A PORTFOLIO OF RESEARCH, PROFESSIONAL PRACTICE AND CRITICAL REVIEW IN EATING AND CLUSTER B PERSONALITY DISORDERS

by

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DECLARATION

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Konstantina Kolonia

SECTION A

PREFACE

PREFACE

Overview

The central themes of this portfolio focus on the complexity, in regards to conceptualization and measurements, and therapeutic difficulties surrounding comorbid disorders, particularly eating and cluster B personality disorders (i.e. borderline and narcissistic pathology). The research component (Section B) reports on the associations and gender differences observed among narcissistic personality traits, anger and eating attitudes and explores anger as a mediating variable between eating and narcissistic pathology. The process report (Section C) highlights the clinical pragmatism surrounding comorbidity and raises awareness on areas of importance in cases of psychiatric co-existence such as borderline and bulimic psychopathology. The literature review (Section D) examines the therapeutic tools available for the appropriate care of borderline personality disordered patients and evaluates their empirical effectiveness.

Section B: The research

No other mental health disorder has progressed as rapidly as eating disorders over the last few decades (Fassino, Abbate-Daga, Piero, Leombruni, & Rovera, 2001). The current estimate from the UK's National Eating Disorders Association suggests a figure of 90,000 individuals receiving treatment for either anorexia or bulimia nervosa at any given time in England and further estimates the total number of cases (undiagnosed and diagnosed) of anorexia and bulimia nervosa within the United Kingdom to be 1.5 million (Somerset and Wessex Eating Disorders Association, 2007).

Despite the fact that a great deal of research relating to eating disorders is available, it is fair to say that a clear understanding regarding their genesis, maintenance and treatment remains elusive while uncertainty still persists in many areas (SWEDA, 2007).

In an attempt to further understand the multifaceted nature of eating pathology and address therapeutic limitations, recent literature has given emphasis to the role of personality (Cassin, & von Ranson, 2005). In particular, almost half of young women with anorexia or bulimia have been found suffering from some personality disorder (Roberts, 2007).

Among others, narcissism has been found to be a significant personality predictor of eating disordered attitudes. Further, difficulties to recognise express and tolerate negative emotions, especially anger, appear to be a common aspect observed in both pathologies (Fassino, et al., 2001; Milligan, & Waller, 2000; Rivas, 2001). However, empirical evidence regarding the mediating process (i.e. anger) between narcissistic and eating pathology is lacking and equivocal results have been observed in associations concerning gender differences, anger and narcissism.

To address these issues, the current research aims to determine the potential relationship between narcissistic personality disorder traits, specific aspects of anger and different elements of eating pathology and to investigate whether anger functions as the pathway that links narcissism to bulimic attitudes. Gender differences on the variables under investigation are also explored.

The results of the research are discussed in relationship to existing research and theory and possible explanations for the findings are indicated. The research findings support the need to develop and validate programs (i.e. affect-oriented protocols) for treating eating behaviour disorders which include components and strategies aimed to treat the personality pathology (SWEDA, 2007). Implications for professional practice are also considered at both the preventative and treatment level for individuals with eating disorders, anger difficulties and narcissistic personality. Limitations and recommendations for future research are presented.

Section C: The process report

The process report presented in this section is focused on the work I did with a client experiencing bulimic and borderline personality disordered symptoms using a cognitive behavioural therapeutic (CBT) model underpinned by motivational interviewing (MI) principles. The report covers a brief summary of CBT and MI principles, psychological assessment and formulation as well as a ten-minute transcript including commentary. It concludes with a process and practitioner's summary in regards to considerations for professional practice following the present report.

The impetus for presenting this particular case came from the fact that the current process report portrays the clinical verification of the interplay among personality disorders (borderline personality disorder), anger and bulimia nervosa (following theoretical and empirical discussions of these associations in Section B). Further the current report highlights the need for specialization (Hotelling, 2001) within our training so as to avoid replicating the invalidation, rejection and abuse this client population has experienced from early caretakers (Bell, 2003).

Section D: The critical literature

Borderline personality disorder is a significant health problem with high mortality rates and significant therapeutic difficulties (Meares, Stevenson, Comeford, 1999). Although a number of psychological perspectives have been discussed over the years we are still to answer whether we have enough empirical evidence to sustain that we have found effective ways to support sufferers of such debilitating disorder.

The present critical literature review discusses the effectiveness of psychological approaches in the treatment of borderline personality disorder. A theoretical overview of the phenomenology, epidemiology, clinical picture, and of the different conceptual frameworks available for the treatment of BPD is presented. A systematic literature review of the studies examining the effectiveness of psychological models to the treatment of BPD is introduced and studies are critically examined. Results of the review are discussed in terms of their treatment implications and suggestions for future research.

Personal account

The current thesis is a milestone in the journey that I started ten years ago while I was still in my second year of studying for a psychology degree in Athens, Greece. I had the opportunity to work as a teaching and research assistant of Dr. Chrysoula Kostogiannis, clinical psychologist and specialist in eating disorders.

It was the first time I came across the impact that an eating disorder can have on a person's life and how debilitating it can be not only for the sufferer but for the people around her/him. Also, studying in an English speaking university in Greece gave me

the opportunity for the first time in my life to come across students from other cultures and made me realize what a great influence our culture can have on our belief system. That led me to get involved in a research project with Dr. Kostogiannis investigating bulimic behaviour in Greek young women in relation to socio-cultural factors affecting it.

After the completion of my undergraduate studies my thirst for knowledge and desire to provide support to people in need led me to apply for the 3-years Counselling Psychology training at City University in London, England. During my post-graduate studies at City University, I had the opportunity to explore how 'global shrinking' and the quick information exchange (through the media, internet, and population migration) among people from different cultures can influence and even abolish individual attitudes and values and lead the person towards faulty behaviour pattern (i.e. bulimic behaviour).

Specifically, in my master thesis and in an attempt to contribute to the small but growing body of literature exploring trans-cultural differences of eating attitudes and family environment among European ethnic groups, I condu cted a cross-cultural comparison of Greeks and English female college students regarding family variables and self-reported eating disorder attitudes.

In addition, on my second year of post-graduate training, I was given the opportunity to work as an honorary therapist for a year's placement in the Eating Disorders Unit at Guy's & St. Thomas Hospital in London. The knowledge that I gained has been invaluable and Michael Rooney, Counselling Psychologist specializing in eating

disorders, as well as the eating disordered women that I worked with in the unit have been a great inspiration to work with and learn from.

Although practical training represents the application of knowledge and clinical practice is one of the cornerstones of post-graduate training, research is definitely the systematic way of gaining new knowledge and insight into phenomena of concern.

With that in mind, three years ago, I started the current journey which is being completed with the submission of this thesis. The therapeutic difficulties that I encountered as a Counselling psychologist trainee working with eating and personality disordered patients and my discussions with Jacqui Farrants, Counselling Psychologist specializing in trauma, and Glenn Waller, Consultant Clinical Psychologist specializing in eating disorders, have all contributed to the current research project.

This life journey currently finds me working within an adult mental health NHS service for patients with severe and enduring mental health difficulties using schema-focused therapy at the Clinical Psychology Department in West Middlesex University Hospital.

In conclusion, it is my hope that the current project and the points raised in this thesis will be of interest and value to my psychology colleagues and everyone who aims to understand, support and reduce the psychological suffering of fellow human beings.

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SECTION B

RESEARCH

Abstract

Title: Narcissistic personality features, self-reported anger and eating attitudes among non-clinical college population: An explorative study of underlying constructs.

Introduction: The contribution of personality disorders to disordered eating has recently been of particular interest as an attempt to further understand the phenomenon and address therapeutic difficulties. Narcissism has been found to be more characteristic of individuals with anorexia nervosa or bulimia nervosa than those with other psychiatric disturbances. Literature suggests that both eating and narcissistic personality disordered individuals appear to have difficulty with recognising and tolerating negative emotions. Empirical corroboration of the mediating mechanisms between narcissistic personality disorder and bulimia nervosa is lacking. Additionally, research concerning gender differences, narcissism and anger has yielded equivocal results.

Aim: The aim of this study was to investigate the relationship between maladaptive aspects of narcissism, anger traits and different elements of eating disordered attitudes. The study also attempted to evaluate gender differences on the above mentioned variables and to investigate possible mediating mechanisms (i.e. anger) between narcissistic personality disorder and bulimic tendencies.

Method: One hundred and sixty non-clinical female and male participants have been recruited from universities' classrooms of six London and Surrey based universities. The O'Brien Multiphasic Narcissism Inventory (OMNI), the State-Trait Anger

Expression Inventory-2 (STAXI-2), the Eating Disorders Inventory-2 (EDI-2) and the Bulimic Investigatory Test Edinburgh (BITE) were used as the four measuring instruments for this study. Analysis has been carried out using Spearman's Rho correlations, Mann Whitney U tests, Mediation and Multiple regression analysis.

Results: An association between narcissistic personality disorder traits, its defensive style and eating disordered thoughts and behaviours was partially supported. There was also evidence to suggest some relationship between aspects of anger and disordered eating patterns as well as aspects of anger and narcissistic disturbance. Significant gender differences on eating attitudes and concerns were observed. Female and male college students did not differentiate on narcissistic personality traits, nor on ways of experiencing, expressing and controlling anger. Narcissistic personality disorder traits were found to be mediated by state anger on individuals with bulimic tendencies.

Conclusions: Pursuing more complex conceptualization and measurements of narcissism, anger and eating attitudes for both sexes is necessary for the better understanding of co-morbid disorders. Affect-driven therapeutic models need to be considered for the treatment of patients with narcissistic personality and /or eating disorder presentation as these individuals appear to have difficulties in anger experience, expression and control. Future research needs to evaluate therapeutic efficacy of those models in a clinical population and explore further the role of shame and emotional schemas in narcissistic pathology.

Chapter 1

Literature Review

The review of the literature is structured into three main sections: the theoretical basis of eating disorders, narcissistic personality disorder and anger, the empirical literature on anorexia nervosa, bulimia nervosa, pathological narcissism and anger, and the scientific interest of the current study in regards to the above mentioned constructs.

Although the current investigation focuses on sub clinical forms (traits that don't meet the severity criteria for a diagnosis to take place) of the disorders under study, diagnostic criteria, epidemiology, clinical picture, theoretical perspectives and aetiology are presented in the first section of the review. That will help to convey some understanding of the pathological processes involved and therefore will be a helpful preface to the empirical section that follows. Finally, hypotheses and expectations for this investigation are addressed.

1.1. Theoretical Basis

1.1.1. Eating Disorders: Anorexia & Bulimia Nervosa

1.1.1.1. Introduction

Over the past few decades, it seems that no nervous or mental disorders have progressed as rapidly as bulimia nervosa and anorexia nervosa (Sours, 1992). Each year, a million American women will develop one type of eating disorder with mortality rates of between 5% and 10% (Garfinkel, Garner & Goldblum, 1987; Gilbert & Thomson, 1996; Wolf, 1991).

The American Psychiatric Association (1994) provides an overall prevalence ratio of 0.5-1.0% for anorexia nervosa and approximately 3.0% for bulimia, with the most intriguing feature that 90-95% of victims are females.

1.1.1.2. Phenomenology of Eating Disorders (Diagnostic Criteria)

As it has been established by the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-IV-TR; American Psychiatric Association [APA], 2000), eating disorders fall into three different diagnostic categories which are: anorexia nervosa (AN), bulimia nervosa (BN) and eating disorders not otherwise specified (EDNOS).

Anorexia Nervosa

Anorexia Nervosa is defined by a refusal to maintain a minimally normal body weight (DSM-IV-TR, 2000). The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (APA, 2000) states the specific criteria as follows:

A. refusal to maintain body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85 % of that expected).

B. Intense fear of gaining weight or becoming fat, even though underweight.

C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape or on self-evaluation, or denial of the seriousness of the current low body weight.

D. In post menarcheal females, amenorrhea, i.e., the absence of at least three consecutive menstrual cycles (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen, administration) (pp. 589).

In addition, anorexia nervosa is subdivided into two subtypes: restricting and binge-eating/purging type. The restricting type is characterized by weight loss predominantly through dieting, fasting or excessive exercise. In contrast, the binge-eating/purging type is described by regular binge eating (e.g. a sense of lack of control over eating a large amount of food in a discrete period of time) and/or purging (e.g. self-induced vomiting, misuse of laxatives or diuretics) behavior (DSM-IV-TR, 2000; Garner & Garfinkel, 1997; Simos, 2002). These patients referred to as bulimics anorexics because of their use of self-induced vomiting, diuretics, enemas to control their weight in similar ways observed by patients suffering from bulimia (Ciervo, 1998).

Bulimia Nervosa

The term bulimia was first used to describe a symptom of anorexia nervosa characterized by abnormal indigestion of large quantities of food which seems beyond a person's self control followed by self induced vomiting (Ciervo, 1998). Russell (1979) was the first to use the term bulimia nervosa to describe a separate syndrome differentiated from the symptoms of bulimia which is observed in anorexia nervosa. Currently, the DSM-IV-TR (2000) lists it as a separate clinical eating disorder. Specifically, bulimia nervosa is portrayed by repeated episodes of binge eating followed by inappropriate compensatory behaviours. The Diagnostic and

Statistical Manual of Mental Disorders, Fifth Edition, (APA, 2000) states the following diagnostic criteria:

A. Recurrent episodes of binge eating. An episode of binge eating is characterized 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 behaviour both occur, on average, at least twice a week for 3 months.

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

E. The disturbance does not occur exclusively during episodes of Anorexia Nervosa (pp.595).

Additionally, bulimia is subdivided into purging/non purging type depending on the nature of compensatory behaviours used. In the purging type the compensatory behaviours involve regular self-induced vomiting, misuse of laxatives, diuretics or enemas during an episode. The non-purging type does not involve such behaviors but

is characterized by fasting and /or excessive exercise as compensations for the binge eating (DSM-IV, 1994; Garner & Garfinkel, 1997; Simos, 2002).

Eating Disorders Not Otherwise Specified

Finally, Eating Disorders Not Otherwise Specified (EDNOS) is the third diagnostic category of eating disorders. It is used to describe individuals who have eating disorders that are clinically significant but who fail to meet one or more of the criteria required for a formal diagnosis of anorexia or bulimia nervosa (DSM-IV-TR, 2000; Garner & Garfinkel, 1997; Simos, 2002). Examples include:

1. For females, all of the criteria for Anorexia Nervosa met except that the individual has regular menses.
2. All of the criteria for Anorexia Nervosa met except that, despite significant weight loss, the individual's current weight is in the normal range.
3. All of the criteria for Bulimia Nervosa met except that the binge eating and inappropriate compensatory mechanisms occur at a frequency of less than twice a week or for duration of less than 3 months.
4. The regular use of inappropriate compensatory behaviour by an individual of normal body weight after eating small amounts of food (e.g., self-induced vomiting after the consumption of two cookies).
5. Repeatedly chewing and spitting out, but not swallowing, large amounts of food.
6. Binge-eating disorder: recurrent episodes of binge eating in the absence of regular use of inappropriate compensatory behaviours characteristic of Bulimia Nervosa (pp. 595).

1.1.1.3. Epidemiology

It has been estimated that the onset of both anorexia and bulimia nervosa is identified to be late adolescent or early adulthood (DSM-IV-TR, 2000). Prevalence studies among adolescent and young females indicate that 0.5%-1% meet the diagnosis for anorexia nervosa. The data on the prevalence of this disorder in males is limited (Lesk, 1996; DSM-IV-TR, 2000). The DSM-IV-TR (2000) suggests that is approximately one-tenth of the rate observed among females.

The long-term mortality rate for the disorder is over 10%. Death may result from suicide, electrolytic imbalance and/or starvation (Lesk, 1996; DSM-IV-TR, 2000). The onset of anorexia is often associated with a stressful life event and the outcome is highly variable (Lesk, 1996).

In bulimia nervosa, the onset of binge eating often occurs during or after an episode of dieting and disturbed eating persists for several years in a high percentage of clinic samples (Lesk, 1996). The prevalence rate among adolescent and young females for bulimia is 1%-3% whereas the rate of occurrence in males is approximately one-tenth (0.1%-0.3%) of that in females (DSM-IV-TR, 2000). The long term outcome of bulimia nervosa is currently unknown and the course may be chronic or intermittent with periods of remission alternating with binge eating (DSM-IV-TR, 2000).

1.1.1.4. Clinical Presentation

Regardless of diagnostic sub classification, the primary feature of eating disorders (anorexia and/or bulimia) is extreme concern and overvalued ideas about weight and/or shape. Individuals suffering from an eating disorder have tendencies to see their body size larger than it actually is (Lee, 1997) and judge their self-worth or

value exclusively in terms of their weight (Hawton, Salkovskis, Kirk & Clark, 2000). The eating disorder sufferer feels helpless and ineffective and the disorder (anorexia/bulimia) indicates an underlying sense of lack of control and personal autonomy and an effort to exert and reassert mastery (Vaknin, 2006).

The eating disordered individuals perceive the world in terms of absolutes (black/white) and find it impossible to trust others and form relationships. They do not want to mature and become adult and /or engage with aspects of life that might entail any loss of control. They are ashamed of themselves and disgusted by their shortcomings and the disorder is their only achievement. As a result of all of the above, the person is left with a chronic absence of self-esteem (Vaknin, 2006).

In anorexia nervosa weight loss is viewed as a sign of self-discipline and extraordinary achievement. Patients are overwhelmed by weight and body concerns and feel themselves to be obese even when they are emaciated. Some anorexic features (such as preoccupation with food, episodes of overeating, depressed mood, obsessional ruminations, isolation and social withdrawal) of the disorder have been suggested to be a direct result of starvation (Brownell & Fairburn, 1995; Hawton et al. 2000). Most of the symptoms diminish with weight restoration except for episodes of overeating and depressive aspects (Ciervo, 1998; Brownell & Fairburn, 1995; Hawton et al. 2000).

Under eating, refusal of high-energy foods, persistent restlessness and excessive exercise are also characteristics of anorexic sufferers in order to burn calories and induce weight loss (Ciervo, 1998; Brownell & Fairburn, 1995). The purging form of the illness involves vomiting, laxatives and diuretics abuse (Brownell & Fairburn, 1995).

Due to the extreme calorie intake deprivation anorexics often display physical symptoms similar to those suffering from starvation such as emaciation, amenorrhea and abdominal pain (Ciervo, 1998; Brownell & Fairburn, 1995). They also run the risk of developing more serious medical conditions such as osteoporosis hypotension and renal disorders (Ciervo, 1998).

In contrast with anorexic individuals, an essential diagnostic distinction of bulimics is that they are within normal weight range although some may be slightly overweight or underweight. Prior to the onset of the disorder, bulimic sufferers are more likely to be overweight than their peers (Brownell & Fairburn, 1995).

The development of the disorder is similar to that of anorexia in that it results from long-continued attempts to restrain from eating due to the supreme importance the bulimic individual attributes to being thin (Brownell & Fairburn, 1995). Bulimia nervosa sufferers attempt to control their weight through an eating pattern that alternates between fasting and binge eating. Self-induced vomiting and laxative abuse usually follows binge episodes (Ciervo, 1998; Brownell & Fairburn, 1995; Hawton et al. 2000).

Bingeing may be planned in advance or it may begin spontaneously. Typically, binge episodes are secret and the sufferer makes elaborate efforts to conceal it. A binge episode it is often triggered by unhappy mood which may begin following an interpersonal conflict, criticism (by self or others) and / or intense hunger following a fasting period (Brownell & Fairburn, 1995). Although the binge provides the individual with a temporary relief of unhappy feelings the physical discomfort and the fear of gaining weight override the positive aspects of bingeing and leads to inappropriate compensatory behaviour (Ciervo, 1998; Brownell & Fairburn, 1995; Hawton et al. 2000).

The frequent bingeing and purging has been associated with medical conditions such electrolyte imbalances and metabolic alkalosis. In addition, serious dental erosion and salivary glands enlargement are frequently observed as a result of stomach gastric acid in the mouth cavity due to self-induced vomiting (Ciervo, 1998; Brownell & Fairburn, 1995).

1.1.1.5. Historical Overview of Eating Disorders

Psychoanalytic Perspective - Selvini-Palazzoli, Bruch

Early psychoanalytic theories about anorexia nervosa postulated a drive-conflict model for the understanding of the disorder. Theorists hypothesized that self-starvation was either a defence against sexual fantasies of oral impregnation (Waller, Kaufman & Deutsch; 1940) or a defence against oral sadistic fantasies (Masserman, 1941). However, as considerable anorexic symptomatology was left unexplained by this drive-conflict model object relations theorists attempted to fill in the gaps with another developmental model (Goodsitt, 1997).

Selvini-Palazzoli (1978) explained anorexic behaviour as resulting from distorted mental representation of body, self and object. The anorexic patient appears to have unresolved problems in the oral stage, which impede separation-individuation. She/he fantasizes an oral integration of a maternal, bad and over controlling object (Goodsitt, 1997). As the anorexic sufferer equates her body with this maternal introject, self starvation then functions as an attempt to end the feminization of her body and minimize the confused ambivalent identification with her mother.

Although the above accounts have contributed significantly to the literature, the formulations of Bruch (1962, 1978) and Crisp (1980) have been particularly

influential regarding the nature of anorexia nervosa. Self-starvation was conceptualized by Bruch (1962, 1978) as a struggle for autonomy, control, competence and self-respect within a rigid and controlling environment. Specifically, she explained that the mother's failure to acknowledge the child's expression of inner needs results in inner confusion in terms of interoceptive (inability to accurately identify and respond to emotions and other internal sensations) and body image awareness.

Crisp (1980) highlighted the importance of a developmental model in which the central psychopathology of anorexia nervosa is deep-rooted in the biological and psychological experiences that comes with the attainment of an adult weight (Silverman, 1997).

It is important to note that in contrast to anorexia nervosa, bulimia nervosa has historically received relatively little attention in the theoretical literature given that has been first described as a variant of its parent condition anorexia nervosa only as recently as 1979 (Russell, 1997).

Existing theories support that, similar to the anorexic, the bulimic family environment is also characterized by suppression of feelings and stifling of independence (Humphrey & Stern, 1988). For anorexic families the maintenance of a cohesive family system is based on the suppression and denial of conflicts or differences (Offner, 1997) however, while the anorexic family is characterized by closeness and concern, the bulimic family is characterized by disengagement, criticism and overt hostility (Offner, 1997).

The picture of a bulimic girl prior to the onset of the disorder is of a child who is more conflicted and impulsive than the anorexic girl. She is trapped between pursuing her own life and maintaining the psychic stability of an unhappy parental

figure whose life has been disrupted (e.g. mental instability, alcoholism). The bulimic enters puberty poorly capable of regulating emotions, self-esteem and cohesion and as a result turns to bodily manipulation (bingeing, purging) to temporarily re-establish a sense of vitalization and effectiveness (Goodsitt, 1997).

Cognitive Perspective- Fairburn

Fairburn (2001) has argued that both anorexia and bulimia nervosa are essentially cognitive disorders. The central cognitive disturbance in both disorders is a characteristic set of attitudes and values concerning body weight and shape.

Cognitive formulation of anorexia nervosa supports that the worth of the self is represented in body shape and weight (anorexic beliefs). These dominant anorexic beliefs, which mainly derive from the interaction between the individual and their early environment, influence individuals to endorse stereotypic eating disorder patterns (e.g. dieting, exercise, use of laxatives) and secondary irrational beliefs, to be responsive to eccentric reinforcement events (such as avoid fatness) and to show starvation induced physiological changes all of which strengthen the underlying ideas (Vitousek, 1995; Garner & Bemis, 1982). For the anorexic individual hunger is not an aversive stimulus it is rather a higher order accomplishment, a long desirable sense of mastery within a context of lifelong feelings of incompetence (Garner & Bemis, 1982).

Similar to anorexia nervosa, the cognitive model of bulimia as has been formulated by Fairburn (1985) suggests that bulimic's self-worth is largely or even exclusively judged in terms of weight and shape (weight related self-schemata). These schemata lead to dissatisfaction with weight which in turn leads to specific distorted cognitions about food, which then result to restrictive eating. Fairburn

(1985) model proposes that binge eating may then represent a secondary response to that extreme dietary restraint which in turn is hypothesized to lead to compensatory behaviours (vomiting, laxative use or excessive exercise) so as to maintain shape and weight control.

1.1.1.6. Aetiology

Since eating disorders have reached epidemic proportions, scientific curiosity has been generated about the factors that may contribute to such an increase in these disorders (Lee, H., 1998). Past literature has explored various biological, socio cultural, familial and personality correlates of eating anomalies (Stice, 1994; Striegel-Moore, Silberstein & Rodin, 1986).

Proponents of biological theories have supported that eating disorders may be seen as the result of hormonal imbalances of the endocrine system (Strober, 1986) or may lie within problematic dietary intake patterns such as lack of interoceptive awareness (Ussery & Prentice-Dunn, 1992). In addition, biological theories have theorized the possibility of eating disorders being genetically transmitted. Strober, Lampert, Morell, Burroughs and Jacobs (1990) in a study that explored familial aggregation, portrayed that anorexia was found to transmit intergenerationally.

Sociological perspectives have placed much emphasis on the role of socio-cultural variables such as gender, marriage, parenthood, residence (rural versus urban areas), and/or socioeconomic background to account for the genesis and maintenance of disordered eating (Sobal, 1995; Striegel-Moore & Cachelin, 2001). From this viewpoint, pathological eating is explained through the analysis of the way social values, roles and behaviours operate to influence body weight (Sobal, 1995).

In addition, scientists have postulated that eating disorders are considered to be a culture-bound syndrome (Wilfley & Rodin, 1995). It is the cultural meanings of thinness and eating that appear to encourage the development of eating problems in Western societies. Contemporary western orientations toward the female body promote thinness as a symbol of competence, success, control, social prestige and sexual attractiveness and lead many adolescent girls and women to experience discontent with their weight and shape if it does not match up to unrealistic societal ideals (Wilfley & Rodin, 1995).

Familial and interpersonal context (family dynamics, adequacy of parenting) has been considered another risk domain in the aetiology of eating disturbances. Minuchin et al. (1978) were some of the first clinicians that portrayed anorexia nervosa as the "identified patient's psychosomatic expression of her/his family's pathology" (p.30). That is, faulty family interactions between family members lie at the root of the development of eating disorders. Theorists from family systems perspectives have validated that the genesis of anorexia and/or bulimia nervosa appears to emerge from the disruption of certain family functions such as negotiation and communication of differences. Specifically, the development of anorexia nervosa has been conceptualised as the result of failing to individuate enmeshed and overprotective families (Bruch, 1978; Minuchin, Rosman, & Baker, 1978).

On the other hand, psychological correlates have focused exclusively on personality traits and behaviours. Low self esteem is one of the personality traits that has been associated with dieting, body dissatisfaction and bulimic like symptoms (Cassell & Larocca; 1994). Other personality factors identified as affecting pathological eating are an exaggerated need for approval, affective instability, and/or obsessionality (Brookings & Wilson, 1994). It has been pointed out that traits such as

extraversion, lack of control and/or a tendency towards perfectionism may also function as a precursor to the emergence of eating disorders (Garner & Garfinkel, 1997).

Most of the past research has empirically validated an association between traits such as obsessionality, neuroticism and perfectionism with anorexia nervosa (Braun et al. 1994; Vitousek & Manke, 1994; Cassin & von Ranson, 2005) and linked bulimia nervosa with traits such as impulsivity, affective dysregulation, stress reactivity and novelty seeking (Bulik et al. 1995; Gartner et al. 1989; Cassin & von Ranson, 2005).

Despite the face validity of these associations clinical experience suggests that the clinical picture is often more complex (Brunton, Lacey & Waller, 2005). Particular emphasis has been given recently on the contribution of both personality traits and personality disorders to disordered eating as an attempt to further understand the phenomenon and address therapeutic difficulties (Davis et al. 1997, 1999; Lilenfeld et al. 2000; Wonderlich & Mitchell, 2001; Cassin & von Ranson, 2005).

Specifically, Davis et al. (1997) supported significant patterns of association between eating pathology and personality disorders. Scientific validation for this position has come from three types of research. These involve: the prospective analysis of personality in the later development of eating disorders, comparisons among healthy controls, symptomatic patients and their weight restored asymptomatic counterparts and finally co-morbidity studies of personality and eating disorders (Davis et al, 1999).

Among others, narcissism has been found to be significant personality predictor of weight preoccupation, with its strong emphasis on the body as a source of self-esteem. Stieger et al. (1997) found narcissism to be more characteristic of individuals with anorexia nervosa or bulimia nervosa than those with other psychiatric disturbances (e.g. affective/adjustment disorders), suggesting that it may be a unique risk domain for distorted eating (Cassin & von Ranson, 2005). Although a certain degree of narcissism is vital to maintain self-esteem excessive use of narcissistic defences can become pathological.

Pathological narcissism reflects excessive concern with physical appearance and presentation, interpersonal sensitivity, need for external validation, and proneness to deflation of self-esteem (Steiger et al. 1997; Cassin & von Ranson, 2005). Lehoux, Steiger & Jabalpurlawa (2000) have shown that narcissism may persist after remission from bulimia nervosa, suggesting that it may be a trait characteristic rather than state-dependent.

However, Cassin & von Ranson, (2005) highlighted the need for additional research in an attempt to increase our confidence in drawing conclusions as so few studies have examined narcissism in eating pathology. The focus of the present study will attempt to add to the small but growing body of literature exploring narcissism in eating disorders.

The next section will provide a review of the literature regarding the phenomenology, epidemiology, clinical presentation and aetiology of narcissistic personality disorder for a more comprehensive understanding of the construct before further elaboration on studies that link together the two pathologies.

1.1.2. Personalit y Disorders: The Narcissistic Personality Disorder

"I am in love and see my loved one, but that form which I see and love I can not reach: so far am I deluded by my love...Alas! I am my self the boy I see. I know it: my own reflection does not deceive me; I am on fire with love for my own self. It is I who kindle the fires the flames which I must endure" (extracts from the myth of Narcissus-Hamilton, 1982, p.23)

1.1.2.1. Phenomenology of Narcissistic Personality Disorder (Diagnostic-Criteria).

Narcissistic personality disorder, is specifically characterized by an exaggerated sense of self-importance, a pervasive pattern of grandiosity (in fantasy or behaviour), lack of empathy for the feelings of others and need for admiration (Carson, Butcher & Mineka, 1998).

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, American Psychiatric Association, 2000) the individual with narcissistic personality disorder is characterized by five or more of the following:

(1) has a grandiose sense of self-importance (e.g., exaggerates achievements and talents, expects to be recognized as superior without commensurate achievements)

(2) is preoccupied with fantasies of unlimited success, power, brilliance, beauty or ideal love

(3) believes that he or she is "special" and unique and can only be understood by or should associate with other special or other high status people (or institutions)

(4) requires excessive admiration

(5) has a sense of entitlement i.e. unreasonable expectations of especially favourable treatment or automatic compliance with her or his expectations

(6) is interpersonally exploitative i.e. takes advantage of others to his or her own needs

(7) lacks empathy: is unwilling to recognize or identify with the feelings and needs of others

(8) is often envious of others or believes that others are envious of him or her

(9) shows arrogant haughty behaviours or attitudes (pp. 717).

1.1.2.2. Epidemiology

Epidemiological studies suggest that narcissistic personality disorder is rare, with a life time prevalence of less than 1% in general population and 2% to 16% in clinical groups. The disorder becomes evident in most cases, in adolescence or in early adulthood and is considered a chronic personality disorder with prognosis for major change being moderate at best (Meyer & Dietsch, 1995; DSM-IV-TR, American Psychiatric Association, 2000).

In terms of severity, it varies from mild impairment which is minimally dysfunctional (i.e., the self-centred or egotistical behaviour results in occasional minor problems but the person is generally functioning well) to severe impairment which is markedly dysfunctional (i.e. the self-centered or egotistical behaviour results in absence from duties, performance problems, alienation of support network, addictive behaviour, severe risk of harming self or others) (Millon & Everly, 1985; DSM-IV-TR, American Psychiatric Association, 2000).

Narcissistic personality disorder may be more frequently observed in men than in women (Akhtar & Thompson 1982; DSM-IV-TR, American Psychiatric Association, 2000). Between 50 and 70% of individuals given the diagnosis are males (Kaplan & Sadock, 1995; DSM-IV-TR, American Psychiatric Association, 2000).

1.1.2.3. Clinical Presentation

The disorder is viewed as consisting of characteristic findings in six areas of psychosocial functioning: behavioural appearance, self-perception, cognitive style, interpersonal contact, affective expression and primary defence mechanism.

According to Sperry & Carlson (1993) narcissistic individuals are seen as snobbish, self-centred, arrogant and exhibitionistic. They believe themselves to be "above" the conventions of their cultural group and others are simply expected to submerge their own desires in favour of the narcissist. That sense of entitlement and the lack of sensitivity to the needs and wants of others contribute to the conscious exploitation of others (Kaplan & Sadock, 1995; Meyer & Dietsch, 1995; Millon & Everly, 1985).

They also appear boastful and pretentious and they expect others to attribute the same value to their efforts as they do and are hurt when admiration by others is not provided. Frequently, they expect to be recognized as unique, special and superior and unduly attribute "gifted" qualities to those with whom they associate (Kaplan & Sadock, 1995). Individuals with NPD believe that their presumption of superiority is sufficient proof of its existence. In extreme cases, narcissists may be viewed as pompous, living in a delusion of personal grandeur (Millon & Everly, 1985; Millon & Davis, 1996).

Their cognitive style is characterized by cognitive expansiveness, exaggeration and inflexibility. Narcissists place no limits to their fantasies. They tend to exaggerate their abilities, to easily transform failure to success and depreciate those who refuse to enhance their self-image (Sperry & Carlson, 1992; Millon & Davis, 1996). As they consistently devalue others, not only they do not question the correctness of their own beliefs but also assume that others are wrong (Millon & Davis, 1996).

In terms of interpersonal contact they generally have an unemotional or cold style of interpersonal involvement. They are more willing to take from others but see no reason to give in return. Their lack of empathy reflects an inability to recognize the subjective experiences of others which results inevitably in superficial relationships with minimal emotional ties or commitments. (Sperry & Carlson, 1992; Millon & Davis, 1996). Within relationships, they expect admiring deference, have a non contingent love of self and take presumptive control of others (Benjamin, 1996).

Despite the fact that narcissists come across as ambitious and confident, their vulnerable self-esteem makes them particularly sensitive to criticism, defeat and rejection. When the narcissist's confidence is shaken he/she may experience displays of ventilate rage, shame, humiliation and hollowness which as a result can lead to social withdrawal, substance abuse and/or rageful counterattacks towards his/her perpetrator (Sperry & Carlson, 1992).

When the narcissist loses his/her narcissistic feeling of easy superiority he/she becomes irritable, annoyed and subject to repeated bouts of dejection and humiliation (Millon & Davis, 1996). Beck, Freeman and Davis (2004) suggest that individuals with narcissistic personality disorder experience intense envy, fear and rage, particularly when others do not accord them admiration or respect.

Their defence structure is based solely on denial or rationalization. Narcissists use these primary defence mechanisms to create an excuse or justification for disappointments, failures or socially unacceptable acts. If those fail, they have little resource other than to turn for solace to their fantasies. What the narcissistic individual is unable to work out through fantasy is simply repressed and kept from awareness (Millon & Davis, 1996).

1.1.2.4. Types of narcissism

Narcissists are either "cerebral" (that is, they derive their narcissistic supply from their academic achievements and intelligence) or "somatic" (that is, they derive their narcissistic supply from physical or sexual prowess and romantic or physical conquests).

In addition, narcissistic disturbance seems to lie on a spectrum ranging from "overt" to "covert" narcissism. The "overt" narcissist is grandiose, exploitative, often successful, seductive, charming, and impressively knowledgeable and articulate. He/ she seem to defend against shame and low self-esteem by devaluation of others, his/her grandiose self and overt expression of anger (Hoglund, 1996).

At the "covert" narcissism end of the continuum, individuals are doubt ridden, deeply envious of others, chronically bored, unable to love, and inattentive to objective aspects of events (Akhtar, 1989; Davis, Claridge, Cerullo, 1997; Hoglund, 1996). Although the latter group may respond with rage to narcissistic injury, they became ashamed of their anger and suppress it (Hoglund, 1996).

1.1.2.5. Historical Overview of Narcissism

The term 'narcissism' has originated from the Greek legend of Narcissus. The mythical Narcissus rejected all lovers, and then fell in love with his own reflection in a clear mountain pool. Unable to evoke any response from this mirror image and tear himself away from the reflection he gradually pined away and died (Hamilton, 1982).

Psychoanalytic perspective –Freud, Kohut, Kernberg

The first introduction of the term in a psychiatric context appeared in a case report by Havelock Ellis in 1898 who conceptualize it as *autoerotism*, that is, sexual gratification without evocation by another person or stimulation (Millon & Davis, 1996). However, it was in 1911 that Freud firstly introduced narcissism as a psychoanalytic concept. Specifically, he conceptualized it as a normal developmental phase between autoeroticism and object love.

He recognized that possible failures to develop from libidinal self-love to object love due to either parental overvaluation or devaluation would result to narcissistic disturbance and self-investment (Moore & Fine, 1995; Millon & Davis, 1996; Mollon, 2004).

Freud argued that all infants go through a phase of primary narcissism, in which they assume they are the centre of the universe. This phase ends when they realize that not only they do not control their parents but also they are entirely dependent on them. In certain cases, secondary narcissism or pathological self-centeredness develops as a result of the child's feeling that his/her parents cannot be depended upon to provide love. Then, the child stops to invest its emotions in its parents and redirects them back to self (Moore & Fine, 1995; Millon & Davis, 1996).

Although Freud contributed to the developmental origin of the term his writings could not account for the formulation of either a narcissistic character type or narcissistic personality type (Moore & Fine, 1995; Millon & Davis, 1996). It is the work of Otto Kernberg (1967, 1970) and Heinz Kohut (1966, 1971) in psychoanalytic thought through which the concept of a "narcissistic personality" began to emerge and the term of narcissism advanced to a character or personality disorder (Moore & Fine, 1995; Millon & Davis, 1996; Mollon, 2004).

In contrast, Kohut (1966, 1971) has understood pathological narcissism as the result of a developmental arrest that occurs when the major personality structures of "grandiose self" (parents mirroring of child's greatness) and "idealized parent imago" (parents can carry the child's idealization) are not properly integrated (Placun, 1990; Millon & Davis, 1996; Mollon, 2004). In normal circumstances these two narcissistic structures contribute to aspects of ego and superego functioning.

Kohut felt narcissistic personality disorders were derivative of parental failures in their roles as either mirroring self-objects of their child's grandiose self (gain approval from parents) and/ or as an idealized self object that could be internalized as an aspect of the child's idealized parent imago (Placun, 1990).

If the difficulty is centred on the development of the grandiose self then the child will fail to develop the sense of fulfilment that comes from feeling worthwhile and valued and as a result will be seeking persistently narcissistic recognition through adulthood (Millon & Davis, 1996; Mollon, 2004). If however, the difficulty is centred in the second line of self-development that of idealized parental imago, then the child will fail to idealize their parents because of the latter's indifference or rejection, will feel devastated and empty and as result will be seeking idealized parental surrogates through their adulthood (Placun, 1990; Millon & Davis, 1996; Mollon, 2004).

Therefore, the child remains "stuck" at a developmental stage in which her/his sense of self remains grandiose and unrealistic while she/he remains dependent on approval from others for self worth (www.minddisorders.com, 2006).

Otto Kernberg (1967, 1970), another prominent figure of psychoanalytic school does not agree with Kohut's hypothesis of the grandiose self and the idealized parental imago as normal. For Kernberg the grandiose self is always pathological, having no role or function in normal development (Placun, 1990).

Specifically, he views the grandiosity that characterizes the narcissist as a defence against the projection of oral rage (i.e. pathological process in libidinal development) which stems from their incapacity to depend on internalized good objects. The oral rage is presumably due to chronically cold parental figures who tend to be spitefully aggressive towards their children.

At the same time, some unique talent or role provides the child with a sense of being special, which serves as an emotional escape in a world of perceived indifference or threat (Placun, 1990; Millon & Davis, 1996; Mollon, 2004). The grandiose self serves to shelter a real self which is believed to hold strong but largely unconscious feelings of envy, fear and rage (Placun, 1990; Millon & Davis, 1996).

Social Learning Perspective- Millon

A social learning theory of narcissistic disturbances advanced by Millon (1969) dispenses with the parental deprivation hypothesis and focuses primarily on parental overvaluation. He traces the origin of the narcissistic style to the unrealistic overvaluation by parents of the child's worth, creating an enhanced self-image that can not be sustained in the outside world (Millon & Everly, 1985; Millon & Davis, 1996). The over inflated self image creates rage when disappointment takes place

and intermittent reinforcements maintain the self-image distortions (Beck, Freeman & Davies, 2004).

Cognitive Perspective- Beck, Young

The cognitive model pioneered by Beck (1967) explains that the core beliefs of narcissistic personality are one of inferiority and unimportance. The beliefs are activated under certain circumstances and in response to self-esteem threat. Attempts to overcome feelings of inferiority at all costs and sustain a positive self- become magnified into overdeveloped strategies of self-aggrandizement (Beck, Freeman & Davies, 2004). Within the cognitive perspective it is understood that narcissistic tendencies are shaped by the narcissist's parents who overcompensate for their own feelings of inferiority or unimportance (Beck, Freeman & Davies, 2004).

On similar ground, the schema-focused cognitive perspective by Young (1990) puts forward a model in which the core of narcissistic pathology is seen to derive from several early maladaptive schemas which are unconditional, self-perpetuating beliefs learned from interaction patterns beginning in early childhood (Beck, Freeman & Davies, 2004).

The main schemas of narcissism are emotional deprivation (expectation that one's desire for a normal degree of emotional support will not be adequately met by others), defectiveness (the feeling that one is defective, bad or unwanted) and entitlement (the belief that one is superior to other people) (Young, 1999; Young, Klosko, Weishaar, 2003). It appears that as narcissistic individuals are unable to experience genuine love, they tend to perpetuate their emotional deprivation and defectiveness schemas through their own behaviour (entitlement and grandiosity)

which validates to them that they remain unable to love or be loved (Young, Klosko & Weishaar, 2003).

1.1.2.6. Aetiology

Minimal scientific sources inform us about the developmental and aetiological features of narcissistic personality disorder (Kaplan & Sadock, 1995). The following bio-psychological formulation may be helpful in understanding how the narcissistic pathology is likely to have developed (Sperry & Carlson, 1992).

The role of biogenic influences in the narcissistic personality appears unclear (Millon & Every, 1985; Millon & Davis, 1996). It has been suggested that narcissistic personalities tend to have hyper responsive temperaments. However, neither twin nor adoptive studies have addressed the topic (Kaplan & Sadock, 1995). Due to the lack of empirically validated distinctive biophysical traits the biological perspective has unusually weak grounding on the pathogenic developmental background of narcissistic personality.

Since there is no promising biogenic evidence, particular emphasis has been given to psychogenic or environmental factors. Kaplan & Sadock (1995) have argued that pathological narcissism develops from childhood experiences of having fears, failures, dependence or other signs of vulnerability responded to with criticism or neglect. Such experiences can also be influenced by certain familial events (i.e. poverty, deaths) and/or parental psychopathology that distract attention from the child's needs.

Three psychogenic factors have been more thoroughly discussed in the literature. These are: overvaluation and indulgence, learned exploitative behaviour, and only child status.

Millon & Davis (1996) explain that parents of narcissists treat them as if they are special and superior people. They pamper them and indulge them in ways that teach them that they can receive without giving and that every wish is a command. Young narcissists learn very quickly that they deserve to be treated with distinction without having to do anything to earn it (Kaplan & Sadock, 1995). Children who have been exposed repeatedly to indulgent parents expect to be treated in similarly special ways by others. If such special treatment is not forthcoming these children develop considerable skills in manipulating and exploiting others so as to extract the special consideration they have learned to expect (Millon & Davis, 1996).

Finally, brief focus has been placed on the high frequency of parental overindulgence in only children and among first born males in certain cultural/ethnic groups (Millon & Davis, 1996). However, such events are not restricted to only children nor do all only children have such experiences and develop narcissistic traits.

All of the above three factors have been considered to be major environmental determinants of the narcissistic pathology. They may act singly and/or in combination to shape the disorder under discussion (Millon & Davis, 1996).

1.1.3. Anger

1.1.3.1. Definition

Anger, hostility and aggression are vital constructs in many theories of personality. Anger is believed to be a more fundamental concept than either hostility or aggression however within the psychological and psychiatric literature has often been confused and used interchangeably with the other two related phenomena (Spielberger, 1999; Kassinove & Tafrate, 2002; Milligan et al. 2002).

Specifically, the concept of anger is best defined by Spielberger (1999) as "a psychobiological emotional state or condition that consists of feelings that vary in intensity from mild irritation to intense fury and rage, accompanied by activation of neuroendocrine processes and arousal of the autonomic nervous system" (p. 19).

It is typically activated when an individual believes he/she has been deliberately provoked. In terms of survival, anger can be considered as a necessary driving force when 'fight' as opposed to 'flight' is necessary (Spielberger, 1999; Kassinove & Tafrate, 2002). On the other hand hostility usually refers to a set of complex attitudes about a person, institution or a group that include viciousness and meanness and at times vindictive behaviour. Clinically, hostility and negative attitudes set the stage for anger and its expression (Kassinove & Tafrate, 2002).

1.1.3.2. Expressive Patterns

Aggression is thought to be a form of anger expression (anger out) and it can be expressed either physically (intended to hurt or harm another person or destroy a property) or verbally (threats, insults, criticism) (Spielberger, 1999; Kassinove & Tafrate, 2002). It is important to highlight that both verbal and physical manifestations of anger might be directed toward the source of provocation or expressed indirectly to other people or objects (Spielberger, 1999).

Another expressive pattern is the suppression of anger or the tendency to direct anger towards the self (anger in). Often people who suppress their feelings have internal standards that mandate that anger must not be openly expressed (because it is wrong or dangerous). Although individuals who held their anger in are aware of their angry feelings they judge their expression to be inappropriate thus they do not show any external behaviour. However, there are potential negative

consequences of anger when it is not expressed appropriately (Kassinove & Tafrate, 2002; Westermeyer, 2006).

Suppressing feelings and focusing on others' emotional needs has been related to a number of psychological and physical health problems (Dryden, 1996; Geller, Cockell, & Goldner, 2000; Zaitsoff et al. 2002). In adult and adolescent research literature suppressing anger has been associated with impaired immune functioning, elevated blood pressure, coronary problems as well as poor psychological adjustment, depression, anxiety, personality and eating disorders (Zaitsoff et al. 2002).

While some people have difficulty acknowledging their feelings and hold them inside, others openly rage. Angry outbursts might indicate feeling blocked, trying to cope with unhappiness or depressed feelings, or it can be a defensive response to underlying fear, feelings of vulnerability or powerlessness (www.villanova.edu, 2006).

1.1.3.3. Healthy (Normal) versus Unhealthy (Pathological) Anger

Anger is a normal and basic human emotion. The important point is that anger is nothing more than the body's internal response to the release of a natural chemical following an incident that stimulates the brain (Bilodeau, 1992). Anger in itself is not dangerous, threatening or hurtful.

It is a universal reaction to any threat to one's welfare and as all basic emotions anger has a vital functional role in a person's physical and psychological survival. Here are few of the reasons of the necessity of (healthy) anger in a person's life:

1. Survival: our emotions alert us when a natural human need is not being met.

2. Communication: anger communicates to others, influences others and will let others know when they have done something wrong. Also anger communicates to ourselves, it is self-validating.
3. Boundary Setting: Anger may stop others' behaviour. People often use their emotional reactions to other people and to events as information about the situation. Emotions can be signals or alarms that something is going on. Anger will alert you to the fact that someone is treating you badly.
4. Decision Making: Anger motivates you to resolve problems and will motivate you to prevent continued / future mistreatment by others. (Bilodeau, 1992; Dryden, 1996; Kassinove & Tafrate, 2002)

Healthy anger has an external inducing agent (reason) and is directed at this agent (coherence) but in ways that respect the target of the anger. Healthy individuals experience anger as a transitory state (Vaknin, 2004).

In contrast pathological anger is neither coherent nor externally induced. Bruno (1994) explains that chronic or pathological anger has roots in early childhood experiences. Sufferers of pathological anger may not have had their emotional needs met in infancy and toddlerhood. Vaknin (2004) further supports that personality disordered patients and / or patients who experience dysfunctional anger were usually unable to express anger -which most of the time was a justified reaction to abuse and neglect- and direct it at their significant others in their early formative years.

People suffering from complex psychological difficulties such as personality and eating disorders are prone to be angry. Their anger is dysfunctional as it is always sudden, without an apparent provocation by an outside source, raging and is mostly directed at oneself or lacks direction in general (Vaknin, 2004).

It appears that personality disordered patients are in a constant state of anger often suppressed or repressed; they are afraid to show their anger to significant others from fear of losing them and prefer to vent off their frustration at people who are meaningless to them or whose withdrawal will not be a threat to their vulnerable self. Alternatively, they are engaging in all forms of self-directed aggression (e.g. drugs, bingeing, self-harm).

The hostile expressions of the personality disordered individual are destructive and his/her anger is primitive and maladaptive. His/her anger does not function as a signal which could change his/her environment or the behaviour those around him/her. He/she rages because he/she can not help it and is in a self-destructive and self-loathing mode. The personality disordered patient is angry at himself/herself for not being able to experience and express healthy anger, normally (Vaknin, 2004).

1.1.3.4. Conceptualization of Anger

It is important to recognize that anger as an emotion is not static or unitary as it has been previously discussed in psychological literature. Spielberger (1999) has described anger as a complex multifaceted construct which varies both in the frequency of occurrence and in intensity in an attempt to clarify the confusion that exists regarding the nature of anger. Specifically, he conceptualized anger either as an emotional state – which is transitory- or as a trait – a relatively stable personality characteristic-.

State anger is defined as a 'psychobiological emotional state marked by subjective feelings that vary in intensity from mild irritation to intense fury and rage' (Spielberger, 1999, p. 1). Anger as a changeable emotional condition is accompanied

by activation of the neuroendocrine and autonomic nervous system as well as muscular tension (Milligan & Waller, 2000). The intensity of state anger varies as a function of being attacked, treated unfairly by others and perceived injustice (Spielberger, 1999).

Trait anger, a more stable predisposition toward anger, is defined in terms of individual differences in the frequency with which angry feelings are experienced over time. Individuals with high trait scores experience state anger more frequently and with greater intensity than those with low trait anger (Spielberger, 1999). The state-trait distinction is vital for purposes of empirical research as it provides a more coherent and comprehensive understanding regarding the nature of anger.

1.2. Empirical Findings

1.2.1. Research on Narcissism, Eating Disorders and Anger

1.2.1.1. Narcissism and Eating Disorders

Several authors (Wilson, 1983; Sours, 1974; Piran, Lerner, Garfinkel, Kennedy & Bruillete, 1988; Gartner, Marcus, Halmi, Loranje, 1989; Yates, Sieleni, Reich, & Brass, 1989) have discussed the interface between pathological narcissism and eating attitudes. Wilson (1983) has described anorexic individuals as extremely narcissistic due to their denial of reality, their moral pride and sense of being "chosen" within their families. Similarly, Johnson and Connors (1987) considered two character disorders in patients with eating disorders, which are borderline and narcissistic.

Ruderman and Grace (1988) found significant relations between narcissism and bulimia. Similarly, considerable similarities between bulimics and restraints eaters were also observed. Both groups displayed narcissistic personality features and

body and appearance dissatisfaction, with bulimics appearing to be more distressed than were restrained eaters.

Although the interface between the two constructs has been extensively reported in the literature (Wilson, 1983; Sours, 1974; Piran, Lerner, Garfinkel, Kennedy & Bruillete, 1988; Gartner, Marcus, Halmi & Loranje, 1989; Yates, Sieleni, Reich, & Brass, 1989) there are few empirical studies in this area with inconsistent results (Ronmingstam, 1996).

Ronningstam (1992) observed that anorexic patients showed higher occurrence of 'pathological narcissism' than general psychiatric patients but also they shared with narcissistic individuals two of the most important aspects of narcissistic personality that is unrealistic sense of superiority and uniqueness.

More recent clinical reports have equally attributed 'pathological narcissism' as being one of the core personality features in eating disorders (Steiger, Jabalpurwala, Champagne & Stotland, 1997; Ronningstam, 1996) In addition, Cassin & von Ranson (2005) supported that narcissism has been found to be more characteristic of anorexic and bulimic individuals than those with other psychiatric disturbances, suggesting that it may be a unique risk factor for eating disorders.

Davies et al. (1996, 1997) outlined that a significant personality predictor of weight preoccupation has been found to be narcissism, with its strong emphasis on the body as a source of self-esteem. Narcissistic individuals highly preoccupied with their weight are driven both by low self-regard and by neurotic concern about their bodies (Davies et al. 1996, 1997).

Anorexia and bulimia nervosa have both been interpreted as the struggle of narcissistic individuals to stabilize self-image through narcissistic over-investment in

body image and control of eating behaviours (Johnson, 1991; Sour, 1980; Steiger et al. 1997).

Different adaptive styles (restricter-binger/purger) have been found to explain different expressions of the same narcissistic vulnerabilities (Johnson, 1991; Johnson & Conors, 1987; Steiger et al. 1996). Specifically, the binger/purger type manages to self-regulate narcissistic disturbances through chaotic stimulation and attention seeking whereas in restrictive eating disorder variant the individual adapts an over-controlled and phobic obsessional stance (Stieger et al. 1997).

Stieger et al., (1997) have also supported that eating disorders show a special affinity for narcissistic pathology. Specifically, their findings concur with the theory of pathological narcissism in the development of anorexia and bulimia nervosa. Regardless of their adaptive style, eating disordered patients displayed similar propensities toward trait narcissism relative to general psychiatric and normal control people.

Finally, Brunton, Lacey & Waller, (2005) established that one form of repressed narcissism is associated with anorexic characteristics of drive for thinness and low BMI (Body Mass Index). Bulimic attitudes were also related to narcissistic personality traits. The importance of considering testing all aspects of narcissism when exploring links with eating disordered attitudes was highlighted.

However, it is apparent that additional research is necessary as the link between narcissism and eating disorders has not been fully and adequately evaluated (Cassin & von Ranson, 2005; Steiger et al. 1997; Ronningstam, 1996; Davies et al. 1996, 1997; Cassin & Von Ranson, 2005).

1.2.1.2. Narcissism and Anger

Theoretical considerations on narcissism have posited a relationship between narcissistic personality features and anger (Kerberg , 1975; Millon, 1981). The DSM-IV-TR (2000) criteria for the diagnosis of the disorder also points out that narcissists are sensitive to criticism and are likely to react with anger and rage. Individuals high in narcissism have been found to be especially sensitive to experiencing "slights" from others (Levin, 1993). Therefore, anger can be conceptualized as an affective response to criticism or rejection (McCann & Biaggio, 1989).

Empirical findings have supported that individuals high in narcissism exhibit higher arousal of anger (McCann & Biaggio, 1989). Similarly, empirical data have revealed that overt narcissism is related to hostility (Raskin, Novacek & Hogan, 1991) and aggression (Bushman & Baumeister, 1998; Baumeister, Bushman & Campbell, 2000).

McCann & Biaggio (1989) found significant relationships between the Narcissistic Personality Inventory (Raskin & Hall, 1979) total score and the general, verbal and total anger expression subscales of Anger Self-report (Zelin, Adler & Myerson, 1972) but no correlation between the Narcissistic Personality Inventory (Raskin & Hall, 1979) total score and the Novaco Anger Inventory (Novaco, 1975). Specifically, highly narcissistic individuals were found to show a higher tendency to express anger (especially verbally) but showed no willingness to admit to their angry feelings (McCann & Biaggio, 1989).

Baumeister, Smart & Boden (1996) asserted that narcissism is related to anger and hostility when there is a perceived ego threat. Anger and aggression is more likely when people with a narcissistically inflated view of their own personal superiority come across someone who disputes that. Anger functions as a means of

defending highly favourable view of self against someone who attempts to deflate it (Baumeister et al. 1996).

Similarly, Bushman & Baumeister (1998) explored links among self-esteem, narcissism and aggression. High levels of aggression were strongly associated with high levels on narcissism following provocation. Narcissism has taken centre stage as the form of self-regard most closely associated with aggression. (Bushman & Baumeister, 1998; Baumeister, Bushman & Campbell, 2000).

Narcissistic personality traits such as perceived position of authority and inflated sense of entitlement were also found to strongly associate with anger. No relationship was found between feelings of superiority over others and anger in response to provocation (Witte, Callahan & Perez-Lopez, 2002).

However, it can be seen from above, that empirical studies have not yielded consistent evidence that the global construct of narcissism consistently correlates with measures of anger and aggression (Witte et al. 2002). Inconsistencies observed on the empirical data may relate to different aspects of anger assessed by various measures as well as to different aspects of narcissism (Witte et al. 2002).

Additionally, studies have not explored the relationship between various narcissistic features (especially the more pathological or maladaptive characteristics of the construct) and different experiences/expressions of anger (multifaceted nature) (Hoglund, 1996; Witte et al. 2002).

1.2.1.3. Eating Disorders and Anger

Although eating disorders have been broadly described as stemming from self-esteem deficits and an overvaluing of shape and weight (Cooper & Fairburn, 1993; Zaitsoff, Geller & Srikameswaran, 2002) recent clinical reports have also portrayed eating

disorders symptoms (bingeing, purging and restricting) as providing a means for regulating and coping with negative emotions and avoiding challenging interpersonal situations (Heatherton & Baumesteir, 1991).

Even though there is extensive empirical data focusing on emotions such as anxiety and depression the role of anger in eating pathology has not been fully and adequately explored. It has been argued that the lack of scientific evidence stems from the confusion in regards to the nature of anger (Waller & Milligan, 2000; Waller, Babbs, Milligan, Meyer, Ohanian & Leung, 2003).

Recent research trends in eating pathology have focused more on the multifaceted nature (state/trait anger, as it has been explained earlier in the paper) of anger (Waller & Milligan, 2000; Waller et al. 2003) in contrast with past conceptualizations of anger as a unitary construct (Arnow, Kenardy & Argas, 1995).

Anorexia Nervosa & Anger

Engel and Meier (1988) have reported that anorectic patients internalized anger and anxiety more than patients with other psychosomatic illnesses. Most studies (Horesh, Zalsman & Apter, 2000; Geller, Cockell & Goldner, 2000; Zaitsoff et al. 2002) suggest that anorectic individuals tend to suppress their anger or direct it towards themselves.

In contrast, Ondercin (1984) found that anorectic participants felt less angry and more dependent in comparison with the healthy and obese control group. Therefore, it is not transparent whether all anorectic individuals fit the profile of anger suppression as many engage in bulimic behaviours which also strongly relate to anger suppression (Waller et al. 2003).

Bulimia Nervosa & Anger

Studies have also linked anger with bulimic attitudes and behaviours (Fasino, Piero, Daga & Rovera 2001; Fava, Rappe, West & Herzog, 1995; Milligan & Waller, 2000). State anger (an emotional state that varies in intensity) is more likely to be a stronger trigger of bulimic behaviours than trait anger (a relatively stable personality characteristic), because bingeing and purging behaviours are likely to serve the function of regulating immediate affective states (McManus & Waller, 1995).

Milligan & Waller (2000) maintained that bulimic patterns strongly relate to state anger and anger suppression. Specifically, it was supported that different bulimic behaviours serve different functions. Binge eating was associated with higher levels of anger suppression thus it might serve to avoid experiencing anger, whereas vomiting might assist the reduction of the immediate anger state as it was associated with high levels of state anger.

Fassino et al. (2001) highlighted that bulimic patients are more inclined temperamentally to anger especially as a reaction to criticism. They also tend to feel greater anger feelings and express them toward other people or objects in the environment.

In another study, Milligan, Waller & Andrews (2002) indicated that bulimic behaviours such as loss of control over one's eating was associated with trait anger and with externally directed anger whereas restrictive behaviour such as weight loss was linked to state anger. Fassino, Leombruni, Piero, Abbate-Daga & Rovera (2003) pointed out that obese patients with binge eating disorder tend to express anger outside whereas the ones without binge eating disorder tend to suppress their anger.

Finally, Waller et al. (2003) have provided further support to empirical data which links bulimic attitudes with anger suppression rather than externally directed

anger. They have hypothesized that a person's core beliefs may have some impact on eating disturbances by increasing the likelihood of experiencing and attempting to suppress anger.

With more detailed investigations in the last decade the link between eating attitudes and anger has been empirically highlighted. However, it is evident that additional research is necessary to increase our confidence in drawing conclusions in regard to the interplay of two constructs.

1.2.2. Research on Gender Differences and Narcissism, Eating Disorders and Anger

1.2.2.1. Gender Differences and Narcissism

Some theorists have suggested that narcissistic personality disorder is predominantly a male disturbance (Blatt & Schichman, 1983; Philipson, 1985). DSM-IV-TR (2000) supports that narcissistic personality disorder has been observed more frequently in men than in women.

Hoglund (1996) argues that the existence of gender differences in narcissism and the difference in the prevalence rates across gender depends on how the construct is defined. Specifically, the author suggests that since boys are encouraged to individuate from the mother, they may defend against dependency and shame issues and be more susceptible to developing features of overt narcissism. In contrast, girls are encouraged to affiliate with the mother, they may consciously experience their dependency needs and be more susceptible to covert narcissism.

Empirical studies have yielded conflicting results concerning gender differences and narcissism (Hoglund, 1996). The limited existing literature seems to suggest that men and women do not differ on measures of total narcissism (Richman

& Flaherty, 1988). However, when considering more specific aspects of narcissism men appeared to have more overt narcissistic features (grandiosity, fantasies of unlimited success) whereas women appeared to have more covert (distress in response to the indifference of others) ones (Richman & Flaherty, 1988, 1990).

Tschanz et al. (1998) tested whether exploitative tendencies and feelings of entitlement (overt features) were less central among females than they were among males. Their findings suggested that in general female and male narcissists (as it was measured by the NPI) showed striking similarities in most facets of narcissism. In addition, their hypothesis was supported; exploitativeness and entitlement appeared to be less well- integrated with the other components of narcissism in females than it would be in males.

However, scientific consideration has been given to whether the type of narcissism assessed by the Narcissistic Personality Inventory can be validly generalized to both male and female experience (Akhtar &Thompson, 1982; Tschanz et al. 1998).

It must be emphasized that the empirical evidence on more specific features of narcissism is limited and, to the author's knowledge, there is no current empirical exploration of gender differences and the less adaptive aspects of narcissism or its defensive style.

1.2.2.2. Gender Differences and Eating Disorders

Eating disorders are among few disorders in which gender distribution appears to be so skewed (Anderson & Bulik, 2004). Epidemiological studies report a 10/1 ratio between females and males with eating disorders (DSM-IV-TR, 2000; Weltzin, Weisensel, Franczyk, Burnett, Klitz & Bean, 2005). Consequently, research on males

with anorexia and bulimia nervosa has been relatively ignored primarily due to the statistical infrequency (Andersen, 1995). However, recent empirical trends support that the gender imbalance observed in eating disorders may not be as great as previously believed (Woodside, Garfinkel, Lin, Goering, Kaplan, Goldbloom & Kennedy, 2001).

Psychological models of eating disorders support that males with disordered eating attitudes are more likely to underestimate body size, and engage in activities such as exercise to attempt to lose weight whereas eating disordered females are more likely to engage in typical compensatory behaviour such as vomiting (Anderson & Bulik, 2004; Weltzin, 2005).

Additionally, men are more likely to binge rather than restrict as a result of body dissatisfaction (Weltzin, 2005). Lewinsohn, Seeley, Moerk & Striegel-Moore (2002) and Anderson & Bulik (2004) observed higher scores on body dissatisfaction and drive for thinness eating disordered features in females. Gender differences were not found to be significant on bulimic tendencies (Lewinsohn, 2003; Meyer, Leung, Waller, Perkins, Paice & Mitchell, 2005).

Further, negative affect was found to increase both restrictive and binge eating in women whereas it is less likely to lead to restrictive patterns in men. (Woble, Williamson, Martin, Zucker, Thaw, Netemeyer, Lovejoy, & Greenway, 2001). Meyer et al. (2005) found that anger functions as a trigger factor of bulimic attitudes in men whereas women tend to binge in order to suppress feelings of anger.

Few studies have examined gender differences in the symptomatology and correlates of disordered eating attitudes (Anderson & Bulik, 2004).Gender differences in compensatory behaviours, body dissatisfaction, drive for thinness and bulimic tendencies have rarely been examined in non clinical samples (Anderson & Bulik,

2004). Further research is therefore necessary to improve our understanding of eating disturbances in men and help to develop more adequate treatment protocols.

1.2.2.3. Gender Differences and Anger

Gender differences in the expression of anger are frequently discussed in the psychological and counselling literature (Bartz, Blume & Rose, 1996; Hoglund, 1996). The prevailing belief is that females experience and express their anger differently from men due to social pressure to express emotions in sex appropriate ways (Copper & Epperson, 1991; Iqbal, Ahmand, Shukla & Akhtar, 1993; Bartz et al. 1996). Specifically, it is believed that women are taught to hide or suppress their anger whereas men are encouraged to verbally and physically express it (Copper & Epperson, 1991; Iqbal, Ahmand, Shukla & Akhtar, 1993; Bartz et al. 1996).

Although speculation regarding gender differences has been widespread, the empirical evidence for such speculation is limited and confusing. Part of the confusion lies on the inconsistencies in regards to what is meant by "anger". Psychological and counselling literature has often confused anger with related cognitive constructs (such as hostility) and the behavioural outcome (aggression) (Kopper & Epperson, 1991; Milligan et al. 2002). In addition, past conceptualizations of anger have described it as an emotion unitary and static in nature.

Recent trends (Spielberger, 1996) have highlighted the complex and multifaceted nature of anger which varies in intensity and in the frequency of occurrence. In a study by Fischer, Smith Leonard, Fuqua, Campbell & Master (1993) investigating the multifaceted nature of anger across gender mixed results were observed. In particular, men scored higher on disposition to experience anger and expressing anger toward other people or objects than women. In contrast with popular

assumptions, no gender differences were found on attempting to control anger and suppressing anger feelings.

Hoglund and Nicholas (1995) maintained that males tend to show higher levels of verbal anger expression and overt hostility than women do. No gender differences were observed for angry disposition and anger suppression. The authors suggested that men and women may have similar anger experiences but men are more verbally and physically expressive. Similarly, Bartz et al. (1996) argued that men and women differ minimally in the experience, expression and control of anger.

Finally, Forgays, Forgays & Spielberger (1997) suggested that there are differences in how women process a decision to express anger physically. Although no significant differences were reported in experience anger and feeling like expressing anger verbally between males and females, men scored much higher than women in feeling like expressing anger physically.

In summary, the limited studies seem to suggest that there are no gender differences in the experience of anger with some studies supporting differences on how the emotion is expressed and others not. However, further research is vital to clarify gender differences on experience, expression and control of anger, especially how often a person attempts to control angry feelings by cooling off or calming down and how often a person feels like expressing anger verbally and expressing anger physically.

1.2.2.4. Summary

Empirical studies have yielded conflicting results concerning gender differences and narcissism (Hoglund, 1996). The limited existing literature seems to suggest that men

and women do not differ on measures of total narcissism (Richman & Flaherty, 1988).

However, when considering more specific aspects of narcissism men appeared to have more overt narcissistic features whereas women appeared to have more covert ones (Richman & Flaherty, 1990). It appears that the empirical evidence on more specific variables of narcissism is limited and to the author's knowledge there is no current empirical exploration of gender differences and the less adaptive aspect of narcissism or its defensive style.

In addition, several studies suggest that men and women may experience similar levels of anger but may express it differently (Hoglund, 1996). Limited empirical data supports that men high in overt narcissism were more likely to express their anger verbally and physically than women (Hoglund & Nicholas, 1995).

Finally, difficulty with recognition and tolerance of negative emotions appear to be found in both the eating disorders and narcissistic personality disorders literature (Davis & Marsh, 1986). It has been argued that bingeing and purging or other forms of distorted eating appear to serve a useful blocking function to those individuals who habitually fail to express such negative affect and particularly anger (Miller & Waller, 2000).

Therefore, anger might be a common pathway between narcissism and bulimic tendencies. Empirical validation is limited. If that was found to be the case, helping patients begin to recognize, understand and tolerate anger might become the focus of therapy for individuals with dual diagnosis (eating disorders/narcissistic personality disorder).

1.2.3. Present study

1.2.3.1. Central Ideas

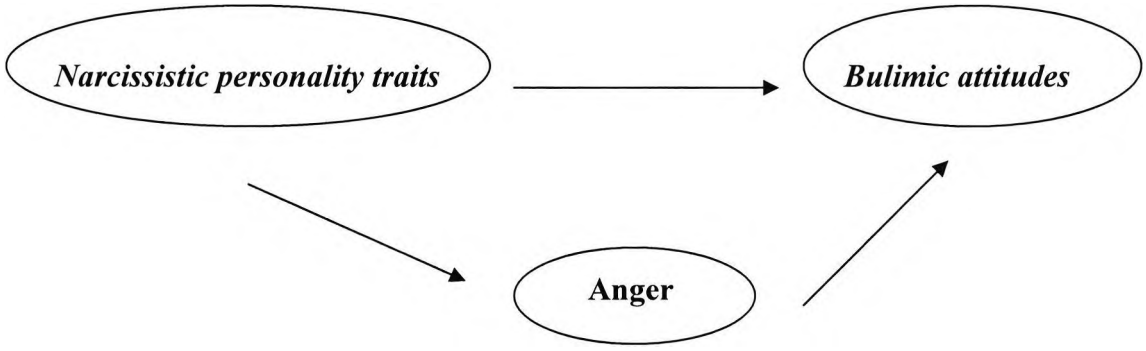
The present study aims to investigate the potential relationship between narcissistic personality disorder traits, specific aspects of anger and different elements of eating pathology between female and male individuals. It will focus specifically on the more pathological/maladaptive characteristics of narcissism and its defensive style and on anger as a multifaceted rather than a unitary construct in relationship with distorted eating attitudes.

To the author's knowledge, an exploration on gender differences and the more pathological/maladaptive characteristics of narcissism and its defensive style as well as an assessment of the relationship between the more pathological/maladaptive characteristics of narcissism and its defensive style and anger as a multifaceted rather than a unitary construct has not been previously addressed in the literature. Limited research or conflicting results exist on the other associations under investigation.

In addition, literature suggests that narcissistic individuals are lacking in effective mechanisms for tolerating feeling states -specifically anger- and redirecting them in ways so as to correct the inducing conditions (Davis & Marsh, 1986). Therefore, bingeing may possibly develop as the way that the narcissistic individual seeks to reduce emotional awareness and soothe oneself from his/her rage.

However, to date, empirical corroboration of the mediating mechanisms between narcissistic personality disorder and bulimia nervosa is lacking. Therefore, the study will also aim to clarify whether anger is a mediating factor between narcissistic features and bulimic attitudes (see Figure 1.1.).

Figure 1.1. Anger as a mediating mechanism between narcissistic personality disorder traits and bulimic tendencies.



Thus, the present study aims to both clarify and extend the current literature in this area.

1.2.3.2. Clinical Significance for Counselling Psychologists

The findings of the study will have important implications for psychological research, as it will try to explore possible pathways that clinicians can address and focus on when working with patients with dual diagnosis (i.e. narcissistic personality disorder/eating disorders).

Specifically, it will aim to contribute to: the understanding of dynamics and the identification of individuals " at risk" for developing an eating disorder; the increase of the practitioner's awareness of the multifaceted nature of anger in association with the narcissistic and eating pathology across gender; the clinicians' knowledge of how assessment and differential treatment may be indicated according to the varying nature of the three constructs under investigation that is narcissism, anger, eating attitudes and behaviours with a particular focus on bulimic tendencies.

1.2.3.3. Aims and Research Hypotheses

Aim 1

The first aim of this study was to investigate the potential relationship between narcissistic personality disorder traits, specific aspects of anger and different elements of eating pathology.

Related to the first aim of this study are *three research hypotheses*. These hypotheses are:

Research Hypothesis 1(Ho1):

The study aims to investigate if there is a relationship between different elements of narcissism and disordered eating attitudes as measured by the OMNI (note: detailed description of all the psychometrics tests presented in this part of the study will be outlined later in Chapter 2) and the EDI-2 respectively.

It is expected that narcissistic personality disorder traits will be positively correlated both with bulimic eating attitudes and anorexic features. In terms of narcissism's defensive styles, individuals with high scores on the Poisonous Pedagogy subscale are expected to score high on the Bulimia subscale and low on the Drive for Thinness Subscale whereas individuals with high scores on the Narcissistically Abused Personality subscale are expected to score high on the Drive for Thinness Subscale and high on the Bulimia subscale.

Perfectionism and Interpersonal Distrust scales on the EDI-2 are expected to positively correlate with all scales of the OMNI.

Research Hypothesis 2(Ho2):

The study aims to investigate if there is a relationship between different facets of narcissism and aspects of anger (experience/expression) as measured by the OMNI and STAXI-2 respectively.

It is expected that the higher the scores on the scales of narcissism the higher the experience and expression of anger. Specifically, high scores on the NP subscale of OMNI would be associated with high levels on all STAXI-2 Scales.

In terms of its defensive styles, individuals with high scores on the Poisonous Pedagogy subscale are expected to associate with high scores on the T-Anger, S-Anger Scales and subscales, the AX-O and the AC-O scales of the STAXI (positive correlation) and low scores on AX-I, AC-I scales (negative correlations) whereas individuals with high scores on the Narcissistically Abused Personality subscale are expected to associate with high scores on the T-Anger, S-Anger Scales and subscales, the AX-I, AC-I and AC-O scales of the STAXI (positive correlation) and low scores on the AX-O scale (negative correlations).

Research Hypothesis 3(Ho3):

The study aims to determine whether there is a relationship between different disordered eating attitudes and aspects of anger (experience/expression) as measured by the EDI-2 and STAXI-2 respectively.

It is expected that high scores on the Drive for Thinness, Bulimia, Body Dissatisfaction, Perfectionism and Interpersonal Distrust scales of the EDI-2 will be associated with high scores on all scales of the STAXI-2.

Aim 2

The second aim of this study was to investigate significant differences between male and female college students on their eating attitudes, narcissistic personality traits and defensive styles of narcissistic pathology as well as their experience and expression of anger. Related to the second aim of this study are *three research hypotheses*. These hypotheses are:

Research Hypothesis 4(Ho4):

The study aims to investigate whether there are significant differences between male and female college students on (e.g. Narcissistic Personality, Poisonous Pedagogy and Narcissistically Abused Personality scales of the OMNI) narcissistic personality traits and its defensive styles.

It is expected that male college students will score higher on the above scales than their female counterparts. Prevalence studies support that of those diagnosed with Narcissistic Personality Disorder, 50%-70% are males. In terms of its defensive style, women expected to show more covert characteristics (higher scores on Narcissistically Abused Personality scale) of narcissism whereas men more overt (higher scores on Poisonous Pedagogy scale).

Research Hypothesis 5(Ho5):

The study aims to investigate whether there are significant differences between male and female college students on (e.g. Drive for Thinness, Bulimia, Body Dissatisfaction, Perfectionism and Interpersonal Mistrust scales of the EDI-2 and the Bite) their eating attitudes and behaviours.

It is expected that female college students will score higher on the above scales than their male counterparts. Prevalence studies on eating disorders have found higher rates among females (DSM-IV-TR, 2004).

Research Hypothesis 6(Ho6):

The study aims to investigate whether there are significant differences between male and female college students on (e.g. all the scales of the STAXI-2) their experience and expression of angry feelings. It is expected that males will be more likely to express their angry feelings verbally and physically (S-ANG/V & S-ANG/P respectively) as well as express their anger towards other people or objects in the environment than females (AX-O).

Additionally, it is anticipated that females will show higher tendency of holding in and suppressing angry feelings (AX-I), and control the outward expression of angry feelings (AC-O) than their male counterparts. No specific directional hypothesis has been made for gender differences in regards to a person's ability to soothe angry feelings by calming down and/or cooling off (AC-I) as it has not been previously discussed and / or investigated.

Aim 3

The third aim of the study was to consider the role of anger as a mediator variable between narcissism and bulimic attitudes.

Research Hypothesis 7(Ho7):

The study aims to investigate whether the experience of anger as an emotional state adds to the prediction of bulimic tendencies after statistical adjustment for narcissism.

Specifically, it aims at clarifying the role of anger and narcissism in its relationship with bulimic experiences.

It is expected that college students with high scores on narcissistic traits (as it was measured by the Narcissistic Personality scale of the OMNI) and high levels of state anger (as it is measures by the State Anger scale of the STAXI-2) are more likely to develop bulimic tendencies (as it was measured by the Bite Inventory).

Chapter 2

Method

2.1 Participants

One hundred and sixty college students were selected from an opportunistic sample (universities' classrooms, coffee bars, and libraries) to participate voluntarily. Participants were selected regardless of gender, discipline or level of study (undergraduate/postgraduate) and ethnic or religious background.

There were no exclusion criteria other than that the participant should be a full/ part time university student. From a total of 350 questionnaires that were distributed, 176 were returned. Out of the 176 returned questionnaires, 16 were not used in the statistical analysis process: 12 were not fully completed and 4 disregarded because different pages had been omitted from the pack of questionnaires on return. Table 2.1 below presents participants' demographic characteristics for both female and male college students.

Table 2.1

Participants' Demographic Variables.

	Gender	
Demographic Variables	**Female college students**	**Male college students**
Number of participants	122	38
Undergraduate Level	29	15
Postgraduate Level	89	20
Other studies	3	3
Mean Age in Years	28.4	25.9
Youngest Age	18	20
Oldest Age	41	35

Table 2.1 (continued)

Participants' Demographic Variables.

	Gender	
Demographic Variables	**Female college students**	**Male college students**
Mean Weight (Kg)	63.6	76.1
Mean Height (cm)	1.66	1.77
Mean BMI (Weight/Height^2)	23.1	24.3

As Table 2.1 above illustrates, the two groups differentiated in areas such as their level of study, mean age in years, the range of age from youngest to oldest, weigh and height.

College students were considered to be more appropriate than clinical participants for this study for two reasons. Firstly, it has been argued that overt narcissism and pathological eating attitudes are encouraged by Western cultures and, therefore, should be prevalent in society at large as well as in college populations (Hoglund, 1996).

Specifically, it has been estimated that 5% to 10% of young females may have 'sub-clinical' eating disorders, an indication that specific attitudes and behaviours that have been strongly associated with the emergence of full blown eating disorders are prevalent in adolescents (Brookings & Wilson, 1994). Therefore, it is important to be able to better understand possible factors that may predispose young people to develop such at risk attitudes and/or personality traits (Brookings & Wilson; 1994).

Secondly, selection of a non clinical population helps to evade the distorting effects that ongoing illnesses such as eating disorders can have on psychological evaluations (Davis et al, 1997).

2.2. Instruments

The O'Brien Multiphasic Narcissism Inventory (OMNI) (see Appendix A), the State-Trait Anger Expression Inventory-2 (STAXI) (see Appendix B), the Eating Disorder Inventory-2 shorten version (EDI-2) (see Appendix C) and the Bulimic Investigatory Test Edinburgh (BITE) (see Appendix D) were used as the four measuring instruments for this study. A demographic data sheet (see Appendix E) requesting information regarding gender, age, level of study, height and weight was also administered.

2.2.1. Narcissism Assessment

The O'Brien Multiphasic Narcissism Inventory (OMNI; O'Brien, 1987, 1988) is a measure of narcissistic pathology. It is a three-factor, 41 items self-report inventory. The first factor, Narcissistic Personality Dimension (NPD) mirrors the DSM-III (APA, 1980) criteria comprising the Narcissistic Personality Disorder.

Specifically, the 16 items loading on this factor reflect tendencies to have exploitative interpersonal relations, to display a sense of entitlement and to be blatantly exhibitionistic. The second factor, Poisonous Pedagogy Dimension (PP), consists of 15 items and the content of these items reflect the belief that one can and should control others.

Finally the remaining 10 items constitute the third factor of the OMNI, known as Narcissistically Abused Personality Dimension (NAP). The content of the items on

the last factor reflect self-deprecation to the point of martyrdom and an exaggerated need for approval from others for a sense of self-validation (O'Brien, 1987, 1988).

The scoring of the OMNI is based on participants' responses for each item. Participants are asked to mark by "yes" or "no" their answers for each item. On factor I (NPD), the underlined questions (7, 9, and 16) score one point for a NO answer whereas all the other questions score one point for a YES answer.

Similarly on Factor 2 (PP) the underlined questions (24, 28, and 31) score one point for a NO answer whereas all the other questions score one point for a YES answer. Finally, on Factor 3 (NAP) the underlined questions (34, and 39) score one point for a NO answer whereas all the other questions score one point for a YES answer. The maximum possible score for factor I, II and III is 16, 15 and 10 respectively. Higher score indicate greater levels of narcissism.

OMNI has demonstrated respectable reliability and has been validated on a clinical sample that had Narcissistic Personality Disorder as a primary or secondary diagnosis (O'Brien, 1987, 1988). Further validation was provided by Hibbard (1992) and Watson, Little, Sawrie and Biderman (1992).

Selection of the OMNI was based on the interest of the current study to measure the more maladaptive aspects of narcissism and its defensive style (poisonous pedagogy and narcissistically abused personality dimensions) as well as measure the multidimensionality of the construct of narcissism.

In contrast with other instruments such as the Narcissistic Personality Inventory (Raskin & Hall, 1979) that taps primarily on the more adaptive aspects of narcissism (positive self-regard, extraversion and low levels of depression and anxiety) and the Dimensional Assessment for Personality Pathology inventory (DAPP; Livesley, Jackson & Schroeder, 1989, 1992) that taps on the need for

attention, approval and admiration as the main aspects of narcissism, the OMNI is the only measure to the researcher's awareness that has been associated with poorer psychological adjustment (Davis, Claridge & Cerullo, 1997; Davis, Woodside, Olmsted & Kaptein, 1999).

2.2.2. Anger Assessment

The State-Trait Anger Expression Inventory-2 (STAXI-2; Spielberger, 1998) is a 57-item inventory that measures the intensity of anger as an emotional state (State Anger) and the disposition to experience angry feelings as a personality trait (Trait Anger). The instrument consists of six scales, five subscales and anger index which provide an overall measure of the expression and control of anger. These scales and subscales are:

State Anger: measures the intensity of angry feelings and the extent to which the person feels like expressing anger at a particular time, with three subscales.

1. Feeling Angry: provides information about the intensity of the angry feelings that the person is currently experiencing.
2. Expressing Anger Verbally: assesses the expression of angry feelings verbally by yelling, shouting or screaming either at someone or in general.
3. Expressing Anger Physically: assesses the expression of angry feelings physically either by hitting someone or breaking things.

Trait Anger: measures how often angry feelings are experienced over time, with two subscales.

1. Angry Temperament: measures the disposition to experience anger without provocation.

2. Angry Reaction: assesses the frequency that anger is experienced in situations that involve frustration or criticism from others.

Additionally the Anger Expression and the Anger Control scales assess four relative independent anger-related traits. The *Anger Expression-Out (AX-O)*, measures expression of anger towards other people or objects in the environment whereas the *Anger Expression-In (AX-I),* measures the tendency of holding in and suppressing angry feelings.

On the other hand, the *Anger Control-Out (AC-O)* assess the frequency that a person controls the outward expression of angry feelings *Anger Control-In (AC-I)* assess the frequency that a person controls angry feelings by calming down and or cooling off. Finally, the *Anger Expression Index (AX Index),* provides a general index of the expression of anger (Spielberger, 1998).

Participants rate themselves on a four-point Likert scale that assess both the intensity and the frequency of their anger at a particular time (not at all- very much so) as well as the frequency that their anger is experienced, expressed, suppressed and controlled (almost always-almost never).

The STAXI-2 is a hand-scored assessment. Higher scores indicate a greater level of anger and its suppression or expression. The STAXI-2 has been validated on both normal and clinical populations and has good psychometric properties (Spielberger, 1998; Fassino et al. 2001; Kassinove & Tafrate; 2002).

Selection of the STAXI-2 was based on the interest of the current study to investigate anger as a multifaceted construct and not as one dimension only as it is viewed by broad measures of psychopathology such as the Minnesota Multiphasic Personality Inventory-2 (MMPI; Starker, Hathaway, McKinley, 1989) or anger specific questionnaires such as the Anger Novaco Inventory (NAI; Novaco, 1975)

which measures the degree of provocation or anger people would feel if placed in specific situations.

2.2.3. Eating Disorders Assessment

Body Mass Index (BMI)

The BMI, an index of body mass (weight/height^2) is related to the nutritional state of the participant (Mitchell, 1997; Fassino et al. 2001). Female participants with a BMI between 21 and 23 are considered to be of normal weight whereas male participants considered being within the normal range when their BMI's is between 22 and 24.

Eating Disorders Inventory-2.

The EDI-2 (Garner, 1991) is a 91 item self-report questionnaire, which measures 11 different subscales of eating concerns and attitudes as well as general constructs and traits relevant to eating disorders. The 11 subscales are: Drive for Thinness, Bulimia, Body Dissatisfaction, Ineffectiveness, Perfectionism, Interpersonal Distrust, Interoceptive Awareness, Maturity Fears, Asceticism, Impulse Regulation and Social Insecurity.

Drive for Thinness measures preoccupation with weight and fear of weight gain as well as excessive concern with dieting. Bulimia considers tendencies to think about and engage in bouts of uncontrollable overeating (bingeing). Body Dissatisfaction assesses dissatisfaction with the overall shape and with the size of those regions of the body that are of the greatest concern to people with eating disorders (Garner, 1991).

On the other hand, Perfectionism, Interpersonal Distrust, Interoceptive Awareness, and Maturity Fears are measuring personality traits that have been associated with eating disorders. Specifically, items on the Perfectionism subscale

reflect the belief that only the highest standards of personal performance are acceptable whereas the Interpersonal Distrust subscale assesses a person's general feeling of alienation and reluctance to form close relationships (Garner, 1991).

The remaining three provisional scales Asceticism, Impulse Regulation and Social Insecurity are related to measures of eating disordered pathology (Ciervo, 1998; Garner, 1991). The EDI-2 is the most recent version of the EDI (Garner & Olmsted, 1984) containing the same items as the original eight scale, 64-item test, with the addition of the three provisional subscales.

For the current study a shortened version was used compiled by five out of the eleven scales. The selection of the scales was based upon past literature (Brunton et al., 2005; Steiger et al., 1997) on associations between eating attitudes and narcissism. The five scales are: Drive for Thinness, Bulimia, Body Dissatisfaction, Perfectionism and Interpersonal Distrust.

The scoring of the EDI- 2 is based on participants' responses for each item. Respondents are required to answer each item by selecting between "always", "usually", "often", "sometimes", "rarely" or "never". Responses for each item are weighted from zero to three, with the most symptomatic response- "always" for positively weighted items and "never" for negatively weighted items- assigned a value of 3, the next adjacent response assigned a value of 2 and the next response a value of 1. The remaining three responses allocated values of 0. Items scores contributed to only one subscale. Subscale scores are the sum of all the item scores for the particular subscale (Ciervo, 1998; Garner, 1991).

Reliability, validity, and normative data are available for the EDI-2. Welch (as cited in Ciervo, 1998) reported test retest reliability coefficients to range from

0.67 to 0.95 for the eight original scales for a non-patient sample who were tested one week apart.

A high degree of construct validity has been supported by item-total scale correlations that were found significant for all subscales for samples of eating disordered patients and female college comparisons, demonstrating that groups of items tap a common core attribute. In addition, treatment strategies using the EDI-2 have shown that it is sensitive to clinical improvements in the disorders, which further establishes validity (Ciervo, 1998).

Nevertheless, it is important to be noted that as the inventory has not been used as on its original format, its reliability and validity may not generalize to subscales used in isolation (Garner, 1991). However, a number of studies have used one or more EDI subscales out of their usual context for various purposes (Fabian & Thompson, 1989; Hamilton, Brook-Gunn, & Warren, 1985; Johnson, Tobin, & Lipkin, 1989). Garner (1991) suggests that under such circumstances researchers need to be aware of the fact that results obtained in studies like those just cited may not be the same when the EDI-2 is administered in total.

After consideration, it felt that it was more important to consider the participants' best interest and not request for information that would have not been useful for the purposes of the current study even if that meant partially compromising the reliability and validity properties of the inventory.

Selection of the EDI-2 was based on the interest of the current study to assess general eating disordered thoughts, feelings and behaviours in a non-clinical female college sample. All items of the test have been found to discriminate between eating disordered and non-patient college female samples (Garner et al, 1993).

All the other questionnaires assessing eating disordered thoughts, feelings and behaviours apart from the Eating Disorder Examination (Cooper & Fairburn, 1987) which requires a trained interviewer to administer it, are used to evaluate attitudes and behaviours specifically associated with either anorexia nervosa [EAT (Garner & Garnfinkel, 1979) and SCANS (Slade & Dewey, 1986)] or bulimia nervosa [BULIT-R (Thelen, Farmer, Wonderlich, & Smith, 1991) and BITE (Henderson & Freeman, 1987)].

Bulimia Nervosa

The Bulimic Investigatory Test, Edinburgh (BITE; Henderson & Freeman, 1987), is a 33-item self-report measure of both the symptoms and severity of bulimia nervosa. The Bite consists of two scales the Symptom scale, which measures the degree of symptoms present and the Severity scale which measures the severity of bingeing and purging as defined by their frequency.

An additional data sheet accompanies the BITE, which assesses demographic data relevant to the treatment of binge-eating. As Henderson and Freeman (1987) explain use of this data is optional and doesn't contribute to the participant's final score. Following that, the optional demographic data form was not included as participants had to provide similar demographic information tailored more to the needs of the current study.

The scoring of the BITE is based on participants' responses for each item. Participants are asked to mark by "yes" or "no" their answers for each item. On the Symptom scale the underlined questions (1, 13, 21, 23 and 31) score one point for a NO answer whereas all the other questions score one point for a YES answer (Henderson & Freeman, 1987).

All the questions comprise the Symptom scale except questions number 6, 7, and 27 which comprise the Severity scale. The maximum possible score on the Symptom scale is 30 whereas on the Severity scale is the sum of the numbers corresponding to the circled responses (Henderson & Freeman, 1987).

BITE has demonstrated high reliability (0.916 for the Symptom scale and 0.6234 for the Severity scale) and has been validated on a clinical sample. The BITE was used to provide information useful for the second aim of the study as there is not a total score on the EDI-2 to be reflective of the severity of bulimic pathology (Lesk, 1996).

2.3. Procedure

A copy of the proposal of this study was read and approved by two members of the Psychology Department at City University (London, UK) a month before the recruitment of participants (see Appendix F). Following that, power analysis (i.e. a priori sample size calculation) was undertaken to determine how many cases were necessary for the study.

Tabachnick & Fidell (2001) provide a formula for calculating sample size requirements by looking up to the number of independent variables that the researcher uses. The formula is the following: $N \geq 50 + 8 * m$ (where m is the number of independent variables) for testing for multiple correlations and $N \geq 104+m$ for testing individual predictors. Therefore, for the current study the first calculation gives us a total of $N \geq 66$ and the second one a total of $N \geq 106$, when $m= 2$.

The above formula assumes a medium size relationship between the independent and dependent variable with $a= 0.05$ and $\beta=0.20$. For studies, such as the current one, that they investigate both the overall correlation and the individual

independent variables it is suggested to calculate N both ways and choose the larger number of cases (Tabachnick & Fidell, 2001). Therefore, N was set to be more or equal to 106 participants for the current research study.

As the analysis results were indicated a significant number of participants, the researcher contacted six universities located across the boroughs of London and in the Surrey area (see Appendix G) to ask for permission to recruit participants.

Given permission, participants were approached in university areas such as libraries, after their lectures and/or at university refectories. In addition, in an attempt to recruit more participants and encourage participation the researcher along with another doctorate student hosted lunch breaks on two universities and invited students to attend.

The lunch invitation (see Appendix H) was emailed to all the psychology students via their course administrators and was posted into student boards across the campus. During the lunch break potential volunteers had the chance to approach the researchers and discuss their participation and/or the study.

All potential participants were asked if they were willing to participate in a research study conducted by the researcher as part of her doctoral dissertation in Counselling Psychology.

Those who agreed to participate were given a packet of information that included an information sheet, a consent form, a demographic details form, and the four inventories with their answer sheets.

The information sheet, which they were invited to keep, was used to introduce them to the nature of the study (see Appendix I). Specifically, they were informed that the research's purpose was to broaden our understanding on personality traits and eating attitudes as well as to help us identify common pathways that may link one to

the other. They were also told (through the information sheet) why they were chosen and what will happen if they agree to participate.

They were assured that they had the right to withdraw at any time without any implications and that they could contact either the researcher or her supervisor on the contact details provided to request information about the findings of the study after its completion or to talk to them if they had an emotional reaction to answering any of the questionnaires.

They were also notified that the study involved signing a consent form (see Appendix J) and completing a demographic details form as well as four questionnaires assessing eating attitudes, personality traits and their experience and expression of anger that would not take more than 30 minutes.

Participants at this point were given the choice of completing the questionnaires at the present time and returning them directly to the researcher or returning them at a later point through stamped self-addressed envelopes that were provided along with the questionnaires.

All the participants were asked to sign a consent form, in which confidentiality and anonymity were ensured. In addition, a demographic details form was provided in which participants were requested to provide the following information: gender, age, level of education, weight and height.

The last two pieces of information on the demographic details form was requested in order to be able to calculate participants' body mass index.

Following that, the OMNI, the BITE, the STAXI-2 and the EDI-2 inventories were attached along with their answer sheets and participants were asked to follow all the instructions on the inside of the test booklets, but not to provide their names so that anonymity could be maintained.

The completed questionnaires were collected over a period of 9 months. All of the returned inventories were hand-scored and entered on to a computer database (SPSS version 13.0).

2.4. Design

2.4.1. Correlational Design

A correlational design was utilized for the first, second and third research hypothesis. For the first hypothesis (Ho1), a Spearman's Rank Order Correlation Coefficient was used to explore whether there is a relationship between eating attitudes and concerns and aspects of narcissism, as were measured by the Eating Disorder Inventory-2 (shorten version) and the O'Brien Multiphasic Narcissism Inventory respectively.

For the second hypothesis (Ho2), a Spearman's Rank Order Correlation Coefficient was used to explore whether there is a relationship between narcissistic personality traits and aspects of anger (state/trait, experience/expression), as were measured by the O'Brien Multiphasic Narcissism Inventory and the State-Trait Anger Expression Inventory-2 respectively.

Similarly, for the third hypothesis (Ho3), a Spearman's Rank Order Correlation Coefficient was used to explore whether there is a relationship between eating attitudes and concerns and aspects of anger (state/trait, experience/expression), as were measured by the Eating Disorder Inventory-2 (shortened version) and the State-Trait Anger Expression Inventory-2 respectively.

2.4.2. Between Groups Design

For the fourth, fifth and sixth hypothesis a between groups design was employed. The fourth research hypothesis (Ho4) aimed to explore between group differences on eating attitudes and concerns. The independent variable was gender with two levels (Females-Males) and the dependent variables were the scores on the Drive for Thinness, Bulimia, and Body Dissatisfaction, Perfectionism and Interpersonal Distrust scales of the Eating Disorder Inventory-2 (shorten version).

The fifth research hypothesis (Ho5) aimed to explore between group differences on aspects of anger. The independent variable was gender with two levels (Females-Males) and the dependent variables were the scores on all the scales (state/ trait, expression/ experience) of the State-Trait Anger Expression Inventory-2.

Alike the sixth hypothesis (Ho6) aimed to explore between group differences on aspects of narcissism. The independent variable was gender with two levels (Females-Males) and the dependent variables were the scores on Narcissistic Personality, Poisonous Pedagogy and Narcissistically Abused Personality scales of the O'Brien Multiphasic Narcissism Inventory.

For the last 3 hypotheses (Ho4, Ho5, Ho6) independent Mann-Whitney U Tests were utilized to test between group differences on each of the above-mentioned scales.

2.4.3. Regression Approach to Testing Mediated Effects

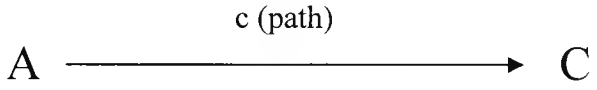
In order to explore the variance in bulimic tendencies among college population a multiple regression design was employed where narcissistic personality traits and state anger were defined as the predictor variables and bulimic tendencies were defined as the criterion variable.

Narcissistic personality traits were operationalised by cumulating the scores for the narcissistic personality scale of the O'Brien Multiphasic Narcissism Inventory whereas anger as an emotional state was operationalised by cumulating the scores for the State-Anger scale of the State-Trait Anger Expression Inventory-2.

Bulimic trends were operationalised by cumulating the scores for the Bulimia scale of the Bulimic Investigatory Test Edinburgh.

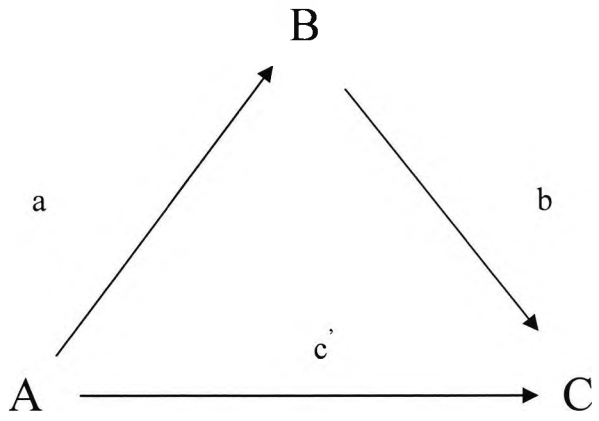
For mediated effects (Ho 7), a *mediation analysis* was conducted using the regression strategies presented above. Mediation is a hypothesized causal chain in which a variable A (independent variable) influences a second variable B (mediator) that in turn have an effect on a third variable C (dependent variable) (Baron & Kenny, 1986;).

Specifically, it makes the assumption that initially, a variable A influences another variable C (unmediated model) (Kenny, 2006). In a diagrammatic form the unmediated model is:



However, it then suggests that the effect of A on C may be mediated by a mediating variable (B) and the variable A may still affect C (Baron & Kenny, 1986; Holmbeck; 1997, 2002; Kenny; 2006).

The mediated model in a diagrammatic form now becomes:



where

c = the total effect (a*b+ c'), which is the sum of the direct and the indirect effects of A on the outcome C.

c' = the direct effect of A on C when taking the mediator into account.

a*b = the indirect (mediated) effect, which indirectly affects the outcome through the mediator.

Mediation analysis is "interested in whether a variable mediates between a predictor variable and an outcome, such that the mediation accounts for part or all of this association" (Holmbeck; 2002, p88). As Kenny (2006) explains although there is a long history in the study of mediation there is an intense interest in this topic recently. The reason is twofold: First, testing for mediation is trying to understand and analyze the process through which the initial variable affects the outcome; and second, when causal or structural models are explored, the mediational part of the model is the most interesting (Kenny, 2006).

Baron and Kenny (1986) suggested a four step approach so as to be able to establish a mediational model. Therefore, four conditions must be met: First, the

predictor (independent) variable (A) must be significantly associated with the mediator (B); second, the predictor variable (A) must be shown to influence significantly the dependent variable (C); third, the mediator (B) must be significantly associated with the dependent variable (C); and fourth, the effect of the predictor variable (A) on the dependent variable (C) must be less in the third equation than in the second (Baron & Kenny, 1986; Holmbeck, 1997, 2002).

Following the above, in order to test for mediation a series of regression equations should be estimated (Judd & Kenny, 1981a, 1981b; Baron & Kenny, 1986; Holmbeck, 2002). Specifically, one should estimate the three following regression equations:

a. Regressing the mediator on the independent variable;

b. Regressing the dependent variable on the independent variable.

c. Regressing the dependent variable on both the independent variable & the mediator.

If all four of the above mentioned assumptions hold, the data are consistent with the hypothesis that variable B completely mediates the A-C relationship. Full mediation occurs if the mediator accounts for the 100% of the total effect and as Baron & Kenny (1986) and Holmbeck (2002) explain is very unlikely in social sciences research. Given this, in such research statistical analyses examine whether there is significant or non significant partial mediation (Holmbeck, 2002) which is indicated if only the first three assumptions hold but the fourth does not (Kenny, 2006).

Finally, in order to measure the indirect effect (mediation) a single test, known as the Sobel (1982) test, is used and is highly recommended and by far the most

commonly used (MacKinnon, Lockwood, Hoffman, West & Sheets, 2002; Kenny, 2006). Sobel test is described later in the Results section.

The selection of a mediation analysis in contrast with a hierarchical or stepwise regression analysis or the computations of any partial or semi-partial correlations was based on the limitations that have been discussed in the literature for the other methods (Baron & Kenny, 1986; Holmbeck; 1997, 2002; Kenny; 2006).

2.4.4. Assessing Normality

Non-parametric statistical tests were used for Ho1 to Ho6 since data didn't satisfy all the assumptions necessary for the use of parametric statistical tests. Specifically, skewness and kurtosis values along side with Kolmogorov-Smirnov tests for Normality (see Appendix K) suggested that the data did not meeting the assumption of normality (Pallant, 2002).

However, for Ho7 *transformation of the variables* took place as the alternative of using a non-parametric test when the data have a non-normal distribution (Tabachnick & Fidell, 2001; Pallant, 2002). In the current study transformation took place for the predictor variable (anger) and the criterion variable (bulimia) as skewness and kurtosis values were violating the assumption of normality. No transformation took place on the second predictor variable (narcissism) as values of skewness and kurtosis met the assumption of normality.

The type of transformation that the researcher will employ depends on the skewness of the distribution (positive/negative) and the kurtosis of the distribution (leptokurtic/platykurtic). The transformation of a leptokurtic positively skewed distribution is given by the formula: New variable= LG10 (Old variable) and is known as logarithmic transformation whereas the transformation of a platokurtic

positively skewed distribution is given by the formula: New variable=SQRT (old variable) and is known as square root transformation (Tabachnick & Fidell, 2001; Pallant, 2002).

Tabachnick & Fidell (2001), suggest always checking whether the variable is normally or near-normally distributed after the transformation. Specifically, they advise to try several transformations so as to find the one that "produces the skewness and kurtosis values nearest zero" (Tabachnick & Fidell, 2001, p.81). Following the above, a logarithmic transformation took place for the predictor variable (anger) and a square root transformation took place for the criterion variable (bulimia). A constant (to bring the smallest value to at least one) was also added on the data for the logarithmic transformation as the distribution contained a value less than one.

2.5. Ethical Considerations

The research was conducted under the guidelines of the BPS published Code of Ethics that have been set forth as ethical standards that psychologists must follow in all areas of professional life including therapy, evaluation, teaching and research (British Psychological Society, 1997).

An information sheet concerning the nature of the study as well as an informed consent obtaining participant's explicit agreement to participate was provided to all the participants as has already been mentioned. Confidentiality and the right to withdraw at any time were ensured.

The contact details of the researcher and her supervisor were provided in case of any future inquiry regarding the study. The contact details of the Eating Disorders Association were available in case of interest from any of the participants. Two colleagues practising as Chartered Counselling Psychologists with the BPS had

agreed to provide time-limited psychological therapy to any of the participants who might have an emotional reaction to answering the questionnaires.

In an attempt to ensure anonymity and confidentiality throughout the study each consent form along with the pack of questionnaires was given a unique participant's code number. Following that, they were detached and have been kept separately all through scoring and data analysis. Any future reference about a participant's details (inventories scores, demographics etc) will be only identified by the participant's code number.

In addition, an Ethics Release Form, based on the study's research proposal, was completed and signed by two members of the Psychology Department at City University (London, UK) prior to commencing the investigation.

Chapter 3

Results

The data was analysed using the SPSS (Version 13.0) statistical package for Windows.

3.1. Power Analysis

3.1.1. Post Hoc Power Analysis

A post hoc power analysis (multiple regression) was performed so as to calculate the size of the effect (f^2) in the population and its statistical power (see Appendix). The necessary parameter for the effect size analysis was the observed model R^2 = 0.2 (value was taken from Table 14 below) given an outcome of f^2=0.2500. By convention, effect size of 0.02, 0.15, and 0.35 are considered small, medium, and large, respectively. Therefore, f^2=0.2500 is considered a medium to large effect size.

The above effect size (describes how large the relationship is between the variables) along with the alpha level (also known as p- value, probability or type I error rate; by convention this value should be $\leq$ to 0.05 to claim statistical significance), the total number of predictors in the model (2) not including the regression constant, the model R2 = 0.2 (value was taken from Table 14 below) and the total number of valid cases used in analysis (N=154) used to calculate the statistical power.

In the current study the observed power is equal to 1.00 which meets conventional standards for which desired statistical power level should be greater than or equal to 0.80.

3.2. Descriptive Statistics

In Table 3.1 below, frequencies are given for the two categorical variables of the study: gender and level of studies.

Table 3.1

Frequencies of gender and level of studies variables.

Variables (Frequencies)	**Gender**	
Level of Study	Males (38)	Females (122)
Undergraduate (44)	15	29
Postgraduate (110)	20	89
Other (6)	3	3

As can be seen in the table, female students appeared to be many more than their male counterparts. In addition, postgraduate college students constituted the majority of the sample in comparison with the undergraduate college students and the any other level of studies group.

In Table 3.2 below, means and standard deviations are given for height, weight, BMI and Age among male, female and the total sample college population.

Table 3.2

Mean (standard deviation) scores of Height, Weight, BMI and Age among male, female and all sample college population.

	Male-college Students (N=38)	Female-College Students (N=122)	Total Sample-College Students (N=160)
Height (cm)	1.77(0.84)	1.66(0.72)	1.68(0.08)
Weight (kg)	76.18(12.29)	63.69(10.78)	66.66(12.33)
BMI(weight/height^2)	24.27(3.66)	23.09(3.59)	23.37(3.63)
Age	25.92(4.14)	28.41(5.15)	27.82(5.03)

As can be seen in the above table, the mean age of the female participants is higher than that of the male participants whereas both males and females' mean BMI appears to be within the standard normal weight range set for each gender (female/male).

In Table 3.3 below, means and standard deviations are given for the five scales of EDI-2 (DT, B, BD, P, and ID) and Bite scale among male, female, total sample and normative sample of college student populations in other published studies (Garner et al. 1984). The normative sample has been obtained from the Eating-Disorder Manual for college students (Garner et al. 1984).

Table 3.3

Mean (standard deviation) scores of EDI-2 and Bite scales among male, female, total and normative sample college student populations.

	Male-college Students (N=38)	Female-College Students (N=122)	Total Sample-College Students (N=160)	Normative Sample-College Students (Males/Females) (N=101/N=205)
EDI-2 /Scales				
Drive for Thinness	1.79(2.84)	3.80(5.41)	3.30(4.98)	2.2(4.0)/5.5(5.5)
Bulimia	0.45(0.97)	1.32(2.35)	1.11(2.13)	1.0(1.7)/1.2(1.9)
Body Dissatisfaction	3.53(4.85)	9.74(7.82)	8.24(7.66)	4.9(5.6)/12.2(8.3)
Perfectionism	5.24(3.67)	5.36(4.73)	5.29(4.49)	7.1(4.7)/6.2(3.9)
Interpersonal Dist.	2.76(3.73)	1.50(2.32)	1.79(2.75)	2.4(2.5)/2.0(3.1)
Bite Scale	4.92(5.15)	7.82(6.43)	7.13(6.24)	*

* No published normative data available

Table 3.3 displays lower mean scores on the Drive for Thinness, Bulimia, Body Dissatisfaction and Perfectionism scales for the male participants of the sample in comparison with the male participants of the published normative data (Garner et al. 1984). Similarly, lower mean scores were obtained on the Drive for Thinness, Body Dissatisfaction Perfectionism and Interpersonal Distrust scales for the female participants of the sample in comparison with the female participants of the published normative data (Garner et al. 1984). No normative data have been available and/or published for the Bite Scale to the researcher's knowledge.

In Table 3.4 below, means and standard deviations are given for the three subscales of the OMNI (NPD, PP, NAP) among male, female, total sample and normative sample of college student population in other studies (O'Brien, 1987, 1988). The normative sample has been obtained from the O'Brien Multiphasic Narcissism Inventory (O'Brien, 1987, 1988).

Table 3.4

Mean (standard deviation) scores of the OMNI scales among male, female, total sample and normative sample college populations.

	Male-college Students (N=38)	Female-College Students (N=122)	Total Sample-College Students (N=160)	Normative Sample-College Students (N=230)
OMNI/Scales				
NPD	4.74 (2.41)	4.85 (2.17)	4.81(2.27)	5.72(3.37)
PP	6.08 (2.77)	5.20 (2.49)	5.40(2.58)	5.90(2.99)
NAP	3.03 (1.47)	3.05 (1.60)	3.04(1.56)	3.92(2.14)

Note. NPD= Narcissistic Personality Dimension, PP=Poisonous Pedagogy, NAP=Narcissistically Abused Personality

Table 3.4 demonstrates similar mean scores on the Narcissistic Personality Dimension, Poisonous Pedagogy and the Narcissistically Abused Personality scales between the total sample of the study and the total published normative sample (O'Brien, 1987, 1988).

In Table 3.5 below, means and standard deviations are given for the subscales of the STAXI-2 (S-ANG, S-ANG/F, S-ANG/V, S-ANG/P, T-ANG, T-ANG/T, T-ANG/R, AX-O, AX-I, AC-O, AC-I, AX total) scales among male, female, total sample and normative college student population in other studies (Spielberger, 1999).

The normative sample has been obtained from the State-Trait Anger Expression Inventory-2 (STAXI-2; Spielberger, 1998).

Table 3.5

Mean (standard deviation) scores of the STAXI-2 scales among male, female, total and normative sample college populations.

	Male-college Students (N=38)	Female-College Students (N=122)	Total Sample-College Students (N=160)	Normative Sample-College Students (Males/ Females)
STAXI-2/Scales				
S-ANG	16.45(2.26)	17.16(4.84)	16.98(4.36)	19.25(6.89)/ 17.90(5.26)
S-ANG/F	6.11(1.87)	6.04(1.98)	6.05(1.94)	7.06(2.81)/ 6.66(2.51)
S-ANG/V	5.29(0.65)	5.72(1.99)	5.61(1.77)	6.39(2.66) /5.93(2.20)
S-ANG/P	5.05(0.22)	5.36(1.33)	5.28(1.72)	5.82(2.13)/ 5.34(1.26)
T-ANG	16.92(4.16)	17.83(4.18)	17.58(4.18)	18.40(5.42)/ 17.89(4.94)

	Male-college Students (N=38)	Female-College Students (N=122)	Total Sample-College Students (N=160)	Normative Sample-College Students (Males/Females)
STAXI-2/Scales				
T-ANG/T	5.55(1.65)	6.31(2.06)	6.12(1.99)	6.38(2.53)/ 6.17(2.34)
T-ANG/R	8.55(2.70)	8.55(2.30)	8.53(2.40)	8.67(2.61)/ 8.70(2.64)
AX-O	14.26(2.64)	14.88(3.14)	14.73(3.02)	15.42(3.74)/ 14.69(3.70)
AX Total	36.42(10.61)	37.69(10.27)	37.38(10.30)	33.68(13.07)/ 32.04(13.66)

Note. S -ANG=State Anger, S-ANG/F=State Anger Feeling Angry, S-ANG/V=State Anger Expressing Anger Verbally, S-ANG/P= State Anger Expressing Anger Physically, T-ANG= Trait Anger, T-ANG/T = Trait Anger/Angry Temperament , T-ANG/R= Trait Anger/Angry Reaction, AX-O= Anger Expression-Out, AX-I =Anger Expression- In, AC-O= Anger Control-Out, AC-I= Anger Control- In, AX total= Anger Expression Index

As can be seen in the above table, lower mean scores were obtained on the S-ANG, S-ANG/F, S-ANG-V, T-ANG, and AC-I scales for the male participants of the sample in comparison with the male participants of the published normative data (Spielberger, 1998).

Similarly, lower mean scores were obtained on the AC-O and AC-I scales for the female participants of the sample in comparison with the female participants of the published normative data (Spielberger, 1998).

Higher mean scores were obtained on the AX total both for the males and the females of the sample in comparison with the male and females counterparts of the published normative data (Spielberger, 1998).

3.3. Inferential Statistics

3.3.1. Spearman's Rho Correlational Analyses

3.3.1.1. Research Hypothesis1 (Ho1)

Spearman's Rho correlational analyses were carried out (see Appendix L) in an attempt to determine significant relationships between narcissism (as measured by the OMNI scales) and eating attitudes and concerns (as measured by the EDI-2 scales and BITE) on a college student's sample. Table 3.6 includes the correlations for the hypothesis. The following results provide partial support for research hypothesis 1.

Table 3.6

Spearman's Rho correlation coefficients between OMNI scales, EDI-2 scales and Bite scale for all participants.

	EDI-2 Scales					
	DT	Bu	BD	P	ID	**BITE Scale**
OMNI Scales						
NPD	0.301**	0.289**	0.177*	0.222**	0.228**	0.420**
PP	0.160*	0.107	0.011	0.360**	0.300**	0.264**
NAP	0.219**	0.148*	0.325**	0.357**	0.342**	0.332**

Note. EDI-2=Eating Disorders Inventory-2, DT= Drive for Thinness, Bu=Bulimia, BD=Body Dissatisfaction, P=Perfectionism, ID=Interpersonal Distrust, NPD= Narcissistic Personality Dimension, PP=Poisonous Pedagogy, NAP= Narcissistically Abused Personality, Bite= Bulimic Investigatory Test Edinburgh.
N= 160
*$p < .05$, one-tailed.
**$p<.001$, one-tailed.

From the three core scales of the OMNI that focus on narcissistic personality traits -as being defined by the DSM-III for narcissistic personality disorder- and its defensive styles, as predicted, there was a significant positive correlation between the Narcissistic Personality Dimension and the Drive for Thinness (r=0.301, p< 0.001), the Bulimia (r=0.289, p< 0.001), the Body Dissatisfaction (r=0.177, p< 0.05) scales of the EDI-2 as well as the BITE Scale (r=0.420, p< 0.001), all measuring eating attitudes. A significant positive correlation was also found between the Narcissistic Personality Dimension of the OMNI and the Perfectionism, (r= .222, p<0.001) and the Interpersonal Distrust (r= .228, p<0.001) scales of the EDI-2 that are indicative of psychological and social adjustment.

Results from the Poisonous Pedagogy scale of the OMNI indicate a significant positive correlation for the Drive for Thinness (r=0.160, p< 0.05) the Perfectionism, (r= .360, p<0.001) and the Interpersonal Distrust (r= .300, p<0.001) scales of the EDI-2 as well as the BITE Scale (r=0.264, p< 0.001) but not for the other EDI-2 scales.

Significant positive correlations were also observed between the Narcissistically Abused Personality scale of the OMNI and the following scales of the EDI-2: the Drive for Thinness (r=0.219, p< 0.001), the Bulimia (r=0.148, p< 0.001), the Body Dissatisfaction (r=0.325, p< 0.05) the Perfectionism, (r= .357, p<0.001) and the Interpersonal Distrust (r= .342, p<0.001). A significant positive correlation was also found between the Narcissistically Abused Personality scale and the BITE Scale (r=0.332, p< 0.001).

3.3.1.2. Research Hypothesis2 (Ho2)

Spearman's Rho correlational analyses were carried out (see Appendix L) in an attempt to determine significant relationships between narcissism (as measured by the OMNI scales) and aspects of anger (as measured by the STAXI-2 scales) on a college student's sample. Table 3.7 includes the correlations for the hypothesis. The following results provide partial support for research hypothesis 3.

Table 3.7

Spearman's Rho correlation coefficients between OMNI scales and STAXI-2 scales for all participants.

	OMNI Scales		
	NPD	PP	NAP
STAXI-2/ Scales			
S-ANG	0.227**	0.219**	0.279**
S-ANG/F	0.237**	0.215**	0.292**
S-ANG/V	0.151**	0.132*	0.162*
S-ANG/P	0.115	0.141*	0.201**
T-ANG	0.230**	0.327**	0.163*
T-ANG/T	0.109	0.223**	0.092
T-ANG/R	0.242**	0.300**	0.145*
AX-O	0.106	0.218**	-0139*
AX-I	0.271**	0.085	0.248**
AC-O	-0.090	-0.128	0.062
AC-I	-0.173*	-0.193**	-0.027
AX total	0.222**	0.315**	0.100

Note. S-ANG=State Anger, S-ANG/F=State Anger Feeling Angry, S-ANG/V=State Anger Expressing Anger Verbally, S-ANG/P= State Anger Expressing Anger Physically, T-ANG= Trait Anger, T-ANG/T = Trait Anger/Angry Temperament , T-ANG/R= Trait Anger/Angry Reaction, AX-O= Anger Expression-Out, AX-I =Anger Expression- In, AC-O= Anger Control- Out, AC-I= Anger Control- In, AX total= Anger Expression Index, NPD= Narcissistic Personality Dimension, PP=Poisonous Pedagogy, NAP= Narcissistically Abused Personality.
N= 160
*p < .05, one-tailed.
**p<.001, one-tailed.

As can be seen from the table above a significant positive correlation was observed between the Narcissistic Personality Dimension scale of the OMNI and the following STAXI-2 scales: the State Anger(r= .227, p<0.001), the State Anger Feeling Angry(r= .237, p<0.001), the State Anger Expressing Anger Verbally(r= .151, p<0.001), the Trait Anger (r= .230, p<0.001), the Trait Anger/Angry Reaction(r= .242, p<0.001), the Anger Expression- In (r= .271, p<0.001) and the Anger Expression Index(r= .222, p<0.001). However, a significant negative relation was indicated for the Anger Control- In (r= -0.173, p<0.05) scale. No other significant correlations between the NAP scale of the OMNI and the STAXI-2 were obtained.

Results from the Poisonous Pedagogy scale indicated a significant positive correlation with the State Anger(r= .219, p<0.001), State Anger Feeling Angry(r= .215, p<0.001), the State Anger Expressing Anger Verbally(r= .132, p<0.05), the State Anger Expressing Anger Physically(r= .141, p<0.05), the Trait Anger (r= .327, p<0.001), the Trait Anger/Angry Temperament(r= .223, p<0.001), the Trait Anger/Angry Reaction(r= .300, p<0.001), the Anger Expression- Out (r= .218, p<0.001) and the Anger Expression Index(r= .159, p<0.05). However, a significant negative relation was indicated for the Anger Control- In (r= -0.193, p<0.001) scale. No other significant correlations between the PP scale of the OMNI and the STAXI-2 were obtained.

There were also significant positive correlations between ratings on the Narcissistically Abused Personality scale and the State Anger(r= .279, p<0.001), the State Anger/Feeling Angry(r= .292, p<0.001), the State Anger Expressing Anger Verbally(r= .162, p<0.05), the State Anger Expressing Anger Physically(r= .201, p<0.001), the Trait Anger (r= .163, p<0.05) the Trait Anger/Angry Reaction(r= .145,

p<0.05) and the Anger Expression- In (r= .248, p<0.001). In addition, a significant negative correlation were obtained in relation with the Anger Expression- Out (r= -.139, p<0.05).

3.3.1.3. Research Hypothesis3 (Ho3)

Spearman's Rho correlational analyses were carried out (see Appendix L) in an attempt to determine significant relationships between aspects of anger (as measured by the STAXI-2 scales) and eating attitudes and concerns (as measured by the EDI-2 scales and BITE scale) on a college student's sample. Table 3.8 includes the correlations for the hypothesis. The following results provide partial support for research hypothesis 2.

Table 3.8

Spearman's Rho correlation coefficients between STAXI-2 scales and EDI-2 scales for all participants.

	EDI-2 Scales					
	DT	B	BD	P	ID	**BITE Scale**
STAXI-2 Scales						
S-ANG	0.212**	0.125	0.240**	0.207**	0.316**	0.256**
S-ANG/F	0.210**	0.164*	0.237**	0.203**	0.288**	0.261**
S-ANG/V	0.143**	0.169*	0.175*	0.191**	0.261**	0.221**
S-ANG/P	0.153**	0.009	0.165*	0.216**	0.218**	0.115
T-ANG	0.098	0.087	0.149*	0.299**	0.213**	0.230**
T-ANG/T	-0.31	0.018	0.076	0.103	0.055	0.083

	EDI-2 Scales					
	DT	B	BD	P	ID	**BITE Scale**
STAXI-2 Scales						
T-ANG/R	0.219**	0.138*	0.171*	0.363**	0.222**	0.274**
AX-O	-0.12	0.15	-0.001	0.095	-0.036	0.063
AX-I	0.147*	0.029	0.136*	0.278**	0.358**	0.149*
AC-O	0.039	-0.119	-0.097	0.047	-0.098	-0.023
AC-I	-0.024	-0.007	-0.123	0.063	-0.291**	-0.074
AX total	0.51	0.068	0.159*	0.111	0.327**	0.143*

Note. EDI-2=Eating Disorders Inventory-2, DT= Drive for Thinness, B=Bulimia, BD=Body Dissatisfaction, P=Perfectionism, ID=Interpersonal Distrust, S-ANG=State Anger, S-ANG/F=State Anger Feeling Angry, S-ANG/V=State Anger Expressing Anger Verbally, S-ANG/P= State Anger Expressing Anger Physically, T-ANG= Trait Anger, T-ANG/T = Trait Anger/Angry Temperament , T-ANG/R= Trait Anger/Angry Reaction, AX-O= Anger Expression-Out, AX-I =Anger Expression- In, AC-O= Anger Control-Out, AC-I= Anger Control- In, AX total= Anger Expression Index
N= 160
*$p < .05$, one-tailed.
**$p<.001$, one-tailed.

A significant positive correlation was observed between ratings of eating disorder behaviours by the EDI-2 and the ratings of a person's perceived experience and expression of anger by the STAXI-2. Specifically, a significant positive correlation was obtained between the Drive for Thinness scale of the EDI-2 and the following STAXI-2 scales: the State Anger($r= .212$, $p<0.001$), the State Anger Feeling Angry($r= .210$, $p<0.001$), the State Anger Expressing Anger Verbally($r= .143$, $p<0.001$), the State Anger Expressing Anger Physically($r= .153$, $p<0.001$), the Trait Anger/Angry Reaction($r= .219$, $p<0.001$), the Anger Expression- In ($r= .147$, $p<0.05$). However, non significant correlations were found for the Trait Anger, the Trait

Anger/Angry Temperament, the Anger Expression-Out, the Anger Control- Out, the Anger Control- In, and the Anger Expression Index.

Results from the Bulimia scale indicate a significant positive correlation with the State Anger Feeling Angry(r= .164, p<0.05), the State Anger Expressing Anger Verbally(r= .169, p<0.05) and the Trait Anger/Angry Reaction(r= .138, p<0.05) but with no other scale of the STAXI-2.

There were significant positive correlations between ratings on the Body Dissatisfaction and the State Anger(r= .240, p<0.001), the State Anger/Feeling Angry(r= .237, p<0.001), the State Anger Expressing Anger Verbally(r= .175, p<0.05), the State Anger Expressing Anger Physically(r= .165, p<0.05), the Trait Anger (r= .149, p<0.05), the Trait Anger/Angry Reaction(r= .171, p<0.05), the Anger Expression- In (r= .136, p<0.05) and the Anger Expression Index(r= .159, p<0.05).

As for the Perfectionism subscale a significant positive correlation was observed with the State Anger(r= .207, p<0.001), the State Anger Feeling Angry(r= .203, p<0.001), the State Anger Expressing Anger Verbally(r= .191, p<0.001), the State Anger Expressing Anger Physically(r= .216, p<0.001), the Trait Anger (r= .299, p<0.001)the Trait Anger/Angry Reaction(r= .363, p<0.001) and the Anger Expression- In (r= .278, p<0.001).

On similar grounds, a significant positive correlation was found between the Interpersonal Distrust scale of the EDI-2 and the State Anger(r= .316, p<0.001), the State Anger Feeling Angry(r= .288, p<0.001), the State Anger Expressing Anger Verbally(r= .261, p<0.001), the State Anger Expressing Anger Physically(r= .218, p<0.001), the Trait Anger (r= .213, p<0.001), the Trait Anger/Angry Reaction(r= .222, p<0.001), the Anger Expression- In (r= .358, p<0.001) and the Anger

Expression Index(r= .327, p<0.001) of the STAXI-2. However, a significant negative relation was indicated for the Anger Control- In (r= .291, p<0.001) scale. No other significant correlations between the EDI-2 and the STAXI-2 were obtained.

Finally, results from the Bite scale denote a significant positive relation with the State Anger(r= .256, p<0.001), the State Anger Feeling Angry(r= .261, p<0.001), the State Anger Expressing Anger Verbally(r= .221, p<0.001), the Trait Anger (r= .230, p<0.001), the Trait Anger/Angry Reaction(r= .274, p<0.001) the Anger Expression-In (r= .149, p<0.05),) and the Anger Expression Index(r= .143, p<0.05) of the STAXI-2. No other significant correlations between the BITE and the STAXI-2 were obtained.

3.3.2. Two Independent Samples Test (Mann-Whitney U) Analysis.

3.3.2.1. Research Hypothesis4 (Ho4)

Three independent Mann-Whitney U tests were carried out (see Appendix M) on the reported scores to determine significant differences between the male college students and the female college students on narcissistic personality traits and defensive styles of narcissistic personality as measured by the three scales of the OMNI (NPD, PP, NAP).

The results revealed no significant differences between the male and female college groups on narcissistic features. Specifically, the male college students group did not employ more narcissistic trends and characteristics as measured by the Narcissistic Personality Dimension, Poisonous Pedagogy and Narcissistically Abused Personality from their female counterparts. Table 3.9 illustrates the Mann-Whitney U values.

Table 3.9

Mann-Whitney U values of the male and female college students on scales of Narcissistic Personality Dimension, Poisonous Pedagogy and Narcissistically Abused Personality scales of the OMNI.

	Test	
Measure	*Z*	*p*
OMNI/Scales		
NPD	-0.121	0.903
PP	-1.726	0.084
NAP	-0.039	0.969

Note: NPD= Narcissistic Personality Dimension, PP=Poisonous Pedagogy, NAP= Narcissistically Abused Personality.
N= 160
*p < .05, one-tailed

3.3.2.2. Research Hypothesis5 (Ho5)

Four independent Mann-Whitney U tests were carried out (see Appendix M) on the reported scores to determine significant differences between the male college students and the female college students on their eating attitudes [as measured by the three scales of the EDI-2 (Drive for Thinness, Bulimia and Body Dissatisfaction) and the Bite Scale].

Additionally, two independent Mann-Whitney U tests were carried out (see Appendix M) on the reported scores to determine significant differences between the male college students and the female college students in terms of their psychological

and social adjustment (as measured by the Perfectionism and Interpersonal Distrust scales of the EDI-2).

The results revealed significant differences between the male and the female college groups on their eating attitudes. Specifically, the female college students group appeared to employ more negative eating attitudes and concerns as measured by Drive for Thinness, Bulimia and Body Dissatisfaction as well as the Bite scale from their male counterparts. Additionally, female college students showed less social mistrust and alienation than the male college students. The results also revealed no significant differences between the male and the female college groups on their perfectionistic tendencies. Table 3.10 illustrates the Mann-Whitney U values.

Table 3.10

Mann-Whitney U values of the male and female college students on Drive for Thinness, Bulimia and Body Dissatisfaction, Perfectionism and Interpersonal Distrust scales of the EDI-2 and the Bite Scale.

	Test	
Measure	*Z*	*p*
EDI-Scales		
DT	-2.084	0.037
Bu	-2.386	0.017
BD	-5.039	0.000
P	-0.568	0.570
ID	-2.199	0.028
BITE	-2.717	0.007

Note. EDI-2=Eating Disorders Inventory-2, DT= Drive for Thinness, B=Bulimia, BD=Body Dissatisfaction, I=Ineffectiveness, P=Perfectionism, ID=Interpersonal Distrust, BITE= Bulimic Investigatory Test Edinburgh.
N= 160, *p < .05, (one-tailed)

3.3.2.3. Research Hypothesis6 (Ho6)

Eleven independent Mann-Whitney U tests were carried out (see Appendix M) on the reported scores to determine significant differences between the male college students and the female college students on aspects of anger (as measured by the STAXI-2).

The results revealed no significant differences between the male and female groups on ways of experience and expressing anger in all scales but one. Specifically, the female college students group appears to be more quick tempered and more ready to express angry feelings with little provocation in comparison with their male counterparts. However, Table 3.11 illustrates the Mann-Whitney U values.

Table 3.11

Mann-Whitney U values of the male and female college students on the State Anger, State Anger/Feeling State Anger/Expressing Anger Verbally, State Anger/Expressing Anger Physically, Trait Anger, Trait Anger/Angry Temperament , Trait Anger/Angry Reaction, Anger Expression-Out, Anger Expression- In, Anger Control- Out, Anger Control- In, Anger Expression Index of the STAXI-2.

	Test	
Measure	*Z*	*p*
STAXI-Scales		
S-ANG	-0.195	0.846
S-ANG/F	-0.353	0.724
S-ANG/V	-0.254	0.799
S-ANG/	-0.949	0.343
T-ANG	-1.189	0.235
T-ANG/T	-1.988	0.047
T-ANG/R	-0.215	0.830

	Test	
Measure	*Z*	*p*
STAXI-Scales		
AX-O	-1.207	0.227
AX-I	-0.382	0.703
AC-O	-1.445	0.148
AC-I	-0.531	0.596
AX Total	-0.431	0.666

Note: S-ANG=State Anger, S-ANG/F=State Anger Feeling Angry, S-ANG/V=State Anger Expressing Anger Verbally, S-ANG/P= State Anger Expressing Anger Physically, T-ANG= Trait Anger, T-ANG/T = Trait Anger/Angry Temperament , T-ANG/R= Trait Anger/Angry Reaction, AX-O= Anger Expression-Out, AX-I =Anger Expression- In, AC-O= Anger Control- Out, AC-I= Anger Control- In, AX total= Anger Expression Index,
N= 160
*p < .05, one-tailed

3.3.3. Mediation Analysis.

3.3.3.1. Research Hypothesis7 (Ho7)

A mediation analysis was performed to test whether anger serves as a mediator variable between narcissistic personality traits and bulimic tendencies. To test for mediation a series of regression models should be estimated (Judd & Kenny, 1981a, 1981b; Baron & Kenny, 1986; Holmbeck, 2002). Specifically, one should estimate the three following regression equations (see Appendix N):

1. Regressing the mediator (state anger) on the independent variable (narcissistic traits).
2. Regressing the dependent variable (bulimic tendencies) on the independent variable (narcissistic traits).

3. Regressing the dependent variable (bulimic tendencies) on both the independent variable (narcissistic traits) & the mediator (state anger).

Following the above, three independent standard multiple regression analyses were conducted in order to be able to test for mediation.

3.3.3.1.1. Standard Multiple Regression of the Mediator (Anger) on the Independent Variable (Narcissistic traits).

A standard multiple regression was performed in order to assess whether state anger (as measured by STAXI-2) predicts narcissistic personality traits (as measured by the NPD scale of the OMNI).

Results of evaluation of assumptions led to transformation of the variables to reduce skewness, reduce the number of outliers and improve the normality, homoscedasticity, linearity of residuals (Tabachnick & Fidell, 2001). A logarithmic transformation was used on the measure of anger.

Using Tabachnick & Fidell's (2001) guidelines, the critical values for evaluating Mahalanobis distance values were the following two:

1. Number of Independent Variables = 1, Critical Value = 10.82

2. Number of Independent Variables = 2, Critical Value = 13.82

With the use of a $p < 0.001$ criterion for Mahalanobis distance four outliers (cases ID: 31, 128, 92, 156) were found among the cases and removed prior the statistical analysis.

Table 3.12 displays the correlations between the variables, the unstandardized regression coefficients (B), the standardized regression coefficients (b), the colinearity diagnostics (tolerance) and R^2 and adjusted R^2.

Table 3.12

Values of the unstandardized regression coefficients (B) the standardized regression coefficients (b), the colinearity diagnostics (tolerance) and R^2 and adjusted R^2 with narcissism as predictor variable and state anger as criterion variable.

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**	**Collinearity Statistics**	
Independent variables	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.176	0.16		74.881	0.000		
NPD	0.009	0.003	0.248	3.175	0.002	1.000	1.000
						R^2=0.061 Adjusted R^2=0.055 F=10.082, Sig.= 0.002	

As can be seen from the table above, the R^2 explains how much of the variance in the state anger scores can be explained by the narcissistic personality traits scores. Therefore, in this model the $R^2 = 0.61$ explains 6.1% of the variance in state anger. Using the enter method, a significant model emerged (F= 10.082, sig= 0.002, $p < 0.05$). According to the analysis, narcissistic traits (beta=0.248) was a significant predictor ($p<0.05$) of the experience of state anger.

Specifically, the standardized Beta Coefficients (b) give a measure of the contribution of each variable to the model. In this model, a standardized beta coefficient value of 2.48 indicates that a change of one standard deviation on scores of narcissistic traits will result in a change of 2.48 standard deviations in the scores of

state anger. The beta value is positive thus we can support that as narcissistic traits increase measures on state anger increase.

3.3.3.1.2. Standard Multiple Regression of the Dependent Variable (bulimic tendencies) on the Independent Variable (Narcissistic traits).

A standard multiple regression was performed in order to assess whether narcissistic personality traits (as measured by OMNI) predict bulimic tendencies (as measured by BITE).

Results of evaluation of assumptions led to transformation of the variables to reduce skewness, reduce the number of outliers and improve the normality, homoscedasticity, linearity of residuals (Tabachnick & Fidell, 2001). A square root transformation was used on the measure of bulimia.

Using Tabachnick & Fidell's (2001) guidelines, the critical values for evaluating Mahalanobis distance values were the following two:

1. Number of Independent Variables = 1, Critical Value = 10.82

2. Number of Independent Variables = 2, Critical Value = 13.82

With the use of a $p < 0.001$ criterion for Mahalanobis distance four outliers (cases ID: 31, 128, 92, 156) were found among the cases and removed prior the statistical analysis.

Table 3.13 displays the correlations between the variables, the unstandardized regression coefficients (B), the standardized regression coefficients (b), the colinearity diagnostics (tolerance) and R^2 and adjusted R^2.

Table 3.13

Values of the unstandardized regression coefficients (B) the standardized regression coefficients (b), the colinearity diagnostics (tolerance) and R^2 and adjusted R^2 with narcissism as predictor variable and bulimic tendencies as criterion variable.

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**	**Collinearity Statistics**	
Independent variables	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.287	0.218		5.899	0.000		
NPD	0.223	0.041	0.403	5.469	0.000	1.000	1.000
						R^2=0.163 Adjusted R^2=0.157 F=29.912, Sig.= 0.000	

As can be seen from the table above, the R^2 explains how much of the variance in the bulimic tendencies scores can be explained by the narcissistic personality traits scores. Therefore, in this model the $R^2 = 0.163$ explains 16.3 % of the variance in state anger. Using the enter method, a significant model emerged (F= 29.912, sig= 0.000, p< 0.001). According to the analysis, narcissistic traits (beta=0.403) was a significant predictor (p<0.001) of bulimic traits.

Specifically, the standardized Beta Coefficients (b) give a measure of the contribution of each variable to the model. In this model, a standardized beta coefficient value of 4.03 indicates that a change of one standard deviation on scores of narcissistic traits will result in a change of 4.03 standard deviations in the scores of bulimic tendencies. The beta value is positive thus we can support that as narcissistic traits increase, scores on bulimic tendencies increase.

3.3.3.1.3. Standard Multiple Regression of the Dependent Variable on the Independent Variable and the Mediator Variable.

A standard multiple regression was performed in order to assess how well narcissistic personality traits (as measured by OMNI) and state anger (as measured by STAXI-2) predict bulimic tendencies (as measured by BITE).

Results of evaluation of assumptions led to transformation of the variables to reduce skewness, reduce the number of outliers and improve the normality, homoscedasticity, linearity of residuals (Tabachnick & Fidell, 2001). A square root transformation was used on the measure of bulimia and a logarithmic transformation was used on the measure of anger. Using Tabachnick & Fidell's (2001) guidelines, the critical values for evaluating Mahalanobis distance values were the following two:

1. Number of Independent Variables = 1, Critical Value = 10.82
2. Number of Independent Variables = 2, Critical Value = 13.82

With the use of a $p < 0.001$ criterion for Mahalanobis distance four outliers (cases ID: 31, 128, 92, 156) were found among the cases and removed prior the statistical analysis.

Table 3.14 displays the correlations between the variables, the unstandardized regression coefficients (B), the standardized regression coefficients (b), the colinearity diagnostics (tolerance) and R^2 and adjusted R^2.

Table 3.14

Values of the unstandardized regression coefficients (B) the standardized regression coefficients (b), the colinearity diagnostics (tolerance) and R^2 and adjusted R^2 with narcissism and state anger as predictor variables and bulimic tendencies as criterion variable.

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**	**Collinearity Statistics**	
Independent variables	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-2.374	1.305		-1.820	0.071		
NPD	0.194	0.041	0.351	4.714	0.000	.939	1.065
S-ANG	3.113	1.094	0.212	2.845	0.005	.939	1.065
						R^2=0.205 Adjusted R^2=0.194 F=19.691, Sig.= 0.000	

As can be seen from the table above, the R^2 explains how much of the variance in the bulimic tendencies scores can be explained by the narcissistic personality traits and state anger scores. Therefore, in this model the $R^2 = 0.205$ which means that 20.5 % of the variance in bulimia is explained by anger and narcissism. Using the enter method, a significant model emerged (F= 19.691, sig= 0.000, p< 0.001). According to the analysis, both narcissistic traits (beta=0.351) and state anger (beta=0.351) were significant predictors ($p<0.001$ & $p<0.05$ respectively) of bulimic traits.

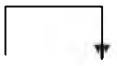
Specificall y, the standardized Beta Coefficients (b) give a measure of the contribution of each variable to the model. In this model, a standardized beta coefficient value of 3.51 indicates that a change of one standard deviation on scores of narcissistic traits will result in a change of 3.51 standard deviations in the scores of

bulimic tendencies. On similar grounds, a standardized beta coefficient value of 2.12 indicates that a change of one standard deviation on scores of state anger will result in a change of 2.12 standard deviations in the scores of bulimic tendencies.

The final step in the analysis was checking the statistical assumptions of the data in order to establish their suitability for the model. It was observed that the data fulfilled the assumption of no-Collinearity, that is, the predictors were not significantly correlated with each other (tolerance>0.02; VIF<10).

3.3.3.1.4. Mediation Model

Since the conditions for mediation have been met, a mediation analysis was performed. Given the model:



$x \rightarrowtail y \rightarrowtail z$

the computational formula for mediation is given by the following mathematical equation (Judd & Kenny, 1981a, 1981b; Baron & Kenny, 1986; Sobel, 1988; Holmbeck; 2002).

$Z = b_{\text{indirect effect}} / se_{\text{indirect effect}}$,

where $b_{\text{indirect effect}} = (b_{yx}) \times (b_{zy.x})$

$se_{\text{indirect effect}} = \sqrt{[(b_{yx}^2) \times (se_{zy.x}^2) + (b_{zy.x}^2) \times (se_{yx}^2)]}$

The unstandardized path coefficients (bs) as well as the standard errors for these coefficients (ses) for the statistical analysis of the mediation were calculated from the multiple regressions (SPSS regression outputs) described earlier. Specifically, yx= the prediction of y from x, and zy.x= the prediction of z from y, with x in the model.

Therefore, the unstandardized path coefficients (bs) and standard errors (ses) for the x↣y and y↣z paths were used for the calculation of the mediation analysis (Please see Appendix O). The results of the analysis can be found in Table 3.15 below.

Table 3.15

Values of unstandardized path coefficients (bs) and their standard errors (ses) and z statistic.

x↣y	y↣z (with x in the model)	x↣z
b_{yx} = 0.009	$b_{zy.x}$ =3.113	B_{xz} = 0.223
se_{yx} =0.003	$se_{zy.x}$ = 1.094	se_{yx} =0.41
p< 0.05	p<0.05	p< 0.001
		z= 2.06, P<0.05, z>1.96,

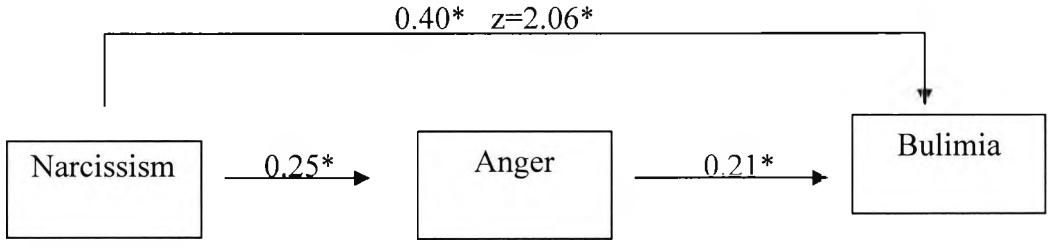
In addition, given that the b for the x↣z, total effect was 0.223 (Please see appendix X), then $b_{\text{indirect effect}} / b_{\text{total effect}}$ =0.028/0.223. Thus, roughly 12.6 % of the x (narcissism)↣z (bulimia)path was accounted by the mediator (anger). Therefore, in our model anger *partially* mediated the association between narcissistic traits and bulimic tendencies.

Full mediation occurs if the mediator accounts for 100% of the total effect. However, as Baron & Kenny (1986) supported full mediation is very unlikely in social science research. Given this, statistical analyses in social sciences typically examine whether there is significant or non significant partial mediation.

The results have supported research hypothesis 7 (Ho7). Figure 3.1 below illustrates the mediational effects. Values on paths are path coefficients (standardized βs). It is important to note that although unstandardized bs are used in the calculations presented above, standardized (βs) are the values that included in figures of mediated effects. Path coefficients outside parentheses are zero-order correlations (rs). Path coefficients in parentheses are standardized partial regression coefficients from equations that include the other variable with a direct effect on the criterion variable (bulimia).

Figure 3.1.

Mediational model for associations between narcissistic personality traits and bulimic tendencies as mediated by state anger. Values on paths are path coefficients (standardized βs). Path coefficients outside parentheses are zero-order correlations (rs). Path coefficients in parentheses are standardized partial regression coefficients from equations that include the other variable with a direct effect on the criterion variable (bulimia)



Chapter 4

Discussion

4.1. Explications of results and relationship to existing research and theory

This chapter will review the predicted hypotheses and discuss some possible explanations for the findings. It will also consider implications for psychological practice, possible limitations of the study and discuss future research.

The intent of the present study was to investigate the relationship between narcissistic personality traits, specific aspects of anger and different elements of eating disordered attitudes. The study also attempted to evaluate gender differences on the above mentioned variables and to investigate possible mediating mechanisms (i.e. anger) between narcissistic personality disorder and bulimic tendencies.

The results of the current study partially supported an association between narcissistic personality disorder traits, its defensive style and eating disordered thoughts and behaviours. There was also evidence to suggest some relationship between aspects of anger and disordered eating patterns as well as aspects of anger and narcissistic disturbance.

Significant gender differences on eating attitudes and concerns were observed as expected. However, the study revealed that female and male college students did not differentiate on narcissistic personality traits, nor on ways of experiencing, expressing and controlling anger.

Finally, narcissistic personality disorder traits were found to be mediated by state anger on individuals with bulimic tendencies.

4.1.1. The relationship between narcissism, anger and eating attitudes

Narcissism and Eating Disorders

Most interestingly, our results indicated that the more college students appeared to have an exaggerated sense of entitlement and a tendency to be exploitative in interpersonal relationships, the more likely they were to have a preoccupation with weight gain, excessive concern with dieting as well as reporting greater body dissatisfaction (Ruderman and Grace, 1988; Steiger et al. 1997).

Findings also supported that the more college individuals appeared to be selfish, grandiose and exploitative, the more reluctant they were to form close relationships and express their inner thoughts and feelings to others. In addition, as it was predicted, an increase in narcissistic traits was associated with an increase in perfectionist attitudes.

In contrast with other studies (Brunton et al. 2005), results indicated that the dimension of narcissism (*poisonous pedagogy*) which reflects tendencies that one can and should control others through the rigid and aggrandized perfection of one's own virtues was positively associated with the anorexic characteristic of drive for thinness, mistrust in social relationships and perfectionism.

However, similar to Brunton et al. (2005) an association between the need to control others and body image disturbance or bouts of uncontrollable overeating was not validated. A fruitful observation of the present study which has been previously suggested by clinical experience is that the need to control others is more likely to be a predisposing trait and maintaining factor rather than a consequence of disordered eating attitudes.

The other dimension of narcissistic pathology (*narcissistically abused personality*) which reflects self-deprecation to the point of martyrdom and an

exaggerated need for approval from others for a sense of self-validation was positively associated with both restrictive and bulimic eating disorders variants as well as feelings of alienation from other people and beliefs that others will only accept outstanding performance from them.

It is evident from the findings that disordered eating attitudes and beliefs appear to illustrate a special affinity for narcissistic disturbance. Similar to other studies (Ruderman & Grace, 1988; Steiger et al. 1997) the aforementioned results indicate that there are substantial similarities between restrictive and bulimic eaters. Both groups appeared to display similar propensities towards narcissistic personality features but also appear to differentiate among the different defensive styles of narcissism.

The above interesting observation demonstrates the importance of investigating narcissism as a dimensional trait, and not a unitary one as has been previously explored (Davis et al. 1997), when considering associations with anorexia and bulimia nervosa (Brunton et al. 2005). Important relationships might be missed out if only the outward DSM-IV characteristics of narcissism were considered, which would have significant implications for the understanding and treatment of the two pathologies (Brunton et al. 2005).

Narcissism and Anger

Consistent with expectations, narcissistic characteristics such as inflated sense of entitlement and perceived position of power appeared to be strong associates of anger (Witte et al. 2002). Specifically, it was found that individuals high in narcissistic traits are more likely to report feeling angry a good deal of the time and have strong feelings about expressing anger verbally (McCann & Biaggio, 1989).

It is evident that people who are emotionally invested in grandiose self-views are more aggressive than those who are not, particularly in response to ego threat (Bushman & Baumeister, 1998; Baumeister, Bushman & Campbell, 2000). No association was found between being exploitative, self-centred and exhibitionistic and intense feelings towards the physical expression of anger.

Another interesting observation was that individuals high in narcissism not only experience anger regularly but also are highly sensitive in situations that involve frustration and/or negative evaluations by others, which they perceive as invalid and unfair (Beck, 1990; Golomb 1992; Bushman & Baumsteir, 1998). Additionally, findings indicated that the more individuals identified with the essential features of pathological narcissism the more likely they were to experience anger but suppress it and be unable to control angry feelings by calming down or cooling off.

Our results significantly validate that narcissists tend to lack mechanisms to vent off anger normally, with self-destruction and self-directed aggression often being the consequence (Vamkin, 2004). They are more likely to have disturbed interpersonal relationships and be at greater risk for developing medical disorders as a result of anger suppression and lack of emotional internal control (Spielberger, 1999).

In terms of narcissism's *defensive styles*, both the need to control others and self deprecation to the point of martyrdom were found to positively relate with experiencing intense angry feelings and a desire to express anger verbally (McCann & Biaggio, 1989) and/or physically. Individuals on both dimensions of pathological narcissistic personality appeared to be highly sensitive to criticism, perceived affronts and negative evaluation by others.

Nevertheless, narcissistic individuals who are characterized by *putting other's needs before one's own* appeared to show no significant relationship with impulsivity

and short-temper in contrast with narcissistic individuals who are more likely to control others and indicated a positive correlation with the above parameters. The results also indicated that the more a narcissistic person tends to rely on others for self-validation the less likely they are to physically act aggressively towards others or be sarcastic, insulting and critical.

In contrast, narcissists who are more likely to *assault and block the normal narcissistic development* of another person tend to be threatening, sarcastic and insulting towards others and appear to have great difficulty calming down or reducing anger by facilitating a constructive solution to a frustrating situation.

A significant contribution of the findings is that they empirically validate past literature that describes narcissists as having a cold style of interpersonal involvement with no emotional ties (Spery & Carlson, 1993; Millon & Davis, 1996), but also point out the need to explore narcissism as a multidimensional variable reflecting distinct, theoretically based, personality types (O'Brien, 1987, 1988).

Inconsistencies observed on the empirical data to date may have been related to different aspects of anger and narcissism being assessed by various measures (Witte et al. 2002). Narcissism defensive styles have not been previously explored, to the researcher's knowledge. The specificity of the above findings validates the aim of the study to further refine the measurement between specific aspects of narcissism and anger.

Eating Disorders and Anger

Consistent with psychological literature on eating disorders (Vitousek & Manke, 1994; Cassin & von Ranson, 2005), individuals with *restrictive patterns of eating and dietary concerns* were more likely to experience intense angry feelings and intense urges to express their anger verbally or physically. Also, they showed a

strong sensitivity to criticism and negative evaluation by others. However, they were not proved to be impulsive and/or quick-tempered.

Most interestingly, although they appeared to frequently experience angry feelings over time they were more likely to suppress them (Zaitsoff et al, 2002) rather than expressing them physically or verbally. Our study adds weight to previous findings that internalized anger and defective experience of self control appear to be important parameters in the psychopathology of anorexia nervosa (Engel & Meier, 1988; Horesh et al. 2000); as previously hypothesized women with anorexia nervosa spend considerable energy in silencing thoughts and feelings (Geller et al. 2000).

Our results might be best understood under Palazzoli's (1978) model of anorexia nervosa described in chapter 1.1.1.5. Anger turns inwards (and the only thing then that can be controlled is one's own body) as a result of a dominant controlling parent who prevents the anorexic girl from separating and restrains her anger expression.

Further, the observed data also supported that individuals with *bulimic behaviours and attitudes, body image disturbances,* perfectionist tendencies and feelings of alienation from other people were more likely to experience intense angry feelings and a strong desire to express anger verbally and/or physically.

In addition, individuals with bulimic attitudes, high scores in perfectionism and mistrust of other people showed greater tendencies to experience anger in situations that involve negative evaluation and/or frustration (Fassino et al. 2001). It was also observed that such individuals were more likely to suppress anger (Milligan & Waller, 2000; Waller et al. 2002) than express it physically or verbally (Fassino et al. 2001).

Similar to other studies (Fasino, Piero, Daga & Rovera 2001; Fava, Rappe, West & Herzog, 1995; Milligan & Waller, 2000) the present findings have evidenced a significant link between anger and disordered eating.

Interpersonal distrust was negatively associated with internal control over the experience and expression of anger. College students with difficulties in forming close relationships appeared to be less able to calm down and reduce their anger as soon as possible. Therefore, these interpersonal difficulties evidently make them more vulnerable resorting to immediate short-term ways of regulating their anger such as bingeing.

A fruitful and interesting observation for discussion, deriving from the data, is that excessive concern over dieting and weight loss (an anorexic feature) was linked to the intensity of anger as an emotional *state* but not as *trait* whereas bouts of overeating (bulimic feature) were associated with both anger as a relatively stable personality characteristic (trait) and as an emotional state. The above suggests that different facets of anger are linked with different aspects of eating disturbance (Milligan &Waller, 2000).

Finally, another important connotation of the study is that anger suppression was found to be characteristic of both those individuals who scored high in drive for thinness (characteristic feature of anorexia) and those with bulimic tendencies. It might be that perhaps anorexics and bulimics are more alike than different (Breux & Moreno, 1994).

4.1.2. Gender Differences on Narcissism, Eating Disorders and Anger

Gender Differences on Narcissism

Inconsistent with expectations, the results suggested that male college students did not show more narcissistic traits than their female counterparts. Specifically, male

college students did not appear to be more grandiose, exploitative, unemotional and self-centred in comparisons with female college students.

The rationale for the hypothesis (Ho 5) was based on the fact that many theorists (Blatt & Schichman, 1983; Philipson, 1985) have proposed that narcissism is a personality type that is almost exclusively experienced by men and DSM-IV-TR (2000) postulates that narcissism has been observed more frequently in men than in women.

In line with our findings and against theoretical predictions (Blatt & Schichman, 1983; Philipson, 1985), Richamn & Flaherty (1988) reported no differences across gender on measures of total narcissism (as it was measured by the Narcissistic Traits Scale), whereas Tschanz et al. (1998) found striking similarities in most facets of narcissism (as measured by the Narcissistic Personality Inventory) between females and males.

Against prediction, no differentiation was observed across gender in regards to students' *narcissistic interpersonal styles*. Narcissistic college men did not show greater need to control and manipulate others in interpersonal situations than narcissistic college women did. On a parallel note, narcissistic female students did not appear to devalue, slight themselves or put others needs above their own (due to an exaggerated need for approval from others) more than narcissistic male students did.

Following Philipson's (1985) theoretical conceptualizations it was expected that men would be more susceptible to develop overt (as defined in section 1.1.2.4) narcissistic features (while they are encouraged to separate from their mother and create well-defined ego- boundaries they defend against shame and dependency).

In contrast, women were expected to experience dependency and shame (as they are considered by their mother's extensions of themselves) more consciously and

thus, are prone to develop a more covert (as defined in section 1.1.2.4) narcissistic style.

Many researchers (Martin, 1987; Tschanz et al. 1998) have put forward that society's disapproval of self-centered and exploitative behaviour in women might account for previously observed gender differences. Such behaviours would violate stereotypical gender role standards which expect women to please, nurture, focus on others needs and be warm sensitive and understanding (www.minddisorders.com, 2006).

A number of explanations regarding the similarity of the two groups in the present study may be proposed. Firstly, the current results might reflect how narcissistic western societies have been encouraged to become over the last decade (www.minddisorders, 2006) and how perhaps society's norms, as viewed above, are changing. It has been argued that the advanced industrialized societies encourage narcissism in a number of respects.

These include: the preoccupation of mass media with the lifestyles of rich and famous people, the social approval of open displays of status, accomplishments and money instead of modesty, social trends that encourage parents to be more self-centred, as well as the preference for a leadership style that highlights the leader's outward appearance and personality instead of his inner values (www.minddisorders, 2006). Although the location and forms of narcissism in the larger society is a huge theoretical debate that can not be discussed here, it can not be denied that personality disorders both reflect and influence the culture in which they arise.

Secondly, Hoglund (1996) has further discussed that the observed difference in the prevalence rates across gender might depend on how the construct is defined.

Most of the psychometric inventories are measuring narcissism as defined in the DSM-IV (2000).

Further, Rivas (2001) has highlighted a number of controversies in the diagnostic classifications and criteria. Some of these include the questionable application of different diagnoses to one gender relative to the other (i.e., sex bias; Ross, Frances & Widiger, 1995) as well as the apparent omission of the role that culture plays in psychological disorders. Specifically, it has been argued that the gender imbalance observed in narcissistic disturbance is more apparent than real and is much more reflective of a sexist definition of narcissism (www.minddisorders, 2006).

Finally, as our study has used a non clinical population it might be that the narcissistic pathology observed in our group was not large enough to detect an effect and therefore females and males appeared to share more in common than they actually do.

Gender Differences on Eating Attitudes

In many respects our results are consistent with previous studies (Barry, Grillo & Masheb, 2002; Anderson & Bulik, 2004; Lewinsohn et al. 2002) comparing eating disordered correlates in males and females. Our findings indicated that female college students were more likely to report excessive concern with dieting, preoccupation with weight gain, binge eating and greater body dissatisfaction in comparison with their male counterparts.

Most interestingly, this might mean that either men are less susceptible than women to societal pressures to be thin or the findings are the product of a reporting bias in which men are less likely to admit to vulnerability to such pressures (Yates, Edman & Aruguete, 2004).

Another noteworthy argument in the light of the study's findings has been put forward by Anderson & Bulik (2004). These researchers reported gender differences in compensatory behaviours. Specifically, they postulated that weight reduction appeared to be the predominant compensatory behaviour in females whereas weight gain and increased muscle mass was the predominant compensatory behaviour in males.

The above highlights that the present nosology fails to incorporate the bi-directionality in compensatory behaviours and might not be sensitive to detect cases of eating disorders in males. Therefore, an unintentional but nonetheless nosological gender bias inherent in the DSM might account for the higher prevalence rate of distorted eating attitudes and concerns in women (Anderson & Bulik; 2004).

The empirical observations of Anderson & Bulik (2004) are compatible with the feedback that the researcher of this study received from some of the male participants regarding questions from the body dissatisfaction scale. Specifically, they explained that although they were dissatisfied with their bodies they did not feel that the questions were truly representative of the male body anatomy (e.g. concentration of weight in males is more likely to be in stomach and chest rather than thighs and bottoms).

Gender Differences on Anger

In contrast with expectations and popular assumptions (Copper & Epperson, 1991; Iqbal et al. 1993; Bartz et. al. 1996) female college students did not appear to experience, express and control their anger differently from the male college participants according to the majority of STAXI scales. However, female college participants were found to be more quick-tempered and ready to express angry

feelings with little or no provocation in comparison with males as well as be more impulsive and lacking in anger control on the Angry Temperament scale.

Hoglund & Nicholas (1995), Forgay et al. (1997) and Fischer et al. (1993) reported similar findings to the present study. They observed no gender differences on attempting to control and suppress angry feelings. Further, no gender difference was observed on how often a person attempts to control angry feelings by cooling off or calming down.

Past psychological literature (Kopper & Epperson, 1991) has strongly maintained that women express and experience anger differently than men. Particularly, it is asserted that society routinely encourages women to hide or suppress anger or in some occasions to release anger indirectly. The direct expression of anger is considered to be unfeminine and strident. Thus, women are believed to be more likely to block or invalidate their angry feelings, which results in a variety of mental health difficulties (Collier, 1982).

Interestingly, the above theoretical conceptualization is not confirmed from the current and some other studies (Fischer et al. 1993; Hoglund & Nicholas, 1995; Forgay et al. 1997). Bartz et al. (1996) have argued that a significant contributing factor to being unable to detect an effect might be social desirability. It is highly likely that male participants have answered in ways they thought were more socially acceptable. Anger and aggression are emotions and behaviours that are socially disapproved therefore it might be that our results carry a response bias.

Another contributing factor might be that the current study took place on a well –educated group of female and male students who may have been exposed to different patterns of socialization from the ones described by Collier (1982) (Kopper & Epperson, 1991).

In addition, it might be that the socialization process on gender roles and expectations in contemporary societies is changing. Barnett & Hyde (2002) found that women and men are far more alike than they are different in terms of motivation, values and abilities. They explained that the idea that men and women differ might be tough to replace due to the fact that has been the driving force behind research on gender roles for many years.

Similarly, Goldberg (2007) argued that we are experiencing a masculinization of society. The modern economic system seems to socialize and reward women for behaviours different from the feminine, maternal and familial ones a person might have assumed in the past.

The mediating effect of anger on the relationship between narcissism and bulimic tendencies

The hypothesis that anger is a mediating variable between narcissistic features and bulimic tendencies was borne out by this study. Specifically, state anger (the temporary emotional state arising from frustration or annoyance of the moment) appears to partially link features of narcissistic disturbance such as entitlement, exhibitionism and tendencies to have exploitative interpersonal relationships, with bulimic psychopathology.

Previous theoretical underpinnings and research (Heatherton & Baumeister, 1991; Zaitsoff et al. 2002) suggest that bingeing behaviour provides the person with temporary relief from the experience of negative emotion that external/internal events may trigger. Specifically, narcissistic individuals are lacking effective ways to tolerate and vent off angry feelings normally (Davis & Marsh, 1986; Vankin, 2004). For the narcissist, bingeing might therefore function as a means for coping with anger

and avoiding challenging interpersonal situations, preventing the use of more adaptive coping mechanisms.

Following that, the present results suggest that people high in narcissism might be more at risk of developing bulimic tendencies as a means of tolerating anger states. The findings also empirically validate the notion that difficultly with recognition and tolerance of feelings characterizes both narcissistic and bulimic individuals.

4.2. Implications for professional practice

It is hoped that the above findings will significantly contribute to the scientific community by highlighting and validating several important factors that need to be considered by mental health clinicians at both the *preventative and treatment levels* for individuals with eating disorders, anger difficulties and/ or narcissistic personality.

In addition, since binge eating is a significant problem among the obese (Keefe et al. 1984) and the prevalence of obesity has been found to be high in the general population (Bruce & Agras, 1992) current discussions should stimulate and direct clinicians in ways for the better understanding and management of overweight individuals.

4.2.1. Prevention

University and college campuses have identified anorexia, bulimia and obesity particularly among females, as the most prevalent problems experienced by college students (Wiles, 1997). Thus, the identification and treatment of negative eating attitudes and concerns among college students remains one of the biggest challenges campus-counselling centers are facing.

The current research is in accordance with the idea that identifying the precursors of eating disordered views and attitudes in young people will enable counselling psychologists and other mental health professionals to assess and intervene earlier and more effectively with these clients before symptoms worsen and become life threatening (Wiles, 1997).

The present results suggest that narcissistically driven neurotic concerns about the body, in conjunction with anger, may tip the balance towards eating disorders. It is further noted that difficulties with the experience, expression and control of anger are implicated in the development and maintenance of eating disorders and binge eating. Specifically, it appears that anger and the lack of the ability to express it outwardly is involved in the underlying psychopathology of bulimia and anorexia nervosa.

Our findings significantly support research outcomes presented in a health report (Ismail, Chan, Grunbaum & Dai, 2004) by the American Heart Organization stating that problems expressing anger do not only translate into eating disorders but also lead to unhealthy weight gain and high risk of cardiovascular disease at a young age.

All of the above conclusions highlight the need for appropriately targeted *prevention programmes* so as to reduce the risk of developing eating disorders, obesity and heart/ medical problems in those more vulnerable in the general population. As Scionti (2001) explained, the earlier eating concerns and/or anger problems are detected and the student/client seeks therapy the better the prognosis for recovery.

Prevention programmes in schools, university campuses and youth centres need to educate vulnerable adults about the nature and function of emotions and in particular anger, help them to improve attitudes about eating, dieting, body image and self-worth, challenge their notions of the thin ideal and invite them to consider the

consequences of dieting and overeating to a person's psychological well being and future health (Hetherington, 2000).

In addition, in a culture that admires fitness and thinness and promotes emotional aloofness, segmentation and lack of commitment to things outside oneself (Vaknin 2004), narcissistic individuals in their need to regulate self-esteem were found to engage in unhealthy behaviours (i.e. dieting) for self- affirmation that appear highly rewarded and regarded from society.

The above along with the complexity of the constructs under study and the implications observed both on an individual as well as on a societal level call for *governmental policies and mechanisms* to protect those most at risk.

It is evident that in order for preventative measures to be successful it will take more than the efforts from researchers in the counselling and psychiatric field; most of all it will take corroboration of educational, medical and political forces to be able to target social norms that encourage unhealthy ways of being and relating to others (Hetherington, 2000).

4.2.2. Awareness

The current study not only draws important conclusions on preventative measures that need to be considered for the protection of vulnerable individuals, but also informs, the mental health practitioner about the multifaceted nature of anger in association with pathological eating and narcissism in both sexes.

Our results suggest that mental health workers should consider that individuals with eating disordered attitudes have difficulties identifying and expressing emotions. The inclusion of *assessment probes* in regards with the expression, experience and control of anger in the standard clinical interview for eating disordered patterns may provide useful clinical information (Thomson, 1999).

Furthermore, youth workers and clinicians working with adolescents who have anger and/or other emotional difficulties should ask for information about bingeing, purging and food restriction. Awareness about the predictors of eating difficulties not only enhances assessment but also guides treatment options (Thomson, 1999).

According to theoretical and empirical considerations, the diagnosis of narcissistic personality is hindered by a lot of uncertainty and controversy (Rivas, 2001). As the present findings support theoretical and other empirical suggestions that the disorder appears to coexist with eating pathology, the clinician needs to assess the extent to which narcissistic characteristics are interacting with, maintaining and/or escalating other difficulties and tailor treatment appropriately.

Thus, using more *elaborate assessment techniques* and *psychometrics tests* that explore both maladaptive and adaptive forms of narcissism as well as interpersonal styles of narcissistic individuals will help to achieve a clearer clinical picture of such complex construct (Rivas, 2001).

Additionally, one thing that the informed clinician should also keep in mind when developing a therapeutic alliance and goals for psychological therapy with an eating disorder patient is that although a person may not manifest sufficient criteria for a parallel diagnosis of narcissistic personality to take place they might still act like somebody who has narcissistic personality disorder. Therefore, even without formal diagnosis narcissistic traits might still play a role clinically and need to be addressed as such (Rivas, 2001).

The present study also provides clinicians with empirical data on *female/male stereotypes and expectations* regarding narcissistic traits, eating disorder patterns and anger expression and control. Clinicians must bear in mind that differences observed between women and men on their eating attitudes might be purely the result of not

having appropriately tailored assessment tools to detect eating disorder cases among males.

No observed differences on narcissism and its defensive style might also be the result of sex biases on how the construct is defined and measured rather that true lack of differentiation on the construct under study. Finally, as men appear more mistrustful than women of interpersonal relationships, it might take more time for the male patient to fully engage in therapy.

It is important to note at this point that although knowledge/awareness of gender specific norms and differences is important so as to be able to meet our clients' needs in the best possible way and observe societal and cultural trends over time (Goldenberg and Goldenberg, 2000) there is also a risk in wrongly assuming sameness among patients (i.e. unintentional nosological gender bias; lack of gender specific assessment tools).

Therefore, the study helps to remind us that as therapists we inevitably expose our biases in our interactions with our clients and therefore we need to be aware of our own values and beliefs as we help clients to address theirs (Goldenberg & Goldenberg, 2000).

Finally, the current study portrays how complex the phenomena of eating disorders, anger and narcissism are and how important it is for the counselling psychologist to remain abreast with current developments. The rapid increase in the prevalence of eating disorders and narcissism and the complexity around their genesis and maintenance not only reveals the need for specialization within our training (Hotelling, 2001) but also provides support on how important it is that the *nature of counselling psychology remains that of scientist-practitioner* (Woolfe, 1996).

4.2.3. Treatment Implications

The present findings help to understand how different aspects of anger relate to different aspects of narcissistic and eating pathology and how this should affect the delivery of treatment.

One of the therapy targets that needs to be emphasized is *enhancing self-esteem.* Building confidence and self-esteem will reduce the impact of personal threat and lessen the likelihood of anger responses (Deffenbacher, Oetting, Lynch & Morris, 1996). Treatment programmes should also differentiate between individuals that express their anger verbally and physically and those who suppress their angry feelings.

Treatment for the former group might need to examine ways to ease the emotional arousal and also introduce *social communication skills interventions* (Kroner & Reddon, 1994; Deffenbacher et al. 1996). If a patient develops a repertoire of *conflict resolution and interpersonal skills* along with arousal reductions techniques (i.e. relaxation), they would no longer need to rely on intimidating tactics to communicate anger (Deffenbacher et al. 1996). On the other hand, for individuals who suppress their anger, the focus of therapy needs to be in helping the patient to recognize, understand and tolerate emotional states.

Further and in relation to the above, our current findings (link between narcissism-anger-bulimia, association between anger suppression and eating and narcissistic disorders) strengthen the case for the use of *affect-oriented therapies* in eating disorders, in narcissistic disturbance and in cases of co-morbidity between the two pathologies, put forward by Milligan & Waller (2000). These authors suggest that the key to improve the mental state of patients with dual diagnosis (narcissistic

personality and bulimic pathology) is to enhance adaptive *management of the emotional states* that drive bingeing and purging.

Cognitive behavioural treatment protocols should focus more on affect related cognitions and their role in activating or maintaining negative moods. Since cognitions maintain emotional states, challenging those anger related beliefs in therapy might help the eating disordered /obese individuals break free from unhealthy behavioural patterns and reduce the frequency of bingeing.

Additionally, emotion-focused therapy, developed by Greenberg and his colleagues (Greeneberg & Piavio, 1997), should be considered another treatment of choice for individuals with narcissistic personality disorder and/ or eating pathology that fail to benefit from existing treatment protocols.

Emotion-focused therapy tends to be more experiential in nature than the traditional cognitive behavioural model. The therapeutic aim is activation, expression, validation and acceptance of emotional states (i.e. anger). Treatment should assist patients in assessing emotion, thoughts associated with emotion and meta-emotional (that is, how patients view their emotions) beliefs and modifying the emotional impact through rescripting (Leahy, 2002).

Further, given that individuals with eating disordered patterns and narcissistic traits in the current study appeared to be reluctant to share difficult emotions with others, particularly anger, therapeutic focus must not only concentrate on anger experience and expression but also on *interpersonal relatedness* either in one to one or group format.

A more interpersonal form of therapy, focusing on variables that affect interpersonal interaction such as independence, tolerance, distrust, emotional

expressiveness, perfectionism, conflict, and / or achievement orientation might be more beneficial for some sufferers (Offner, 1997).

Linehan's (1993) transactional model of emotional dysregulation for borderline personality disordered patients offers strategies which might help to better address the above concepts and therapeutic difficulties in the patient groups under study.

Linehan's (1993) transactional model supports that invalidating environments (i.e. one in which communication of private experiences is met by erratic inappropriate and extreme responses) contribute to emotion dysregulation by failing to teach the child to label and control arousal, to endure distress or to trust her/his emotional reactions as valid interpretations of events. Therefore, the dialectical behavioural model coaches patients in developing interpersonal effectiveness (i.e. learning to deal with conflict, get what one wants and needs in ways that maintain self and others' respect), emotion regulation (enhancing anger control), distress tolerance (learning to tolerate distress) and mindfulness (learning to observe oneself) skills.

Finally, the results also imply that for the psychological treatment of narcissistic individuals it may be beneficial to focus directly on client's beliefs and attitudes about the experience, expression and control of anger before we concentrate on beliefs about entitlement, grandiosity and exhibitionism. In addition, clinicians need to be aware and sensitive to anger –related issues when they are treating a narcissistic individual as such difficulties could potentially interfere with engagement and the overall treatment.

4.3. Limitations of the Study

4.3.1. Methodological Considerations

Self-report instruments are widely used for research and clinical purposes. However as all the inventories used in this study were self-report certain shortcomings of using such instruments need to be taken into consideration. These include inaccurate reporting and response bias.

Participants might have not reported their weight accurately either because they genuinely were not aware of it or they may have over reported or under reported their weight depending on how they wished to be seen by the researcher. It is also possible that they inaccurately reported their weight due to not perceiving themselves realistically, characteristic of eating disordered disturbances (Lesk, 1996).

Despite the above considerations when interpreting the results, self-report measurements are still considered being the most effective and efficient means available for recording different aspects of participants' presentations (Lesk, 1996).

In addition, although students were reminded before administration to answer questions in the way that best reflected their thoughts, feelings and attitudes they may have answered as they thought was expected from them or was more socially acceptable (Bartz et al. 1996). Due to the fact that those who participated in the study did so voluntarily, the variable of desirability may have been brought in. Social desirability is one form of response bias that needs to be seriously considered when interpreting results from self-report measures. Thus, in the current study participants may have answered as they thought they were expected to, or they may have minimized an eating disorder/ narcissistic symptomatology.

However, as other assessment methods (i.e. interviews) are not immune to minimization of symptomatology or dishonesty, the advantages of using self-report

measures when it comes to administration and scoring (i.e. they are standardized, require little time to complete, involve uncomplicated scoring) outweighed the disadvantages considered in this study (Lesk, 1996).

4.3.2. Sample

A related and further source of variation may have been the age of the participants. Spielberger (1999) has highlighted the importance of using age appropriate norms for interpreting the STAXI-2 scales and subscales. Specifically, norms in the above mentioned manual have been divided into four age groups. It was noted that the state and trait anger scales for the 20- to 29- year-old age group were higher than those of the 30 years and older age group (Spielberger, 1999). In addition, the onset period for the development of both eating disorders and/or narcissistic personality disorder has been identified as early adolescence to early adulthood.

Therefore, the older participants in the current study might have significantly skewed the outcome. A possible effect might have not been depicted or vice versa an association might have been observed which would have not otherwise if one was looking into a younger participants' sample only. Life experiences, other relationships, moving away from the family unit (possible source of psychological distress), psychological/pharmacological treatment and many other variables are more likely to interplay when assessing psychological traits in young/older adults in contrast to young adolescents.

In addition, one needs to bear in mind that the generalizability of these findings is also limited in a number of ways. First, the sample was drawn from a non

clinical population; research using a clinical population may have revealed stronger and/or more extensive results.

Secondly, the universities from which the participants were recruited might have had an effect on the outcome of the study. The particular universities used for this study were inner-city, ethnically diverse, multi-cultural universities. A significant number of the students commute, and students are from various socio-economic backgrounds. Therefore, different results might have been obtained if the study had used a culture and/or socio-economic status specific population (Offner, 1997).

In addition, recruiting participants that have gone through undergraduate and/or postgraduate education might have been another source of variance for our results. Specifically, the socialization process and societal expectations in regards to gender role stereotyping (i.e. female/ male expression, experience and control of anger) might significantly vary among educated and non educated participants and their families.

4.3.3. Instruments

The psychometric instruments used in this study have demonstrated respectable construct validity and reliability as documented earlier in chapter 2.3. However, it is important to note that the EDI- 2 has not been used in its original format. Garner (1991) explains that reliability and validity may not generalize to subscales used in isolation and that under such circumstances researchers need to be aware of the fact that results obtained in such studies may not be the same as when the EDI-2 is administered in total. Even so, a number of studies have used one or more EDI subscales out of their usual context for various purposes (Fabian &

Thompson, 1989; Hamilton, Brook-Gunn, & Warren, 1985; Johnson, Tobin, & Lipkin, 1989).

The researcher after consideration felt that it was more important to consider the participants' best interest and not request for information that would not have been useful for the purposes of the current study even if that meant partially compromising the reliability and validity properties of the inventory.

Additionally, in making interpretations about the current investigation, one must consider that the results might be limited to the constructs as they were defined and measured by the psychometric tools used in the study.

Nevertheless, despite certain limitations and the methodological considerations discussed above, the study is one of a few, to the author's knowledge, that explores the multifaceted nature of anger and narcissism and the mediating effect of anger on the relationship between narcissism and bulimic tendencies in a college population.

4.4. Future research

Recommendations for future research are discussed below.

4.4.1. Sample characteristics

Age

The average participant age in our college sample population was higher than the average participant age in many of the studies on eating disorders and narcissism. It would be important to discuss observations from a more diverse sample in terms of age and then explore the constructs researched in the present study in these different age groups (Offner, 1997).

The age issue seems particularly pertinent on both narcissistic and anorexic/bulimic pathology. As DSM-IV-TR (2004) suggests, both disorders become evident in early adolescence. It might be then that younger participants' experiences would appear to be very different from those of older participants either because adolescence is a developmental stage characterized by a self-, instead of other-focus and/or because older adults' narcissism might have been 'corrected' by life experiences.

Since empirical validation regarding an age group distinction about the nature of NPD is non existent, it is still unclear whether we are looking into a character disorder or whether it is an issue of learned behaviour that can be unlearned (www.minddisorders.com, 2006). More conclusive evidence will be drawn in regards to present discussions if future studies control for age.

Clinical population

The current study examined the relationship of eating disordered attitudes, aspects of pathological narcissism and anger as well as gender differences on the above constructs in a sample of non clinical college students. Although there are a number of advantages of using a non clinical population which have been discussed earlier in chapter 2.1, replication of the study in a clinical population is also necessary so as to monitor how the present observations unfold in the actual presence of ongoing illnesses such eating disorders and personality pathology.

4.4.2. Constructs characteristics

Other Mediation Variables

The significant findings of the study indicate that anger is a mediating variable between narcissism and bulimic tendencies. Though a significant contribution of the path from narcissistic traits to bulimic symptoms was accounted for by anger, it is

evident from this study that the link between the two disorders must be mediated by other variables. Shame and gender might be two important variables to consider in future research, as discussed below.

Several theorists have proposed that shame is a primary affect of narcissism, that results from failure to attain values of the ideal self (Hoglund, 1996). On a similar note, some authors allude to a gender difference in narcissism (Hoglund, 1996). A mediation model taking into account these two variables might help to further understand the relationship between narcissistic and bulimic presentations.

Emotional schemas, narcissism and eating problems

Leahy has developed a 14 dimensions scale (Leahy Emotional Schemas Scale, LESS, 2002) through which emotional schemas may be assessed and understood. In his cognitive model of emotional processing (Leahy, 2002), he explains that once the emotion has been activated, two distinct pathways are available to the individual; either to normalize or pathologize the emotion. If the former pathway is accessible, the person moves quickly in accepting, expressing, experiencing and learning from his experience. In the latter pathway, cognitive avoidance might be employed which can lead to dissociative processes, bingeing and emotional numbness.

Future research to assess emotional schemas in patients with narcissistic and eating pathology will allow for a better understanding of the underlying mechanisms which lead to the two disturbances and possible other mediating variables.

Types of narcissism

Future studies should also be directed to assess the different types of narcissistic disturbance. The current study was focused on the two interpersonal styles that

characterize pathological narcissism as it has been conceptualized by O'Brien (1987, 1988) and found to differentiate between anorexic and bulimic traits.

It might be worth researching further into the interaction of the five personality types delineated by Kohut and Wolf (1978) and /or the two types presented by Vaknin (2004) and eating disturbances. Specifically, Kohut and Wolf (1978) have discussed three variations of an adaptive form of narcissism (mirror-hungry/ideal-hungry/ and alter-ego) and two maladaptive narcissistic personalities (merger-hungry/contact-shunning).

In addition, Vaknin (2004) has discussed 'cerebral' narcissists (who derive their narcissistic supply from their intelligence and academic achievements) and 'somatic' narcissists (who derive their narcissistic supply from their physique, exercise, and sexual competency). The above considerations further support that DSM-IV-TR defines narcissistic personality disorder in a very narrow way and fails to reflect the full spectrum of narcissistic disorder. Thus, it highlights the need for further empirical exploration of NPD.

Gender and eating disorders

Another significant point of consideration is that the present nosology fails to consider compensatory behaviours such as steroid use, exercise to gain weight that are gender specific. As a result it is likely that cases of eating disorders among men might not be properly detected resulting in an unintentional nosological gender bias (Anderson, 2004).

Women also appear to lose control more often than men (Weltzin, 2005) in relation to binge eating, which directly affects eating disorder diagnosis. It is evident from the above that more research is called for on male eating patterns, compensatory behaviours, beliefs and attitudes to determine whether the current diagnostic

classification system accurately represent male eating disordered patients (Anderson, 2004; Weltzin, 2005).

In addition, the study utilized self-report data which reflects the individual's perception of their eating habits and body image. However, current assessment tools may not accurately portray men's perceptions and attitudes towards disordered eating patterns and body image dissatisfaction as discussed in implications for treatment section. Future research needs to make use of a variety of assessment tools to capture the complexity of the variables under investigation across gender. A qualitative approach may be a way of exploring eating disordered beliefs and compensatory behaviours in the male population that at present appear to give confusing results when coming from quantitative studies.

Culture and narcissism

It has also been highlighted that little is known about the prevalence of narcissistic personality disorder across racial and ethnic groups (www.minddisorders.com, 2006). Rivas (2001) noted that culture plays a greater role in personality disorders than in any other diagnostic category.

He explains that the diagnosis of narcissistic disturbance remains one of the most overlooked in terms of culture. Additionally, the exclusion of the narcissistic personality disorder in any of the ICD-10 editions due to the low or zero prevalence of the disorder in some countries provides further evidence of its cultural entrenchment and the great need for future research on the area (Rivas, 2001).

An integration of cultural knowledge, sensitivity, and more dimensional conceptualization may equip the mental health practitioner to better understand how a patient's narcissistic traits fit with their background and implement more appropriate treatment strategies (Rivas, 2001).

Educational and socioeconomic status

Educational and socioeconomic status should also be more closely examined (Offner, 1999). This seems particularly important in regards to gender differences and anger experience, expression and control. Current observations failed to detect an effect. It might be that socialization process in young adolescents and societal expectations might vary across diverse educational/socioeconomic backgrounds. Controlling for these variables could help further delineate the nature of differences between gender and anger experience and expression.

Evaluation of affect-driven treatment protocols

Future studies should also empirically validate whether affect based treatment protocols will lead to an improvement in bulimic symptomatology and/or show substantial reduction in some narcissistic symptoms.

4.5. Overall summary & Conclusion

In summary, the current research paper has highlighted the importance of pursuing more complex conceptualization and measurements of narcissism, anger and eating attitudes for both sexes. Empirical data from this study not only contribute to the growing literature on narcissism, eating disorders, anger and gender but also inform clinical practice. Affect-driven therapeutic models need to be considered for the treatment of patients with narcissistic personality and /or eating disorder presentation as these individuals appear to have difficulties in anger experience, expression and control. Future research needs to evaluate therapeutic efficacy of those models in a clinical population.

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SECTION C

PROCESS REPORT

Chapter 5

Cognitive-behaviour, enhanced by motivational interviewing principles, treatment for a patient with Bulimia Nervosa.

5.1. Introduction

In this process report a cognitive behaviour therapy model underpinned by motivational interviewing principles was used with a client experiencing bulimic and borderline personality disorder symptoms. The process report covers a brief summary of cognitive behaviour therapy and motivational interviewing model with emphasis on aspects of the model relevant to the psychological problems presented.

Additionally, the psychological assessment and formulation are outlined. Finally, a ten-minute transcript including commentary is presented, followed by a summary evaluation of the session. It is important to account that for purposes of confidentiality the name and the identifiers of the client have been changed.

5.2. Rationale

The reasons of selecting to present this transcript are many; some of them are related to the theme of the current *portfolio* (i.e. personality disorders and eating pathology) and some to the general practice of counselling psychology and its principles.

In relation to the theme of the portfolio, the current case presentation supports the need for ongoing research in the field of eating and personality disorders. Specifically, it validates what has been previously discussed in sections A and B that is, the difficulties to experience, express and control anger in patients with comorbit presentation of personality (narcissistic/borderline) disorders and bulimic pathology.

Following theoretical and empirical considerations, it provides us with clinical evidence that bingeing as well as other blocking behaviours (i.e. dissociating) observed in personality disorders might function as short-term mechanisms to reduce the awareness of anger and help the individual to tolerate negative affect.

Finally, it further strengthens arguments presented in this portfolio regarding the use of affect-oriented treatment protocols both as an adjunct to other existing treatment protocols and/or as the main focus of therapy when clients fail to respond in other forms of treatment.

On a more general note, the present process report supports further the importance of the therapeutic relationship in psychological therapy and specifically to the application of cognitive behavioural therapy. Empathy, respect, warmth and collaboration are important tools for CBT and MI and the facilitation of the therapeutic process (Wills & Sanders, 2002). It also defends the importance of client needs/difficulties as the primary interest of any practitioner and the validation of their experiences as important element for change (Wills & Sanders, 2002).

On a personal level, it validates my belief about the importance of tape recording as a standard practice not only for the practitioner's professional development and better understanding of the therapeutic process but also for the client's personal development and understanding of their psychological distress (Dryden & Feltham, 1992). Helena was able to use the tape at times that her 'emotional mind' was in control and there was little access to the 'rational mind' that she was presenting at times in the session.

At last, the difficulties we encounter as qualified practitioners when working therapeutically with such highly complex client groups as well as the complexity

around the genesis and maintenance of co-morbid disorders further underline the need for specialization within our training (Hotelling, 2001)

5.3. Theoretical Framework

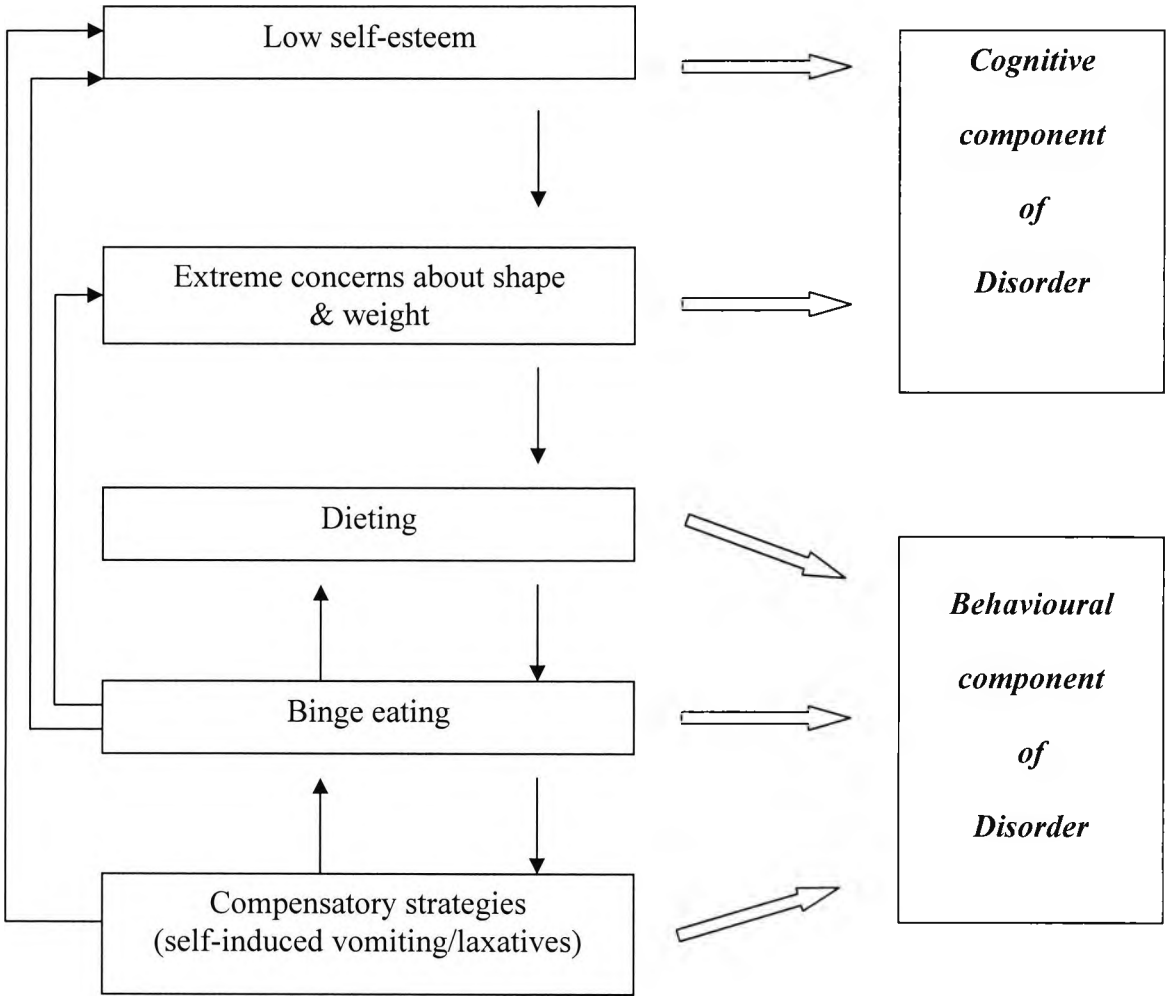
My work with Helena was based on one of the treatment protocols used by Bethlem & Maudsley Hospital (Schmidt & Treasure, 1993, 1997) for the treatment of bulimia nervosa. The model is based primarily on the principles of cognitive behavioural therapy for bulimia nervosa (Fairburn & Cooper, 2000) underlined by the basic principles of motivational interviewing (Schmidt & Treasure, 1997).

Cognitive behavioural therapy for bulimia nervosa is based on Fairburn and Cooper's (2000) model for the maintenance of the disorder. Specifically, the model (see Figure 5.1) suggests that the central cognitive disturbance in bulimia nervosa is a characteristic set of attitudes and values concerning body shape and weight (Fairburn, 2001).

Self- worth is judged primarily in terms of shape and weight and the individual adopts strict and inflexible dietary rules from which any deviation is perceived as failure and lack of control (Fairburn & Cooper, 2000; Fairburn, 2001). Temporary abandonment of the rules leads to bingeing, which in turn activates a number of compensatory behaviors (self induced vomiting, excessive exercise, use of laxatives) to compensate for the effects of overeating (Blackburn, & Twaddle, 1996; Fairburn & Cooper, 2000; Fairburn, 2001).

However, purging assists in the maintenance of binge eating not only because reduces patients' anxiety regarding caloric intake but also because vomiting is easier after consumption of large amount of food (Shafran & de Silva, 2003; Wilson, Fairburn & Agras, 1997).

Figure 5.1: Cognitive –behavioural model of the maintenance of bulimia nervosa. Adapted from Blackburn & Twaddle (1996)



Thus, the aim of CBT is the modification of negative automatic thoughts and dysfunctional assumptions around food/shape/weight and the breaking of the behavioural and physiological chains that maintain the unhealthy eating behaviors and cognitions (Waller & Kennerley, 2003).

The treatment is structured, problem-oriented, directive with great emphasis on the collaboration between client and therapist (Fairburn & Cooper, 2000; Fairburn, 2001). Therapy involves change in all facets of the eating disorder as described in the model (see Figure 5.1).

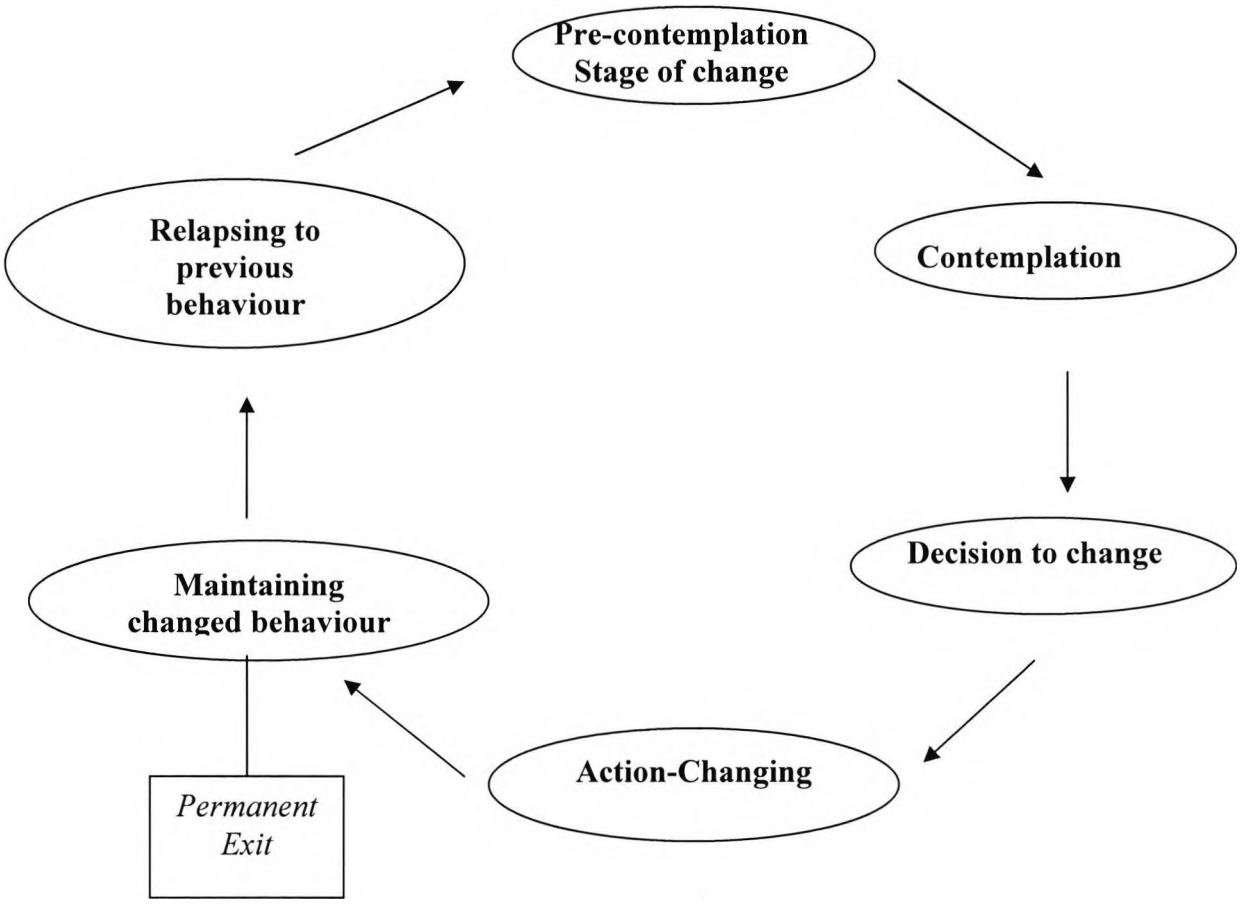
The selection of CBT as the treatment of choice for Helena was based on its efficacy for bulimia nervosa (Waller & Kennerley, 2003). Additionally, the National Institute for Clinical Excellence [N ICE] (2004) guidelines have supported that a specifically adapted form of CBT for bulimia nervosa should be the treatment of choice for patients with bulimic pathology.

However, as the literature (Treasure & Ward, 1997) suggests one of the difficulties of working with bulimic (and borderline personality disordered) patients is that the level of motivation is often insufficient to engage the patient in treatment and their resistance to change is high.

Therefore, motivational interviewing (MI) principles (express empathy, avoid argumentation, roll with resistance, support self efficacy) were also endorsed in an attempt to explore and resolve Helena's ambivalence and increase hope for behaviour change (Blake, Turnbull & Treasure, 1997; Miller & Rollnick, 2002).

As Miller & Rollnick (2002) point out MI is a directive counselling and communication style that can be used throughout treatment or as a preparation for further treatment (see Appendix P). It is based on a transtheoretical model of change that was put forward by Prochaska & DiClemente (1982). The model suggests that there are 6 stages (see Figure 5.2) of change through which people progress.

Figure 5.2.: The stages of change. Adapted from Prochaska & DiClemente (1983)



In order to help patients to change it is important to support them override their attachment to the unhealthy behaviour, resolve their ambivalence, raise self-esteem and self-efficacy before moving into change (Miller & Rollnick, 2002). Given to the ego-syntonic nature of some eating pathology, it has been suggested that there is a need to enhance motivation in eating disorder patients before treatment can have its maximal effect (Waller & Kennerley, 2003).

5.4. Setting & Referral

Helena was referred to me by the Head Counselling Psychologist at the clinical setting in which I was working as an honorary therapist, after an initial specialist assessment had been conducted by him. The service is an out-patient Eating Disorder Unit for local and national patients who have been diagnosed by ICD 10 or DSM-IV-TR criteria as suffering from anorexia nervosa, bulimia nervosa or atypical eating disorders. Referrals are taken from General Practitioners and Consultant Psychiatrists and assessments are done by specialists in eating disorders which come from all parts of the multi-disciplinary team. Helena symptoms met the DSM-IV-TR criteria for bulimia nervosa (see Chapter 1.1.1.2) and had been also diagnosed meeting DSM-IV-TR criteria for borderline personality disorder (see Appendix Q) from previous psychiatric services that she had engaged with.

5.5. Assessment

First impressions: Appearance & Behaviour

Helena is a twenty-eight year old woman of Jewish origin and of normal weight and tall height. Her manner and posture revealed that initially she was very apprehensive about the therapy; her eyes nervously scanned the interview room and hesitations and waverings marked her speech. She expressed reluctance about being in therapy. However, despite her nervousness she gave me a long and concrete account of her emotional distress.

Client profile

Helena is currently unemployed and lives with her 4 years old son. Financially, she depends totally on benefits and her mother, who she feels responsible for her psychological distress and "has to compensate" for that.

She described having a difficult and abusive upbringing and experiencing a lot of tension within the family household. She informed me of her father being sexually abusive towards her from the age of 4 till the age of 12 when her parents got divorced and Helena and her mother moved house.

Helena also told me that her older brother was often physically and verbally abusive towards her. On the other hand, her mother due to her high-status job was absent almost all of the time and when she was present, she was "too busy" arguing with her father who was accusing her of extra marital affairs. Helena explained that no one ever had time for her.

She also said that because she was fat she was mercilessly teased and bullied both at school and at home and had very few friends. She remembered being always the one to blame for everything.

She is currently into a relationship and described her partner as being physically abusive and emotionally unavailable. However, she explained that he has never been physically and/ or emotionally abusive towards her son. Helena also informed me of problems with social services in relation to her son and her parental role/care. Her son's father is not involved in his care and Helena is not in any contact with him.

Presenting problems

Helena referred to our service for the treatment of bulimia nervosa following referral from her local mental health services. On assessment, she gave me an account of her problem as well as what brought her now in therapy (i.e. not being able to cope anymore on her own and fear of losing care of her son if she will not get better).

Specifically, she described her main problem as frequent (5-6 times/week) *bingeing* and *self-induced vomiting*. She had used *laxatives* in the past as a means of weight control but had not used any the last few months.

She also described a history of *self-harming* (e.g. superficially cutting her arms) and explained that it was her way of coping and tolerating negative emotions. Self-destructive behaviours (such as eating disorders, sexual compulsivity and substance abuse) present on survivors of childhood sexual abuse often represent long-standing coping mechanisms in response to overwhelming affect (Bell, 2003; Draucker, 2000).

Helena explained that bingeing and vomiting was her way of immediate relief from emotional pain, a "comforting blanket" whereas self-harming was her punishment for being "bad" and "fat". She had not self-harmed the last few weeks but she shared that the "voices" were still there and at times of high distress were telling her to punish herself. Pervasive difficulties in regulating negative emotions and intentional self-injurious acts and suicide attempts are behavioural patterns frequently associated with the diagnosis of borderline personality disorder (Layden, Newman, Freeman & Morse, 1993; Linehan, 1993).

She shared how difficult it was to live with the bulimia. She explained how scared and tired she was and that she did not want to let it ruin her life any more. She recognized that her eating disorder did not allowed her to live; had *destroyed*

relationships, had *shattered* her *confidence*, had left her physically and emotionally 'weak' and at risk of losing care of her son. However, she also told me how the bulimia was the 'nurturing hug' she needed so much, the only 'friend' who was accepting her for who she was and a release of all the negative feelings that she was not allowed expressing.

She reported *intense feelings of anger* both towards *self* and *others*. She informed me of how angry she was with her father and her mother for not protecting her as a little child, how she hates them for her current suffering and for not understanding her problems but also how she hates herself for being 'fat' and 'bad'. Layden et al. (1993) suggest that patient with borderline features seem to cycle between an internal and external attribution style (on the one hand blaming themselves for being 'bad and on the other raging against all who are 'causing' their unhappiness).

She also reported suffering from *sleeping disturbances, poor concentration, fatigue and terrible mood swings* and *depression* most of the times. Research on the main psychopathological features of bulimia nervosa suggests that many features such as depressive and anxiety symptoms, social withdrawal and impaired concentration observed in bulimic patients may be regarded as a secondary psychological reaction to loss of control over eating (Fairburn & Cooper, 2000).

Finally, she explained that she hated how *emotionally dependent* she was to her partner at any cost and how she had no self-respect and individuality. She described feeling very *jealous* of him but also getting a buzz from sexually attracting others and how at times of self-hate and *need for affection* she used to have casual sex with strangers. Women with borderline problems have quite severe experiences and

problems such as sexual exploitation, dependency in relationships and identity problems (Bell, 2003).

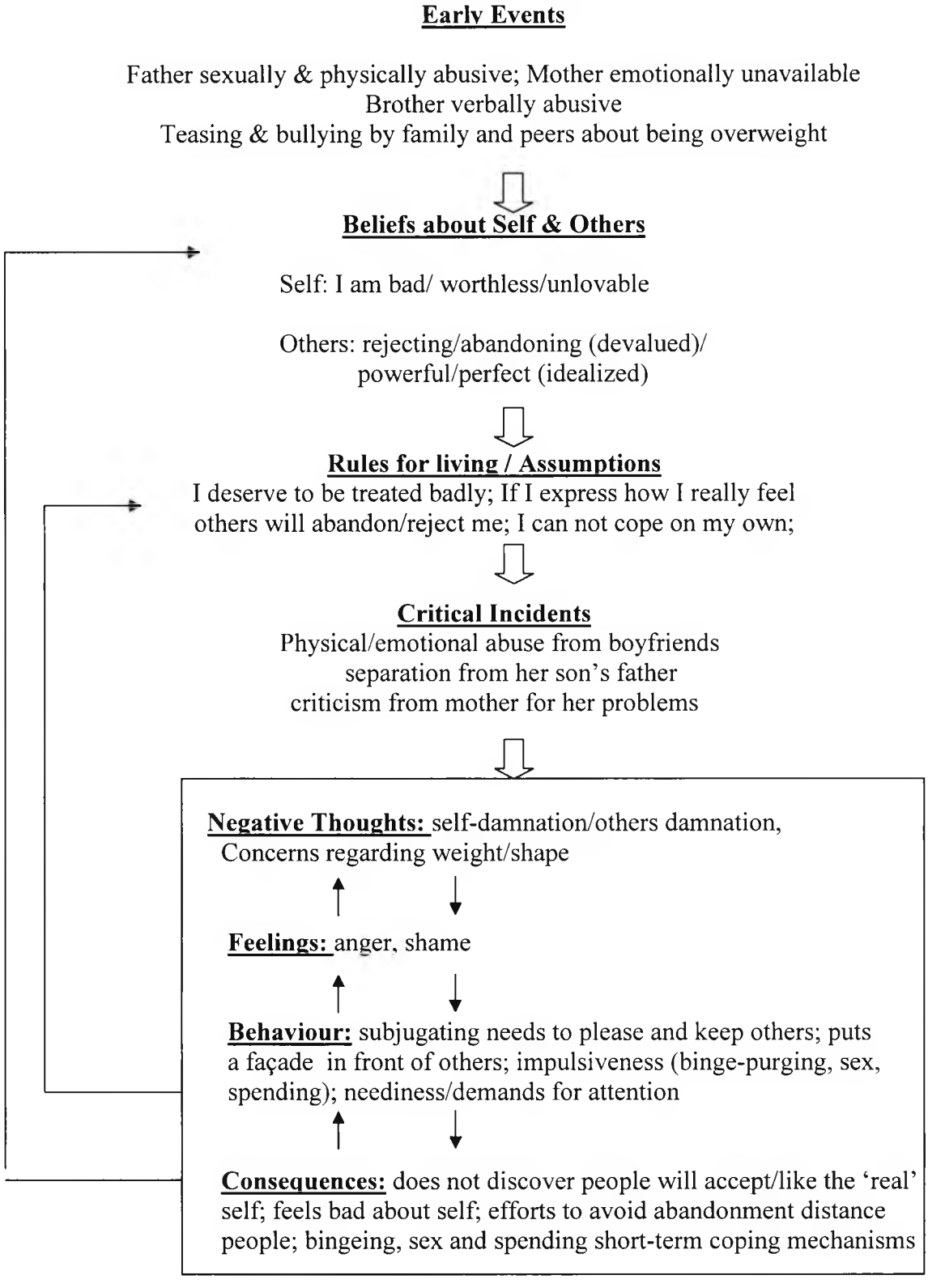
Formulation

Helena's presentation of her problems met DSM-IV-TR (2000) criteria for bulimia nervosa and borderline personality disorder. Her eating difficulties characterized by recurrent episodes of binge eating followed by inappropriate compensatory behaviors such as vomiting and laxatives abuse. In addition, central to her difficulties appeared to be a low self-esteem. Self-worth appeared to be based on acceptance and perfectionism as well as physical appearance characteristic of bulimic pathology (Simos, 2002).

In regards to other difficulties Helena appeared to experience intense and unstable interpersonal relationships characterized by devaluation and/or over idealization, impulsiveness (binge-eating, sex, spending), inappropriate intense anger, self-mutilating behaviour, identity disturbance (self-image) as well as frantic efforts to avoid abandonment (imagined or real) at all cost; all features of borderline symptomatology (Morse, 2002).

The initial formulation of Helena's problems follows Beck's (1976) model for the development and maintenance of emotional disorders and is shown in Figure 5.3.

Figure 5.3: Helena's initial formulation



It was hypothesized that Helena's sense of difference and low self worth, instigated by her early life experiences in her family such as physical and sexual abuse by her father, constant criticism and maternal emotional neglect and severe teasing at school for being overweight.

These events led to the formation of dysfunctional beliefs about self and others such as "I am bad/worthless/unlovable", "Others are rejecting/abandoning (devalued) or powerful/perfect (idealized) and assumptions such as "I deserve to be treated badly", "If I express how I really feel others will abandon/reject me", "love and affection can be attained only through sex" etc.

In the presence of appropriate circumstances such as situations where felt her sense of self scrutinized, these beliefs or assumptions were activated given rise to negative automatic thoughts such as "It is my fault", "I am bad" that in turn triggered negative affect, physiological symptoms and self-defeating behaviours (relieves tension through self-mutilation and bingeing-purging; subjugates own needs to maintain connection etc).

The above vicious cycle was maintaining her psychological difficulties as it was validating negative beliefs and assumptions and was preventing her from developing more adaptive ones (Jenkins & Fennell, 2004).

Specifically, her bulimic tendencies kept her isolated, reduced her potential for getting a job and hindered her parenting skills, all of which further increased her low self-esteem and self-hatred. In addition, her seductive behaviour towards men and her attempt to get love and affection through sex were successful in the short-term but in the long-term were only reinforcing un-lovability and abandonment as men were turned off by her neediness, inability to moderate affect and demands for constant attention.

5.6. Contract & Therapy Plan

From the very first moment the collaborative nature of cognitive behavioural therapy was explained (Kirk, 2000) and Helena was introduced to an agenda setting as well as to the aspect of the homeworks/tasks (Kirk, 2000). The course of therapy, following Bethlem & Maudsley's Hospital CBT treatment protocol (Schmidt & Treasure, 1993) for bulimia, was set to 20 sessions with 5 monthly follow-ups. The duration settled to last 50 minutes and both the role of supervision and confidentiality were explained. Our treatment goals were identified:

1) Foster motivation for change
2) Tolerate her emotional distress
3) Understand/challenge her self-destructive behaviours
4) Reduce bingeing and vomiting
5) Challenge negative thoughts and increase self worth

5.7. Lead into the Session

The transcript is taken from the ninth treatment session with the client. The aim of the session was to continue to provide an environment of safety and trust for Helena so as to be able to express her psychological distress and negative emotions as well as her unhealthy ways of coping (binge-vomiting).

From the previous sessions we had identified the double role that bulimia was playing in her life (friend-enemy), and we had introduced the role of thoughts, emotions, and behaviors to the maintenance of her problems. Because people were critical and judgmental toward her, she grew up being critical and judgmental to herself and others with no space for mistakes and expression of feelings. She had also

explained that hiding her feelings was making her angry towards herself and resentful.

In the last two treatment sessions before the one the transcript has been taken we had started separating feelings from facts (I am not what I feel), had set an eating plan to avoid triggers for binges and had started a cost-benefit analysis exercise for visiting her GP to discuss her medication. This helps the patient to consider the benefits of relinquishing the unhelpful belief or behaviour and accept a healthier alternative (Curwen, Palmer & Ruddell, 2000; Miller & Rollnick, 2002).

At the point that the transcript starts, I commenced by setting the agenda for the day, checking her eating and mood patterns and inviting her anxieties/concerns. Following that, Helena shared an incident in which she expressed her emotions and anger instead of suppressing them and we explore how she felt. I used the positive affect that the expression of her emotion had triggered, so as to increase her awareness that she has a repertoire of skills to tolerate pain other than binge and vomiting and foster hope and motivation that change is possible. At the end of the transcript Helena managed to acknowledge the impact of her negative thoughts into the maintenance of her emotional difficulties (Jenkins & Fennell, 2004).

After the transcript, the session continues with us identifying her all or nothing behaviour in relation to her non-compliance with the homework, the unfair comparisons between her self and other people and the consequences of thinking that way, and we concluded by creating positive affirmations about herself that she can use outside the sessions.

Thus, the *reasons* that I selected this part of the transcript is because it shows: a) the significance of a caring, supportive, collaborative and validating environment – motivational interviewing therapeutic style- in order to elicit information around the

client's experiences, including feelings and cognitions and establish the ground for change to occur especially for resistant patients; b) the difficulty of personality /eating disordered patients to tolerate and assertively express emotions; c) the importance of tape recording as a standard practice not only for the practitioner's professional development and better understanding of the therapeutic process but also for the client's personal development and understanding of their psychological distress (Dryden & Feltham, 1992). Helena in this session shared a different approach to her difficulties and we used the tape as something that she can use to remind herself alternative coping mechanisms to tolerate distress and express emotion without having to resort to binge and vomiting.

The format of the transcript is set up in such way that the commentary directly follows the counselling psychologist's or the client's comments and is printed in standard text format to differentiate from the transcript. Dialogues and comments are denoted with the following symbols, followed by a reference number: Client-Cl; Counselling Psychologist-CP; Commentary-CM.

5.8. Transcript and Commentary

CP1: *Ok. Would you like to tell me how your week was?*

Cl1: *Uhmm...*

CP2: *What are some of the things that you would like us to set for the agenda? Would you like us to discuss first about the week?*

Cl2: *Yeah, yeah. That would be good.*

CM 1-2: I am opening the session by asking my client about her week and also invite her to collaborative help me set our agenda. The use of structure and agenda setting is a very powerful tool in the treatment of bulimic/borderline personality disorder clients and a distinct feature of cognitive behavioural therapy (Morse, 2002). It is a convenient framework for monitoring progress, ensures that important material both from the client's and therapist's perspective are not left out and provides an opportunity for the client to prioritize their emotional turmoil and begin to make some progress in changing their behaviour (Curwen, Palmer & Rudell, 2003).

CP3: *See how your eating was as well as other aspects of your life?*

Cl3: *Yeah...*

CP4: *Ok. What else? Is it something else that you would like us to include?*

Cl4: *Uhmmm. Not really and I feel quite good today. So... it is something that I would like to tell you about that... emm ...that was not bad I think... and that's about it really.*

CM 3-4: Helena was treated from our service for her bulimia nervosa so important element of the agenda was monitoring of her eating patterns (bingeing-vomiting).

Monitoring is an effective tool in obtaining control over eating symptoms, identify and understand possible triggers and modify behaviours (Garner & Blanch, 2002).

By inviting her to include anything of concern or interest my aim was to make her feel that we were working together and I was not one more person in her life who was trying to impose to her what to do as her "significant others" did. Her initial response ("no, not really") was evidence that she had learnt to suppress her needs and not express her "wants". She felt safe though within the therapeutic relationship to start experimenting and claimed her time in the agenda and our session.

Working collaboratively with the patient is fundamental principle of motivational interviewing (Miller & Rollnick, 2002). Research supports that a more directive style from therapists with this patients group leads to higher drop-out rates and poorer outcome (Bell, 2003)

CP5: *Ok... Would you like us also to discuss... I don't know if you started your medication ... last week... we called Dr... (Name of GP)...*

Cl5: *Yeah...*

CP6: *...and you told me that you were, after our meeting ...on your way there to take the pills. Have you...?*

Cl6: *Yeah. I picked up the pills and I will explain about it...and I've taken two of them. I still got them and I am still gonna go on them...*

CM5/6: Another area of concern was her low mood we had agreed to contact her doctor and discuss with him the possibility to go back into anti-depressant medication. However, she was finding embarrassing and difficult to contact him and ask for an appointment. She was feeling that was a sign of weakness and that she was

giving in to her difficulties. In our previous session we had made a cost-benefit analysis about going back to medication and Helena had decided to call for an appointment. Decisional balance analysis is an important tool to help patient explore each side in some depth and resolve ambivalence (Miller & Rollnick, 2002). She had asked though to call the doctor during our session as she expressed worry that she would not do it otherwise. Therefore, I wanted to follow-up things.

CP7: *...so, I am writing to discuss about the ...*

CI7: *medication... good! Yeah.*

CP8: *Would you like us to discuss about certain difficulties as well?*

CI8: *Yeah, definitely...*

CM7/8: Her response before I had finished my sentence was evidence that she had been familiar to the therapeutic process. I felt that we were on that together. As Curwen, Palmer & Rudell (2003) & Miller & Rollnick (2002) support, establishment of a collaborative therapeutic relationship is essential to successful CBT and motivational interviewing therapy style and is analogous to preparing the ground from which good growth can take place. In addition, I wanted to bring the focus into our treatment plan and how certain difficulties were triggering bulimia and the vicious cycle of self-destruction and start to identify some coping strategies or alternatives.

CP9: *ok...Let's start then about your eating!*

CI9: *yeah. The eating wasn't that bad. I know that we had our plan umm...but unfortunately this time I found it too difficult... because I had my period this week...*

and I am... I have an extra hunger. It is very difficult to control it... is the only time that I cannot really control it....

CP10: *Uhmm...*

CL10: *So the eating plan went out of the window. But I manage to accept it as a fact that I am due on my period. It's a phase I am used to now and I know I'll get over it when my period comes so it's not the end of the world.*

CM9/10: Helena had difficulty to complete most of the tasks/ homework that we were setting in the session. Her fast speech and her tone of voice indicated that she was feeling defensive and had already an excuse to give of why she did not tried the task. However, I empathetically nodded to what she was trying to explain. I wanted to give her time to complete her account and make her feel respected and that she was being listened to (Bell, 2003; Egan, 2002). I did not want to fall into the "expert trap" and indicate that I was expecting what she was sharing (Miller & Rollnick, 2002) as this would have impacted into our rapport. MI framework suggests that assuming the 'expert role' enhances dissonance in the therapeutic relationship (Miller & Rollnick, 2002).

CP11: *Ok. So I am hearing that you are trying to see things more positive and try to do your best out of any...*

Cl11: *yeah...*

CP12: *... any problem that might pop in from time to time.*

Cl12: *that's right.*

CM 11/12: Despite the fact that she had not completed the task I tried to praise her for the positive stand that she tried to adopt. Another way of building rapport and

motivation for change with resistant patients is through compliments or statements of appreciation (Miller & Rollnick, 2002). Taking into account that in the past her difficulties were perceived as another proof of being a "failure" and were leading to self-punishment (binge-vomit), I wanted to bring into her awareness that she had started to look for positives and foster hope that change is possible (Miller & Rollnick, 2002).

Bell (2003) further postulates the importance of validating patients (i.e. by acknowledging that change may be difficult for them) when they have not carried out an agreed task and may be expect to be criticized. However, I could have also identified her non-compliance as a self-defeating behaviour and explore further how it was used to sabotage the process of change. As Wills & Sanders (2002) explain whether the homework done or not the results can be analysed in cognitive terms and tied to the formulation. It is important that the therapist validates the valid not the invalid (Bell, 2003).

CP13: *... and take it step by step so as to be able to go around it.*

Cl13: *yeah, that's right. I found... even though... I was picking up... feeling bad expecting... you know ... I said...this happens every month, I don't die at the end... of it and I handle it and I feel better when it goes away...*

CP14: *Uhmm...uhmmm*

Cl14: *so, you know, when I actually come on my period I know that it's just about time so, yeah, in that aspect I feel fine, I feel I have accepted I have a week more until I come on and I don't feel bad about that.*

CM13/14: At this point I was feeling that what Helena was sharing was of great importance. My verbal and non-verbal prompts intended to give her the space she needed to express her feelings and thoughts about her subjective experiences (Egan, 2002). I felt that her monologue was an attempt to understand her problems and how different she had experienced them as well as reassure herself, that she can "handle" it.

Empathic listening is considered to be the foundation on which clinical skilfulness in motivational interviewing is built (Miller & Rollnick, 2002). The attitude underlying this principle of empathy in MI is called 'acceptance'. Acceptance and respect builds a working therapeutic relationship and enhances the patient's self-esteem which further facilitates change (Miller & Rollnick, 2002).

On reflection, I could have reflected back that what in previous situations had made her feel unable to cope and overwhelmed (binge-vomit), it does go away (psycho-education). It may have been helpful to identify alternatives to cope with the distress that the bloating of her period was causing to her. Identify alternative behaviours is a self-control CBT technique that can help clients refrain from binge eating (Wilson, Fairburn, Agras, 1997).

CP15: *Ok! Also what you are doing is talking with yourself and saying that you have been there, you know how it is; you know what it is...*

Cl15: *Yeah...*

CM15: By that point the focus had shifted from the task thus, I postponed my intention to further elaborate on her non-compliance. I made a mental note so as to refer back to that later. On reflection, I am thinking if my cognitive biases (she will be upset and not turn up in our next session) about naming process had led me to collude

with Helena's avoidance to elaborate further into her non-compliance without being aware of it. She had communicated to me that when she was upset she was avoiding the situation. So, I am wondering if what I understood was "do not upset me I can not handle it".

However, by re-framing what she said my aim was to bring into her awareness that she used "positive self-talk" as a way to tolerate her anxieties and distress. Reframing is a method frequently used in MI to allow perceiving 'failure' in a way that encourages rather than blocks further change attempts (Miller & Rollnick, 2002). She was compassionate to her self, something that rarely develops in abusive and invalidating environments like the one that Helena grew up (Linehan, 1993). Cognitive behavioural (Curwen et al. 2003) and motivational interviewing principles (Miller & Rollnick; 2002) involve over-riding client's impaired perspectives by "imposing" awareness and acceptance that the client can not see or will not admit.

CP16: *...and it's something that as you mentioned you cannot die of...*

Cl16: *Yeah...*

CP17: *... it's something you can overcome...*

Cl17: *Yeah...*

CM 16/17: I used repetition deliberately to try to make this more real for her and make things more concrete. Additionally, I wanted to slow down the process and make her to think again what had been shared (Gilbert, 2000). On retrospect, I could have taken the opportunity to explore what effect (if any) thinking that way (positive) had on her behaviours and moods by using guided discovery and perhaps educate her once more about the link of thoughts, emotions and behaviours in the maintenance of

psychological distress (Hawton, Salkovskis, Kirk & Clark, 2000). However, her verbal and non-verbal probing was an indication that she was following me.

CP18: *...it needs patience and time.*

Cl18: *yeah, that's right, that's right...So... and a good thing that happened, I will just add quickly... and that's about really in the week...*

CP19: *Uhmmm...*

Cl19: *...a good thing that happened was...today... something happened this morning that made me feel really, really liberated...*

CM 18/19: By sharing with her that it needs "patience and time" I was trying to communicate and normalise to her that it is a long and difficult process and give to her reassurance. Normalisation helps to alleviate the distress that may surround clients' experiences of their presenting problem and /or the therapeutic progress (Curwen, et al. 2003).

Her response (that's right...that's right) and change of topic were implying that she had discovered something else and wanted to share it. The tone of her voice was indicating anticipation to express what ever she was trying to tell me as if had no time. My empathic nodding intended to show that I was listening and encouraging further her exploration. An empathic therapeutic style is one fundamental and defining characteristic of MI and it communicates to the patient the therapist desire to understand his or her perspectives (Miller & Rollnick, 2002).

CP20: *Uhmmm...*

Cl20: *it's weird ok, it's a little example. We were driving... to the station, my boyfriend drove me there, he took my little boy to school for me, everything was fine*

and then it was a guy in a car next to us and he was trying to, kind of, overtake my boyfriend... but to the point he really went into the car and my little boy was in the back and normally I am frightened and I say nothing and I get all panicking... until my boyfriend said "don't say anything" but this man was really in the wrong and this man was laughing like it was funny...

CP21: *uhmmm...*

CL21: *So we stopped to the traffic light... I rolled down the window...and I started having a go at him. Now, I've never done that in my life, I don't know where it came from but it was anger and it came out of me...I know that I may went a little bit too far... but you know ..."you nearly killed my child" and I really, really kind of went ahead... but I felt justified... because he laughed at me...and I felt really good after...I thought it was the first time I ever stuck up for my self in a situation like that instead of being nervous and I feel good about that...*

CM20/21: Helena's tone of voice as well as her body language (e.g. she had leaned forward) indicated that what she was describing to me was very important for her and my full attention was required. Thus, I continued my empathic listening by attending, nodding and maintaining eye contact; I was giving my client the time needed to express her self in an attempt to avoid falling in one of the six advocacy responses (i.e. being in a hurry) described in MI framework that Miller & Rollnick (2002) have highlighted could damage rapport and interfere with the patient's motivation for change.

Sometimes a perceived shortness of time leads the CBT/MI therapist to believe that forceful tactics (interrupting, directing the patient) are called for in order to get through which results in getting ahead of his/her patient's readiness (Miller &

Rollnick, 2002). Thus, at the time I avoided being directive since I wanted to make Helena feel that she was being listened to.

Helena was angry and had managed to express it, communicate something that she "had never done" in her life. She stuck up for herself and felt good. She had learnt from significant others in her life that expression of anger was unacceptable. Linehan (1993) has identified both the role of constant invalidation from significant others in the development of borderline personality disorder and the importance of validation as a skill in helping BPD patients.

For Helena inability to express anger was setting off further emotional reactions of shame and panic that were leading to binge, vomiting and self-harm. Linehan (1993) supports that "If communication of negative emotions is punished then a response of shame follows for experiencing the intense emotion in the first place and expressing it publicly in the second" (pp.72). The person learns to respond to her emotional reactions as her environment has modelled with criticism, punishment and shame (Linehan, 1993)

I felt that from her long monologue she wanted validation for expressing her anger. We had identified in previous sessions that a trigger to her bulimia was the suppression of her feelings and we had draw upon the significance of expressing her emotions. I sensed that she was "testing" the environment and me.

CP22: *Ok. Would you like us to spend a little bit of time discussing this because I am sensing for you it was something really big I can see that in your face. So was it really allowing yourself to express the emotion that was as liberating as you said to me?*

Cl22: *Yes, it was, it was... instead of kind of panicking and hiding and pushing it down and then really thinking about it all day, I managed to say "this is not acceptable, you have done a wrong to me and my little family and I am gonna speak out and I feel so good for it."*

CM 22: My opening statement was aiming to gently guide her to explore more what she had shared with me. I decided to start by acknowledging and validating the importance of her experience. As Freeman & Jackson (1998) suggest it is of extreme importance for the therapeutic process in cognitive-behavioural therapy with complex cases the therapist to validate and support the client's emotional experience. Teaching the patient to observe her emotions, providing opportunities for emotional expression and reflecting emotions are all very important strategies for the treatment of bulimic/borderline patients (Linehan, 1993). My question was aiming to identify, clarify and help her understand her emotional reaction. Helena also shared her unhealthy coping mechanisms of "hiding" and "pushing down" her emotions.

CP23: *How it felt afterwards, after you allowed the emotion to come out?*

Cl23: *I felt shaky, I did feel shaky, a little bit overwhelmed...but I felt really proud, really happy about, I could put a smile in my face, "yes I've done it, I stack up for myself" I felt more like an adult instead of a child.*

CM 23: My question was intended to further explore her emotional experiences of the situation she had just described and probe her to talk more about it. Her response came as a surprise to me. She started using the verb 'feel' and she looked like a child who just spoke her first words. It was the first time I heard her saying nice things

about her self (i.e. feeling happy, proud of herself, put a smile in my face). Self-esteem and self-efficacy are important for change to occur; a person needs to value self in order to be able to think about change (Miller & Rollnick, 2002). The CBT/MI practitioner needs to keep a delicate balance between raising self-esteem while at the same time developing discrepancy (gap between where a person is and where they want to be) and resolving ambivalence (Blake et al., 1997).

CP24: *Ok. So was it the emotion...that was liberating...as you said, that you allowed yourself to do it... ok... there was a feeling of being a little bit overwhelmed or a little bit shaky... but it was something good...*

Cl24: *Yes. I felt so good. I really did it...Wow...I am not as weak and frightened as I say to myself that I am... I am actually stronger than what I think because I did this...*

CP25: *So, it was' wow' then...*

Cl25: *It was 'wow'. It was 'wow'. And it still feels' wow'.*

CM 24/25: Following her pace, my summary was aiming to pull together the main points that she had shared and further validate her emotional response. As Linehan (1993) explains a form of validation comes when the therapist finds the wisdom, correctness or value in the individual's emotional, cognitive and behavioural responses. My verbal and non-verbal stand communicated a "well done" to Helena.

On retrospect, I could have spend more time to a significant piece of information that she gave me on CL23 that she felt more like an adult than a child. It was how she was feeling every time that she was experience negative affect. This gave me an insight of her own subjective experiences and helped me to add more to

missing parts of her formulation. Case formulation is a map to the individual's problems and their origins; a mean of structuring and focusing therapy (Wills & Sanders, 2002).

Further, the therapist's attempt to help patients describe wishes and desires associated with feelings considers being an important emotional validation strategy (Linehan, 1993). Therefore, it may have been helpful to share that with her and encourage insight and understanding of how much she desires to 'be' an adult and how this can be achieved (develop discrepancy) (Blake et al., 1997).

CP26: *Ok...this is what I am sensing as well...It is like allowing yourself also to see the positive...*

Cl26: *Yeah...*

CP27: *and give credit to what you are doing.*

Cl27: *Yeah. I am just saying "no, I am not going to be walked over by everyone all the time" and you know someone does something wrong I have the right to speak out about it and it worked and I didn't die of it...*

CM 26/27: At this point I am endorsing motivational interviewing principles (reflective listening and try to reframe her positivism). An important part of reflective listening is to encourage the client to feel they have resources (Miller & Rollnick, 2002). Linehan (1993) also highlights that a person could learn to tolerate a distressing situation or painful affect if only they could refrain from feeling 'bad' or ashamed about feeling painful emotions (i.e. anger) in the first place and this was what I was attempting to do with Helena.

In addition, by reflecting the importance of giving herself credit to what she was doing, I had in my mind her low self-esteem and how this was maintained by the lack of praise both from others in her environment but more importantly her own self. Her response was the alternative more balanced to her assumption "When I feel bad I do not have the right to express it" as it had happened all these years with her abuse from her father and brother.

On later analysis, I could have used this information to educate Helena. CBT model specifies the centrality of assumptions in the development and maintenance of psychological difficulties (Wills & Sanders, 2002). The identification of them is the first step towards change.

CP28: *Ok.*

Cl28: *And it's good.*

CP29 *Ok. Congratulations.*

Cl29: *Thank you.*

CM 28/29: Miller & Rollnick (2002) suggest that directly affirming and supporting the client during the therapeutic process is an important way to reinforce change and built the rapport. This can be done in the form of compliments or statements of appreciation and understanding. By giving her congratulations I was aiming to provide her with an encouraging and supporting environment (Linehan, 1993).

CP30: *it seems... it seems... I can feel it should have been very liberating because I can see a big smile in your face, and I can see a sense of relief for doing that.*

Cl30: *I do, I do.*

CP31: *What does it mean for... (name of the client).*

Cl31: *It means that...(name of the client) feels that she is not as scarred as she thinks she is. Actually, she is capable of doing things, things that seemed unreachable... maybe I am, I am stronger than I thought.*

CM30/31: I drew attention to her expression since it was the first time that I felt that Helena had this genuine smile in her face (not for pleasing me or others). It was not only her mind but also her body that was communicating her psychological state and I wanted to make her aware of that. Another important emotional validation strategy described by Linehan (1993) is the therapist's attempt to help patient to observe and describe facial and postural expressions that may be associated with feelings. My question on CP 31 met my expectation on CM 26/27, that is, to encourage the client to feel they have resources; an important CBT/MI clinical tool when working with resistant patients (Blake et al., 1997; Miller & Rollnick, 2002).

CP32: *So... are you seeing a strong aspect inside you...and you feel ready to fight things?*

Cl32: *Yeah...yeah...and it made me... feel so good. There is a part in me that is not frightened of everything anymore...and it felt great.*

CM 32: My reflection in the form of question was intended to assess her readiness and motivation for change and elicit change talk in a non threatening way to my client. Eliciting change talk is an important technique in MI for developing discrepancy (Miller & Rollnick, 2002). Two ways of eliciting change talk is a) by affirming and reinforcing the client for change talk and b) selectively reflecting back change talk that the patient has voiced (Miller & Rollnick, 2002). Her response made

me feel that despite her apprehensiveness she was still motivated and she was doing that by reminding to herself continuously how good it felt.

CP 33: *ok...then...do you feel happy to try to look also some of the difficulties that try to sabotage this positive part of you?*

CL33: *yeah...*

CP 34: *and see what we can do about it...sometimes thinking at a lot of things at once makes them look more overwhelming than they are...so what are some of the difficulties that put you back...and you told me are making things feel overwhelming?*

CL34: *I think what puts me back...is unfortunately, I am not blaming it on my self here but sometimes I can be own most enemy... and for example you know I will say to my self you are fat, you are fat, you are fat...*

CM 33/34: Valuing the client's pace (e.g. do you feel happy...) and continuously working on the therapeutic alliance is a necessary condition for cognitive behavioural therapy (Freeman & Simon, 1989). Following things up from CM 32, Miller & Rollnick (2002) explain that in eliciting change talk sometimes it is useful to have the client looking back in the past at times when problems were/are worse and emphasize the discrepancy with how things are at present and the possibility of life being better.

Thus, my plan was to return back to the aim of the agenda for the session (e.g. how difficulties trigger binges) and use the content of the last eight minutes as a continuing reminder of the reasons for commitment to change. On reflection, I could have shared this with Helena and made the transition smoother.

On CP 34, I was aiming to educate Helena about what Kirk (2000) suggests that is, clarifying between problems helps to reduce them to manageable proportions. However, I lost my concentration and I ended up repeating my question on CP33.

CP 35: *uhmmm...*

CL35: *and a friend may come over like a couple of days after and say "you look so thin"... and I am thinking...but I was just sitting all day saying to myself that I am a fat cow...and you know that is always going to be initiated by me...*

CM 35: Her responses both on Cl34/Cl35 were evidence that she had started thinking about the process. Acknowledgement of self-defeating mechanisms is vital for change to occur (Freeman & Simon, 1989).

CP 36: *uhmmm...*

CL36: *but I will stop questioning ...I am thinking that my mind has really brainwashed me...and has programmed me to feel sorry about myself...is my mind playing tricks on me...whereas before I could not see it. I am starting to question that now...and...I am starting to feel actually no it can not...be...and is not really reality...it is part of my illness...*

CM 36: An important aspect for the efficacy of cognitive behavioural therapy is accepting personal responsibility for emotional problems and the impact into a person's life. Helena started endorsing the idea that it is her mind that "plays tricks".

Therefore, she was opening the "door" for working around mechanisms that would help her to tolerate her emotional distress other than the ones she was endorsing. In the cycle of change that Prochaska & DiClement (1983) have proposed Helena started moving from contemplation (acceptance of problem) to determination (possibility for change) stage.

5.9. Summary & Evaluation

The following section aims to provide a reflective summary regarding the therapeutic process, *process summary* and a practitioner's *summary* regarding considerations for professional practice following the current process report.

Process Summary

The present process report is based on the ninth session of a cognitive behavioural therapy protocol for bulimia nervosa underpinned with motivational interviewing principles (Blake et al, 1997; Schmidt & Treasure, 1993, 1997). Examining the process of the session has been invaluable in enhancing my understanding of the bulimic/borderline symptomatology as well as the specialist knowledge necessary to be able to support this patient group in the best possible way.

Since the formation of rapport is of extreme importance for cognitive behaviour therapy to be effective and resistance to change is particularly high in patients with bulimic/borderline symptomatology, motivational interviewing philosophy was employed (Bell, 2003).

Expressing empathy, developing discrepancy, supporting self-efficacy and working collaboratively are some of the MI principles used so as to give my patient

the space to express aspects of her psychological distress (Miller & Rollnick, 2002) and increase her motivation for change.

The following MI strategies were involved: asking questions to aid self-reflection, exploration of goals (how the problem gets in the way), decisional balance (cost-benefit analysis) (CM5/6), reframing (CM15, 26/27), affirmations (CM11, 28/29) avoiding the expert role (CM9/10), avoiding advocacy responses (CM20/21), eliciting change talk (CM32, 33/34) and encourage self-efficacy (CM23) (Bell, 2003; Blake et al. 1997; Miller & Rollnick, 2002).

With respect to the cognitive behavioural model the principles and techniques used were: agenda setting (CM2), normalization (CM22) and validation of emotional reactions (CM11/12, 20/21, 22, 30/31) as well as psycho-education (CM33/34) (Curwen et al. 2003; Freeman & Jackson, 1998; Hawton et al. 2000; Linehan, 1993)

Helena was able to *express her anger* and feelings of unfairness outside the counselling room and we explored that incident so as to *increase her awareness* about her emotions and coping mechanisms (healthy and unhealthy) as well as to *foster hope and motivation* that change is possible. Agenda setting helped us to keep our session focused to our treatment plans but also due to its collaborative nature gave Helena the necessary space to express her experiences.

In retrospect, I acknowledge that at certain parts I could have proceeded differently. For example, in CP33 and CP34 I could have stayed more with what Helena was sharing instead of returning to the original aims of the agenda. It was the first time that she had expressed her anger and frustration and it would have been of great importance to help her identify any distorted cognitions regarding anger experience and expression and later challenge them.

Additionally, it might have been useful to educate her more about anger (CM16/17) and its experience and expression as well as to set up time in future sessions for behavioural experiments to test out predictions in regards to anger expression.

Further, it might have been beneficial to identify alternative behaviours to help Helena refrain from bingeing (CM13/14) and educate her further about the interplay of thoughts, emotions and behaviours (CM16/17) and/or about the role of assumptions (CM26/27) in the maintenance of her difficulties.

Finally, Wills and Sanders (2002) suggest it is beneficial if the therapist is aware of her/his schemata (CM15) which may interfere with her/his ability to either identify or work with particular client issues and actively use them in therapy.

Practitioner's Summary

A number of professional considerations need to be highlighted following the above process report.

In line with other cognitive behavioural principles of structuring therapy and collaboration, *audio recording of therapeutic sessions* is an important ingredient of cognitive behavioural therapy (Wills & Sanders, 2002). It can be an invaluable tool not only for the mental health practitioner but also for his/her patient. Helena was able to listen to the tape at times things were more difficult and remind herself more healthy alternative coping mechanisms.

Another important connotation involves the clinical verification of the *interplay of personality disorders (such as narcissistic and borderline), anger and bulimia nervosa* following theoretical and empirical support in Section A. Research suggests that over 90% of people with borderline problems report a traumatic

childhood in which they were either emotionally sexually and/or physically abused (Bell, 2003).

Anger is a normal response to abuse but many survivors of childhood sexual abuse have learnt that getting angry leads to more abuse or other punishment and therefore is necessary to suppress it (Schmidt & Treasure, 2001). Any threat of aversive and intolerable emotions activates escape/blocking behaviours (such as bingeing, self-harm, alcohol) (Waller & Kennerley, 2003). It is evident from the process report's client profile, formulation and transcript that Helena was deadening her angry feelings with food and other compulsive behaviours.

Further the current report highlights the complexity surrounding comorbit disorders (such as personality and addictions) and the *need for specialization* within our training (Hotelling, 2001) so as to avoid replicating the invalidation, rejection and abuse these patients have experienced from early caretakers (Bell, 2003). People with BPD often elicit negative responses from medical and mental health professionals but their problems need to be understood in the context of their experiences and limited repertoire for coping and seeking help (Bell, 2003) and this can only happen with appropriate training.

Finally, although the treatment offered to Helena was for her bulimic symptomatology her personality difficulties were interfering with the process of therapy. Research has also indicated that (Yates, Sieleni Reich & Brass, 1989) personality disorder co- morbidity may also affect the treatment outcome for bulimia nervosa. Despite the fact that an integrated approach (provided by multidisciplinary teams within the community mental health treatment programs) is arguably the best model of treatment (Miller & Rollnick 2002), a comprehensive review (Drake, Mercer-McFadden, Mueser, McHugo & Bond, 1998) of treatment outcomes revealed

that a non-integrated approach shows only a modest disadvantage over integrated approach and treatment programs continue to show a high drop-out rate (Bell, 2003).

Therefore, in order to ensure success in the treatment of concurrent disorders *ongoing research* on their genesis, maintenance and interplay is vital as well as comprehensive reviews of treatment outcomes regarding efficacy of the different therapeutic modalities available in the community. The current portfolio aims to take this argument a step further by discussing the effectiveness of psychological approaches for the treatment of BPD in Section D.

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SECTION D

CRITICAL LITERATURE REVIEW

Chapter 6

The effectiveness of psychological modalities in the treatment of Borderline Personality Disorder.

6.1. Introduction

Borderline personality disorder (BPD) is a significant health problem that has received little attention not only from researchers but also from the government and the public (Blum, Pfohl, John, Monahan & Black, 2002). However, with prevalence estimates of borderline personality disorder around 1-2% for the general population, 10% in outpatient population 20-25% in inpatient population and with suicide attempts among patients up to 75% from which a 10% eventually kill themselves (Kraus & Reynolds, 2001), the question that is raised for the professional mental health community is twofold: **Can we afford to ignore anymore the appropriate care of persons with BPD? If not, what are the therapeutic tools available and are they effective?**

The present critical literature review will attempt to answer the above questions within a systematic search of the current scientific data that is available for the effectiveness of psychological approaches in the treatment of borderline personality disorder.

Organization of the study

For the purpose of the organization of this review, the chapter has been separated into two parts. The first part (Part A) will provide a rationale for the present review, a theoretical overview regarding the phenomenology, epidemiology and clinical picture

of borderline personality disorder and will conclude with a summary of the different conceptual frameworks available for the treatment of borderline personality disorder.

In the second part (Part B) a review of the studies examining the effectiveness of psychological approaches to the treatment of BPD is presented and studies are critically examined. The review concludes with limitations of the review, treatment implications and suggestions for future research.

Part A

6.2. Rationale

Borderline personality disorder is a serious mental illness with high mortality rate, long course, and significant therapeutic difficulties (Meares, Stevenson, Comeford, 1999). Different psychotherapeutic perspectives: psychodynamic, cognitive-behavioural, interpersonal using individual or group techniques have been used for the treatment of BPD (National Personality Disorder Website, 2007a).

However, we are still to answer whether we have enough empirical evidence to verify the effectiveness of these treatment modalities and whether we can support that psychotherapy can be useful in the treatment of such a debilitating disorder as BPD (Maffei, 1997; National Personality Disorder Website, 2007a). This will be the aim of the current critical literature review. Such an investigation will be of great importance for two reasons.

1. Since the treatment of BPD has been characterized by frustrations and challenges for both patients and therapists (Paris, 2005; Vaillant, 1992), it may help to challenge attitudes as to the nature and therapeutic tools available for the treatment of the disorder in general psychiatric services and in primary care and thus, influence the focus of specialist service input.

2. Since it is evident that borderlines are high users of health care resources and in particular of psychiatric services and ambulance and emergency departments (Chiesa, Fonagy, Honagy, Drahorad, Harrison-Hall, 2002), review of effective treatment modalities may contribute to the substantial decrease in health care use costs in two ways: either through implementation of such modalities if proven empirically effective or through identifying scientific gaps and further need for research.

6.3. Borderline Personality: Diagnosis, Course and Co-morbidity

Diagnostic Picture

Patients with borderline personality disorder are characterized by significant impairments in tolerating affect, controlling impulses, and coping with feelings of aloneness. They almost always appear in a state of crisis, depressed and lonely, severely dependent, uncontrollably angry and impoverished in their self-identity (Kraus & Reynolds, 2001).

According to the DSM-IV-TR (American Psychiatric Association, 2000) for a borderline personality disorder diagnosis at least five from the following pervasive symptom patterns must be present: frantic efforts to avoid real or imaginal abandonment, recurrent suicidal behaviour, gestures or threats, impulsivity, unstable interpersonal relationships, identity disturbance, chronic feelings of emptiness, inappropriate anger, transient and stress-related paranoid ideation or severe dissociative symptoms.

The three cluster symptoms of BPD have been identified as identity disturbance, unstable relationships and affect and self destructive and impulsive behaviour (Kraus & Reynolds, 2001). The latter is for many clinicians the defining

feature of people with borderline personality disorder with suicide being the most obvious and lethal form (see Appendix Q).

Course

BPD becomes apparent in adolescence or early adult life and is most severe in the late teen years and early 20's (Blum et al., 2002). There is some evidence that the disorder tends to subside in middle age, with the majority of individuals attaining greater stability in their relationships and vocational functioning (American Psychiatric Association, 2000). Borderline personality disorder is diagnosed predominantly in females (75%) and the great majority of cases have suffered abuse or deprivation in childhood (Ryle & Golynkina, 2000).

Co-morbidity & Controversies

Patients with borderline personality frequently have substantial psychiatric comorbidity (Blum et al., 2002). Mood, anxiety and substance use disorders are the most frequent axis I disorders, particularly major depression.

One of the controversial issues in the treatment of people with BPD is that many psychiatrists and mental health professionals prefer to treat Axis I disorders and pay little attention to the recognition and treatment of accompanying borderline features (Paris, 2005; Ryle, 1997).

It is a disturbing fact that individuals with suicidal attempts often being recorded as *having no evidence of psychiatric illness* and the referral of borderline patients in psychotherapy services is discouraged often on the grounds of unsuitable training of therapists or supervisors (Paris, 2005; Ryle, 1997).

Despite the alarming increase in the prevalence of borderline personality disorder and the self-damaging acts or suicidal attempts frequently associated with BPD diagnosis such patients are often expensively but unsatisfactorily managed. Linehan (1993) supports that mental health practitioners often feel overwhelmed and inadequate due to the severity and intensity of borderline features, and the high resistance this patient group appears to have to the usual forms of psychological treatment.

6.4. Theoretical Overview of Therapeutic Modalities

- Cognitive-Behavioural Approach

One of the most recent challenges in cognitive therapy has been to develop an effective treatment approach for clinicians working with patients with BPD. As cognitive therapists began to move towards treating more chronic characterological disorders, some of the limitations of Beck's (Beck et al., 1979) earlier model of cognitive therapy become evident.

Three new treatment models have designed to expand upon Beck's original model and address the needs of patients with longstanding disorders such as BPD. The *dialectical behavioural therapy* which aims is to correct emotional dysregulation (Linehan, 1993), the *schema-focused approach* which aims to challenge early maladaptive schemas and extreme construing (Padesky, 1994; Young, 1994) and the *systems training for emotional predictability and problem solving approach* which combines cognitive-behavioural techniques and skills training within a systems component.

a) Dialectic Behavioural Therapy (DBT)

Linehan (1993) developed dialectical behavioural therapy as a comprehensive principle driven outpatient treatment program for individuals meeting criteria for borderline personality disorder. The theory supports that the central difficulties of a BPD patient are seen as deriving from a primary physiological difficulty in emotional regulation combined with a history of an invalidating environment (Scheel, 2000). It supports that skills acquisition and behavioural motivation are both essential for change.

The central principles in DBT focus on both acceptance and validation strategies to achieve a synthetic balance in client functioning (Bohus, Haaf, Simms, Limberger, Schmahl, Unckel, Lieb & Linehan, 2004; Verheul et al., 2003). The treatment includes contingency management procedures, skills training including mindfulness and coaching, behavioural analysis, as well as structure response protocols to suicidal and egregious behaviour (Bohus et al., 2004). In contrast with many behavioural approaches DBT places great emphasis on the therapeutic relationship (Linehan, 1993).

b) Schema-Focused Approach (SFT)

Young's schema focused approach offers an intervention model for the treatment of borderline personality disorder, which relies on early maladaptive schemas and mode concepts. According to this approach, the borderline disordered patient presents four dysfunctional modes: the Abandoned child mode, the Detached protector mode, the Punitive parent mode and the Angry child mode (Young, 1994).

The therapist must identify the presence of these modes and implement therapeutic strategies specific to each of them. There are four different kinds of strategies and are the following: interpersonal, experiential, cognitive and behavioural. The concepts of "empathic confrontation" and "limited re-parenting" ground therapists in a caring stand toward patient (Cousineau & Young, 1997; Young, 1994).

c) Systems Training for Emotional Predictability and Problem Solving

(STEPPS)

The STEPPS describes a new cognitive-behavioural systems-based group treatment for persons with borderline personality disorder (Blum et al., 2002). It is a modification of a program originally developed by Bartells and Crotty (1998) and described in their book *A Systems Approach to Treatment: The Borderline Personality Disorder Skill Training Manual.*

It combines cognitive-behavioural techniques and skills training with a systems component. The latter involves patients with BPD and persons in their system (e.g. family members, significant others, health care professionals). Underlying this approach is the assumption that the core deficit in BPD is with the person's internal ability to regulate emotional intensity. As a result the patient is periodically overwhelmed by abnormally intense emotional upheavals that drive him or her to seek relief. So he/she learns to see himself/herself as driven by the disorder to seek relief from a painful illness through desperate behaviours that are reinforced by negative and distorted thinking.

The system component allows others within the system to give patients a consistence response by reinforcing and supporting newly learned skills (Blum et al., 2002). The training involves three faces: replacing misconceptions about BPD with awareness of the behaviours and feelings defining the disorder, emotion management training and behaviour management training (Blum et al., 2002).

- Psychodynamic or Psychoanalytic Psychotherapy

The emphasis of dynamic therapies has been on the interaction of various conscious and unconscious mental or emotional processes involved in the patient's interpersonal difficulties, especially as they influence personality, behavior, and attitudes (Bateman, 2004).

However, similarly with other therapeutic modalities there is evident the need for modification, if the treatment of personality disorder is to be successful. Psychodynamic therapy is no exception. In the treatment of BPD there is no place for the analyst as a blank screen onto which patients project their internal fantasies (Bateman, 2004). In the case of borderline personality disorder, this has been approached with the careful manualization of *transference-focused psychotherapy (TFP), mentalization-based treatment (MBT)* and *interpersonal group psychotherapy (IPG)* (Bateman, 2004).

a) Transference-focused Psychotherapy (TFP)

TFP is a creative integration of drive theory and object relations theory based on Kernberg's (1984) clinical theorizing. The central principles rely on techniques of clarification, confrontation and interpretation within the evolving transference

relationship between the patient and the therapist. The major goal of TFP is increased affect regulation, better behavioural control and more gratifying relationships and is highly engaged (Clarkin et al, 2004). In contrast with other psychodynamic approaches, TFP focuses on the immediate interpretation of the defensive function of idealization, on the here and now and on the patients' aggression and hostility (Clarkin et al, 2004).

b) Mentalization-based Treatment (MBT)

MBT is specifically an integration of cognitive and psychoanalytic developmental theory and attachment theory (Bateman & Fonagy, 2004). Similarly with TFP, it focuses on affect and affect-related cognitions, emphasizes counter-transference awareness, considers relationship representations, and draws parallels between relationship patterns (Bateman, 2004). However, in contrast with TFP, externalisations (in the transference) are seeing as parts of the self and not as primarily relational (Bateman & Fonagy, 2004). In addition, MBT approaches affect dysregulation as a consequence of symbolic failure particularly associated with incongruent mirroring. Therefore the emphasis is placed on identifying feelings and understanding the immediate precipitant of emotional states within present circumstances (Bateman, 2004).

c) Interpersonal Group Psychotherapy (IPG)

Finally, interpersonal group psychotherapy (IPG) is also manualized (Marziali & Munroe-Blum, 1994) but, to some extent, borrows only tangentially from dynamic therapy. IPG attempts to address one of the central features of borderline personality disorder, which is a conflicted and poorly defined self-system.

- Cognitive Analytic Approach

Cognitive analytic therapy (CAT) originated in an integration of cognitive and psychoanalytic ideas in which a main influence was the use of repertory grid techniques (Kelly, 1995) to measure and describe change in the course of psychodynamic psychotherapy (Ryle, 1997).

The features of BPD, within CAT, are understood to reflect the partial dissociation of personality into a smaller number of 'self states' each characterized by mood, the extent of the access to and control of affect, and by a characteristic reciprocal role repertoire manifest in patterns of self-management and of interpersonal relationships (Ryle & Golynkina, 2000).

Psychotherapy involves the early collaboration of patient and therapist in the identification and characterization of self-states and switches between them (Ryle & Golynkina, 2000). According to Ryle (1997) developing awareness of dissociated self-states and offering a corrective therapeutic relationship enhance integration. Unique features of CAT such as the reformulation letter and a map like representation of the reciprocal role procedures enhance both self-reflection and self-cohesion (Ryle, 1997; Wildgoose, Clarke & Waller, 2001).

- Client-Centered Therapy (CCT)

The model of supportive treatment that has been more often used for the treatment of personality disorders is based on Carkhuff's (1969) models of client-centered therapy. The CCT focus on empathic understanding of the patient's sense of aloneness and on providing a supportive atmosphere for individuation (Turner, 2000). The therapist aids patients in using self-control and reflection to reduce stress. Conflicts and

defences are not confronted and the therapist role is highlighted as an advocate and supporter.

The treatment protocol is based on the establishment of a safe therapeutic environment and accurate empathic reflection so as to enable patients to deal with everyday stress and does not follow a structure agenda. It is based on four phases, which are: support during crisis, problem assessment, supportive treatment, termination (Turner, 2000).

Part B

6.5. Method

Sample of studies

Studies investigating the efficacy of psychological therapies in the treatment of borderline personality disorder were identified using computerized searches of key social scientific (Psych Info for the years 1970-2006) and medical databases (Medline for the years 1970-2006). The search used the keyword *borderline personality disorder* with keywords *intervention, treatment, outcome* and *effectiveness*. The review is limited to published studies, published past reviews and books in the area thereby excluding dissertations and unpublished presentations.

Criteria for inclusion

The review is confined to randomized (and not) controlled trials (RCTs) as lack of appropriate control groups in the designs or single-case designs do not allow for reasonable comparisons to be drawn in terms of the efficacy of psychological interventions.

In addition, the review includes studies that used standard diagnostic procedures for borderline personality disorder, standardization of therapeutic strategies and adequate outcome assessments and follow-ups.

Studies with specific populations such as inmates, veterans were excluded because of special considerations that are often necessary when working with those populations. This yielded a sample of *8 randomised controlled trials and 1 not randomised controlled trial.* Eight studies were excluded, as they were not meeting one or more of the inclusion criteria.

Population Characteristics

All 9 studies were written in English. 1 study conducted in Netherlands, 1 in Germany, 1 in Canada, 1 in Australia, 1 in Holland, 2 in U.K and 2 in the U.S.

Review Strategy

Studies are categorized according to the different treatment modalities that were employed and they are discussed in chronological order. To minimize possible confusion, the criteria examined (treatment modality and duration, therapeutic setting and treatment outcome on the basis of BPD symptoms, acts of self-harm, suicide attempts and cost-effectiveness) are accurately described in tables (Table 6.1.) and headings are used so that the boundaries of knowledge are clearly demarcated.

6.6. Review Analysis

The review reported below attempts to identify whether the therapeutic approaches available for the treatment of borderline personality disorder have been found to be

effective. The Table 6.1 (found in 6.7.) presents the evaluation characteristics and the psychological treatments used in the studies reviewed.

The number of randomised controlled studies of treatments for borderline personality disorder is unfortunately at present limited to two psychotherapeutic approaches. These are the psychodynamic psychotherapy and the cognitive behaviour therapy. One further study has examined the effect of psychodynamic in comparison with cognitive behaviour therapy.

Psychodynamic therapies

Psychodynamic therapy has been evaluated as a treatment for borderline personality disorder patients in a number of studies (Leichsenring & Leibing, 2003). In all studies presented in the current review psychodynamic therapy was time-limited and psychoanalysis was not applied. Research has shown that open-ended psychodynamic therapy has high drop out rates within a few months (Leichsenring & Leibing, 2003).

In the first controlled investigation of psychodynamic therapy, Munroe-Blum and Marziali (1995) randomised 110 patients to time limited interpersonal group treatment (IGP) for borderline personality disorder and individual dynamic psychotherapy (control condition). The study aimed to evaluate the outcome of an open-ended individual psychodynamic therapy compared to 30 sessions (25 weekly and 5 biweekly each scheduled for 1 ½ hours) of manualised interpersonal group psychotherapy.

Participants were assessed at inclusion to the study and at 6-, 12-, 18- and 24-follow-up on measures of social, demographic, and symptoms characteristics; and on behavioural indicators of functioning. Although both treatments showed significant improvements over time which were sustained at 18- and 24-months post baseline

follow-ups, the results suggested that there were no significant differences between the treatments with respect to the major outcome variables.

The superiority of one treatment over the other has not been supported in this study, suggesting that IGP as designed and applied in the study might not appropriately respond to the full nature and complexity of BPD. Further a number of methodological limitations need to be considered when drawing conclusions. A significant 28 % of participants withdrew at the point of randomization (large drop out rate), the study's sample size was relatively small (n=38) for generalizability and the blindness of assessors was unclear.

Finally, two more limitations include, lack of assessment measures around acts of self-harm and suicidal attempts and data on cost-effectiveness. Suicidality is considered to be one of the most significant aspects in treating borderline personality disorder whereas gains made during and after treatment are equally very important from a health care service perspective.

Psychodynamic psychotherapy for BPD patients was also examined in a study by Stevenson and Meares (1999). The authors compared the clinical outcome of 30 patients with borderline personality who had received outpatient psychotherapy for 1 year (Stevenson and Meares, 1992) with 30 patients who were subsequently referred to the clinic but for whom no treatment was immediately available.

The patients who received psychotherapy, were seen twice weekly for 1yr by trainee psychotherapists working according to clearly described therapeutic principles. The therapists received intensive audiotape supervision. The 30 patients for whom no therapist was available and who remained on the wait list control for a year received treatment as usual (outpatient therapy in the community). The outcome measure was a score derived from DSM criteria.

Patients who received psychotherapy were significantly improved in personality disorder scores, while untreated patients showed no change (Meares et al., 1999).

The results indicated significant improvements in number of episodes of self-harm and violence, length of hospital admissions, and other measures were observed in the 30 patients who completed therapy. At the end of treatment, 30% of patients no longer fulfilled criteria of BPD. Improvement was maintained over one year and continued over five years with substantial saving in health care costs (Meares et al., 1999).

Nevertheless, since entry into either the wait list or treatment group was not randomised, the less ill patients may have been taken into therapy and therefore enhancing the chances of improvement. However, the authors have suggested that the opposite is the case since the patients on the wait list showed lower levels of the disorder than the treatment group (Meares et al., 1999). Further, important to be noted is the fact that the outcomes do not inform us whether this particular therapeutic approach is more effective than others just that it is better than no treatment.

In another RCT of psychodynamic therapy for BPD, Bateman and Fonagy (2001) aimed to determine whether the substantial gains made by borderline patients following completion of a psychoanalytically oriented partial -hospitalisation program in comparison to patients receiving standard psychiatric care, were maintained over an 18 months follow up period as well as whether additional improvement occurred. The follow up study reports all 44 patients who participated in the original study of Bateman and Fonagy (1999).

The initial program consisted of group analytic therapy (mentalization-based therapy, MBT) twice a week (180hours over 18 months). In the current study an attempt was made to follow all patients for an additional 18months after completion

of the treatment phase. They were reviewed every 3 months and the outcome measures included frequency of suicide attempts and acts on self-harm, number and duration of inpatients admissions, self-reported measures of anxiety, depression, interpersonal functioning, general symptom of distress and social adjustment.

The results are very promising as there was significantly greater improvement on all outcome measures in those patients allocated to psychotherapy and the dropout rate for the study was low. Gains were maintained after a further 18 months, indicating that longer-term changes were stimulated during the treatment phase (Bateman & Fonagy, 2001). The treatment has also been found to be cost-effective (Bateman & Fonagy, 2003).

Although the study attempted to avoid methodological shortcomings, certain limitations need to be taken into consideration when interpreting the results. Firstly, only a small number of patients were involved in the study, with additional loss of power from participants' attrition, making it difficult to make generalizations. Secondly, the study is lacking treatment integrity measure and as a result it fails to identify the active ingredients of therapy and make specific clinical suggestions.

Finally, another factor that may have influenced the results is the amount of staff time used by patients (Bateman & Fonagy, 2001) as the treatment took place in an inpatient rather than an outpatient setting. Paris (2005) explains that the milieu of a day hospital has been found to account for some of the improvement observed in patients with severe and enduring mental health difficulties.

Despite a number of methodological flaws the above findings suggest that psychodynamically oriented therapies show some promising results in treating borderline personality disordered patients, given that it is well structured and does not

rely on unstructured therapy techniques used in the past such as free association (Paris, 2005).

Cognitive Behaviour Therapy

Linehan and her colleagues conducted two of the first clinical (RCTs) trials (Linehan, Armstrong, Suarez, Allmon & Heard, 1991; Linehan, 1993a) on the interpersonal effects of DBT, an adaptation of cognitive behaviour therapy. On the first study, Linehan et al. (1991) randomly assigned 44 parasuicidal BPD patients to DBT or to a treatment as usual (outpatient therapy in the community) control (TAU) group. Assessments were taken every 4 months for the 1-year of treatment whereas after treatment two assessments were conducted at 6-month intervals.

The results suggested that DBT participants were superior to the control group on measures of global functioning, social adjustment and work performance. In addition the DBT superiority was greater during the first 6 months of follow up on measures of parasuicidal behaviour and for reducing psychiatric inpatient days during the latter 6 months.

On the second study, Linehan, Tutek, Heard and Armstrong (1994) investigated the efficacy of DBT on interpersonal outcome variables. 26 BPD patients were randomly assigned to DBT or to a community treatment as usual control (TAU) group. The results indicated that DBT participants reported significant improvements in anger regulation and interpersonal functioning.

Although the effectiveness of DBT is well documented, its specificity remains to be determined (Paris, 2005). It should be mentioned that in the first study (Linehan et al., 1991) patients in the DBT group received free treatment whereas patients in the treatment as usual group did not. This might have contributed in the large drop out

rate observed in the TAU group and might have biased the outcomes. In addition, another methodological consideration is the small sample size that prevents generalizability as well as the gender bias in the sample (women only).

Paris (2005) has also argued that selection biases might have led to some of the superiority in effectiveness shown by DBT. Munroe-Blum and Marziali (1995), have further postulated that the comparison treatment in the above two studies was not monitored as to the type, intensity or comparable level of training of the therapists.

On a further attempt to support the effectiveness of outpatient DBT, Verheul et al. (2003) conducted a 12-month, randomised clinical trial in the Netherlands. Their aim was to compare the effectiveness of DBT (weekly individual therapy and weekly skills training groups lasting 2-2.5hrs) with treatment as usual (clinical management from psychiatric service with no more than 2 sessions/month from a psychologist) for BPD patients and to examine the impact of baseline severity on effectiveness. 58 female with BPD were randomly assigned to either 1-year of DBT or treatment as usual. The results suggested greater reduction on the DBT group in self-harm acts and impulsive behaviours as well as a substantially lower attrition rate than on the treatment as usual group.

Although, as a first step for the establishment of the efficacy of a treatment protocol comparison with treatment as usual recommended, one of the shortcomings is that does not allow any conclusion to be drawn for the effect of DBT in comparison with other manual based treatments. In addition, the authors (2003) suggest that the observed effect size of DBT might be different from the true effect size because of a number of factors that they further discussed in their study.

Further important shortcomings of the study are the small sample size of this study, the high drop out rate in the DBT and TAU group, the gender (women only) bias as well as lack of follow-up sessions to monitor long-term progress.

On a German study, Bohus et al. (2004) aimed to evaluate a three-month inpatient DBT treatment program prior to long-term outpatient therapy on clinical outcomes such as measures of psychopathology and frequency of self-mutilating acts. 50 females meeting criteria for BPD were randomly assigned to either a DBT inpatient program or treatment as usual in the community.

Participants were assessed on a variety of instruments to identify the number of parasuicide acts, improvement on emotion regulation and general indices of psychopathology pre- versus post treatment, at admission to the hospital and 1 month after discharge. The findings supported a significant decrease on the number of parasuicide acts on the DBT group of patients and significant improvements in ratings of anxiety, depression, dissociation and global stress between assessments.

Overall, the study was found to be significantly superior to non-specific outpatient treatment. However, the above does not inform us about the outcome of DBT when it is compared with other treatment modalities and does not take into consideration that improvements might be due to the nature and the characteristics of the setting (inpatient versus outpatient) rather than therapy per se (Paris, 2005). Also, the stability of the positive effects during follow up has to be proven.

Finally, only treatment completers were used in the data analyses thus, we can not rule out the possibility that individuals who would not benefit from DBT dropped out differentially. Bohus et al. (2004) have argued that intention to- treat analyses would have been superior.

The concepts of manualized CBT developed by Aaron Beck have been applied to BPD for years but only recently been subjected to clinical trials. Specifically, Davidson, Tyrer, Gumley, Tata, Norrie, Palmer, Millar, Drummond, Seivewright, Murray and Macaulay (2006) and Davidson, Norrie, Tyrer, Gumley, Tata, Murray and Palmer (2006) aimed to evaluate the efficacy of cognitive behaviour therapy (for personality disorders) in addition to treatment as usual (community based mental health services) (30 sessions lasting up to 1hr) in comparison to treatment as usual alone for BPD patients. 106 participants meeting diagnostic criteria for borderline personality disorder were randomly assigned either to CBT plus TAU or TAU.

Patients in both groups were followed up for two years from entry into the trial and were assessed on a variety of instruments to identify acts of deliberate self-harm, BPD symptoms, interpersonal problems, social functioning, quality of life and evaluation of resource use and cost. No significant differences were found between the two groups at either 12 months or 24 months follow up in all outcome measures. However, both groups did show reduced suicidal behaviour and a general improvement on psychiatric symptoms, interpersonal and social functioning and overall quality of life. The findings indicated that although CBT plus TAU appeared to be helpful to patients with BPD the degree of benefit should not be overstated (Davidson et al., 2006).

Moreover, the design, conduct, analysis and interpretation in this study were transparent, minimizing possible bias often observed in RCTs reporting. Further, to the study's advantage, the assessment and evaluation of therapists' competent, blinding, economic evaluation and overall quality of life measurements were some of the methodological considerations addressed that have not been previously

considered in studies regarding the effectiveness of therapy models in the treatment of personality disorders.

Nevertheless, the study does not allow any conclusion to be drawn for the effect of CBT in comparison with other manual based treatments and fail to rule out comorbid problems (such as depression, alcohol and drug abuse). Although on the whole patients did not drop out they attended sessions irregularly and in a rather chaotic fashion. This highlights that determining drop-out from active treatment varies from study to study as it depends on the definition of drop-out (Davidson et al., 2006).

Psychodynamic and Cognitive Behaviour Therapy Comparison Study

In the first and only to date (to the author's knowledge) comparison study between different treatment modalities Giesen-Bloo, van Dyck, Spinhoven, Tilburg, Dirksen, van Asselt, Kremers, Nadort and Arntz (2006) evaluated the effectiveness of an integrative cognitive therapy model, schema-focused therapy (SFT) and psychodynamically based transfer-focused psychotherapy (TFP) in patients with borderline personality disorder.

The therapy consisted of 50-minute sessions, twice a week (over three years) for both assessments and treatments were taken every 3 months for 3years by independent research assistants. 88 patients with BPD were randomly allocated to either SFT or TFP and the main outcome measures on which they were assessed involved BPD symptomatology, quality of life, general psychopathologic dysfunction and SFT/TFP concepts respectively.

The results concluded significant improvements on all measures for both treatments after the first, second and third year of treatment. SFT patients

demonstrated significantly greater improvement on BPD symptoms and quality of life measures in comparison to TFP patients as well as lower attrition rate. The above suggests that schema focused therapy is more effective than transference-focused psychotherapy. Schema therapy was also found to be less costly and to have a much lower drop out rate (Roberts, 2006).

In contrast to previous studies this is the first *three- year* controlled treatment efficacy study for BPD. An additional one year follow-up (after 3 years of treatment) evaluation has only recently been completed and will allow for cost-effectiveness of SFT and TFP conclusions to be drawn. Further, SFT and TFP models aim to achieve an overall personality change whereas DBT and MBT aim to reduce the self-destructive psychopathologic dysfunction of DBT (Giesen-Bloo et al., 2006).

Nevertheless, a number of methodological considerations need to be taken into account when interpreting the findings. A natural-course control group would have solidified the findings as Zanarini, Frankenburg, Henned and Silk (2003) have observed a symptomatic improvement in BPD phenomenology during a 6-year natural course follow-up among BPD patients. Additionally, as the study progressed, research assistants found out their patients' treatment allocation from patients comments about therapists and their experience of treatment. Finally, the study's psychiatrists were not per se masked to the patients' treatment allocation.

6.7. Discussion

Given the complexity and severity of BPD, it is astonishing that despite the fact that BPD has been approached from different psychotherapeutic perspectives (which were reviewed earlier in the paper) so little research has been conducted to empirically evaluate these treatments (National Personality Disorder Website, 2007a).

The disorder's chronicity and the inconsistent response to many forms of therapy that have appeared to be effective to other disorders, might have been two of the reasons that for years clinicians have been reluctant to make a BPD diagnosis and the area has been so under-researched (Paris, 2005).

However, avoiding a diagnosis of BPD did not make the clinical manifestations of the disorder go away. BPD patients kept on presenting to accident and emergency clinics (following self-mutilation and overdoses), hospital wards and mental health services (Paris, 2005).

However, the increasing recognition that the disorder has a far more benign course than previously believed and the emergence of new psychological interventions for the treatment of personality disorders might have both contributed to the increased research interest observed over the last decade in the treatment of BPD (Fonagy & Bateman, 2006). Following that, the findings of the present review suggest that the very few empirical studies that have been carried out to verify the effectiveness of the psychological treatments currently available in BPD management are promising and have shown that psychosocial treatments can be useful in BPD. The only two treatment modalities that have provided us with empirical evidence are manualized forms of psychodynamic psychotherapy (TFP, MBT) and advanced cognitive behavioural therapy (DBT, SFT).

The summary results (see Table 6.1.) across the empirical studies under review indicated that, borderline personality disorder patients shown a significant improvement on areas such as parasuicidal behaviour (frequency of suicide attempts and acts on self-harm), psychiatric hospitalisation (number and duration of inpatients admissions), drop-out rate and borderline personality disorder scores (Bateman and Fonagy, 2001; Bohus et al., 2004; Meares et al., 1999; Munroe-Blum and Marziali,

1995; Linehan, Armstrong, Suarez, Allmon & Heard, 1991; Linehan, Tutek, Heard & Armstrong, 1994; Verheul et al.; 2003). On all studies exploring the efficacy of DBT emotion regulation and interpersonal functioning on BPD patients were shown to have significantly improved.

On those studies that follow-up data was available it was found that improvement was maintained after the completion of treatment. In addition, in seven studies (Bateman and Fonagy, 2001; Bohus et al., 2004; Meares et al., 1999; Linehan, Armstrong, Suarez, Allmon & Heard, 1991; Verheul et al., 2003) out of nine, the data supported that the treatments were cost-effective and had contributed to substantial saving in health care costs.

One recommendation that is clear from our review is that the manualised forms of psychodynamic psychotherapy (such as *transference-focused psychotherapy*, *mentalization-based treatment* and *interpersonal group psychotherapy)* and cognitive-behavioural therapy (such as *dialectical behavioural therapy* and *schema focused therapy)*, are gaining credibility in the management and treatment of borderline personality disordered patients but yet are from establishing a clear picture about treatment effectiveness. The findings of the studies under review though promising are constrained to a number of methodological shortcomings which an obstacle to their generalizability.

Table 6.1.

Controlled treatment outcome studies for borderline personality disorder included in review: selected evaluation characteristics.

Author/s (date)	Participants	N	Treatment Modality	Treatment Duration	Setting	Treatment Efficacy
1. Munroe-Blum and Marziali (1995)	BPD patients	110	Indiv.dynamic vs. Inter. Group	30 sessions	Outpatient	BPD Symptoms ↓ Acts of self-harm o Cost-effectiveness o
2. Meares et al. (1992, 1999)	BPD patients	30	Indiv.dynamic vs. TAU	1-Year	Outpatient	BPD Symptoms ↓ Acts of self-harm ↓ Cost-effectiveness↑
3. Bateman and Fonagy (1999, 2001)	BPD patients	44	Group Psychoanalytic	18 months	Inpatient	BPD Symptoms ↓ Acts of self-harm↓ Cost-effectiveness↑
4. Linehan et al. (1991)	BPD patients	44	DBT vs. TAU	1-Year	Outpatient	BPD Symptoms ↓ Acts of self-harm ↓ Cost-effectiveness↑
5. Linehan et al. (1994)	BPD patients	26	DBT vs. TAU	1-Year	Outpatient	BPD Symptoms ↓ Acts of self-harm ↓ Cost-effectiveness↑

Author/s (date)	Participants	N	Treatment Modality	Treatment Duration	Setting	Treatment Efficacy
6. Verheul et al. (2003)	BPD patients	58	DBT vs. TAU	12 months	Outpatient	BPD Symptoms ↓ Acts of self-harm ↓ Cost-effectiveness ↑
7. Bohus et al. (2004)	BPD patients	50	DBT vs. TAU	3 months	Inpatient	BPD Symptoms ↓ Acts of self-harm ↓ Cost-effectiveness ↑
8. Davidson et al. (2006)	BPD patients	106	CBT (+TAU) vs. TAU	12 months	Outpatient	BPD Symptoms ↓ Acts of self-harm ↓ Cost-effectiveness ↑
9. Giesen-Bloo et al. (2006)	BPD patients	88	SFT vs. TFT	3-years	Outpatient	BPD Symptoms ↓ Acts of self-harm ↓ Cost-effectiveness ↑

Note: BPD: Borderline Personality Disorder
DBT: Dialectical Behaviour Therapy
TAU: Treatment as Usual
SFT: Schema-Focused Therapy
TFT: Transference-Focused Therapy
O: no evidence to draw conclusion
↓: decrease on the measure
↑: increase on the measure

Methodological Considerations

Although efforts were made in the reviewed studies to avoid methodological shortcomings, much of the research is still methodologically flawed.

One of the most important methodological consideration is that in almost all of the studies under review, the study group size was small with an additional loss of power to some of the studies from attrition of participants (Bateman & Fonagy, 2001; Bohus et al., 2004; Meares et al., 1999; Linehan, et al., 1991; Verheul et al., 2003) making difficult to generalize conclusions.

A large percentage of the studies on the efficacy of DBT included in this review were conducted by the same research teams; thus the results may be biased in favour of the particular therapy or methods used by the teams (Scheel, 2000). As far as it concern the studies evaluating the psychodynamic modality each one of them used a different manualised form of the approach which makes the conclusions to be drawn about the efficacy of the approach narrower. In addition, the absence of a 2-, 3-, and 5 year follow up data on patients with a disorder that by definition is enduring and persistent is of major concern (Westen, 2000).

Another concern is generalizability to community populations seeking treatment. Patients not referred to a study, dropping out or refusing to join may differ in some significant way from patients admitted to and continued the treatment (Perry, Bannon & Ianni, 1999). This may be particularly problematic when especially considering the results from very few studies (i.e. selection bias). Additionally, the majority of the research has been conducted mainly on western countries/ populations. Therefore,

findings from the studies under review may not be generalizable across cultures and populations.

All studies employed quantitative designs. Consequently, much of the depth of information regarding patients' beliefs about the therapeutic process and their experiences is lost. The studies under review are also limited in that, in the majority of the cases, the therapeutic modality under investigation was compared with 'treatment as usual' or with a naturalistic waiting list (Verheul et al., 2003).

Despite the fact that this has been suggested to be the first step in establishing the effectiveness of a treatment protocol, it does not allow any conclusion about the efficacy of treatment under investigation relative to other manual-based treatment programmes (Scheel, 2000; Verheul et al., 2003; Westen, 2000).

Finally, much of the literature reviewed here supports that improvement seems to occur with different methods rooted in different theories. Nevertheless, in all of the studies the most important issue that remains unresolved is that aspects such as the specificity of the therapeutic action, the real dimensions on which the therapeutic action acts and the micro-processes of changing are yet to be determined, so as specific clinical recommendations to be drawn (Maffei, 1997).

Future Research

By definition, borderline personality disorder is a severe and pervasive personality disorder with serious suicidal risk, high hospitalisation rates, high prevalence and low treatment compliance (Linehan, 2000). The clinical presentation of BPD patients suggests that we cannot afford to ignore anymore the appropriate care of the individuals

diagnosed as suffering from this persistent personality disorder. The above presented findings have clear implications for future research.

Despite the fact that a number of different therapeutic approaches have been introduced over the last decade and have become popular and highly visible there have been *no controlled outcome evaluations* of treatments such as cognitive analytic approach, systems training for emotional predictability and problem solving an/or client-centered therapy to empirically evaluate their effectiveness for the treatment of borderline psychopathology.

Additionally, although findings from Giesen-Bloo et al. (2006) support SFT as valid evidence-based practice straightforward conclusions cannot be made on the basis of only one study. More investigations are necessary to replicate and solidify current findings (i.e. comparisons of SFT/TFT with other specific treatment modalities such as DBT and MBT, treatment as usual and a natural-course control group). Also research has to move beyond short-term studies and examine long-term effects as such studies are noticeably absent from the psychiatric and psychological literature (Paris, 2005).

Further, in the view of the major costs to the individual, society and health services that the BPD patient represents, the cost-effectiveness of the treatment approaches under review should be further evaluated and all of the treatment models should be a focus of urgent scientific inquiry (Roth & Fonagy, 1996; NICE, 2006).

Future research should focus on randomised trials on all of the widely applied treatments presented earlier in this review as well as subsequent empirical studies to the ones under review with the aim to equip clinicians with the necessary tools to respond to the needs of this difficult to treat client population. Knowledge about the mechanisms

underlying the therapeutic modalities under consideration might enable therapists to better direct the focus in treatment (Verheul et al., 2003).

Treatment implications

> "For the practising clinician, today's treatment decisions cannot await tomorrow's research conclusions (Scheel, 2000, p.81)"

So where are we going from here? For the therapeutic perspectives that have not provided us with any empirical evidence of their effectiveness for the treatment of borderline personality disorder the practising clinician should approach them with scientific caution. The American Psychological Association (2000) practice guideline does not recommend a specific type of psychotherapy, but cites the two types of psychotherapy that have been demonstrated to be beneficial, using a randomized controlled design: dialectical behavior therapy (DBT) and psychodynamic psychotherapy (Bateman and Fonagy, 2001; Oldham, 2004).

Therefore, for these two approaches that have been under the scope of scientific evaluation, the mental health professional should weigh the empirical support and limitations presented (Scheel, 2000). The weighting of these factors should also take into consideration the particular clientele, practice settings and training backgrounds (Scheel, 2000).

Specifically, conducting theoretically grounded DBT, SFT or psychodynamic therapy for the borderline personality disorder patient should take place only under the consultation and continuous supervision (Scheel, 2000). The National Personality Disorder Programme in UK also highlights the importance of all mental health

professionals working with personality disorders have appropriate training and attitudes, values for offering competent treatment (National Personality Disorder Website, 2007a).

In England and Wales, the National Institute for Health and Clinical Excellence [NICE] has commissioned the National Collaborating Centre for Mental health to develop a clinical guideline on borderline personality disorder for use in the NHS by the end of the year 2007. The clinical guideline will provide recommendations for good practice that are based on the best available evidence of clinical and cost effectiveness. Among the areas that will be covered by the guideline are: early identification of BPD in adults, treatment pathways, the full range of care routinely available by the NHS as well as all common psychological interventions (i.e. psychotherapy and CBT) currently employed in the NHS (National Personality Disorder Website, 2007b).

Therefore, scientific validation of the approaches discussed in this review may further result at changes in attitudes as to the nature of the disorder in general psychiatric settings and in primary care which will consequently influence service input. It is possible that general psychiatrists consider borderline personality disorder unresponsive to psychological treatment and consequently may be reluctant to invest resources for BPD patients (Chiesa et al., 2002). As a result, studies supporting the effectiveness of psychological approaches to the treatment of borderline personality will have significant implications for the care and management of such distressed population.

6.8. Conclusion

Borderline personality disorder (BPD) has been approached from different therapeutic perspective the last few years. Nevertheless, only few empirical studies have been carried out to verify the effectiveness of these treatments. Despite the fact that the empirical findings available to us look rather promising, their generalizability is limited due to a number of methodological constraints. Given the complexity and severity of the disorder, clinicians from all the current treatment practices need to become more alert to the insufficiency of empirical data. More research is necessary to confirm and extend the findings presented in the review as well as to help us to further understand this troubling and under-researched area of clinical practice.

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APPENDICES

Appendix A

O'Brien Multiphasic Narcissism Inventory (OMNI)

OMNI

INSTRUCTIONS: Please delete YES or NO as appropriate.

1.	Do your friends all come from the same mould?.....	YES	NO
2.	Do you crave attention from others?.....	YES	NO
3.	Are you jealous of good-looking people?.....	YES	NO
4.	Do you tend to feel humiliated when criticized?.....	YES	NO
5.	Is it important for you to know how other people spend their time?.....	YES	NO
6.	Do you usually find it hard to settle down?	YES	NO
7.	Would you rather give a gift than receive one?.....	YES	NO
8.	Do you find yourself fantasizing about your greatness?.....	YES	NO
9.	Do you think that sexual intercourse is clean?.....	YES	NO
10.	Do your views of people change back and forth easily?.....	YES	NO
11.	Is seduction the best part of your sex life?.....	YES	NO
12.	Do people love you for the way you improve their lives?.....	YES	NO
13.	Do you worry a lot about your health?.....	YES	NO
14.	Do you pay a lot of attention to the financial matters of others?.....	YES	NO
15.	Do you expect people who love you to spend lots of money to show it?.....	YES	NO
16.	Do you tend to be secretive about your personal life?.....	YES	NO
17.	Do you wonder why people aren't more appreciative of your goodness?.....	YES	NO
18.	Will your experiences greatly guide others?.....	YES	NO
19.	Does your life deserve special recognition?.....	YES	NO
20.	Are you a perfectionist?.....	YES	NO
21.	Do you tend to see people as being either great or terrible?.....	YES	NO
22.	Do you know how to solve other people's problems?.....	YES	NO
23.	If you're tough on others, is it "for their own good"?.....	YES	NO
24.	Do you avoid telling people "what it's all about"?.....	YES	NO
25.	Do you have a tendency to over-react?.....	YES	NO
26.	Do you have fantasies about being violent without knowing why?.....	YES	NO
27.	Do you tend to get angered by others?.....	YES	NO
28.	Do you appreciate people who "march to the beat of a different drummer"?.....	YES	NO
29.	Are you especially sensitive to success and failure?.....	YES	NO

30. Are you clever enough to fool most people?..... YES NO

31. Do you try to avoid dramatizing your feelings?..... YES NO

32. Do you think that movie stars have better lives than you?..... YES NO

33. Do you have problems that nobody else seems to understand?..... YES NO

34. Do you find it easy to relax in a group?..... YES NO

35. Would you rather try to please others than to have your own way?..... YES NO

36. Do you try to avoid rejection at all costs?..... YES NO

37. Do you think that going through life is like walking a tightrope?..... YES NO

38. Do you tend to feel like a martyr?..... YES NO

39. Do you find it easier to empathize with your own misfortunes than with those of others?..... YES NO

40. When confused, do you think of your mother's wishes to help you to resolve your conflicts? ... YES NO

41. Would your secretive acts horrify your friends?..... YES NO

Adapted from OMNI, O'Brien (1987)

Appendix B

State-Trait Anger Expression Inventory-2 (STAXI)

STAXI-2™

Item Booklet (Form HS)

Instructions

In addition to this Item Booklet you should have a STAXI-2 Rating Sheet. Before beginning, enter your name, gender, and age; today's date; years of education completed, your marital status, and your occupation in the spaces provided at the top of the STAXI-2 Rating Sheet.

This booklet is divided into three Parts. Each Part contains a number of statements that people use to describe their feelings and behavior. Please note that each Part has *different* directions. Carefully read the directions for each Part before recording your responses on the Rating Sheet.

There are no right or wrong answers. In responding to each statement, give the answer that describes you best. DO NOT ERASE! If you need to change your answer, mark an "X" through the incorrect response and then fill in the correct one.

Examples

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Part 1 Directions

A number of statements that people use to describe themselves are given below. Read each statement and then blacken the appropriate circle on the Rating Sheet to indicate how you feel *right now*. There are no right or wrong answers. Do not spend too much time on any one statement. Mark the answer that *best* describes your *present feelings*.

Fill in ① for *Not at all*	Fill in ② for *Somewhat*	Fill in ③ for *Moderately so*	Fill in ④ for *Very much so*

How I Feel Right Now

1. I am furious
2. I feel irritated
3. I feel angry
4. I feel like yelling at somebody
5. I feel like breaking things
6. I am mad
7. I feel like banging on the table
8. I feel like hitting someone
9. I feel like swearing
10. I feel annoyed
11. I feel like kicking somebody
12. I feel like cursing out loud
13. I feel like screaming
14. I feel like pounding somebody
15. I feel like shouting out loud

Part 2 Directions

Read each of the following statements that people have used to describe themselves, and then blacken the appropriate circle to indicate how you *generally* feel or react. There are no right or wrong answers. Do not spend too much time on any one statement. Mark the answer that *best* describes how you *generally* feel or react.

Fill in ① for *Almost never*	Fill in ② for *Sometimes*	Fill in ③ for *Often*	Fill in ④ for *Almost always*

How I Generally Feel

16. I am quick tempered
17. I have a fiery temper
18. I am a hotheaded person
19. I get angry when I'm slowed down by others' mistakes
20. I feel annoyed when I am not given recognition for doing good work
21. I fly off the handle
22. When I get mad, I say nasty things
23. It makes me furious when I am criticized in front of others
24. When I get frustrated, I feel like hitting someone
25. I feel infuriated when I do a good job and get a poor evaluation

Part 3 Directions

Everyone feels angry or furious from time to time, but people differ in the ways that they react when they are angry. A number of statements are listed below which people use to describe their reactions when they feel *angry* or *furious*. Read each statement and then blacken the appropriate circle to indicate how *often* you *generally* react or behave in the manner described when you are feeling angry or furious. There are no right or wrong answers. Do not spend too much time on any one statement.

Fill in ① for *Almost never*	Fill in ② for *Sometimes*	Fill in ③ for *Often*	Fill in ④ for *Almost always*

How I Generally React or Behave When Angry or Furious...

26. I control my temper
27. I express my anger
28. I take a deep breath and relax
29. I keep things in
30. I am patient with others
31. If someone annoys me, I'm apt to tell him or her how I feel
32. I try to calm myself as soon as possible
33. I pout or sulk
34. I control my urge to express my angry feelings
35. I lose my temper
36. I try to simmer down
37. I withdraw from people
38. I keep my cool
39. I make sarcastic remarks to others
40. I try to soothe my angry feelings
41. I boil inside, but I don't show it
42. I control my behavior
43. I do things like slam doors
44. I endeavor to become calm again
45. I tend to harbor grudges that I don't tell anyone about
46. I can stop myself from losing my temper
47. I argue with others
48. I reduce my anger as soon as possible
49. I am secretly quite critical of others
50. I try to be tolerant and understanding
51. I strike out at whatever infuriates me
52. I do something relaxing to calm down
53. I am angrier than I am willing to admit
54. I control my angry feelings
55. I say nasty things
56. I try to relax
57. I'm irritated a great deal more than people are aware of

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STAXI-2 Rating Sheet (Form HS)

Name/ID No. _____ Gender: F ☐ M ☐ Age _____ Today's Date ___/___/___

Education _____ Marital Status _____ Occupation _____

PART 1

① = Not at all ② = Somewhat ③ = Moderately so ④ = Very much so

How I Feel Right Now

1.	①	②	③	④
2.	①	②	③	④
3.	①	②	③	④
4.	①	②	③	④
5.	①	②	③	④
6.	①	②	③	④
7.	①	②	③	④
8.	①	②	③	④
9.	①	②	③	④
10.	①	②	③	④
11.	①	②	③	④
12.	①	②	③	④
13.	①	②	③	④
14.	①	②	③	④
15.	①	②	③	④

PART 2

① = Almost never ② = Sometimes ③ = Often ④ = Almost always

How I Generally Feel

16.	①	②	③	④
17.	①	②	③	④
18.	①	②	③	④
19.	①	②	③	④
20.	①	②	③	④
21.	①	②	③	④
22.	①	②	③	④
23.	①	②	③	④
24.	①	②	③	④
25.	①	②	③	④

PART 3

① = Almost never ② = Sometimes ③ = Often ④ = Almost always

How I Generally React When Angry or Furious

26.	①	②	③	④
27.	①	②	③	④
28.	①	②	③	④
29.	①	②	③	④
30.	①	②	③	④
31.	①	②	③	④
32.	①	②	③	④
33.	①	②	③	④
34.	①	②	③	④
35.	①	②	③	④
36.	①	②	③	④
37.	①	②	③	④
38.	①	②	③	④
39.	①	②	③	④
40.	①	②	③	④
41.	①	②	③	④
42.	①	②	③	④
43.	①	②	③	④
44.	①	②	③	④
45.	①	②	③	④
46.	①	②	③	④
47.	①	②	③	④
48.	①	②	③	④
49.	①	②	③	④
50.	①	②	③	④
51.	①	②	③	④
52.	①	②	③	④
53.	①	②	③	④
54.	①	②	③	④
55.	①	②	③	④
56.	①	②	③	④
57.	①	②	③	④

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STAXI-2 Rating Sheet (Form HS)

Name/ID No. _____ Gender: F ☐ M ☐ Age _____ Today's Date ___/___/___

Education _____ Marital Status _____ Occupation _____

PART 1

How I Feel Right Now

S-Ang/F	1.	①	②	③	④
S-Ang/F	2.	①	②	③	④
S-Ang/F	3.	①	②	③	④
S-Ang/V	4.	①	②	③	④
S-Ang/P	5.	①	②	③	④
S-Ang/F	6.	①	②	③	④
S-Ang/P	7.	①	②	③	④
S-Ang/P	8.	①	②	③	④
S-Ang/V	9.	①	②	③	④
S-Ang/F	10.	①	②	③	④
S-Ang/P	11.	①	②	③	④
S-Ang/V	12.	①	②	③	④
S-Ang/V	13.	①	②	③	④
S-Ang/P	14.	①	②	③	④
S-Ang/V	15.	①	②	③	④

		Total
S-Ang:	Sum Items 1-15 =	
S-Ang/F:	Sum Items 1, 2, 3, 6, 10 =	
S-Ang/V:	Sum Items 4, 9, 12, 13, 15 =	
S-Ang/P:	Sum Items 5, 7, 8, 11, 14 =	

PART 2

How I Generally Feel

T-Ang/T	16.	①	②	③	④
T-Ang/T	17.	①	②	③	④
T-Ang/T	18.	①	②	③	④
T-Ang/R	19.	①	②	③	④
T-Ang/R	20.	①	②	③	④
T-Ang/T	21.	①	②	③	④
	22.	①	②	③	④
T-Ang/R	23.	①	②	③	④
	24.	①	②	③	④
T-Ang/R	25.	①	②	③	④

		Total
T-Ang:	Sum Items 16-25 =	
T-Ang/T:	Sum Items 16, 17, 18, 21 =	
T-Ang/R:	Sum Items 19, 20, 23, 25 =	

PART 3

How I Generally React When Angry or Furious

AC-O	26.	①	②	③	④
AX-O	27.	①	②	③	④
AC-I	28.	①	②	③	④
AX-I	29.	①	②	③	④
AC-O	30.	①	②	③	④
AX-O	31.	①	②	③	④
AC-I	32.	①	②	③	④
AX-I	33.	①	②	③	④
AC-O	34.	①	②	③	④
AX-O	35.	①	②	③	④
AC-I	36.	①	②	③	④
AX-I	37.	①	②	③	④
AC-O	38.	①	②	③	④
AX-O	39.	①	②	③	④
AC-I	40.	①	②	③	④
AX-I	41.	①	②	③	④
AC-O	42.	①	②	③	④
AX-O	43.	①	②	③	④
AC-I	44.	①	②	③	④
AX-I	45.	①	②	③	④
AC-O	46.	①	②	③	④
AX-O	47.	①	②	③	④
AC-I	48.	①	②	③	④
AX-I	49.	①	②	③	④
AC-O	50.	①	②	③	④
AX-O	51.	①	②	③	④
AC-I	52.	①	②	③	④
AX-I	53.	①	②	③	④
AC-O	54.	①	②	③	④
AX-O	55.	①	②	③	④
AC-I	56.	①	②	③	④
AX-I	57.	①	②	③	④

		Total
AX-O:	Sum Items 27, 31, 35, 39, 43, 47, 51, 55 =	
AX-I:	Sum Items 29, 33, 37, 41, 45, 49, 53, 57 =	
AC-O:	Sum Items 26, 30, 34, 38, 42, 46, 50, 54 =	
AC-I:	Sum Items 28, 32, 36, 40, 44, 48, 52, 56 =	
AX Index:	Sum AX-O + AX-I – (AC-O + AC-I) + 48 =	

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Appendix C

Eating Disorder Inventory-2 (EDI-2)

(Short version)

EDI-Short version

Instructions

First, write your name and the date on your EDI Answer Sheet. Your ratings on the items below will be made on the EDI Answer Sheet. The items ask about your attitudes, feelings, and behaviour. Some of the items relate to food or eating. Other items ask about your feelings about yourself.

For each item, decide if the item is true about you ALWAYS (A), USUALLY (U), OFTEN (O), SOMETIMES (S), RARELY (R), or NEVER (N). Circle the letter that corresponds to your rating on the EDI Answer Sheet. For example, if your rating for an item is OFTEN, you would circle the O for that item on the Answer Sheet.

Please respond to all of the items, making sure that you circle the letter for the rating that is true about you. DO NOT ERASE. If you need to change an answer, make an "X" through the incorrect letter and then circle the correct one.

---

1. I eat sweets and carbohydrates without feeling nervous.
2. I think that my stomach is too big.
3. I eat when I am upset.
4. I am open about my feelings.
5. Only outstanding performance is good enough in my family.
6. I think that my thighs are too large.
7. I think that my stomach is just the right size.
8. I think about dieting.
9. I stuff myself with food.
10. As a child, I tied very hard to avoid disappointing my parents and teachers.
11. I trust others.
12. I can communicate with others easily.
13. I feel satisfied with the shape of my body.
14. I have gone on eating binges where I felt that I could not stop.
15. I hate being less than best at things.
16. I feel extremely guilty about overeating.
17. I like the shape of my buttocks.
18. I think my hips are too big.
19. I am terrified of gaining weight.
20. I think about bingeing (overeating).

...Cont/d

21. I have close relationships.
22. I exaggerate or magnify the importance of weight.
23. I eat moderately in front of others and stuff my self when they're gone.
24. I think that my thighs are just the right size.
25. I have trouble expressing my emotions to others.
26. My parents have expected excellence of me.
27. I have the thought of trying to vomit in order to lose weight.
28. I feel that I must do things perfectly or not do them at all.
29. I think that my buttocks are too large.
30. I am preoccupied with the desire to be thinner.
31. I need to keep people at a certain distance (feels uncomfortable if someone tries to get to close).
32. If I gain a pound, I worry that I will keep gaining.
33. I eat or drink in secrecy.
34. I think that my hips are just the right size.
35. I have extremely high goals.
36. I can talk about personal thoughts and feelings.

Adapted from EDI-2, Garner (1991).

EDI-Short version /Answer Sheet

Name_____Date _____

Fill in your name and the date above if you wish. Follow the instructions in the EDI Item Booklet and enter your ratings on this sheet. For each item, decide if the item is true about you ALWAYS (A), USUALLY (U), OFTEN (O), SOMETIMES (S), RARELY (R), OR NEVER (N). For example, if your rating for an item is OFTEN, you would circle the O for that item on the Answer Sheet.

1	A U O S R N	19	A U O S R N
2	A U O S R N	20	A U O S R N
3	A U O S R N	21	A U O S R N
4	A U O S R N	22	A U O S R N
5	A U O S R N	23	A U O S R N
6	A U O S R N	24	A U O S R N
7	A U O S R N	25	A U O S R N
8	A U O S R N	26	A U O S R N
9	A U O S R N	27	A U O S R N
10	A U O S R N	28	A U O S R N
11	A U O S R N	29	A U O S R N
12	A U O S R N	30	A U O S R N
13	A U O S R N	31	A U O S R N
14	A U O S R N	32	A U O S R N
15	A U O S R N	33	A U O S R N
16	A U O S R N	34	A U O S R N
17	A U O S R N	35	A U O S R N
18	A U O S R N	36	A U O S R N

EDI-Short version /Answer Sheet/Scoring Key

1 DT	**0 0 0 1 2 3**	19 DT	**3 2 1 0 0 0**
2 BD	**3 2 1 0 0 0**	20 B	**3 2 1 0 0 0**
3 B	**3 2 1 0 0 0**	21 ID	**0 0 0 1 2 3**
4 ID	**0 0 0 1 2 3**	22 DT	**3 2 1 0 0 0**
5 P	**3 2 1 0 0 0**	23 B	**3 2 1 0 0 0**
6 BD	**3 2 1 0 0 0**	24 BD	**0 0 0 1 2 3**
7 BD	**0 0 0 1 2 3**	25 ID	**3 2 1 0 0 0**
8 DT	**3 2 1 0 0 0**	26 P	**3 2 1 0 0 0**
9 B	**3 2 1 0 0 0**	27 B	**3 2 1 0 0 0**
10 P	**3 2 1 0 0 0**	28 P	**3 2 1 0 0 0**
11 ID	**0 0 0 1 2 3**	29 BD	**3 2 1 0 0 0**
12 ID	**0 0 0 1 2 3**	30 DT	**3 2 1 0 0 0**
13 BD	**0 0 0 1 2 3**	31 ID	**3 2 1 0 0 0**
14 B	**3 2 1 0 0 0**	32 DT	**3 2 1 0 0 0**
15 P	**3 2 1 0 0 0**	33 B	**3 2 1 0 0 0**
16 DT	**3 2 1 0 0 0**	34 BD	**0 0 0 1 2 3**
17 BD	**0 0 0 1 2 3**	35 P	**3 2 1 0 0 0**
18 BD	**3 2 1 0 0 0**	36 ID	**0 0 0 1 2 3**

Raw DT B BD P ID

Score _____ ____ ____ ____ _____

Appendix D

Bulimic Investigatory Test Edinburgh (BITE)

BITE

Number: Date:

Your age: _____ years

Your height: _____

Your weight: _____

Instructions: Please complete the questionnaire, by circling either YES or NO, based on your feelings and behaviour over the past three months.

1. Do you have a regular daily eating pattern? YES NO

2. Are you a strict dieter? YES NO

3. Do you feel a failure if you break your diet once? YES NO

4. Do you count the calories of everything you eat, even when not on a diet? YES NO

5. Do you ever fast for a whole day? YES NO

6. .....If yes how often is this?(circle number)

EVERY SECOND DAY 5 2-3 TIMES A WEEK 4

ONCE A WEEK 3 NOW AND THEN 2 HAVE ONCE 1

7. Do you do any of the following to help you lose weight? (circle number)

	Never	Occasionally	Once a week	2-3 times a week	Daily	2-3 times a day	5+times a day
Take diet pills	0	2	3	4	5	6	7
Take diuretics	0	2	3	4	5	6	7
Take laxatives	0	2	3	4	5	6	7
Make yourself vomit	0	2	3	4	5	6	7

8. Does your pattern of eating severely disrupt your life? YES NO

9. Would you say that food dominated your life? YES NO

10. Do you ever eat and eat until you are stopped by physical discomfort? YES NO

11. Are there times when all you can think about is food? YES NO

12. Do you eat sensibly in front of others and make up in private? YES NO

13. Can you always stop eating when you want to? YES NO

14. Do you ever experience *overpowering* urges to eat and eat and eat? YES NO

15. When you are feeling anxious do you tend to eat a lot? YES NO

16. Does the thought of becoming fat *terrify* you? YES NO

17. Do you ever eat large amounts of food rapidly (not a meal)? YES NO

18. Are you ashamed of your eating habits? YES NO

19. Do you worry that you have no control over how much you eat? YES NO

20. Do you turn to food for comfort? YES NO

21. Are you able to leave food on the plate at the end of a meal? YES NO

22. Do you deceive people about how much you eat? YES NO

23. Does how hungry you feel determine how much you eat? YES NO

24. Do you ever binge on large amounts of food? YES NO

25.....If yes, do such binges leave you feeling miserable? YES NO

26. If you do binge, is this only when you are alone? YES NO

27. If you do binge, how often is this? (circle number)

HARDLY EVER	1	ONCE A MONTH	2
ONCE A WEEK	3	2-3 TIMES A WEEK	4
DAILY	5	2-3 TIMES A DAY	6

28. Would you go to great lengths to satisfy an urge to binge? YES NO

29. If you overeat do you feel *very* guilty? YES NO

30. Do you ever eat in secret? YES NO

31. Are your eating habits what you would consider to be normal? YES NO

32. Would you consider yourself to be a compulsive eater? YES NO

33. Does your weight fluctuate by more than 5 pounds in a week? YES NO

Henderson & Freeman (1987)

Appendix E

Demographic Data Sheet

DEMOGRAPHIC DATA FORM

Please respond to the following demographic items

Circle one of the following:

Gender: Female Male

Level of studies: Undergraduate

Postgraduate

Other (please specify) _____

Age: _____ years old.

Please give an approximate figure if you do not know exactly the information below.

Weight: _____

Height:_____

Appendix F

Ethics Release Form

Appendix 7: ETHICS RELEASE FORM

All students planning to undertake research in the Department of Psychology for degree or other purposes are required to complete this Ethics Release Form and have it signed by their supervisor and one other member of staff **prior to commencing the investigation**. Please note the following:

- An understanding of ethical considerations is central to planning and conducting research.
- The published Code of Ethics of the British Psychological Society (1997) Code of Conduct. Ethical Principles and Guidelines. BPS. Leicester and American Psychological Society (1992) Ethical Principles of Psychologists and Code of Conduct. American Psychologist, 47, no 12, 1597-1611 should be referred to when planning your research.
- Approval to carry out research does not exempt you from Ethics Committee approval from institutions within which you may be planning to conduct the research, eg: Hospitals, NHS Trusts, HM Prisons Service, etc.
- Completed and signed ethics release forms must be submitted as an appendix in the final dissertation

Please answer all of the following questions:

1.	Has a research proposal been completed and submitted to the supervisor?	Yes	X	No	
2.	Will the research involve either or both of the following:				
	2.1 A survey of human subjects/participants	Yes	X	No	
	2.2 An intervention with a cohort of human subjects/ participants, and/or an evaluation of outcome of an intervention?	Yes		No	X
3.	Is there any risk of physical or psychological harm to participants (in either a control or experimental group)?	Yes		No	X
4.	Will all participants receive an information sheet describing the aims, procedure and possible risks involved, in easily understood language? (Attach a copy of the participants information sheet)	Yes	X	No	
5.	Will any person's treatment or care be in any way prejudiced if they choose not to participate in the study?	Yes		No	X

6.	Will all participants be required to sign a consent form, stating that they understand the purpose of the study and possible risks ie will informed consent be given?	Yes	X	No	
7.	Can participants freely withdraw from the study at any stage without risk of harm or prejudice?	Yes	X	No	
8.	Will the study involve working with or studying minors (ie <16 years)?	Yes		No	X
	If yes, will signed parental consent be obtained?	Yes		No	
9.	Are any questions or procedures likely to be considered in any way offensive or indecent?	Yes		No	X
10.	Will all necessary steps be taken to protect the privacy of participants and the need for anonymity?	Yes	X	No	
	Is there provision for the safe-keeping of video/audio recordings of participants?	Yes		No	
11.	If applicable, is there provision for de-briefing participants after the intervention or study?	Yes	X	No	
12.	If any psychometric instruments are to be employed, will their use be controlled and supervised by a qualified psychologist?	Yes	X	No	

If you have placed an X in any of the double boxes [X], please provide further information below:

2.1. Questionnaire Data with college population

Student's Name: KONSTANTINA KOLONIA

Degree Course: DPsych - Post Chartered / Counselling Psychology Programme

Title Of Research Project: Narcissism, anger and eating attitudes among non-clinical college population: An exploration of underlying correlates.

Supervisor: Dr. JACQUI FARRANTS

Signature of Student: .....

Signature of Supervisor: .....

Signature of a 2nd Psychology Department member: .....

Date: 21/11/05 . Dr. Deborah Rafalin.

Any further comments:

Please attach a copy of the participant's information sheet and return this form to:

Room W310
Department of Psychology
City University
Northampton Square
London
EC1V OHB

Appendix G

Letter to Universities

Dear Professor____(name)_____

Our research supervisors, Dr Jacqui Farrants and Dr Malcolm Cross, suggested that we contact you.

We are looking to recruit students for our respective DPsych studies (Attitudes to Eating and Personality & Reflection in Counselling Psychology Supervision) and we would very much like to distribute some of our very short questionnaires to ____(name of university)_____ students.

We wonder whether it is possible to speak to students about our studies at the end of a lecture or during a hosted lunch (we have hosted a number of lunches already and have been well attended).

Alternatively, we could send some questionnaire packs to you and perhaps tutors could hand them out to interested students.

Please advise if this is possible.

Many thanks for your help.

Kind regards,

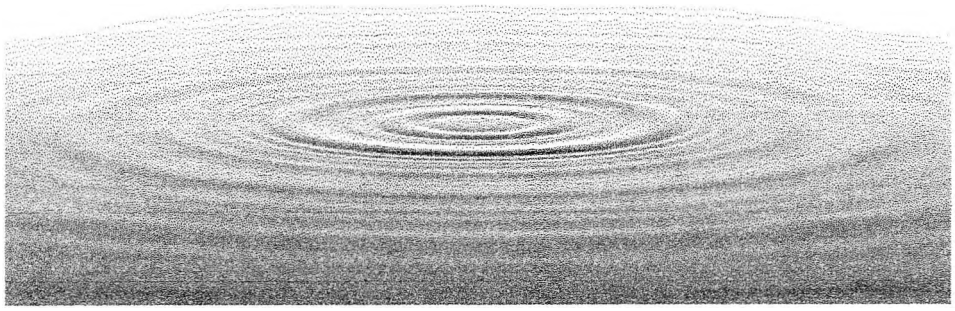
Konstantina Kolonia
Chartered Counselling Psychologist

&

Jo Wood
Chartered Counselling Psychologist

Appendix H

Participants' Flyer



Participants Needed for Research!

We are two DPsych students from City University, who are currently trying to recruit undergraduate and/or postgraduate students to participate in our studies.

Both studies are quantitative and require participants to complete a few short questionnaires and a demographics sheet, which take around 30 minutes in total to complete.

In taking part you will be contributing to studies that focus on reflection in supervision and attitudes to eating and which will be useful to you in terms of your own professional and personal development.

We will be hosting a lunch at City in room 214 on Thursday, 24th November and Friday, 25th October between 12 and 1 and after 4.00 p.m. on Thursday, 24th November. You can either complete the questionnaires during these times or take them home to complete in your own time.

We look forward to meeting you!

Konstantina Kolonia
Jo Wood

Appendix I

Information Sheet

INFORMATION SHEET

Title of research study: Personality traits and eating attitudes among non-clinical college population: An exploration of underlying correlates.

Researcher: Konstantina Kolonia, City University, Department of Psychology (Doctor of Psychology/ Counselling Psychology Programme), School of Social Sciences.

Supervisor: Dr. Jacqui Farrants, City University, Department of Psychology (Doctor of Psychology/ Counselling Psychology Programme), School of Social Sciences.

Dear Participant

You are invited to participate in a research study. Please take your time and read the following information carefully and feel free to ask any questions before you make your decision. It is important for you to understand what the research will involve as well as why it is being done.

The purpose of the study is to broaden our understanding of personality traits and eating attitudes as well as help us identify common pathways that may link one to the other.

Why have you been chosen?
For the purposes of the study, I am interested in undergraduate/postgraduate college students because there is a greater diversity of different personality traits and eating attitudes among university students.

What will happen if you take part?
If you decide to take part, you would be asked to sign a consent form and to complete a personal data form asking for some information regarding age, gender, etc. In addition you would be asked to complete four brief questionnaires which will be assessing personality traits, eating attitudes and your experience and expression of anger.

These forms will take approximately 30 minutes to complete. There are no right or wrong answers. You may not be sure about your answers to some of the questions. Just answer as best you can.

What if you do not want to continue or not take part?
If at any point you feel you would like to withdraw, you are assured you are free to do so without any implications. You do not have to participate if you do not want to. If you will decide to withdraw your data will be immediately discarded.

Will your participation in the study be kept confidential?
All your responses will be kept strictly confidential and will be used solely for the purposes of the research. The study responses will not be disclosed in any way that will identify you in any presentation or publication of the findings.

What are any possible disadvantages or risks of participating?

There are no known risks in taking part in this study.

What are the possible benefits of participating?
The expected benefit from your participation in this study is that we may be able to understand possible links among personality traits and eating attitudes and help us develop improved treatment approaches.

What will happen to the results of the study?
Upon completion of the study, it is expected that individual results will be collated together, analyzed and will be submitted for publication in a peer-reviewed journal. You will not be identified in any presentation or publication of the findings. You will be sent a brief summary of the findings at the end of the study if you wish.

If you would like further information about the study

and/or

if you have an emotional reaction to answering any of these questions and you wish to talk with someone about your reactions, please contact:

Konstantina Kolonia, at Counselling Service, Chiswick Health Centre, Fishers Lane, London W4 1RX , (Tel: 0208 630 3578).

or

Dr. Jacqui Farrants at City University, Department of Psychology (Doctor of Psychology/ Counselling Psychology Programme), School of Social Sciences, Northampton Square, London, EC1V 0HB (Tel: 0207 040 0172)

Thank you very much for taking the time to consider participating in the study.

Your participation will be very much appreciated.

This copy is yours to keep.

Appendix J

Informed Consent

CONSENT FORM

Title of research study: Personality traits and eating attitudes among non-clinical college population: An exploration of underlying correlates.

Researcher: Konstantina Kolonia

Supervisor: Dr. Jacqui Farrants

	Please initial below
I. I have read and I understand the Information Sheet for the above study.	☐
II. I understand that my participation in this study is entirely voluntary and that I can withdraw from the study at any time, for any reason without any implication.	☐
III. I understand that the information provided by me will be held totally anonymous and confidential.	☐
IV. I confirm that any questions regarding the above study have been answered and I agree to participate.	☐

Name of Participant: _____

Date: _____

Signature: _____

Name of researcher (witness): _____

Date: _____

Signature: _____

Appendix K

Assessment of Normality Data

Tests of Normality

	gender	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
NPD	Female	.141	121	.000	.953	121	.000
	Male	.106	38	.200*	.969	38	.375
PPD	Female	.114	121	.001	.974	121	.021
	Male	.125	38	.140	.967	38	.320
NAPD	Female	.140	121	.000	.943	121	.000
	Male	.165	38	.011	.913	38	.006
S-ANG	Female	.328	121	.000	.509	121	.000
	Male	.344	38	.000	.700	38	.000
S-ANG/F	Female	.362	121	.000	.589	121	.000
	Male	.354	38	.000	.656	38	.000
S-ANG/V	Female	.475	121	.000	.417	121	.000
	Male	.461	38	.000	.509	38	.000
S-ANG/P	Female	.506	121	.000	.299	121	.000
	Male	.539	38	.000	.237	38	.000
T-ANG	Female	.107	121	.002	.956	121	.001
	Male	.153	38	.024	.944	38	.056
T-ANG/T	Female	.141	121	.000	.890	121	.000
	Male	.236	38	.000	.848	38	.000
T-ANG/R	Female	.164	121	.000	.956	121	.001
	Male	.160	38	.016	.938	38	.037
AX-O	Female	.112	121	.001	.974	121	.018
	Male	.224	38	.000	.930	38	.021
AX-I	Female	.113	121	.001	.966	121	.003
	Male	.099	38	.200*	.980	38	.725
AC-O	Female	.068	121	.200*	.988	121	.371
	Male	.133	38	.086	.960	38	.195
AC-I	Female	.089	121	.021	.978	121	.043
	Male	.106	38	.200*	.967	38	.312
AXindex	Female	.058	121	.200*	.987	121	.279
	Male	.075	38	.200*	.978	38	.658
DT	Female	.261	121	.000	.733	121	.000
	Male	.293	38	.000	.688	38	.000
B	Female	.287	121	.000	.609	121	.000
	Male	.413	38	.000	.522	38	.000
BD	Female	.147	121	.000	.911	121	.000
	Male	.254	38	.000	.753	38	.000
P	Female	.150	121	.000	.896	121	.000
	Male	.132	38	.095	.938	38	.036
ID	Female	.288	121	.000	.698	121	.000
	Male	.265	38	.000	.736	38	.000
bite	Female	.149	121	.000	.911	121	.000
	Male	.207	38	.000	.776	38	.000

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Appendix L

Spearman's Rho Statistical Analysis

Nonparametric Correlations

Correlations

			gender	lofstudies	age	bmi	NPD	PPD	NAPD
Spearman's rho	gender	Correlation Coefficient	1.000	-.102	-.192**	.150*	-.010	.137*	-.003
		Sig. (1-tailed)	.	.100	.007	.029	.452	.042	.485
		N	160	160	160	160	160	160	160
	lofstudies	Correlation Coefficient	-.102	1.000	.619**	-.049	-.076	-.146*	-.088
		Sig. (1-tailed)	.100	.	.000	.269	.169	.032	.134
		N	160	160	160	160	160	160	160
	age	Correlation Coefficient	-.192**	.619**	1.000	.082	-.151*	-.218**	-.220**
		Sig. (1-tailed)	.007	.000	.	.151	.028	.003	.003
		N	160	160	160	160	160	160	160
	bmi	Correlation Coefficient	.150*	-.049	.082	1.000	.097	.148*	-.008
		Sig. (1-tailed)	.029	.269	.151	.	.112	.031	.462
		N	160	160	160	160	160	160	160
	NPD	Correlation Coefficient	-.010	-.076	-.151*	.097	1.000	.336**	.319**
		Sig. (1-tailed)	.452	.169	.028	.112	.	.000	.000
		N	160	160	160	160	160	160	160
	PPD	Correlation Coefficient	.137*	-.146*	-.218**	.148*	.336**	1.000	.291**
		Sig. (1-tailed)	.042	.032	.003	.031	.000	.	.000
		N	160	160	160	160	160	160	160
	NAPD	Correlation Coefficient	-.003	-.088	-.220**	-.008	.319**	.291**	1.000
		Sig. (1-tailed)	.485	.134	.003	.462	.000	.000	.
		N	160	160	160	160	160	160	160
	S-ANG	Correlation Coefficient	.015	-.160*	-.140*	.152*	.227**	.219**	.279**
		Sig. (1-tailed)	.423	.022	.039	.028	.002	.003	.000
		N	160	160	160	160	160	160	160
	S-ANG/F	Correlation Coefficient	.028	-.124	-.097	.138*	.237**	.215**	.292**
		Sig. (1-tailed)	.363	.060	.111	.041	.001	.003	.000
		N	160	160	160	160	160	160	160
	S-ANG/V	Correlation Coefficient	.020	-.135*	-.177*	.142*	.151*	.132*	.162*
		Sig. (1-tailed)	.400	.044	.013	.037	.028	.048	.020
		N	160	160	160	160	160	160	160
	S-ANG/P	Correlation Coefficient	-.075	-.075	-.171*	.060	.115	.141*	.201**
		Sig. (1-tailed)	.172	.174	.015	.224	.073	.038	.005
		N	160	160	160	160	160	160	160

Correlations

			gender	lofstudies	age	bmi	NPD	PPD	NAPD
Spearman's rho	T-ANG	Correlation Coefficient	-.094	.025	-.032	.073	.230**	.327**	.163*
		Sig. (1-tailed)	.118	.379	.344	.178	.002	.000	.020
		N	160	160	160	160	160	160	160
	T-ANG/T	Correlation Coefficient	-.158*	.030	-.002	-.005	.109	.223**	.092
		Sig. (1-tailed)	.023	.351	.488	.475	.085	.002	.123
		N	160	160	160	160	160	160	160
	T-ANG/R	Correlation Coefficient	-.017	-.005	-.038	.116	.242**	.300**	.145*
		Sig. (1-tailed)	.415	.475	.317	.072	.001	.000	.033
		N	160	160	160	160	160	160	160
	AX-O	Correlation Coefficient	-.096	.057	.008	.100	.106	.218**	-.139*
		Sig. (1-tailed)	.114	.236	.458	.104	.092	.003	.040
		N	160	160	160	160	160	160	160
	AX-I	Correlation Coefficient	.030	.049	.027	.106	.271**	.085	.248**
		Sig. (1-tailed)	.352	.270	.366	.091	.000	.142	.001
		N	160	160	160	160	160	160	160
	AC-O	Correlation Coefficient	.115	-.064	-.142*	-.130	-.090	-.128	.062
		Sig. (1-tailed)	.074	.209	.036	.050	.130	.054	.219
		N	160	160	160	160	160	160	160
	AC-I	Correlation Coefficient	.042	-.094	-.046	-.127	-.173*	-.193**	-.027
		Sig. (1-tailed)	.299	.119	.281	.055	.015	.007	.370
		N	160	160	160	160	160	160	160
	AXindex	Correlation Coefficient	-.034	.080	.022	.187**	.222**	.315**	.100
		Sig. (1-tailed)	.334	.156	.393	.009	.002	.000	.105
		N	160	160	160	160	160	160	160
	DT	Correlation Coefficient	-.165*	-.047	-.049	.235**	.301**	.160*	.219**
		Sig. (1-tailed)	.018	.278	.271	.001	.000	.022	.003
		N	160	160	160	160	160	160	160
	B	Correlation Coefficient	-.189**	.037	.004	.311**	.289**	.107	.148*
		Sig. (1-tailed)	.008	.321	.481	.000	.000	.090	.030
		N	160	160	160	160	160	160	160
	BD	Correlation Coefficient	-.400**	.021	.052	.309**	.177*	.011	.325**
		Sig. (1-tailed)	.000	.395	.258	.000	.012	.443	.000
		N	160	160	160	160	160	160	160

Correlations

			gender	lofstudies	age	bmi	NPD	PPD	NAPD
Spearman's rho	P	Correlation Coefficient	.045	-.116	-.222**	.095	.222**	.360**	.357**
		Sig. (1-tailed)	.286	.072	.002	.115	.002	.000	.000
		N	160	160	160	160	160	160	160
	ID	Correlation Coefficient	.174*	-.113	-.169*	.163*	.228**	.300**	.342**
		Sig. (1-tailed)	.014	.078	.017	.020	.002	.000	.000
		N	160	160	160	160	160	160	160
	bite	Correlation Coefficient	-.215**	-.055	-.141*	.255**	.420**	.264**	.332**
		Sig. (1-tailed)	.003	.246	.038	.001	.000	.000	.000
		N	160	160	160	160	160	160	160

Correlations

			S-ANG	S-ANG/F	S-ANG/V	S-ANG/P	T-ANG	T-ANG/T	T-ANG/R
Spearman's rho	gender	Correlation Coefficient	.015	.028	.020	-.075	-.094	-.158*	-.017
		Sig. (1-tailed)	.423	.363	.400	.172	.118	.023	.415
		N	160	160	160	160	160	160	160
	lofstudies	Correlation Coefficient	-.160*	-.124	-.135*	-.075	.025	.030	-.005
		Sig. (1-tailed)	.022	.060	.044	.174	.379	.351	.475
		N	160	160	160	160	160	160	160
	age	Correlation Coefficient	-.140*	-.097	-.177*	-.171*	-.032	-.002	-.038
		Sig. (1-tailed)	.039	.111	.013	.015	.344	.488	.317
		N	160	160	160	160	160	160	160
	bmi	Correlation Coefficient	.152*	.138*	.142*	.060	.073	-.005	.116
		Sig. (1-tailed)	.028	.041	.037	.224	.178	.475	.072
		N	160	160	160	160	160	160	160
	NPD	Correlation Coefficient	.227**	.237**	.151*	.115	.230**	.109	.242**
		Sig. (1-tailed)	.002	.001	.028	.073	.002	.085	.001
		N	160	160	160	160	160	160	160
	PPD	Correlation Coefficient	.219**	.215**	.132*	.141*	.327**	.223**	.300**
		Sig. (1-tailed)	.003	.003	.048	.038	.000	.002	.000
		N	160	160	160	160	160	160	160
	NAPD	Correlation Coefficient	.279**	.292**	.162*	.201**	.163*	.092	.145*
		Sig. (1-tailed)	.000	.000	.020	.005	.020	.123	.033
		N	160	160	160	160	160	160	160
	S-ANG	Correlation Coefficient	1.000	.953**	.730**	.507**	.221**	.081	.236**
		Sig. (1-tailed)	.	.000	.000	.000	.002	.153	.001
		N	160	160	160	160	160	160	160
	S-ANG/F	Correlation Coefficient	.953**	1.000	.621**	.391**	.228**	.096	.236**
		Sig. (1-tailed)	.000	.	.000	.000	.002	.114	.001
		N	160	160	160	160	160	160	160
	S-ANG/V	Correlation Coefficient	.730**	.621**	1.000	.460**	.188**	.076	.190**
		Sig. (1-tailed)	.000	.000	.	.000	.009	.170	.008
		N	160	160	160	160	160	160	160
	S-ANG/P	Correlation Coefficient	.507**	.391**	.460**	1.000	.044	.025	-.004
		Sig. (1-tailed)	.000	.000	.000	.	.289	.378	.482
		N	160	160	160	160	160	160	160

Correlations

			S-ANG	S-ANG/F	S-ANG/V	S-ANG/P	T-ANG	T-ANG/T	T-ANG/R
Spearman's rho	T-ANG	Correlation Coefficient	.221**	.228**	.188**	.044	1.000	.755**	.807**
		Sig. (1-tailed)	.002	.002	.009	.289	.	.000	.000
		N	160	160	160	160	160	160	160
	T-ANG/T	Correlation Coefficient	.081	.096	.076	.025	.755**	1.000	.343**
		Sig. (1-tailed)	.153	.114	.170	.378	.000	.	.000
		N	160	160	160	160	160	160	160
	T-ANG/R	Correlation Coefficient	.236**	.236**	.190**	-.004	.807**	.343**	1.000
		Sig. (1-tailed)	.001	.001	.008	.482	.000	.000	.
		N	160	160	160	160	160	160	160
	AX-O	Correlation Coefficient	-.039	-.047	-.005	-.053	.415**	.435**	.232**
		Sig. (1-tailed)	.312	.276	.474	.253	.000	.000	.002
		N	160	160	160	160	160	160	160
	AX-I	Correlation Coefficient	.321**	.325**	.339**	.152*	.108	-.076	.159*
		Sig. (1-tailed)	.000	.000	.000	.028	.087	.170	.022
		N	160	160	160	160	160	160	160
	AC-O	Correlation Coefficient	-.074	-.128	.019	.073	-.308**	-.292**	-.179*
		Sig. (1-tailed)	.175	.054	.406	.178	.000	.000	.012
		N	160	160	160	160	160	160	160
	AC-I	Correlation Coefficient	-.317**	-.326**	-.180*	-.134*	-.306**	-.257**	-.186**
		Sig. (1-tailed)	.000	.000	.011	.046	.000	.001	.009
		N	160	160	160	160	160	160	160
	AXindex	Correlation Coefficient	.303**	.322**	.206**	.084	.484**	.387**	.326**
		Sig. (1-tailed)	.000	.000	.004	.146	.000	.000	.000
		N	160	160	160	160	160	160	160
	DT	Correlation Coefficient	.212**	.210**	.143*	.153*	.098	-.031	.219**
		Sig. (1-tailed)	.004	.004	.036	.027	.109	.349	.003
		N	160	160	160	160	160	160	160
	B	Correlation Coefficient	.125	.164*	.169*	.009	.087	.018	.138*
		Sig. (1-tailed)	.057	.019	.016	.457	.138	.411	.041
		N	160	160	160	160	160	160	160
	BD	Correlation Coefficient	.240**	.237**	.175*	.165*	.149*	.076	.171*
		Sig. (1-tailed)	.001	.001	.013	.019	.030	.168	.015
		N	160	160	160	160	160	160	160

Correlations

			S-ANG	S-ANG/F	S-ANG/V	S-ANG/P	T-ANG	T-ANG/T	T-ANG/R
Spearman's rho	P	Correlation Coefficient	.207**	.203**	.191**	.216**	.299**	.103	.363**
		Sig. (1-tailed)	.004	.005	.008	.003	.000	.098	.000
		N	160	160	160	160	160	160	160
	ID	Correlation Coefficient	.316**	.288**	.261**	.218**	.213**	.055	.222**
		Sig. (1-tailed)	.000	.000	.000	.003	.003	.246	.002
		N	160	160	160	160	160	160	160
	bite	Correlation Coefficient	.256**	.261**	.221**	.115	.230**	.083	.274**
		Sig. (1-tailed)	.001	.000	.003	.073	.002	.150	.000
		N	160	160	160	160	160	160	160

Correlations

			AX-O	AX-I	AC-O	AC-I	AXindex	DT	B
Spearman's rho	gender	Correlation Coefficient	-.096	.030	.115	.042	-.034	-.165*	-.189**
		Sig. (1-tailed)	.114	.352	.074	.299	.334	.018	.008
		N	160	160	160	160	160	160	160
	lofstudies	Correlation Coefficient	.057	.049	-.064	-.094	.080	-.047	.037
		Sig. (1-tailed)	.236	.270	.209	.119	.156	.278	.321
		N	160	160	160	160	160	160	160
	age	Correlation Coefficient	.008	.027	-.142*	-.046	.022	-.049	.004
		Sig. (1-tailed)	.458	.366	.036	.281	.393	.271	.481
		N	160	160	160	160	160	160	160
	bmi	Correlation Coefficient	.100	.106	-.130	-.127	.187**	.235**	.311**
		Sig. (1-tailed)	.104	.091	.050	.055	.009	.001	.000
		N	160	160	160	160	160	160	160
	NPD	Correlation Coefficient	.106	.271**	-.090	-.173*	.222**	.301**	.289**
		Sig. (1-tailed)	.092	.000	.130	.015	.002	.000	.000
		N	160	160	160	160	160	160	160
	PPD	Correlation Coefficient	.218**	.085	-.128	-.193**	.315**	.160*	.107
		Sig. (1-tailed)	.003	.142	.054	.007	.000	.022	.090
		N	160	160	160	160	160	160	160
	NAPD	Correlation Coefficient	-.139*	.248**	.062	-.027	.100	.219**	.148*
		Sig. (1-tailed)	.040	.001	.219	.370	.105	.003	.030
		N	160	160	160	160	160	160	160
	S-ANG	Correlation Coefficient	-.039	.321**	-.074	-.317**	.303**	.212**	.125
		Sig. (1-tailed)	.312	.000	.175	.000	.000	.004	.057
		N	160	160	160	160	160	160	160
	S-ANG/F	Correlation Coefficient	-.047	.325**	-.128	-.326**	.322**	.210**	.164*
		Sig. (1-tailed)	.276	.000	.054	.000	.000	.004	.019
		N	160	160	160	160	160	160	160
	S-ANG/V	Correlation Coefficient	-.005	.339**	.019	-.180*	.206**	.143*	.169*
		Sig. (1-tailed)	.474	.000	.406	.011	.004	.036	.016
		N	160	160	160	160	160	160	160
	S-ANG/P	Correlation Coefficient	-.053	.152*	.073	-.134*	.084	.153*	.009
		Sig. (1-tailed)	.253	.028	.178	.046	.146	.027	.457
		N	160	160	160	160	160	160	160

Correlations

			AX-O	AX-I	AC-O	AC-I	AXindex	DT	B
Spearman's rho	T-ANG	Correlation Coefficient	.415**	.108	-.308**	-.306**	.484**	.098	.087
		Sig. (1-tailed)	.000	.087	.000	.000	.000	.109	.138
		N	160	160	160	160	160	160	160
	T-ANG/T	Correlation Coefficient	.435**	-.076	-.292**	-.257**	.387**	-.031	.018
		Sig. (1-tailed)	.000	.170	.000	.001	.000	.349	.411
		N	160	160	160	160	160	160	160
	T-ANG/R	Correlation Coefficient	.232**	.159*	-.179*	-.186**	.326**	.219**	.138*
		Sig. (1-tailed)	.002	.022	.012	.009	.000	.003	.041
		N	160	160	160	160	160	160	160
	AX-O	Correlation Coefficient	1.000	-.156*	-.438**	-.261**	.540**	-.012	.015
		Sig. (1-tailed)	.	.024	.000	.000	.000	.440	.426
		N	160	160	160	160	160	160	160
	AX-I	Correlation Coefficient	-.156*	1.000	.113	-.015	.149*	.147*	.029
		Sig. (1-tailed)	.024	.	.078	.423	.030	.032	.357
		N	160	160	160	160	160	160	160
	AC-O	Correlation Coefficient	-.438**	.113	1.000	.557**	-.758**	.039	-.119
		Sig. (1-tailed)	.000	.078	.	.000	.000	.312	.066
		N	160	160	160	160	160	160	160
	AC-I	Correlation Coefficient	-.261**	-.015	.557**	1.000	-.792**	-.024	-.007
		Sig. (1-tailed)	.000	.423	.000	.	.000	.379	.465
		N	160	160	160	160	160	160	160
	AXindex	Correlation Coefficient	.540**	.149*	-.758**	-.792**	1.000	.051	.068
		Sig. (1-tailed)	.000	.030	.000	.000	.	.262	.196
		N	160	160	160	160	160	160	160
	DT	Correlation Coefficient	-.012	.147*	.039	-.024	.051	1.000	.353**
		Sig. (1-tailed)	.440	.032	.312	.379	.262	.	.000
		N	160	160	160	160	160	160	160
	B	Correlation Coefficient	.015	.029	-.119	-.007	.068	.353**	1.000
		Sig. (1-tailed)	.426	.357	.066	.465	.196	.000	.
		N	160	160	160	160	160	160	160
	BD	Correlation Coefficient	-.001	.136*	-.097	-.123	.159*	.568**	.383**
		Sig. (1-tailed)	.497	.043	.112	.061	.023	.000	.000
		N	160	160	160	160	160	160	160

Correlations

			AX-O	AX-I	AC-O	AC-I	AXindex	DT	B
Spearman's rho	P	Correlation Coefficient	.095	.278**	.047	.063	.111	.303**	.176*
		Sig. (1-tailed)	.117	.000	.278	.216	.082	.000	.013
		N	160	160	160	160	160	160	160
	ID	Correlation Coefficient	-.036	.358**	-.098	-.291**	.327**	.126	.091
		Sig. (1-tailed)	.327	.000	.109	.000	.000	.057	.126
		N	160	160	160	160	160	160	160
	bite	Correlation Coefficient	.063	.149*	-.023	-.074	.143*	.576**	.548**
		Sig. (1-tailed)	.214	.030	.387	.176	.036	.000	.000
		N	160	160	160	160	160	160	160

Correlations

			BD	P	ID	bite
Spearman's rho	gender	Correlation Coefficient	-.400**	.045	.174*	-.215**
		Sig. (1-tailed)	.000	.286	.014	.003
		N	160	160	160	160
	lofstudies	Correlation Coefficient	.021	-.116	-.113	-.055
		Sig. (1-tailed)	.395	.072	.078	.246
		N	160	160	160	160
	age	Correlation Coefficient	.052	-.222**	-.169*	-.141*
		Sig. (1-tailed)	.258	.002	.017	.038
		N	160	160	160	160
	bmi	Correlation Coefficient	.309**	.095	.163*	.255**
		Sig. (1-tailed)	.000	.115	.020	.001
		N	160	160	160	160
	NPD	Correlation Coefficient	.177*	.222**	.228**	.420**
		Sig. (1-tailed)	.012	.002	.002	.000
		N	160	160	160	160
	PPD	Correlation Coefficient	.011	.360**	.300**	.264**
		Sig. (1-tailed)	.443	.000	.000	.000
		N	160	160	160	160
	NAPD	Correlation Coefficient	.325**	.357**	.342**	.332**
		Sig. (1-tailed)	.000	.000	.000	.000
		N	160	160	160	160
	S-ANG	Correlation Coefficient	.240**	.207**	.316**	.256**
		Sig. (1-tailed)	.001	.004	.000	.001
		N	160	160	160	160
	S-ANG/F	Correlation Coefficient	.237**	.203**	.288**	.261**
		Sig. (1-tailed)	.001	.005	.000	.000
		N	160	160	160	160
	S-ANG/V	Correlation Coefficient	.175*	.191**	.261**	.221**
		Sig. (1-tailed)	.013	.008	.000	.003
		N	160	160	160	160
	S-ANG/P	Correlation Coefficient	.165*	.216**	.218**	.115
		Sig. (1-tailed)	.019	.003	.003	.073
		N	160	160	160	160

Correlations

			BD	P	ID	bite
Spearman's rho	T-ANG	Correlation Coefficient	.149*	.299**	.213**	.230**
		Sig. (1-tailed)	.030	.000	.003	.002
		N	160	160	160	160
	T-ANG/T	Correlation Coefficient	.076	.103	.055	.083
		Sig. (1-tailed)	.168	.098	.246	.150
		N	160	160	160	160
	T-ANG/R	Correlation Coefficient	.171*	.363**	.222**	.274**
		Sig. (1-tailed)	.015	.000	.002	.000
		N	160	160	160	160
	AX-O	Correlation Coefficient	-.001	.095	-.036	.063
		Sig. (1-tailed)	.497	.117	.327	.214
		N	160	160	160	160
	AX-I	Correlation Coefficient	.136*	.278**	.358**	.149*
		Sig. (1-tailed)	.043	.000	.000	.030
		N	160	160	160	160
	AC-O	Correlation Coefficient	-.097	.047	-.098	-.023
		Sig. (1-tailed)	.112	.278	.109	.387
		N	160	160	160	160
	AC-I	Correlation Coefficient	-.123	.063	-.291**	-.074
		Sig. (1-tailed)	.061	.216	.000	.176
		N	160	160	160	160
	AXindex	Correlation Coefficient	.159*	.111	.327**	.143*
		Sig. (1-tailed)	.023	.082	.000	.036
		N	160	160	160	160
	DT	Correlation Coefficient	.568**	.303**	.126	.576**
		Sig. (1-tailed)	.000	.000	.057	.000
		N	160	160	160	160
	B	Correlation Coefficient	.383**	.176*	.091	.548**
		Sig. (1-tailed)	.000	.013	.126	.000
		N	160	160	160	160
	BD	Correlation Coefficient	1.000	.225**	.211**	.549**
		Sig. (1-tailed)	.	.002	.004	.000
		N	160	160	160	160

Correlations

			BD	P	ID	bite
Spearman's rho	P	Correlation Coefficient	.225**	1.000	.238**	.369**
		Sig. (1-tailed)	.002	.	.001	.000
		N	160	160	160	160
	ID	Correlation Coefficient	.211**	.238**	1.000	.202**
		Sig. (1-tailed)	.004	.001	.	.005
		N	160	160	160	160
	bite	Correlation Coefficient	.549**	.369**	.202**	1.000
		Sig. (1-tailed)	.000	.000	.005	.
		N	160	160	160	160

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

Appendix M

Mann Whitney U Statistical Analysis

NPar Tests

Mann-Whitney Test

Ranks

	gender	N	Mean Rank	Sum of Ranks
NPD	Female	122	80.75	9851.00
	Male	38	79.71	3029.00
	Total	160		
PPD	Female	122	77.00	9393.50
	Male	38	91.75	3486.50
	Total	160		
NAPD	Female	122	80.58	9830.50
	Male	38	80.25	3049.50
	Total	160		
S-ANG	Female	122	80.16	9779.00
	Male	38	81.61	3101.00
	Total	160		
S-ANG/F	Female	122	79.89	9746.50
	Male	38	82.46	3133.50
	Total	160		
S-ANG/V	Female	122	80.16	9779.00
	Male	38	81.61	3101.00
	Total	160		
S-ANG/P	Female	122	81.45	9937.00
	Male	38	77.45	2943.00
	Total	160		
T-ANG	Female	122	82.92	10116.50
	Male	38	72.72	2763.50
	Total	160		
T-ANG/T	Female	122	84.49	10307.50
	Male	38	67.70	2572.50
	Total	160		
T-ANG/R	Female	122	80.93	9874.00
	Male	38	79.11	3006.00
	Total	160		
AX-O	Female	122	82.95	10120.00
	Male	38	72.63	2760.00
	Total	160		
AX-I	Female	122	79.72	9726.00
	Male	38	83.00	3154.00
	Total	160		
AC-O	Female	122	77.55	9461.50
	Male	38	89.96	3418.50
	Total	160		
AC-I	Female	122	79.42	9689.00
	Male	38	83.97	3191.00
	Total	160		

Ranks

	gender	N	Mean Rank	Sum of Ranks
AXindex	Female	122	81.38	9928.50
	Male	38	77.67	2951.50
	Total	160		
DT	Female	122	84.60	10321.00
	Male	38	67.34	2559.00
	Total	160		
B	Female	122	84.84	10350.00
	Male	38	66.58	2530.00
	Total	160		
BD	Female	122	90.77	11074.50
	Male	38	47.51	1805.50
	Total	160		
P	Female	122	79.34	9680.00
	Male	38	84.21	3200.00
	Total	160		
ID	Female	122	76.28	9306.00
	Male	38	94.05	3574.00
	Total	160		
bite	Female	122	86.04	10497.00
	Male	38	62.71	2383.00
	Total	160		

Test Statistics[a]

	NPD	PPD	NAPD	S-ANG	S-ANG/F	S-ANG/V	S-ANG/P
Mann-Whitney U	2288.000	1890.500	2308.500	2276.000	2243.500	2276.000	2202.000
Wilcoxon W	3029.000	9393.500	3049.500	9779.000	9746.500	9779.000	2943.000
Z	-.121	-1.726	-.039	-.195	-.353	-.254	-.949
Asymp. Sig. (2-tailed)	.903	.084	.969	.846	.724	.799	.343

Test Statistics[a]

	T-ANG	T-ANG/T	T-ANG/R	AX-O	AX-I	AC-O	AC-I
Mann-Whitney U	2022.500	1831.500	2265.000	2019.000	2223.000	1958.500	2186.000
Wilcoxon W	2763.500	2572.500	3006.000	2760.000	9726.000	9461.500	9689.000
Z	-1.189	-1.988	-.215	-1.207	-.382	-1.445	-.531
Asymp. Sig. (2-tailed)	.235	.047	.830	.227	.703	.148	.596

Test Statistics[a]

	AXindex	DT	B	BD	P	ID	bite
Mann-Whitney U	2210.500	1818.000	1789.000	1064.500	2177.000	1803.000	1642.000
Wilcoxon W	2951.500	2559.000	2530.000	1805.500	9680.000	9306.000	2383.000
Z	-.431	-2.084	-2.386	-5.039	-.568	-2.199	-2.717
Asymp. Sig. (2-tailed)	.666	.037	.017	.000	.570	.028	.007

a. Grouping Variable: gender

Appendix N

Regression Analysis

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
logsanger	1.2214	.08427	156
NPD	4.85	2.237	156

Correlations

		logsanger	NPD
Pearson Correlation	logsanger	1.000	.248
	NPD	.248	1.000
Sig. (1-tailed)	logsanger	.	.001
	NPD	.001	.
N	logsanger	156	156
	NPD	156	156

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	NPD[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: logsanger

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.248[a]	.061	.055	.08191

Model Summary[b]

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.061	10.082	1	154	.002	1.978

a. Predictors: (Constant), NPD

b. Dependent Variable: logsanger

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.068	1	.068	10.082	.002[a]
	Residual	1.033	154	.007		
	Total	1.101	155			

a. Predictors: (Constant), NPD

b. Dependent Variable: logsanger

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.176	.016		74.881	.000
	NPD	.009	.003	.248	3.175	.002

Coefficients[a]

Model		95% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	1.145	1.207
	NPD	.004	.015

Coefficients[a]

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	NPD	.248	.248	.248	1.000	1.000

a. Dependent Variable: logsanger

Coefficient Correlations[a]

Model			NPD
1	Correlations	NPD	1.000
	Covariances	NPD	8.65E-006

a. Dependent Variable: logsanger

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	NPD
1	1	1.909	1.000	.05	.05
	2	.091	4.571	.95	.95

a. Dependent Variable: logsanger

Casewise Diagnostics[a]

Case Number	Std. Residual	logsanger	Predicted Value	Residual
30	5.484	1.68	1.2321	.44914
89	3.467	1.54	1.2601	.28395
125	3.923	1.54	1.2228	.32131
152	3.448	1.51	1.2228	.28239

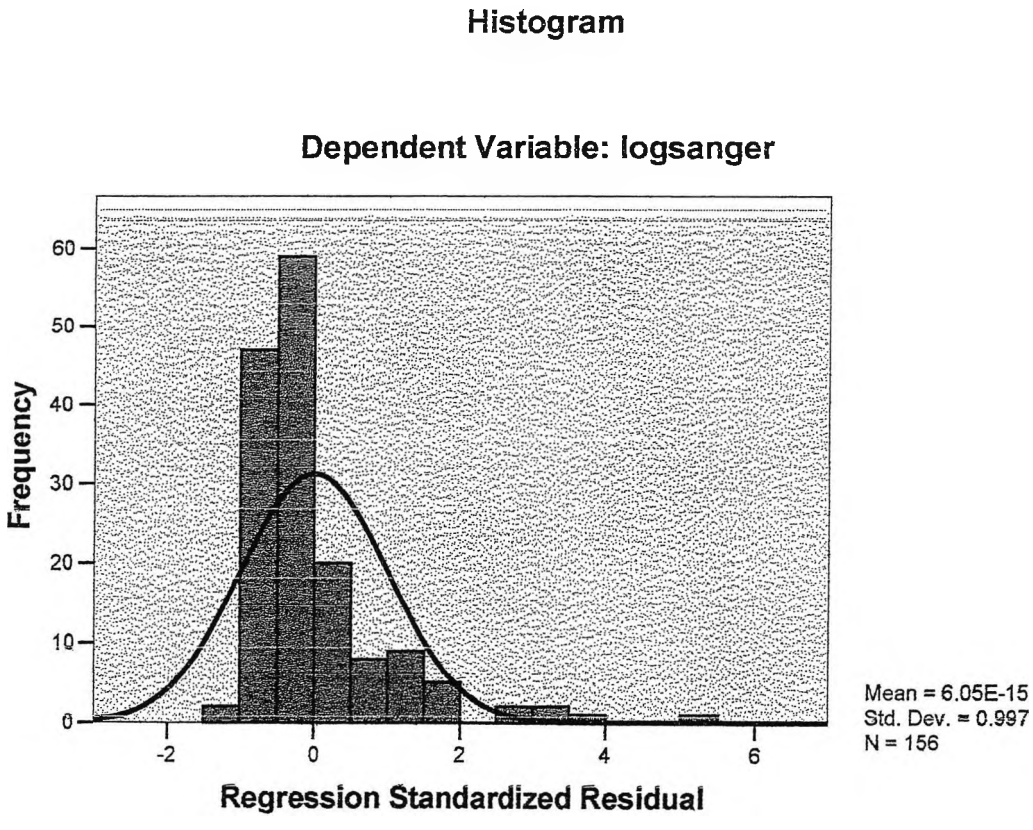
a. Dependent Variable: logsanger

Residuals Statistics[a]

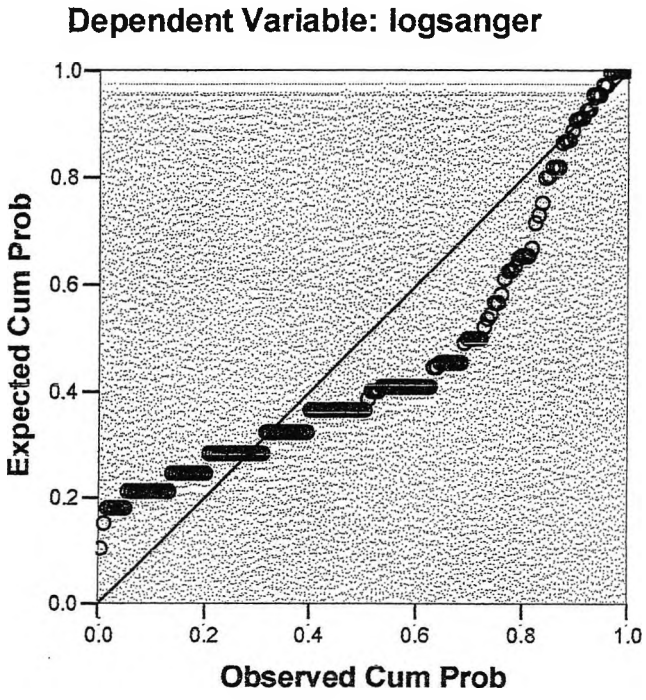
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.1761	1.2788	1.2214	.02089	156
Std. Predicted Value	-2.169	2.748	.000	1.000	156
Standard Error of Predicted Value	.007	.019	.009	.002	156
Adjusted Predicted Value	1.1750	1.2848	1.2214	.02095	156
Residual	-.10270	.44914	.00000	.08164	156
Std. Residual	-1.254	5.484	.000	.997	156
Stud. Residual	-1.290	5.506	.000	1.003	156
Deleted Residual	-.10869	.45281	-.00001	.08267	156
Stud. Deleted Residual	-1.293	6.124	.009	1.040	156
Mahal. Distance	.004	7.552	.994	1.248	156
Cook's Distance	.000	.182	.006	.020	156
Centered Leverage Value	.000	.049	.006	.008	156

a. Dependent Variable: logsanger

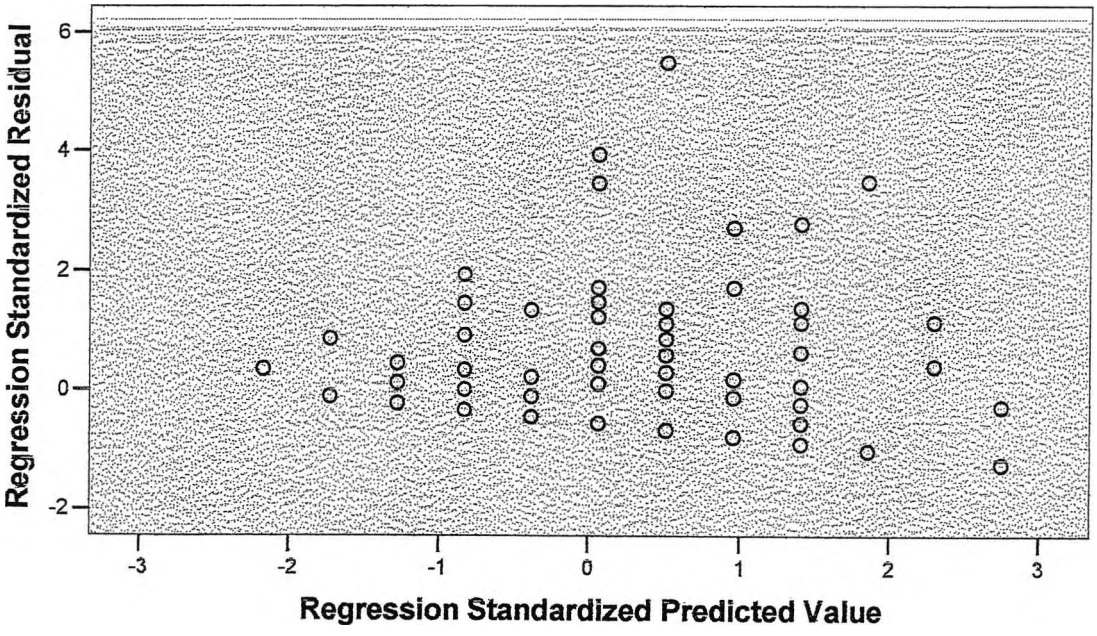
Charts



Normal P-P Plot of Regression Standardized Residual



Scatterplot



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
sqrtbite	2.3710	1.23918	156
NPD	4.85	2.237	156

Correlations

		sqrtbite	NPD
Pearson Correlation	sqrtbite	1.000	.403
	NPD	.403	1.000
Sig. (1-tailed)	sqrtbite	.	.000
	NPD	.000	.
N	sqrtbite	156	156
	NPD	156	156

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	NPD[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: sqrtbite

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.403[a]	.163	.157	1.13762

Model Summary[b]

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.163	29.912	1	154	.000	2.068

a. Predictors: (Constant), NPD

b. Dependent Variable: sqrtbite

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.712	1	38.712	29.912	.000[a]
	Residual	199.303	154	1.294		
	Total	238.015	155			

a. Predictors: (Constant), NPD

b. Dependent Variable: sqrtbite

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.287	.218		5.899	.000
	NPD	.223	.041	.403	5.469	.000

Coefficients[a]

Model		95% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	.856	1.718
	NPD	.143	.304

Coefficients[a]

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	NPD	.403	.403	.403	1.000	1.000

a. Dependent Variable: sqrtbite

Coefficient Correlations[a]

Model			NPD
1	Correlations	NPD	1.000
	Covariances	NPD	.002

a. Dependent Variable: sqrtbite

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	NPD
1	1	1.909	1.000	.05	.05
	2	.091	4.571	.95	.95

a. Dependent Variable: sqrtbite

Residuals Statistics[a]

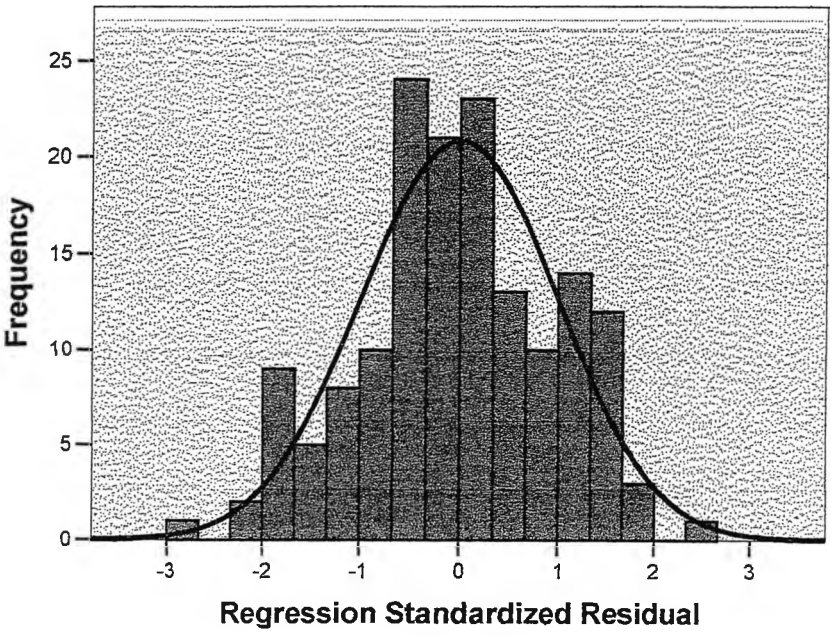
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.2869	3.7444	2.3710	.49975	156
Std. Predicted Value	-2.169	2.748	.000	1.000	156
Standard Error of Predicted Value	.091	.267	.124	.034	156
Adjusted Predicted Value	1.2979	3.8324	2.3730	.50290	156
Residual	-3.07418	2.79220	.00000	1.13394	156
Std. Residual	-2.702	2.454	.000	.997	156
Stud. Residual	-2.729	2.462	-.001	1.004	156
Deleted Residual	-3.13430	2.81029	-.00201	1.14997	156
Stud. Deleted Residual	-2.788	2.504	-.001	1.009	156
Mahal. Distance	.004	7.552	.994	1.248	156
Cook's Distance	.000	.073	.007	.012	156
Centered Leverage Value	.000	.049	.006	.008	156

a. Dependent Variable: sqrtbite

Charts

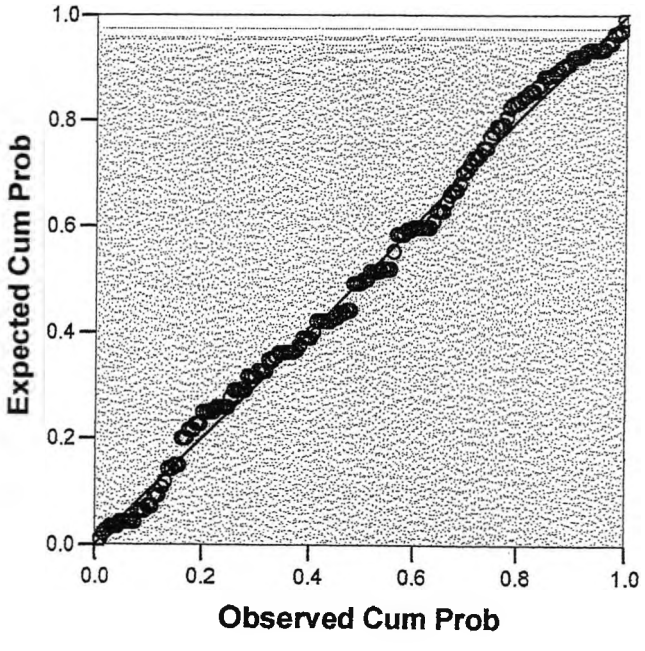
Histogram

Dependent Variable: sqrtbite



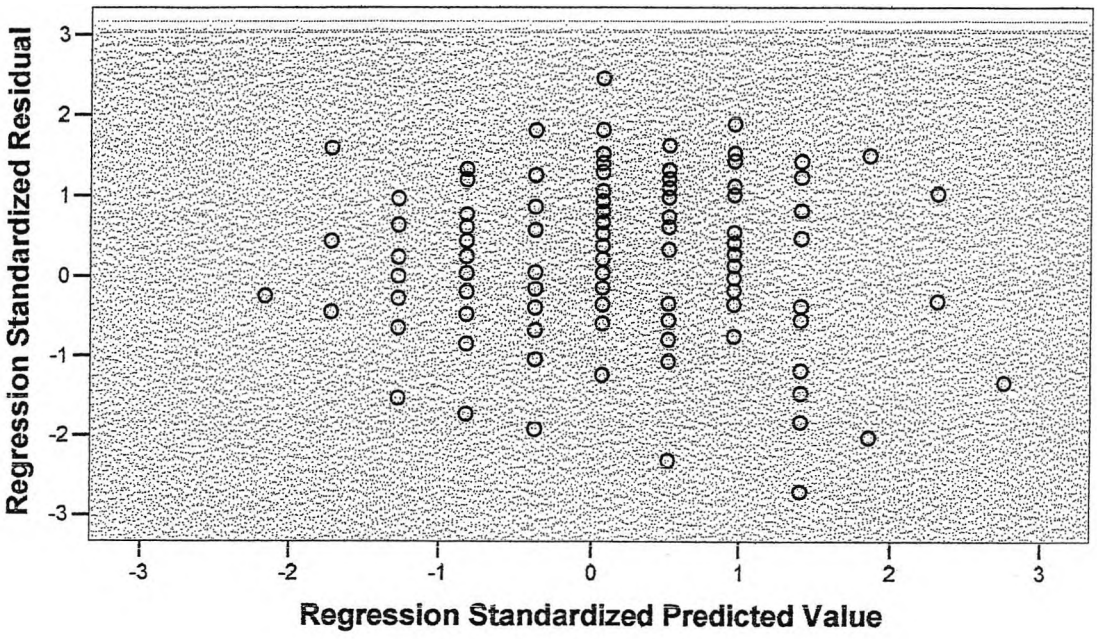
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: sqrtbite



Scatterplot

Dependent Variable: sqrtbite



Regression

Descriptive Statistics

	Mean	Std. Deviation	N
sqrtbite	2.3710	1.23918	156
NPD	4.85	2.237	156
logsanger	1.2214	.08427	156

Correlations

		sqrtbite	NPD	logsanger
Pearson Correlation	sqrtbite	1.000	.403	.299
	NPD	.403	1.000	.248
	logsanger	.299	.248	1.000
Sig. (1-tailed)	sqrtbite	.	.000	.000
	NPD	.000	.	.001
	logsanger	.000	.001	.
N	sqrtbite	156	156	156
	NPD	156	156	156
	logsanger	156	156	156

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	logsanger, NPD[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: sqrtbite

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.452[a]	.205	.194	1.11229

Model Summary[b]

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.205	19.691	2	153	.000	2.102

a. Predictors: (Constant), logsanger, NPD

b. Dependent Variable: sqrtbite

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.724	2	24.362	19.691	.000[a]
	Residual	189.290	153	1.237		
	Total	238.015	155			

a. Predictors: (Constant), logsanger, NPD

b. Dependent Variable: sqrtbite

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.374	1.305		-1.820	.071
	NPD	.194	.041	.351	4.714	.000
	logsanger	3.113	1.094	.212	2.845	.005

Coefficients[a]

Model		95% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	-4.952	.203
	NPD	.113	.276
	logsanger	.951	5.275

Coefficients[a]

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	NPD	.403	.356	.340	.939	1.065
	logsanger	.299	.224	.205	.939	1.065

a. Dependent Variable: sqrtbite

Coefficient Correlations[a]

Model			logsanger	NPD
1	Correlations	logsanger	1.000	-.248
		NPD	-.248	1.000
	Covariances	logsanger	1.198	-.011
		NPD	-.011	.002

a. Dependent Variable: sqrtbite

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	NPD	logsanger
1	1	2.881	1.000	.00	.02	.00
	2	.117	4.958	.01	.95	.01
	3	.002	35.526	.99	.03	.99

a. Dependent Variable: sqrtbite

Residuals Statistics[a]

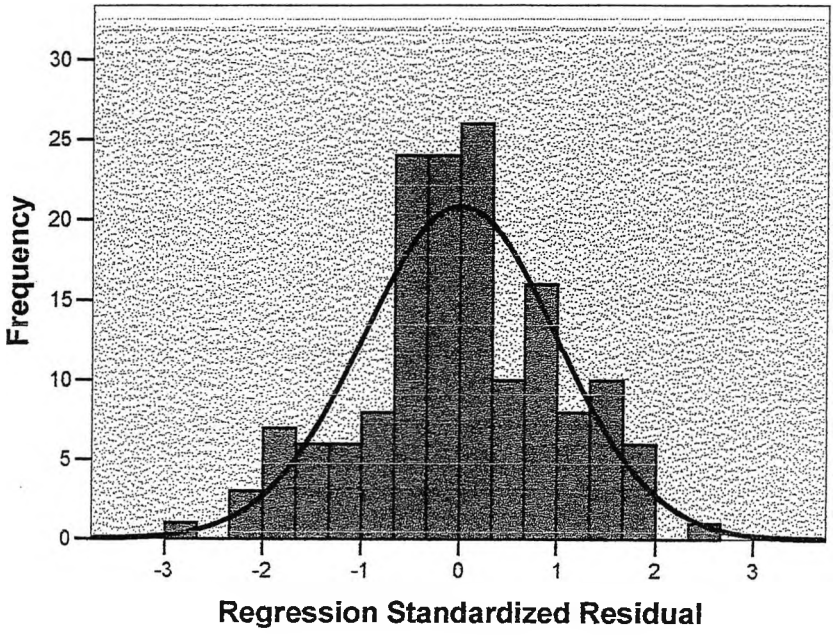
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.3742	4.1816	2.3710	.56067	156
Std. Predicted Value	-1.778	3.229	.000	1.000	156
Standard Error of Predicted Value	.090	.502	.144	.056	156
Adjusted Predicted Value	1.3888	4.0839	2.3727	.56371	156
Residual	-3.01089	2.93750	.00000	1.10509	156
Std. Residual	-2.707	2.641	.000	.994	156
Stud. Residual	-2.734	2.652	-.001	1.003	156
Deleted Residual	-3.07103	2.96282	-.00170	1.12632	156
Stud. Deleted Residual	-2.794	2.707	-.001	1.009	156
Mahal. Distance	.013	30.529	1.987	3.332	156
Cook's Distance	.000	.119	.006	.012	156
Centered Leverage Value	.000	.197	.013	.021	156

a. Dependent Variable: sqrtbite

Charts

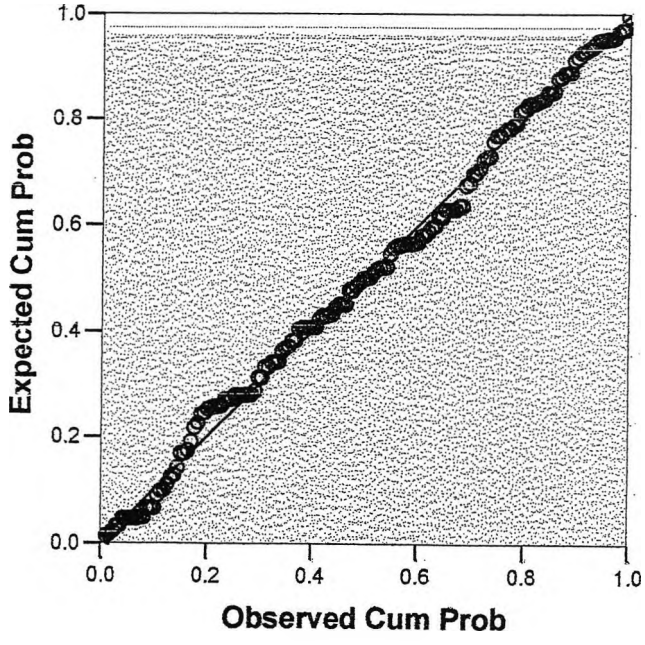
Histogram

Dependent Variable: sqrtbite



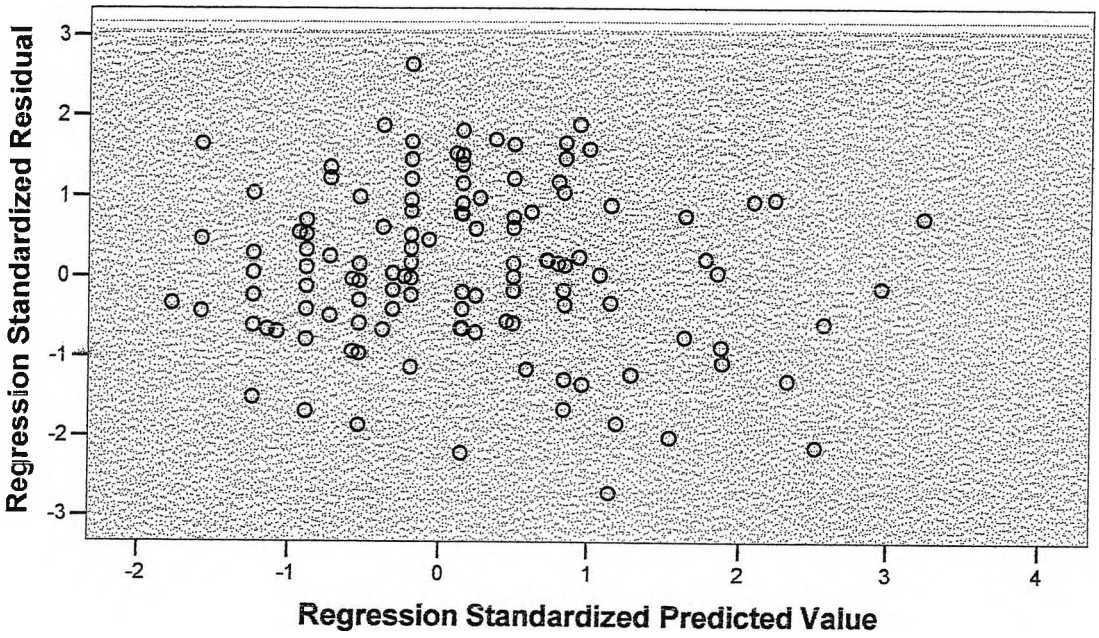
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: sqrtbite



Scatterplot

Dependent Variable: sqrtbite



Appendix O

Mediation Analysis

byx	sezy.x	bzy.x	seyx	byx2	sezy.x2	bzy.x2	seyx2	byx2*sezy.x2
0.009	1.094	3.113	0.003	0.000081	1.196836	9.690769	0.000009	9.69437E-05

bA	bncbiteag
0.028017	0.194
btotal	
0.222017	
	bind/btota
	0.126193

bzy.x2*seyx2	byx2*sezy.x2+bzy.x2*seyx2	SQRT(byx2*sezy.x2+bzy.x2*seyx2)	byx*bzy.x	byx*bzy.x/SQRT(byx2*sezy.x2+bzy.x2*seyx2)
8.72169E-05	0.000184161	0.01357058	0.028017	2.06453964

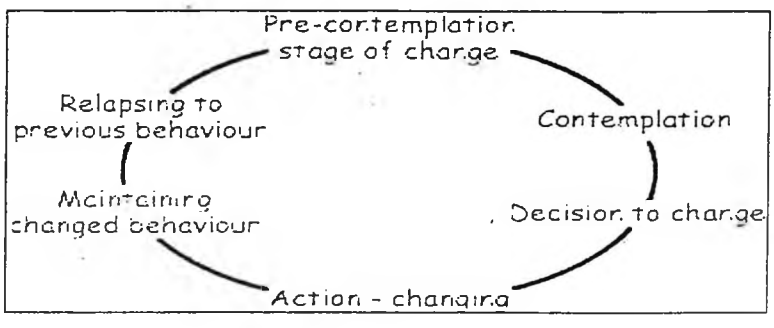
Appendix P

Motivational Interviewing

Motivational Interviewing

Motivational Interviewing (MI) is considered by many to be an effective tool for working with people with "compulsive" or "addictive" behaviour. It has been regarded by some as the most influential model in assisting theoretical understanding of change and the most important and innovative therapeutic intervention of the 1980's.

When clients/patients attend for treatment it is often presumed that they have resolved their ambivalence about change, are prepared to give up old established behaviour, have made a decision and are keen to get on with a change process. What is often recognised is that many drug users are clearly unresolved and in conflict about many behaviours in their lives. MI is a client centred approach that strategically directs clients to examine, explore, and resolve the ambivalence they have about their behaviour. It works on the assumption that people have implicit attachments to the behaviours they engage in, in other words they are functional to the person. In order to assist people to change it is important to be able to work strategically with the client to support them override their attachment to the behaviour, resolve their ambivalence before moving onto change. In other words as a practitioner we work with the natural resistance that is characterised in people with addictive behaviours, using techniques and strategies to direct towards change based on the "Stages of Change Model", developed by Prochaska and Diclemente. This simple six staged model describes a cycle through which people progress. They begin to consider and recognise that they have a problem, weigh up the pros and cons of change and decide to change (or not!).



1. Pre-contemplation: A stage where people do not identify that they have a problem, and are not thinking about change. Others, or external agents may perceive that there is a problem but it is not internalised by the client.
2. Contemplation: A stage where someone begins to weigh up the pros and cons of their behaviour, thinking about whether there may be a problem or not, and whether change is either necessary or desirable.
3. Decision: A stage where someone decides to do something to change their behaviour - a point at which there is a conscious decision to do something.
4. Action: The process of actively doing something. The person chooses a strategy for change and pursues it, taking steps to put their decision into action.
5. Maintenance: A stage of actively working on and maintaining change strategies. This is a stage of conscious effort and attention to sustaining change strategies.
6. Lapse or relapse: A stage where the client either slips (lapses) back from a strategy to change, or return to previous levels and patterns of behaviour (relapse).

Practitioner strategy - It is important to be able to assess in which stage a clients is in, in relation to each behaviour. Strategies for pre-contemplation are different from strategies for a client in action. Practitioners should initially work in areas of least resistance i.e. where the client is furthest in the cycle. The goal of MI is to elicit self-motivational statements from the client about change, and direct these statements towards change. As practitioners we actively seek out statements that reflect 5 key motivational areas;

1. ***Self esteem***: Statements from the client that they are OK. People have to believe they are OK to be able to change. Raising self esteem is a cornerstone of MI.
2. ***Concern***: Statements from the clients that express concern about their behaviours.
3. ***Competence***: Statements from the client reflecting an ability to do things.
4. ***Knowledge of problem***: Statements from clients recognising problem behaviour.
   Knowledge of strategies: Statements reflecting strategies for change
5. ***Desire to change***: Statements that reflect a desire for things to be different.

Motivational Interviewing We actively use these *self motivational statements* to create a state of *internalised conflict* in the client, to allow them to experience the conflict between present and desired behaviour, and to assist them to make informed decisions about change. However it is important that clients are the ones who articulate the need to change and are able to attribute change to themselves. *Supporting self esteem* and *self efficacy* becoming central strategies in this process. As practitioners we *"roll with resistance"*, finding positives in no change, and encouraging the client to be the one who tells us that they have a problem and want to change. In other words as practitioners we leave *clients with the responsibility* for their behaviour, to be the ones who talk of change, but are active in reflecting any *conflict* we hear about their behaviour, and actively "*developing discrepancy*" wherever it is heard. In MI we *elicit* self motivational statements in order to encourage the client to identify whether there is a problem or not. Once a client recognises that there is a problem, with the strategic gathering of *information* about that behaviour and the gathering of objective data about that behaviour, clients can decide whether to change or not. Once a decision to change has been reached with the support of the professional practitioner appropriate strategies for change can be *negotiated.*

Further Reading: Miller, W. Rollnick. S, (Eds). (1991) Motivational Interviewing. Guildford Press.
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Appendix Q

DSM-IV-TR Criteria for Borderline Personality Disorder

Diagnostic criteria for
Borderline Personality Disorder

A pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity beginning by early adulthood and present in a variety of contexts as indicative by five (or more) of the following:

1. frantic efforts to avoid real or imagined abandonment. **Note:** Do not include suicidal or self-mutilating behaviour covered in Criterion 5.

2. a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation.

3. identity disturbance: markedly and persistently unstable self-image or sense of self

4. impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance misuse, reckless driving, binge eating). **Note:** Do not include suicidal or self-mutilating behaviour covered in Criterion 5.

5. recurrent suicidal behaviour, gestures, or threats, or self-mutilating behaviour

6. affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days)
7. chronic feelings of emptiness

8. inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights)

9. transient, stress-related paranoid ideation or severe dissociative symptoms (DSM-IV-TR, 2004, p.710)