rest-retest reliability of the URICA was not established. Several researchers have criticized
the URICA, as it is general in format rather than specific to eating disorder behaviours per
se (e.g. binge eating, vomiting) (e.g. Treasure & Schmidt, 2001). It is well documented that
eating disorders are complex in nature (Richard et al., 2005) and clients may have different
levels of motivation to change different aspects of their eating disorder (Vitousek et al.,
1998). This further complicates the assessment of motivation to change. A critique of the
URICA and suggestions to improve the validity of assessing motivation to change with
clients with eating disorders is addressed later in the section.
4.1.3. Research Question 3:
For individuals with a range of eating disorders, what impact does the PE intervention have upon specific and non-specific eating disorder symptomatology?

The results demonstrated that the PE intervention had no significant impact upon specific and non-specific eating disorder symptoms. It was not more effective for reducing symptomatology than being on a 4-6 week waiting list. Following the PE intervention, the results revealed that there was a significant increase in participant’s reported concern about weight, although examination of the effect size indicated that the change in scores was very small. These findings were expected as the primary goal of the PE intervention was to address patients’ ambivalence about change. Participants were not asked to discuss or reduce their eating symptoms.

In the studies by Davis et al. (1990, 1992) significant reductions in specific and non-specific eating disorder symptomatology were found. However, the primary therapeutic objective of the PE intervention in these previous studies was to assist participants in normalising their eating behaviour. It is likely, therefore that the group facilitators took a more active and directive approach towards addressing the eating behaviour of participants, than in the present study.

Some interesting findings emerged from an examination of the scores during the waiting-list period. The results indicated that self-directed hostility, anorexic dietary behaviours and dietary restraint reduced significantly during this time. This finding was not expected, and suggests that the assessment process operating at the eating disorder service may have had an effect upon symptomatology. It is possible that having the opportunity to talk with a clinician was perceived helpful in its own right.
4.1.4. Research Question 4:

For individuals with a range of eating disorders, will the PE intervention be more effective for reducing specific and non-specific eating disorder symptomatology for the ‘healthiest’ third of the sample?

The results indicated that the PE intervention had no significant impact upon specific and non-specific eating disorder symptomatology for the ‘healthiest’ third of the sample. The PE intervention was not more effective in reducing symptomatology than being on the 4-6 week pre-treatment waiting list. The findings are not consistent with the previous study by Olmstead et al. (1991), who found that the PE intervention was most effective for the 25-45% of patients with BN. However, these findings were not surprising as the primary aim of the intervention was to increase motivation for change, not to reduce symptoms.

It is possible, however, that due to the combination of diagnoses in the group, differences in the amount of change in eating disorder symptomatology were concealed. However, due to the small numbers of participants (n = 10) it was not possible to make meaningful statistical comparisons across the diagnostic subgroups. As the intervention in the Olmstead et al. study was targeted for clients with BN, it is possible that such approaches are better suited to this particular diagnostic subgroup. Further studies are required to clarify this issue. Another explanation for the result may have been due to cross-cultural differences. The Olmstead et al. study was conducted in Canada, and it is likely that there were significant differences in the provision of services, along with cultural differences. Unfortunately, no UK studies to date have been conducted to evaluate of a purely psychoeducational intervention for individuals with eating disorders.
4.2. Implications of the Research

The results imply a number of implications for the assessment and treatment of clients with eating disorders. Additionally, there are theoretical implications in light of the results.

Notwithstanding the limitations of the present study, the results add to the current knowledge and understanding of motivational issues operating for individuals with eating disorders, which will serve to enhance the effectiveness of treatments for this client population.

The results would not support a group based 4-week PE intervention as the first-stage treatment of choice for individuals with a range of eating disorders. However although no positive results were found with regard to the PE intervention and its impact upon motivation to change and eating disorder symptomatology, this is a progressive step towards understanding how to apply techniques aimed at enhancing motivation to change. On the basis of the results it appears that access to relevant information about the nature of eating disorders alone is not sufficient for enhancing motivation for change. However, it may be that the willingness to complete a course of treatment is less related to stage of change, and more related to the ability to actually change behaviour. For example, it may be that the participants were motivated to change but did not feel confident in their ability to change. Without the opportunity for clients to have personalized assistance in applying psychoeducation, the opportunity to express their fears and discuss their emotions, and the support of a trusting therapeutic relationship, PE may not be an effective intervention for enhancing motivation for change.

Results indicated that participants frequently had profiles consistent with several different stages of change. For example, only 36% of participants profile conformed to a strictly
interpreted stage model. That the participants simultaneously held beliefs (or attitudes) that correspond to several different stages of change supports Sutton's (1996) conceptualisation of states of change, where scores can be thought of as continuous variables that reflect competing and conflicting tendencies regarding change. Given this dynamic view of motivation, a client's motivation may require continual attention over the course of treatment and implies that treatment motivation may depend on dynamic factors such as problem recognition or outcome expectancies, rather than on static personality factors.

Horvath and Symonds (1991) conducted a meta-analysis of 20 sets of data and found that patients' perception of the working alliance relates to outcome. Treasure et al. (1999) found in a study of clients with BN that the aspects of the therapeutic alliance that seemed to be particularly important were perceived agreement between therapist and client on the goals to be achieved in therapy and the tasks that should be carried out to achieve this. This highlights the importance of allowing participant's opportunity to discuss their concerns about the aims of treatment and the tasks that will need to be carried out to achieve these. Just outlining the rationale for treatment to achieve the goals that the facilitator feels are important may not be enough.

Furthermore, the results of the study highlight the difficulty in engaging individuals in treatment. For example, of the 45 participants who were assessed for the study, only 32 completed the PE intervention. The relatively high drop out rate (28.9%) is similar to that found in other studies (Feld et al., 2001; Treasure et al., 1999) with clients with eating disorders, and identifies the difficulty in engaging these individuals in treatment.

In determining the treatment implications of the findings, a number of contextual factors need to be taken into account. Participants in the present study were outpatients, which as a group are suggested to present with less severe pathology in terms of medical, physical and
co-morbid complications (Anderson et al., 2004). In addition, the majority of participants in the present study were in the Contemplation stage of change. It may be that more severe cases, in terms of complications suggested by Anderson and colleagues (i.e. inpatients), and for individuals whose dominant stage is PreContemplation, the pattern of readiness and behavioural change is different.

4.2.1. The Assessment of Motivation to Change

Based on the study findings, clinicians should be cautious when administering and scoring the URICA using the highest score method, as individuals with nearly identical profiles can be separated into different stages of change. As a result, preference should be given to the interpretation of the URICA scale mean scores.

However, reliance on a quick questionnaire measure of complex motivational issues in individuals with eating disorders may risk misclassifying individuals. For example, a clinician may miss why for particular individuals a high level of suffering and a desire for change does not equal strong motivation to engage in treatment. It is also recognised that just being aware that a patient is contemplating change is of limited value, as it does not tell clinicians anything about the underlying reason for contemplating making changes. It is important for clinicians to know what particular aspects of their eating disorder clients are contemplating change for and of what treatment efforts they consider. Drieschner, Lammers and van der Staak (2004) point out that the term motivation to change is adequate as long as change refers to well-defined problem behaviours such as problem drinking or smoking cigarettes. However, in the context of eating disorders what may be meant by motivation to change is in fact a desire or wish. Therefore, if the term motivation is to be used, it would have to refer to the effort required for change (Drieschner, Lammers & van der Staak, 2004).
4.3 Methodological Critique

4.3.1 Design

This is the first study of its kind to evaluate PE as a first stage treatment intervention for individuals with a range of eating disorders. However, as with all studies, there were several methodological limitations. Firstly, a major limitation was the lack of longitudinal data. This eliminated the possibility of adding the predictive ability of the URICA. As no long-term follow-up had been conducted, it was not possible to establish to what extent the PE intervention had influenced participant’s decision to continue with treatment at the eating disorder service.

Secondly, no attempt was made to check the psycho-education protocol fidelity, for example, by independently assessing the sessions (i.e. through the use of video or cassette recording of sessions). This included assessment of the style in which the psycho-educational material was presented (e.g. principles of honesty, patience, avoiding arguments) which have been said to be key to the effective delivery of educational material (Vitousek, Watson, & Wilson, 1998). Further, the questionnaires were not administered during the PE intervention, and as such it was not possible to establish whether particular PE topics had a more positive influence on symptoms and intentions to change. However, participants were given the opportunity to provide feedback on the intervention; the majority of which was positive and encouraging.

There were ethical problems in choosing a design involving random assignment to two experimental conditions (i.e. a waiting list and PE intervention), in withholding the treatment from a no-treatment control group. As a result, a pre-test post test single group design was employed. Random allocation to experimental conditions has been advocated as a crucial feature of an experimental study design (Robson, 1993). However, Cook &
Campbell (1979) highlighted that it is not necessary to assume the superiority of a randomised design, and a pre-test post-test design has the advantage of allowing a flexible approach to interpretation. However, due to the nature of the design it cannot be ruled out that another issue affected symptomatology and motivation for change, for example maturation, or an effect of the assessment process.

4.3.2 Participants
The strength of this study includes the recruitment of individuals with a range of eating disorder diagnoses (AN, BN and EDNOS). It is well recognised that the research literature is largely silent on the appropriate treatment of EDNOS (Nielsen & Palmer, 2003) and using broad inclusion criteria makes the results of the study relevant for routine clinical practice. However, this provided a heterogeneous sample with regard to eating disorder pathology. This had implications for the application of a brief outcome measure that would be equally applicable to all participants in the sample. In addition, a relatively small proportion of individuals with AN were recruited for the study. This reflects the finding that individuals with AN are reluctant to seek treatment (Treasure et al., 1999).

A range of co-morbid issues within and across the eating disorder groups, such as self-directed hostility and low self-esteem were controlled for in the present study. However, as a specific measure of depression and anxiety was not included, these confounding variables may have affected the results. For example, studies have shown that depression is common among individuals experiencing eating disorders (Roth & Fonagy, 1996).

In addition, the current study did not control for effect of previous treatment experiences or self-referral to treatment among participants. These factors may have implications for the stage of change distribution. On reflection, it is hypothesised that a voluntary sample
would over-represent those in *Action* and *Maintenance* stages, and under-represent those in early stages, especially *Precontemplation*. Nonetheless, the sample for the present study included individuals at all stages of change that encompassed a broad range of specific and non-specific eating disorder symptomatology.

4.3.3 Measures

In terms of the self-report measures used within this study, all were chosen as the most suitable method for collecting the required data. One difficulty this study has highlighted is the methodology of measuring the stages of change, and it is acknowledged that the URICA may have flaws. The Highest Score method offers a quick, easy way of calculating stage scores, and it is applicable to all individuals completing the questionnaire. However, the results demonstrated that using this method can separate individuals with nearly identical profiles into different stages of change.

The URICA does not address separately the behaviours associated with an eating disorder, but instead ask how motivated patients are to give up their eating disorder. The validity of the measure might be increased if a specific problem behaviour is defined (e.g. restricting intake, bingeing, purging). Future studies might improve the applicability of the URICA by administering the measure twice, once referring to compensatory behaviours, and once referring to binges, since individuals have shown different levels of motivation to change different aspects of their eating disorder (Treasure *et al.*, 1999).

An alternative measure to the URICA would be the Readiness and Motivation Interview (RMI) (Geller & Drab, 1999), which uses an interview approach to explore an individual’s motivation to change specific eating disorder symptoms. However, this sophisticated
measure may be impractical for use in clinical situations as readiness to change is often fluid and can wax and wane within and between sessions (Treasure & Schmidt, 2001). Fairburn and Cooper (1993) indicate that an interview rather than a pen and paper measure may be more valid for assessing specific psychopathology as it allows for terms to be defined, probe further when necessary and clarify questions. However, it has been suggested that self-report questionnaire measures may be more valid when asking about secretive or shameful behaviour, such as bingeing, as individuals may be reluctant to reveal such information in a face-to-face interview (Wilfley et al., 1997). Alternatives to the EDE-Q and SEDS would be the Eating Attitudes Test (EAT-26) (Garner et al., 1982), although using this measure would gather little extra information.

There is some question as to the suitability of using the Stirling Eating Disorder Scale (SEDS) (Williams et al., 1994) and Eating Disorder Examination –Questionnaire (EDE-Q: Fairburn & Beglin, 1994) to assess eating disordered behaviours and cognitions. Although both the SEDS and EDE-Q have demonstrated good internal reliability and validity in anorexia nervosa and bulimia nervosa populations (e.g. Engelsen, & Laberg, 2001; Campbell et al., 2002, Wilfley et al., 1997), clinical norms were not available for EDNOS. In addition, there is some evidence to suggest that individuals had some difficulties with comprehending certain items, in particular defining a ‘binge’ (Campbell et al., 2002). Further, it was difficult to assess the clinical significance of change over time using these two measures, as standardised categories of severity were not available.

4.4. Future Research Opportunities

The focus of the analyses in the present study was restricted due to time constraints, and as a result there are many other areas that need exploring with regard to the issue of
motivation for change and the implications of a psychoeducation intervention in the successful treatment of individuals with eating disorders.

Future research could investigate how PE interventions in eating disorder treatment settings can be further enhanced. This could involve investigating the effectiveness of a longer PE intervention and simultaneously probing the views of clients, family and staff perceptions of the interest in educational topics as typically presented in PE programmes. An investigation of how this need may differ as a function of eating disorder diagnosis and other demographic features should also be conducted. Longitudinal studies could provide evidence for the long-term effects of PE as a first stage intervention. In addition, differences in symptomatology and demographic factors between drop-outs and completers of such programmes should be researched further.

Future research could compare eating disorder groups with other psychiatric groups, such as those with personality disorders or depression, in order to highlight patterns of motivation to change specific to an eating disorder population. In addition, future research could address the needs of individuals’ representative of those with 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 clinical levels of eating disorder in the community (Palmer, 2002). It would be worthwhile exploring community samples that don’t access services, as this might yield information in relation to differences in motivation for change.

Further research should include the development of measures for all transtheoretical model constructs (processes of change, pros and cons, confidence and temptations) in order to help better understand the self-change process for eating disorders. These dimensions of
the TTM can provide rich information for the development of treatment plans and can quickly inform a therapist about their client's progress. Such measures may serve to enhance newer treatment models that use the TTM, such as the readiness and motivation interview for eating disorders (Geller & Drab, 1999). It is vital that future research begins to seek the views and opinions of clients themselves in order to enhance our understanding of the motivation for change in clients with eating disorders.

5. Conclusion

In summary, despite methodological limitations, this study has demonstrated that the URICA has acceptable psychometric properties with individuals suffering from a range of eating disorders. Against expectation, the results revealed that a brief PE intervention did not significantly increase motivation to change, when compared to a 4-6 week waiting list. As anticipated, the PE intervention had no significant impact upon specific and non-specific eating disorder symptomatology. This is the first time a purely psycho-education intervention has been tested in a treatment setting and the findings of this study may encourage future research investigating the issues that influence the recovery from an eating disorder.
6. Critical Appraisal (Section Three)

The critical appraisal is based on a research diary, consisting of reflections and learning points recorded throughout the process of conducting the research.

6.1. Conception of Research

Early research ideas were developed during my research assistant post within a multi-centred randomised controlled trial of the effectiveness of inpatient, specialist outpatient and CAMHS interventions for adolescents with eating disorders. This involved close working with a wide variety of health professionals and conducting the clinical and research assessments of young people with eating disorders. As the trial progressed, I began to realise that despite much research geared towards investigating which treatments were effective for individuals with eating disorders, little was known about how or why treatments were effective. This sparked an initial interest into the factors that influenced a successful recovery from an eating disorder.

During my clinical psychology training my research ideas were further enhanced. Through my own clinical experiences it became apparent that some individuals presenting for treatment were ambivalent about change, which had implications for my interpersonal relationships with clients. For example, I often felt frustrated by individuals who were ambivalent about change and the resultant lack of progress.

Alongside this, when speaking informally to NHS professionals working with individuals with eating disorders, it was apparent that they frequently had the experience of individuals presenting for treatment who were ambivalent about change, or only attending under duress from concerned family members. There was a general feeling that eating disorders
were a highly complex and chronic condition, and that effective treatment frequently posed challenges to therapists.

With these elements in mind, I began to think more widely about the treatment difficulties for individuals with eating disorders accessing psychological therapies. I became interested in what psychological processes were operating to enable certain individuals to successfully recover from their eating disorder, whilst others didn’t. I also became interested in the impact of eating disorder diagnosis on these treatment issues, including the diagnosis of binge eating disorder within obese and non-obese populations.

The combination of these elements led to the foundations of this research study. Presenting my ideas to a number of established professionals within eating disorder services were well received, as clinicians wished to learn more about the factors influencing the success treatment of individuals with eating disorders. Early ideas and proposals included investigating the role of shame and pride in the therapeutic outcome of eating disorders. However, it was decided that due to its relatively under-researched nature, a key area to focus on was the effectiveness of a psycho-education programme for enhancing motivation for change in eating disorders.

Early methodological ideas centred on comparing different eating disorder populations; binge eating disorder in non-obese and obese individuals. However, time constraints required an approach that took into consideration the difficulties that geography and recruitment would have. In order to improve participation and data collection, it was decided that a quantitative questionnaire based approach would be employed investigating the impact of psycho-education on motivation for change in individuals diagnosed with anorexia nervosa, bulimia nervosa and eating disorder not otherwise specified. A key issue
raised during discussion was to include investigation of the clinical utility of a widely used motivational measure that had originally been developed in addiction populations, for individuals with eating disorders. A research protocol was submitted to the University of Leicester in December 2004. Following the completion of any necessary adjustments, the study was submitted and approved by Coventry Local Research Ethics Committee in December 2005, enabling the study to commence.

6.2. Managing the Research and Accessing a Sample

Being on placement at the eating disorder service proved to be invaluable for the effective management of my research. It was possible to raise any research management issues directly with my clinical supervisor. In addition, as I was working closely with other clinicians at the eating disorder service, this had the advantage of providing me with valuable information as to which particular aspects of my research may need extra time.

Being on placement at the eating disorder service also gave me direct access to a large database of existing clinical data gathered over a five-year period from patients attending the service. Access to such a varied and rich information source was invaluable for strengthening subsequent quantitative analyses and research findings.

As a co-facilitator of the psycho-education programme, I was able to directly oversee the research process. I was able to provide participants with a rationale behind the study as well as offer assistance to anyone who had difficulties completing the questionnaires. In addition, I was able to check all questionnaires for omissions or errors immediately after completion, and when necessary approach participants to complete the amendments required. In order to prevent any possibility of research bias this may have introduced, I was careful to avoid suggestive or leading questions at this time. Hearing an individual’s
account of their experience of an eating disorder was frequently an emotive experience for me, and being privy to accounts of the reasons why individuals were reluctant to change gave me valuable insight into the experience of recovery from an eating disorder. I was continually impressed by the contributions participants made to the research, including repeatedly completing the questionnaires.

6.3. Analysis and Writing Up

Initially I felt apprehensive about undertaking the quantitative analyses required for this study, because there was such a huge amount of data, and processing it involved applying statistical procedures that I hadn’t used before. I read and reread literature on statistical techniques and example procedures, and although this helped my understanding, I still found analysing the data arduous at times. At first I tried out a variety of methods of quantitative analysis, however, after time, practice, and returning to my original research questions I felt confident that the statistical tests used were the most appropriate for the study.

In writing up the study, I found it difficult to stay within the specified word limit. However, the process of writing up enabled me to develop and consider further research questions, and I kept going back to the data checking and refining ideas. It took a few revisions of the first draft before I was happy with my report. Supervisors, peers and friends were asked to read and make comment on the drafts, and leaving plenty of time to check and reanalyse the data was invaluable for enabling a clear interpretation of the results and discussion of the findings.
6.4. Supervision and Support

My progress throughout the research was enabled and enhanced through support and regular supervision with my academic and clinical supervisors. I was provided with valuable advice and suggestions with regard to the analysis and reporting of my findings, and I felt able to plan a series of deadlines throughout the research process. This planning and execution enabled me to stay on schedule. Their input was particularly beneficial for reading drafts and encouraging me to highlight the clinical relevance of the study. On a personal level, my partner and family offered invaluable support and guidance that served to contain my anxiety and stress levels. In addition, the ability to talk to fellow trainees and friends about difficulties and ideas via phone conversations and emails enhanced my motivation and kept up my morale.

6.5. Learning Points for Further Research

Throughout the process of undertaking this research study, I have learnt much about my strengths and weaknesses in undertaking a large-scale research study. I have been able to improve and develop my knowledge of the planning involved, as well as the carrying out and dissemination of a research study. Through the process of conducting the study, I have appreciated working with different agendas at one time. These include producing work of a high enough standard to meet the course requirements, passing my clinical training and producing a piece of work that was meaningful of the population's experiences. Despite the hard work involved, I found conducting the research process very rewarding. Working closely with individuals with eating disorders during the research process enabled me to better understand and appreciate many of the complex issues that are present for individuals accessing and undergoing treatment for their eating disorder. This experience enabled me to reflect upon the needs of service users, and provided me with valuable insight in order to answer the research questions.
Although various clinical team members and supervisors were involved in the early stages of this research, communication with potential participants was limited. In hindsight, incorporating the views of potential participants would have provided valuable information with regard to the particular questionnaires used, and may have provided a valuable insight for developing specific research questions. Nonetheless, during my clinical placement and throughout the research process, I continued to encourage all participants to provide feedback so that I might enhance my knowledge and understanding of their experiences for future research projects.

I was able to improve project management skills by developing my awareness of how much time and effort each aspect of the research would require. I was also able to enhance my ability to manage a number of different research elements at the same time, whilst ensuring that each aspect complied with the outlined research timetable. I was also able to develop my time management skills required for the write-up of the study. In particular, my ability to meet university marking criteria as well as producing work suitable for publication to a peer-reviewed journal was further developed. Additionally, whilst improving my awareness of the resources required, this research enhanced my ability to manage a large-scale research study alongside clinical placement responsibilities. At times I had to put my research commitments first, whilst managing to keep on schedule with work during my placements.

I feel that Clinical Psychologists are in a good position to produce research that can have a positive impact for understanding client groups. I hope the findings from this research can contribute to the enhancement of treatment provision in eating disorders in some small way, and I aim to feed back the results to the eating disorders team, so that it may enable them to consider the specific needs of this group. I am keen to do further research with an
eating disorder population and I aim to professionally publish the findings of this study, adding to the current understanding of some of the motivational issues presenting for individuals with eating disorders.

6.7. Conclusion

The various learning points have enabled me to feel confident and competent in undertaking a large-scale research study that meets the requirements for professional dissemination back to the literature. I have experienced the benefit of carrying out research alongside clinical practice, which enabled a better understanding of client groups. Further, my experience of the whole research process has served to motivate me to continue developing ideas and undertaking research throughout my future career as a clinical psychologist.
7. APPENDICIES
Appendix A

British Journal of Clinical Psychology: Instructions for Authors
Notes for Contributors

The British Journal of Clinical Psychology publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour through to studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicitly social and psychological levels of analysis.

The following types of paper are invited:

- Papers reporting original empirical investigations;
- Theoretical papers, provided that these are sufficiently related to the empirical data;
- Review articles which need not be exhaustive but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications;
- Brief reports and comments.

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length

Papers should normally be no more than 5,000 words, although the Editor retains discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length.

3. Reviewing

The journal operates a policy of anonymous peer review. Papers will normally be scrutinised and commented on by at least two independent expert referees (in addition to the Editor) although the Editor may process a paper at his or her discretion. The referees will not be aware of the identity of the author. All information about authorship including personal acknowledgements and institutional affiliations should be confined to the title page (and the text should be free of such clues as identifiable self-citations e.g. 'In our earlier work...').

4. Online submission process

1) All manuscripts must be submitted online at http://bjcp.edmgr.com.

First-time users: click the REGISTER button from the menu and enter in your details as instructed. On successful registration, an email will be sent informing you of your user name and password. Please keep this email for future reference and proceed to LOGIN. (You do not need to re-register if your status changes e.g. author, reviewer or editor).

Registered users: click the LOGIN button from the menu and enter your user name and password for immediate access. Click 'Author Login'.

2) Follow the step-by-step instructions to submit your manuscript.

3) The submission must include the following as separate files:
   - Title page consisting of manuscript title, authors’ full names and affiliations, name and address for corresponding author -
   - Editorial Manager Title

Page for Manuscript Submission
Notes for Contributors

- Abstract
- Full manuscript omitting authors' names and affiliations. Figures and tables can be attached separately if necessary.

4) If you require further help in submitting your manuscript, please consult the Tutorial for Authors - Editorial Manager - Tutorial for Authors

Authors can log on at any time to check the status of the manuscript.

5. Manuscript requirements

- Contributions must be typed in double spacing with wide margins. All sheets must be numbered.
- Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript with their approximate locations indicated in the text.
- Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate page. The resolution of digital images must be at least 300 dpi.
- For articles containing original scientific research, a structured abstract of up to 250 words should be included with the headings: Objectives, Design, Methods, results, Conclusions. Review articles should use these headings: Purpose, Methods, Results, Conclusions: British Journal of Clinical Psychology - Structured Abstracts Information
- For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full.
- SI units must be used for all measurements, rounded off to practical values if appropriate, with the Imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations etc for which they do not own copyright.


6. Brief reports and comments

These allow publication of research studies and theoretical, critical or review comments with an essential contribution to make. They should be limited to 2000 words, including references. The abstract should not exceed 120 words and should be structured under these headings: Objective, Method, Results, Conclusions. There should be no more than one table or figure, which should only be included if it conveys information more efficiently than the text. Title, author and name and address are not included in the word limit.

7. Publication ethics

Code of Conduct - Code of Conduct, Ethical Principles and Guidelines
Principles of Publishing - Principle of Publishing

8. Supplementary data

Supplementary data too extensive for publication may be deposited with the British Library Document Supply Centre. Such material includes numerical data, computer programs, fuller details of case studies and experimental techniques. The material should be submitted to the Editor together with the article, for simultaneous refereeing.

9. Post acceptance

PDF page proofs are sent to authors via email for correction of print but not for rewriting or the introduction of new material. Authors will be provided with a PDF file of their article prior to publication.
Notes for Contributors

British Psychological Society requires copyright to be assigned to itself as publisher, on the express condition that authors may use their own material at any time without permission. On acceptance of a paper submitted to a journal, authors will be requested to sign an appropriate assignment of copyright form.

11. Checklist of requirements

- Abstract (100-200 words)
- Title page (include title, authors' names, affiliations, full contact details)
- Full article text (double-spaced with numbered pages and anonymised)
- References (APA style). Authors are responsible for bibliographic accuracy and must check every reference in the manuscript and proofread again in the page proofs.
- Tables, figures, captions placed at the end of the article or attached as separate files.
Appendix B

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

Subtypes

Restricting Type
During the current episode of Anorexia Nervosa, these individuals have not regularly engaged in binge eating or purging behaviour (i.e. self-induced vomiting or the misuse of laxatives, diuretics, or enemas).

Binge-Eating/Purging Type
During the current episode of Anorexia Nervosa, the person has regularly engaged in binge-eating or purging purging behaviour (i.e. self-induced vomiting, or the misuse of laxatives, diuretics or enemas).
**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.

D. Self-evaluation is unduly influenced by body shape and weight.

E. The disturbance does not occur exclusively during episodes of anorexia nervosa.

**Subtypes**

**Purging Type**

During the current episode of Bulimia Nervosa, these individuals has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas.

**Binge-Eating/Purging Type**

During the current episode of Bulimia Nervosa, the person has used other inappropriate compensatory behaviours, such as fasting or excessive exercise, but has not regularly engaged in self-induced vomiting, or the misuse of laxatives, diuretics or enemas.
**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 within the normal range.

C. All 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 for a duration of less than three 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 biscuits).

E. Repeated chewing and spitting out, but not swallowing, large amounts of food.
Appendix C

The University of Rhode Island Change Assessment Scale

(URICA; McConnaughy, et al., 1983)
Appendix C

The University of Rhode Island Change Assessment Scale (URICA
McConnaugh et al., 1983)

My primary problem is:

Each statement describes how a person might feel about his or her problems. Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel. For all the statements that refer to your "problem", answer in terms of the problem you have written at the top of the page.

There are FIVE possible responses to each of the questionnaire items:

1 = Strongly disagree (SD)
2 = Disagree (D)
3 = Undecided (U)
4 = Agree (A)
5 = Strongly agree (SA)

Circle the number that best describes how much you agree or disagree with each statement.

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. As far as I'm concerned, I don't have any problems that need changing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>2. I think I might be ready for some self improvement.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>3. I am doing something about the problems that had been bothering me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>4. It might be worthwhile to work on my problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>5. I'm not the problem one. It doesn't make much sense for me to be here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>6. It worries me that I might slip back on a problem I have already changed, so I am read to work on m problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>7. I am finally doing some work on my problem.</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>8. I've been thinking that I might want to change something about myself.</td>
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<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>9. I have been successful in working on my problem but I'm not sure I can keep up the effort on m own.</td>
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<tr>
<td>10. At times my problem is difficult, but I'm working on it.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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<tr>
<td>11. Working on this problem is pretty much of a waste of time for me because the problem doesn't have to do with me.</td>
<td>1 2 3 4 5</td>
<td></td>
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</tr>
<tr>
<td>12. I'm working on my problem in order to better understand myself.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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<tr>
<td>13. I guess I have faults, but there's nothing that I really need to change.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
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<tr>
<td>14. I am really working hard to change.</td>
<td>1 2 3 4 5</td>
<td></td>
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<td>15. I have a problem and I really think I should work on it.</td>
<td>1 2 3 4 5</td>
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<td>16. I'm not following through with what I had already changed as well as I had hoped, and I'm working to prevent a relapse of the problem.</td>
<td>1 2 3 4 5</td>
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<tr>
<td>17. Even though I'm not always successful in changing, I'm at least working on my problem.</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>18. I thought once I had resolved the problem I would be free of it, but sometimes I still find myself struggling with it.</td>
<td>1 2 3 4 5</td>
<td></td>
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<td>19. I wish I had more ideas on how to solve my problem.</td>
<td>1 2 3 4 5</td>
<td></td>
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<td>20. I have started working on my problems but I would like help.</td>
<td>1 2 3 4 5</td>
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<tr>
<td>21. Maybe someone will be able to help me.</td>
<td>1 2 3 4 5</td>
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<tr>
<td>22. I may need a boost right now to help me maintain the changes I've already made.</td>
<td>1 2 3 4 5</td>
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<td>23. I may be part of the problem, but I don't really think I am.</td>
<td>1 2 3 4 5</td>
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<td>24. I hope that someone will have some good advice for me.</td>
<td>1 2 3 4 5</td>
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<td>25. Anyone can talk about changing; I'm actually doing something about it.</td>
<td>1 2 3 4 5</td>
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<td>26. All this talk about psychology is boring.</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>Question</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Why can't people just forget about their problems?</td>
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<tr>
<td>27. I'm working to prevent myself from having a relapse of my problem.</td>
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<td>28. It is frustrating, but I feel I might be having a recurrence of a problem I thought I had resolved.</td>
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<tr>
<td>29. I have worries but so does the next person. Why spend time thinking about them?</td>
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<tr>
<td>30. I am actively working on my problem.</td>
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<td>31. I would rather cope with my faults than try to change them.</td>
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<td>32. After all I had done to try and change my problem, every now and again it comes back to haunt me.</td>
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Appendix D

An alternative method of scoring the University of Rhode Island Change Assessment Scale (URICA; McConnaughy et al., 1983) within the Framework of a strictly interpreted stage model.
Appendix D  An alternative method of scoring and interpreting the University of Rhode Island Change Assessment Scale (URICA; McConnaughy et al., 1989); within the framework a strictly interpreted stage model

Within the Framework of a Strictly-Interpreted Stage Model

Data obtained on the URICA were further analysed within the framework of a strictly-interpreted stage model. According to this model participants would show an elevated score on just one scale. In calculating scale scores, response points were deemed to run from -2 (strongly disagree) to +2 (strongly agree). Using the method outlined by Rollnick, et al. (1992), the data were inspected to establish how well a stages of change model held. This was approximated by calculating how many participants’ scale score profiles showed a positive score for one scale, and a negative or zero score for the other three. The frequencies and percentages of participants whose raw scores showed each of fourteen possible profiles are presented in Table A.
Table A. Percentage and (frequency) of participant profiles score profiles (Raw Scores)

<table>
<thead>
<tr>
<th>Profile Pattern</th>
<th>Total Sample</th>
<th>AN (n = 22)</th>
<th>BN (n = 39)</th>
<th>EDNOS (n = 56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (+ + + +)</td>
<td>8.5% (7)</td>
<td>0</td>
<td>5.1% (2)</td>
<td>8.9% (5)</td>
</tr>
<tr>
<td>B (+ + + -)</td>
<td>3.4% (4)</td>
<td>9.1% (2)</td>
<td>0</td>
<td>3.6 % (2)</td>
</tr>
<tr>
<td>C (+ + - -)</td>
<td>1.7% (2)</td>
<td>0</td>
<td>2.6% (1)</td>
<td>1.8% (1)</td>
</tr>
<tr>
<td>D (+ - - -)</td>
<td>22.2% (26)</td>
<td>22.7% (5)</td>
<td>17.9% (7)</td>
<td>25.0% (14)</td>
</tr>
<tr>
<td>E (- + + +)</td>
<td>23.1% (27)</td>
<td>13.6% (3)</td>
<td>25.6% (10)</td>
<td>25.0% (14)</td>
</tr>
<tr>
<td>F (- - + +)</td>
<td>1.7% (2)</td>
<td>0</td>
<td>0</td>
<td>1.7% (2)</td>
</tr>
<tr>
<td>G (- + - -)</td>
<td>3.4% (4)</td>
<td>0</td>
<td>0</td>
<td>7.1% (4)</td>
</tr>
<tr>
<td>H (- + - +)</td>
<td>4.3% (5)</td>
<td>0</td>
<td>7.7% (3)</td>
<td>3.6% (2)</td>
</tr>
<tr>
<td>I (+ - + -)</td>
<td>2.6% (3)</td>
<td>0</td>
<td>5.1% (2)</td>
<td>1.8% (1)</td>
</tr>
<tr>
<td>J (- + + -)</td>
<td>11.9% (14)</td>
<td>13.6% (3)</td>
<td>17.9% (7)</td>
<td>7.1% (4)</td>
</tr>
<tr>
<td>K (- + - -)</td>
<td>6.8% (8)</td>
<td>13.6% (3)</td>
<td>7.7% (3)</td>
<td>3.6% (2)</td>
</tr>
<tr>
<td>L (- - + +)</td>
<td>2.6% (3)</td>
<td>0</td>
<td>0</td>
<td>5.4% (3)</td>
</tr>
<tr>
<td>M (+ - - +)</td>
<td>6.0% (7)</td>
<td>13.6% (3)</td>
<td>7.7% (3)</td>
<td>1.8% (1)</td>
</tr>
<tr>
<td>O (- - - -)</td>
<td>4.3% (5)</td>
<td>13.6 (3)</td>
<td>3.6% (1)</td>
<td>1.8 (1)</td>
</tr>
</tbody>
</table>

Note. df = 2., ns = non-significant results. AN = anorexia nervosa, BN = bulimia nervosa, EDNOS = eating disorder not otherwise specified.

The profiles labelled D, G, K and L (Table A) were taken to fit a strictly interpreted stage model. Taken together, these account for only 35 % of participant profiles. Within a strictly interpreted stage model, the most frequent profile conformed to Precontemplation (pattern D, n =26), with participants conforming to Contemplation (Pattern K, n =8), Action (pattern G, n = 4) and Maintenance (pattern L, n = 3) stages only infrequently. The most common profile was pattern E, which represents a negative score for Precontemplation, but positive scores for the Contemplation, Action and Maintenance
scales. This pattern accounted for 23.1% of all participant profiles, and is consistent with the strong positive correlations between the Contemplation and Action, and Action and Maintenance scale scores noted earlier.
Appendix E

The Stirling Eating Disorder Scales (SEDS; Williams et al, 1994)
Appendix E  The Stirling Eating Disorder Scales (SEDS; Williams et al. 1994)

STIRLING EATING DISORDER SCALES

Page 1

INSTRUCTIONS
This questionnaire contains 80 statements about your thoughts and feelings. Please read each statement carefully and decide if it applies to you or not. If the statement applies to you usually or all the time tick in the True column. If the statement rarely or never applies to you tick in the False column. If you make a mistake cross it out and give your correct answer. Do not spend a long time thinking about each statement - just give your first reaction. There are no right or wrong answers. There are two pages of statements - please be sure to answer all of them. Please complete Page 1 first and then Page 2.

TRUE   FALSE

I tend to 'bottle up my 'emotions rather than make a
At times I think I am no good at all
I often want to injure myself
I can pretty much decide what happens in my life
I find myself preoccupied with food
I eat the same food day after day
I feel satisfied with my eating patterns
I eat a lot of food even when I'm not hungry
I find it difficult to ask personal questions
I have a positive attitude towards myself
I believe I am a bad person
My life is determined by my own actions
When I eat anything I feel guilty
I eat low calorie foods all the time
When I binge I have a sense of unreality
I never eat uncontrollably
I feel I can ask my parents/friends not to nag me
I feel I am not as popular as other people of my age
I often feel angry with myself
Little in this world controls me - I usually do what I
High carbohydrate foods make me feel nervous
I often hide food rather than eat it
When I binge I feel disgusted with myself
I hide the evidence of my binges (eg food wrappers)
I feel confident going into a social gathering
I believe my parents are proud of me
I feel ashamed of myself
I feel I live according to other people's rules
I believe I am allergic to many foods

96
I cut my food into very small pieces in order to eat
I am not worried about my hinging
I take laxatives in order to get rid of the food I have
I am afraid of people being angry with me
I have a strong sense of self-worth
I do not behave the way I should
I feel I am in control of my body
I can eat sweets without feeling anxious
I weigh myself after meals
I feel ashamed of the amount of food I can eat
I try to diet but always lose control

STIRLING EATING DISORDER SCALES
Page 2

INSTRUCTIONS
As you did for Page One, please read each statement carefully and decide if it applies to you or not. If the statement applies to you usually or all the time tick in the True column. If the statement rarely or never applies to you tick in the False column. If you make a mistake cross it out and give your correct answer. Do not spend a long time thinking about each statement - just give your first reaction. There are no right or wrong answers. When you have completed this page please go back and check that you have answered all the statements on both pages.

TRUE FALSE

If someone is unfair to me, I feel I can tell him/her
I have little respect for myself
I have very hostile feelings towards myself
I feel my family have control over me
I must be very controlled in my eating habits
I count the calories of everything I eat
I hate myself after binging
I intentionally vomit after eating
I am an assertive person
I feel proud of my achievements
I have very little to feel guilty about
I often feel I am controlled by something outside of
If I overeat a little I feel frightened
I eat rich, high calorie foods
I feel frightened if I cannot get rid of food I have eaten
I always eat a lot in secret
I feel I cannot tell people when they have hurt me
I do not feel very clever
I should be a better person
I feel my boyfriend/girlfriend/spouse/parent has a lot of
I can overeat a little and not feel nervous
I keep to a very strict diet regime
I feel my eating patterns control my life
I often eat so much my stomach hurts
I feel I can assert myself with people in authority
I feel I am not as attractive as other people my age
I deserve to be punished
My health is not under control
I believe I do not need as much food as other people
I often eat in front of others
I believe I can stop eating when I want to
I lie about the large amount of food I eat
I tend to sulk rather than have an argument
I have a nice personality
I have very little to be self-critical about
Other people control my life
I feel disgusted with myself when I eat anything
I cook for others but avoid eating with them
I feel that my eating patterns are out of control
I rarely binge
Appendix F

Eating Disorder Examination Questionnaire
(EDE-Q; Fairburn & Beglin, 1994)
**Appendix F**  
*Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994)*

**Instructions**

The following questions are concerned with the PAST FOUR WEEKS ONLY (28 days). Please read each question carefully and circle the appropriate number on the right. Please answer *all* the questions.

**ON HOW MANY DAYS OUT OF THE PAST 28 DAYS ..................**

<table>
<thead>
<tr>
<th></th>
<th>No days</th>
<th>1-5 days</th>
<th>6-12 days</th>
<th>13-15 days</th>
<th>16-22 days</th>
<th>23-27 days</th>
<th>Every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have you been deliberately trying to limit the amount of food you eat to influence your shape or weight?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. Have you gone for long periods of time (8 hours or more) without eating anything in order to influence your shape weight?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. Have you tried to avoid eating any foods that you like in order to influence your shape or weight?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4. Have you tried to follow definite rules regarding your eating in order to influence your shape or weight; for example, a calorie limit, a set amount of food, or rules about what or when you should eat?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>5. Have you wanted your stomach to be empty?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<td>6. Has thinking about food or its calorie content made it much more difficult to concentrate</td>
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<tr>
<td>1. Have you been afraid of losing control over eating?</td>
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<tr>
<td><strong>ON HOW MANY DAYS OUT OF THE PAST 28 DAYS ............</strong></td>
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<td>2. Have you had episodes of binge eating?</td>
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<td>3. Have you eaten in secret? (Do not count binges)</td>
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<td>4. Have you definitely wanted your stomach to be flat?</td>
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<td>5. Has thinking about shape or weight made it more difficult to concentrate on things you are interested in; for example read, watch TV or follow a conversation?</td>
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<td>6. Have you had a definite fear that you might gain weight or become fat?</td>
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<td>7. Have you felt fat?</td>
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<td>8. Have you had a strong desire to lose weight?</td>
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<tr>
<td><strong>OVER THE PAST FOUR WEEKS (28 DAYS)</strong></td>
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<tr>
<td>9. On what proportion of times that you have eaten have you felt guilty because the effect on your shape or weight? (Do not count binges) (Circle the number which applies)</td>
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\[101\]
16. Over the past four weeks (28 days), have there been any times when you have felt that you have eaten what other people would regard as an unusually large amount of food given the circumstances? (Please put appropriate number in box)  

<table>
<thead>
<tr>
<th></th>
<th>0 - No</th>
<th>1 - Yes</th>
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</table>

17. How many such episodes have you had over the past four weeks?  

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18. During how many of these episodes of overeating did you have a sense of having lost control over your eating?  

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19. Have you had other episodes of eating in which you have had a sense of having lost control and eaten too much, but have not eaten an unusually large amount of food given the circumstances?  

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<th>0 - No</th>
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20. How many such episodes have you had over the past four weeks?  

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</table>

21. Over the past four weeks have you made yourself sick (vomit) as a means of controlling your shape or weight?  

<table>
<thead>
<tr>
<th></th>
<th>0 - No</th>
<th>1 - Yes</th>
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<tbody>
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</table>

22. How many times have you done this over the past four weeks?  

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</table>

23. Have you taken laxatives as a means of controlling your shape or weight?  

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<th></th>
<th>0 - No</th>
<th>1 - Yes</th>
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</table>

24. How many times have you done this over the past four weeks?  

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<td>Question</td>
<td>Response Options</td>
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</tr>
<tr>
<td>25.</td>
<td>Have you taken diuretics (water tablets) as a means of controlling your shape or weight?</td>
<td>0 - No, 1 - Yes</td>
<td></td>
</tr>
<tr>
<td>26.</td>
<td>How many times have you done this over the past four weeks?</td>
<td>[ ] [ ] [ ]</td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>Have you exercised hard as a means of controlling your shape or weight?</td>
<td>0 - No, 1 - Yes</td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td>How many times have you done this over the past four weeks?</td>
<td>[ ] [ ] [ ]</td>
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</table>

**OVER THE PAST FOUR WEEKS (28 DAYS)** (Please circle the number which best describes your behaviour)

<table>
<thead>
<tr>
<th>Question</th>
<th>Not At All</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Markedly</th>
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</thead>
<tbody>
<tr>
<td>29. Has your weight influenced how you think about (judge) yourself as a person?</td>
<td>0, 1, 2, 3, 4, 5, 6</td>
<td></td>
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</tr>
<tr>
<td>30. Has your shape influenced how you think about (judge) yourself as a person?</td>
<td>0, 1, 2, 3, 4, 5, 6</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>31. How much would it upset you if you had to weigh yourself once a week for the next four weeks?</td>
<td>0, 1, 2, 3, 4, 5, 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. How dissatisfied have you felt about your weight?</td>
<td>0, 1, 2, 3, 4, 5, 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. How dissatisfied have you felt about your shape?</td>
<td>0, 1, 2, 3, 4, 5, 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. How concerned have you been about other people seeing you eat?</td>
<td>0, 1, 2, 3, 4, 5, 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. How uncomfortable have you felt seeing your body; for</td>
<td>0, 1, 2, 3, 4, 5, 6</td>
<td></td>
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</tbody>
</table>
example, in the mirror, in shop window reflections, while undressing or taking a bath or shower? 0 1 2 3 4 5 6

36. How uncomfortable have you felt about others seeing your body; for example, in communal changing rooms, when swimming or wearing tight clothes? 0 1 2 3 4 5 6
Appendix G

Letters of ethical approval
Full title of study: Increasing Motivation for Change - How Effective is a Pre-treatment Psycho educational Programme for individuals with Eating Disorders?

REC reference number: 05/Q2803/92

The REC gave a favourable ethical opinion to this study on 07 December 2005.

Further notification has been received from local site assessor following site-specific assessment. On behalf of the Committee, I am pleased to confirm the extension of the favourable opinion to the new site. I attach an updated version of the site approval form, listing all sites with a favourable ethical opinion to conduct the research.

Research governance approval

The Chief Investigator or sponsor should inform the local Principal Investigator at each site of the favourable opinion by sending a copy of this letter and the attached form. The research should not commence at any NHS site until research governance approval from the relevant NHS care organisation has been confirmed.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

Please quote this number on all correspondence

Yours sincerely

Committee Co-ordinator
Central Office for Research Ethics Committees (COREC)

RESEARCH IN HUMAN SUBJECTS OTHER THAN CLINICAL TRIALS OF INVESTIGATIONAL MEDICINAL PRODUCTS

Standard conditions of approval by Research Ethics Committees

1. Further communications with the Research Ethics Committee

1.1 Further communications during the research with the Research Ethics Committee that gave the favourable ethical opinion (hereafter referred to in this document as "the Committee") are the personal responsibility of the Chief Investigator.

2. Commencement of the research

2.1 It is assumed that the research will commence within 12 months of the date of the favourable ethical opinion.

2.2 In the case of research requiring site-specific assessment (SSA) the research may not commence at any site until the Committee has notified the Chief Investigator that the favourable ethical opinion is extended to the site.

2.3 The research may not commence at any NHS site until the local Principal Investigator (PI) or research collaborator has obtained management approval from the relevant NHS care organisation.

2.4 Should the research not commence within 12 months, the Chief Investigator should give a written explanation for the delay. It is open to the Committee to allow a further period of 12 months within which the research must commence.

2.5 Should the research not commence within 24 months, the favourable opinion will be suspended and the application would need to be re-submitted for ethical review.

3. Duration of ethical approval

3.1 The favourable ethical opinion for the research applies for the expected duration of the research as specified in the application form. If it is proposed to extend the duration of the study, this should be submitted for approval as a substantial amendment.
4. Progress reports

4.1 Research Ethics Committees are required to monitor research with a favourable opinion. The Chief Investigator should submit a progress report to the Committee 12 months after the date on which the favourable opinion was given. Annual progress reports should be submitted thereafter.

4.2 Progress reports should be in the format prescribed by COREC and published on the website (see www.corec.org.uk).

4.3 The Chief Investigator may be requested to attend a meeting of the Committee or Sub-Committee to discuss the progress of the research.

5. Amendments

5.1 If it is proposed to make a substantial amendment to the research, the Chief Investigator should submit a notice of amendment to the Committee.

5.2 A substantial amendment is any amendment to the terms of the application for ethical review, or to the protocol or other supporting documentation approved by the Committee, that is likely to affect to a significant degree:

(a) the safety or physical or mental integrity of the trial participants

(b) the scientific value of the trial

(c) the conduct or management of the trial.

5.3 Notices of amendment should be in the format prescribed by COREC and published on the website, and should be personally signed by the Chief Investigator.

5.4 A substantial amendment should not be implemented until a favourable ethical opinion has been given by the Committee, unless the changes to the research are urgent safety measures (see section 7). The Committee is required to give an opinion within 35 days of the date of receiving a valid notice of amendment.

5.5 Amendments that are not substantial amendments ("minor amendments") may be made at any time and do not need to be notified to the Committee.

6. Changes to sites (studies requiring site-specific assessment only)

6.1 Where it is proposed to include a new site in the research, there is no requirement to submit a notice of amendment form to the Committee. Part C of the application form together with the local Principal Investigator's CV should be submitted to the relevant LREC for site-specific assessment (SSA).

6.2 Similarly, where it is proposed to make important changes in the management of a site (in particular, the appointment of a new PI), a notice of amendment form is not required. A revised Part C for the site (together with the CV for the new PI if applicable) should be submitted to the relevant LREC.
6.3 The relevant LREC will notify the Committee whether there is any objection to the new site or Principal Investigator. The Committee will notify the Chief Investigator of its opinion within 35 days of receipt of the valid application for SSA.

6.4 For studies designated by the Committee as having "no local investigators", there is no requirement to notify the Committee of the inclusion of new sites.

7. **Urgent safety measures**

7.1 The sponsor or the Chief Investigator, or the local Principal Investigator at a trial site, may take appropriate urgent safety measures in order to protect research participants against any immediate hazard to their health or safety.

7.2 The Committee must be notified within three days that such measures have been taken, the reasons why and the plan for further action.

8. **Serious Adverse Events**

8.1 Any Serious Adverse Event (SAE) occurring to a research subject must be promptly notified to the Committee where it is considered possible that the event resulted from their participation in the research. An SAE is an untoward occurrence that:

(a) results in death  
(b) is life-threatening  
(c) requires hospitalisation or prolongation of existing hospitalisation  
(d) results in persistent or significant disability or incapacity  
(e) consists of a congenital anomaly or birth defect  
(f) is otherwise considered medically significant by the investigator.

8.2 Reports of SAEs should be provided to the Committee within 15 days of the Chief Investigator becoming aware of the event, in the format prescribed by COREC and published on the website.

8.3 The Chief Investigator may be requested to attend a meeting of the Committee or Sub-Committee to discuss any concerns about the health or safety of research subjects.

8.4 Reports should not be sent to other RECs in the case of multi-site studies.

9. **Conclusion or early termination of the research**

9.1 The Chief Investigator should notify the Committee in writing that the research has ended within 90 days of its conclusion. The conclusion of the research is defined as the final date or event specified in the protocol, not the completion of data analysis or publication of the results.

9.2 If the research is terminated early, the Chief Investigator should notify the Committee within 15 days of the date of termination. An explanation of the reasons for early termination should be given.
9.3 Reports of conclusion or early termination should be submitted in the form prescribed by COREC and published on the website.

10. Final report

10.1 A summary of the final report on the research should be provided to the Committee within 12 months of the conclusion of the study.

11. Review of ethical opinion

11.1 The Committee may review its opinion at any time in the light of any relevant information it receives.

11.2 The Chief Investigator may at any time request that the Committee reviews its opinion, or seek advice from the Committee on any ethical issue relating to the research.

12. Breach of approval conditions

12.1 Failure to comply with these conditions may lead to suspension or termination of the favourable ethical opinion by the Committee.
Appendix H

Unreported data for principal component analysis of the University of Rhode Island Change Assessment Scale (URICA; McConnaughey et al., 1983)
## Appendix H  (A) Initial eigenvalues for the 32 items on the URICA (n = 117)

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
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<td>Total</td>
<td>% of Variance</td>
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<td>3.178</td>
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(B) Screeplot of unrotated findings for the URICA

Scree Plot

![Scree Plot Diagram](image-url)
(C) Comparison of eigenvalues from principle component analysis (PCA) and corresponding criterion values obtained from parallel analysis

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<th>Component number</th>
<th>Actual eigenvalue from PCA</th>
<th>Criterion value from parallel analysis</th>
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<td>2.174</td>
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<td>1.974</td>
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<tr>
<td>6</td>
<td>1.439</td>
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<td>Reject</td>
</tr>
<tr>
<td>7</td>
<td>1.248</td>
<td>1.488</td>
<td>Reject</td>
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</table>
(D) Unrotated loadings for the 32 items on the URICA (n = 117)

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<tr>
<th>Item</th>
<th>Description</th>
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<th>Component 2</th>
<th>Component 3</th>
<th>Component 4</th>
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<td>15</td>
<td>I have a problem and I really think I should work on it</td>
<td>.776</td>
<td>-.202</td>
<td>.143</td>
<td>.108</td>
</tr>
<tr>
<td>21</td>
<td>Maybe someone will be able to help me</td>
<td>.703</td>
<td>-.135</td>
<td>.075</td>
<td>.119</td>
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<tr>
<td>2</td>
<td>I think I might be ready for some self-improvement</td>
<td>.693</td>
<td>-.240</td>
<td>-.085</td>
<td>.248</td>
</tr>
<tr>
<td>20</td>
<td>I have started working on my problems but would like help</td>
<td>.672</td>
<td>-.088</td>
<td>.398</td>
<td>.111</td>
</tr>
<tr>
<td>4</td>
<td>It might be worthwhile to work on my problem</td>
<td>.657</td>
<td>-.225</td>
<td>-.073</td>
<td>.302</td>
</tr>
<tr>
<td>7</td>
<td>I am finally doing some work on my problem</td>
<td>.605</td>
<td>-.074</td>
<td>.052</td>
<td>.476</td>
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<tr>
<td>8</td>
<td>I've been thinking that I might want to change something about myself</td>
<td>.531</td>
<td>-.398</td>
<td>-.085</td>
<td>-.030</td>
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<tr>
<td>19</td>
<td>I wish I had more ideas on how to solve my problem</td>
<td>.516</td>
<td>-.079</td>
<td>.179</td>
<td>-.145</td>
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<tr>
<td>22</td>
<td>I may need a boost right now to help me maintain the changes I've already made</td>
<td>.483</td>
<td>-.059</td>
<td>.473</td>
<td>.134</td>
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<tr>
<td>1</td>
<td>As far as I am concerned, I don't have any problems that need changing</td>
<td>-.404</td>
<td>.154</td>
<td>-.099</td>
<td>.035</td>
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<tr>
<td>Item</td>
<td>Text</td>
<td>Values</td>
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<td>----------------------------------------------------------------------</td>
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<tr>
<td>Item 11</td>
<td>Working on this problem is pretty much a waste of time for me because the problem doesn't have to do with me</td>
<td>-.124 .742 -.004 -.019</td>
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<tr>
<td>Item 5</td>
<td>I'm not the problem. It doesn't make much sense for me to be here</td>
<td>-.398 .669 .045 -.133</td>
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<tr>
<td>Item 26</td>
<td>All this talk about psychology is boring. Why can't people just forget about their problems</td>
<td>-.114 .658 -.115 -.227</td>
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<td>Item 23</td>
<td>I may be a part of the problem, but I don't think I am</td>
<td>-.056 .510 .002 .327</td>
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<tr>
<td>Item 31</td>
<td>I would rather cope with my faults than try to change them</td>
<td>-.261 .506 .108 -.252</td>
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<tr>
<td>Item 13</td>
<td>I guess I have faults, but there's nothing that I really need to change</td>
<td>-.300 .470 .051 .019</td>
<td></td>
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<tr>
<td>Item 24</td>
<td>I hope someone will have some good advice for me</td>
<td>.365 -.420 .099 .160</td>
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<tr>
<td>Item 6</td>
<td>It worries me that I might slip back on a problem I have already changed, so I am ready to work on my problem</td>
<td>.075 -.393 .335 .261</td>
<td></td>
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<tr>
<td>Item 29</td>
<td>I have worries but so does the next person. Why spend time thinking about them</td>
<td>-.375 .382 -.105 -.175</td>
<td></td>
<td></td>
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<tr>
<td>Item 12</td>
<td>I'm working on this problem in order to better understand myself</td>
<td>.200 -.346 .266 .199</td>
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<tr>
<td>Item 32, After all I had done to try and change my problem, every now and again it comes back to haunt me</td>
<td>-.076</td>
<td>-.186</td>
<td>.717</td>
<td>-.014</td>
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<td>---</td>
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<tr>
<td>Item 28, It is frustrating, but I feel I might be having a recurrence of a problem I thought I had resolved</td>
<td>.118</td>
<td>.037</td>
<td>.695</td>
<td>-.192</td>
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<tr>
<td>Item 16, I'm not really following through with what I had already changed as well as I had hoped, and I'm working to prevent a relapse of the problem</td>
<td>.314</td>
<td>.040</td>
<td>.674</td>
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<tr>
<td>Item 18, I thought once I had resolved the problem I would be free of it, but sometimes I still find myself struggling with it</td>
<td>.165</td>
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<td>.673</td>
<td>.020</td>
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<tr>
<td>Item 27, I'm working to prevent myself from having a relapse of my problem</td>
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<td>-.307</td>
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<td>Item 9, I have been successful in working on my problem but I'm not sure I can keep up the effort on my own</td>
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<td>Item 25, Anyone can talk about changing; I'm actually doing something about it</td>
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<td>-.247</td>
<td>.718</td>
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<td>Item 30, I am actively working on my problem</td>
<td>.121</td>
<td>-.410</td>
<td>.062</td>
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<td>Item 17, Even though I'm not always successful in changing, I'm at least working on my problem</td>
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<td>Item 14, I'm really working hard to change</td>
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<td>Item 10, At times my problem is difficult, but I'm working on it</td>
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<td>Item 3, I am doing something about the problems that had been bothering me</td>
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<td>.075</td>
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<td></td>
</tr>
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</table>
Appendix I

Comparison data for principle component analysis of The University of Rhode Island Change Assessment Scale (URICA; McConnaughy et al., 1989)
### Appendix I: Data comparison of pattern structure coefficients for the University of Rhode Island Change Assessment Scale (URICA; McConnaughy, et al., 1989)

#### Varimax Rotation of Four Factor Solution for URICA items

<table>
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<th>Stage</th>
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</tbody>
</table>

Note: * These numbers refer to item numbers on the questionnaire (see Appendix H, Table D for actual items). Highest values for each component are reported (see Appendix H, Table D for table of loadings for all variables). * = Findings by McConnaughy et al. (1983) (n = 150), b = Findings by McConnaughy et al. (1989) (n = 323), present study findings (n = 117).
Appendix J

Research packs for participants
Appendix J  Research packs for participants

(A) Letter of invitation for clinical participants

NHS Trust Headed Paper

Confidential

Date

Title, forename, last name
Address
Postcode

Dear title and last name

You have recently been offered a place on the group-based Psycho-education Programme at Coventry eating Disorder Service. As you are aware we routinely collect relevant clinical information regarding your symptoms and motivation for change to help us assess your difficulties.

We would be very grateful if you would give us permission to use the information to evaluate the usefulness of the Psycho-education Programme.

All information gathered during the course of the research would be kept strictly confidential. All information would be anonymous, so that you cannot be recognised from it. Taking part in this research project is completely voluntary.

Your clinician will have given you a Participant Information Sheet (version 1, dated 2nd September 2005) giving details of this study. I would be very grateful if you could take the time to read this carefully. Once you have read the Participant Information Sheet and are happy to take part in the study, please sign each copy of the enclosed consent forms (two copies provided), retaining one copy for your records. Please return the completed consent form in the SAE provided.

If at any point you wish to ask any questions about the research please do not hesitate to contact me on the telephone number below, and I will be happy to talk to you.

Yours sincerely

Miss Matilda Moffett
Clinical Psychologist in Training
Eating Disorder service- (name of unit)
Telephone No:
Enc:  Participant Consent Form (two copies)
      Participant Information Sheet

LETTER TO BE RETAINED IN

The Patients Health Record
(B) Information sheet for clinical participants

NHS Trust Headed Paper

INFORMATION SHEET FOR PARTICIPANTS

Increasing Motivation for Change - How Effective is a Pre-treatment Psycho-
educational Programme for individuals with Eating Disorders?

Invitation to potential participants

You are being invited to take part in the above titled research study. Before you decide it is important for you to understand why research is being done and what it will involve. Please take time to read the following information carefully. Please ask if there is anything that is not clear, or if you would like more information.

Thank you.

What is the purpose of the study?

To date, few studies have investigated the effectiveness of a group psycho-education programme for helping people to decide whether to engage in treatment, and its effect on, eating disorder symptoms. As a result, there are gaps in our knowledge with regard such approaches. The proposed study aims to evaluate the effectiveness of the group Psycho-educational Programme based at the above eating disorder service, for individuals with an eating disorder.

Results from the study would have important clinical implications; including helping us to target an intervention programme more effectively, and if necessary modify the content of the programme. Group psycho-education programmes are not widely available, and we would hope to disseminate the results of the study to other professionals treating patients with an eating disorder, in order to help them decide whether to make this type of programme available to other sufferers. This study aims to commence in November 2005 with the anticipated completion date of June 2006.

2. Why have I been chosen?

You have been chosen because you have accessed the above eating disorder service for treatment for an eating disorder. You have been placed on a waiting list in order to attend a four-week pre-treatment psycho-educational programme in approximately 4-6 weeks. As a result, you are in a position to have had the practical experience of accessing such a service and have been involved in part of this treatment process.
We are looking to recruit approximately 40 participants to take part in the study.

3. Do I have to take part?

It is up to you to decide whether or not to take part. If you decide to take part you are still free to withdraw at any time, without giving a reason and without your access to current or future treatment being affected in any way.

4. What will happen to me if I take part?

The eating disorder service uses questionnaires to help assess your symptoms and different stages of motivation during your treatment. These questionnaires provide clinical and some demographic information. You would not be required to complete any additional self-report questionnaires, other than those we routinely provide. You would be giving us permission to use the data obtained from these questionnaires in order to evaluate the impact of the psycho-education programme for everyone involved.

5. What do I have to do?

If you do decide to take part, please sign each copy of the Participant Consent Form enclosed (retaining one copy for your information) and return in the SAE provided.

6. What are the possible disadvantages and risks of taking part?

We are aware that questionnaire measures may discuss information that is potentially upsetting or embarrassing to you. We always discuss the results of the questionnaires with you at your initial assessment and follow-up appointment.

You are free to withdraw from the study at any time, without your access to current or future treatment being affected in any way.

7. What are the possible benefits of taking part?

The reporting and dissemination of findings would contribute to the wider knowledge and understanding of the usefulness of group based Psycho-education Programmes in the treatment of people with an eating disorder.

8. What if new information becomes available?

If any additional information becomes available during the course of the research, the Chief Investigator would inform you in writing.

9. What happens when the research study stops?

You will continue to receive treatment from the eating disorder service, if this is part of your care plan.
10. Data Protection

Personal data, which may be sensitive (e.g. DOB) would be processed, but only for research purposes in connection with this study. The data processed would not include any names or enable you to be identified in any report or publication nor could the data be traced back to you.

(name) Teaching PCT (who will control the use of the data) would take steps to ensure your personal data is protected. The Researcher will adhere at all times to the Data Protection Act 1998. This study would be guided and conform to NHS Research Governance Framework and COREC guidelines.

Your rights under any applicable data protection laws are not affected.

12. Who has reviewed the study?

The proposed study has been peer reviewed by (name) NHS Trust and (name) Research Ethics Committee.

13. What will happen to the results of the research study?

The findings of this research study would be used to inform other professionals treating patients with eating disorders, in order to help them decide whether to make this Programme available to other sufferers.

A summary of research findings would be made available to you upon request.

In all cases, your identity would not be revealed in any report or publication.


If you wish to complain, or have any concerns about any aspect of the way you have been approached or treated during the course of this study, the NHS Trust has the following Services open to you:

NHS Trust Complaints Service:

Complaints Officer contact details - (telephone and address)

NHS Trust Independent Complaints Advocacy (ICAS) is also open to you:

The Independent Complaints Advocacy delivers a free, independent and professional advocacy support service to clients wishing to pursue a complaint about the NHS. It is not tied to or controlled by the NHS, enabling ICAS to work solely on behalf of its clients to get the resolution they want from the NHS complaints procedure. ICAS supports the aspirations of the NHS in improving the patient experience and works with NHS
colleagues to promote positive change in the NHS, whilst maintaining the independence of the service.

Contact details- (telephone and address)

15. Who is organising and funding the research?

The research is funded by (name of NHS Trust) and is being carried out by the Chief Investigator (name) and Principle Research Investigator (name).

16. Who has reviewed the study?

The research proposal has been submitted and reviewed by (name) Research Ethics Committee, and the (name) University.

17. Contact for further information

If you would like more information about the research study please contact;

Name
Clinical Psychologist in Training
Eating Disorder service – (name of unit)
Telephone No:

Thank you for taking the time to read this Information Sheet.
(C) Participant Consent Form

PARTICIPANT CONSENT FORM

Increasing Motivation for Change - How Effective is a Pre-treatment Psycho-educational Programme for individuals with Eating Disorders?

If you complete and sign this form you are indicating that you are willing to participate in the above research study. Before doing so please make sure that you read and understand the information provided, and that you are fully aware of your rights. If you have any questions at all about this study please contact the Chief Investigator Dr Ken Goss, or Principle Research Investigator Miss Matilda Moffett on the telephone number below

Please Initial Box

1. I confirm that I have read and understand the information sheet and have had the opportunity to ask questions.

2. I understand that I have provided agreement for my participation in the above research study, and that I am free to withdraw this at any time, without giving any reason, and without my access to current or future treatment being affected in any way.

3. I agree for my General Practitioner to be informed of the information I provide as a result of taking part in the above research study.

4. I understand that the information I give will remain confidential and that I will be given anonymity in any publication or reports that arise from the research.

5. I agree for my questionnaire, clinical and demographic data to be used in the above research study.

Name of Participant Date Signature

Name of Person taking consent Date Signature (If different from researcher)

Name of Researcher Date Signature

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Appendix K

Outline of the Psycho-education Programme at the eating disorder service
Appendix K  Outline of the Psycho-education Programme at the Eating Disorder Service

Week One ‘The facts’

Session 1  What is an eating disorder?

▪ Diagnoses & Definitions
▪ Similarities across the eating disorders

Session 2  How did I get into this?

▪ Listening to other peoples stories
▪ A model for understanding eating disorders

Week Two ‘Why can’t I stop?’

Session 3  Psychological & Social factors that can maintain an eating disorder

▪ Eating disorder as a solution to problems
▪ Eating disorder as a trap

Session 4  Biological factors that can maintain an eating disorder

▪ What is a healthy body weight
▪ Calculating a healthy body weight
▪ Set point theory of weight regulation
▪ Over-riding the hunger-satiety system
▪ Eating disorder patterns (starvation, starve-binge-purge, chaotic eating)
▪ Energy needs
▪ Excessive exercise
▪ Thoughts, feelings and memories

Homework

▪ What does an eating disorder mean to me
▪ Making sense of where my eating disorder came from
APPENDICES

Week Three ‘The risks involved when having an eating disorder’

Session 5 The physical, psychological, social, and occupational risks and costs of having an eating disorder

- Physical risks of starvation
- Physical risks of bulimia
- Psychological costs (mood, rules, overgeneralization, sleep, concentration)
- Social costs (avoiding social situations, too tired/ill to go out, social anxiety, finance, impact on others)
- Occupation costs (impact of symptoms, career choice, career limitation)

Session 6 Physical recovery – normalising eating

- What is recovery?
- Biological recovery – importance of normalising eating
- What is normal eating
- What stops normal eating
- Mechanical eating
- Meal planning

Week Four ‘What will my recovery involve?’

Session 7 Physical recovery – normalising weight, psychological recovery

- Biological recovery – normalising weight
- Weight restoration
- What makes up body weight
- Normal body weight changes
- Body weight changes in recovery
- Obstacles to physical recovery
- Psychological recovery (coping with the distress caused by normalising eating and weight, preventing relapses, dealing with vulnerability factors)

Session 8 Expectations of therapy and where to next?

- Expectation of therapy (personal responsibility for change, therapist responsibility, patient responsibility, treatment types and their effectiveness)
- The process and stages of change
- Getting the conditions for change right (solving practical problems, getting support)
8. References


Psychotherapy, psychological treatments and the addictions. Cambridge: Cambridge University Press.


