

**A RANDOMIZED TRIAL INVESTIGATING THE EFFECTS
OF GUIDED IMAGERY IN THE PROMOTION
OF SELF-SOOTHING IN BULIMIA NERVOSA**

by

Mary Jane Esplen

**A thesis in submitted in partial fulfillment of
the requirements for the degree of**

Doctor of Philosophy

**Institute of Medical Science
University of Toronto**

© Copyright by Mary Jane Esplen

June 1997



National Library
of Canada

Acquisitions and
Bibliographic Services

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale
du Canada

Acquisitions et
services bibliographiques

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-27920-0

Canada

**A RANDOMIZED TRIAL INVESTIGATING THE EFFECTS OF GUIDED IMAGERY
IN THE PROMOTION OF SELF-SOOTHING IN BULIMIA NERVOSA**

Mary Jane Esplen

Doctor of Philosophy

Institute of Medical Science, University of Toronto, 1997

Bulimia nervosa (BN) is a psychiatric disorder that is characterized by a loss of control over eating in the form of bingeing episodes, extreme attempts to control body shape and weight, and a set of attitudes representing a morbid fear of becoming fat. Recently, BN has been categorized as a disorder of impulse control. Theories of impulsivity link impulsive behaviour to a lack of capacity for self-soothing or an inability to comfort oneself when alone. The objectives of this study were to provide quantitative information about the degree of impulsivity and self-soothing capacity in BN and to test a guided imagery therapy designed to enhance self-soothing. A randomized controlled trial with two groups measured pre and post intervention compared six weeks of individual guided imagery therapy to a control group. Fifty participants who met DSM III-R criteria for BN completed the study. Instrumentation included quantitative measures of eating disorder symptomatology, psychological functioning and self-reports associated with the experience of guided imagery therapy.

The guided imagery treatment had substantial effects on the reduction of bingeing and purging episodes and also demonstrated improvement on measures of attitudes concerning eating, dieting and body weight in comparison to the control

group. The imagery group had a mean reduction of binges of 74% ($p < .0001$) and mean vomiting reduction of 73% ($p < .0001$). In addition, the guided imagery demonstrated improvement on psychological measures of aloneness and the ability for self-comforting. Individuals demonstrating both high and low levels of impulse expression and those more receptive to soothing (or with a greater capacity for self-soothing) improved with the imagery treatment.

Evidence from this study suggests that guided imagery was an effective treatment for BN, at least in the short-term, and promoted psychological soothing, possibly by providing patients with a transitional object. Further evidence suggests that the guided imagery therapy may have acted as a form of psychotherapy that provided personal insight. Guided imagery therapy may add an important new dimension to the treatment of eating disorders. Further research is required to replicate these initial findings and to investigate its longterm benefits.

ACKNOWLEDGMENTS

The completion of this project would not have been possible without the assistance and support of many people. In particular, I would like to thank my dissertation committee, beginning with the chairman, Paul Garfinkel, with whom I had frequent discussions and who taught me to think critically about the theories and treatment of eating disorders. He also provided consistent support and encouragement and shared in the excitement throughout each challenging phase of this project. Ruth Gallop offered invaluable expertise in developmental theory and challenged me to further explore theoretical concepts of object relations. I will always treasure our discussions on the patients' experiences with the guided imagery. Marion Olmsted offered timely guidance and encouragement along with her expertise in statistical design and methods and helped me to keep focused, to maintain a productive pace and to enjoy the process. She also was very instrumental in assisting me to recruit patients. Sidney Kennedy offered his expertise in conducting trials, helping me to maintain rigor throughout the planning and implementation of the research. His thorough critique of drafts of the thesis often provided important insights.

In addition I would like to thank the Toronto Hospital Eating Disorder Clinic for granting me access to their clinic and facilitating recruitment. I would especially like to thank all the patients who participated in this research for their time in completing the questionnaires and in sharing their personal stories.

A number of individuals were instrumentally crucial to the project. I am grateful to my research assistants, Melissa Mayer and Anne Miller, who spent long hours entering the data and participating in the data analysis (often with pressing deadlines). The statistical consultation of Bill Lancee and Noreen Stuckless was extremely helpful for my learning of statistical methods and we had fun in the process!

Finally, I would like to acknowledge the support and encouragement of my friends and family. The "group of four" consistently cheered me on and Elisabeth (and the "group of six") provided soothing support. In particular, my husband, John (who provided the music on the imagery tapes) shared with me the joys I experienced through all phases of this project and on many occasions listened to my frustrations. I will always be grateful for his belief in me and for helping me to "refuel" at those times when I needed a break. His gift of music was solacing and continues to be an inspiration for me.

TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGMENTS	iv
TABLE OF CONTENTS	vi
CHAPTER I: INTRODUCTION AND LITERATURE REVIEW	1
The Problem	1
Problem Statement	2
Literature Review	2
Treatment Efficacy of Bulimia nervosa	2
Cognitive Behavioral Therapy	5
Individual Cognitive-behavioral Therapy	6
Group Cognitive-behavioral Therapy	13
Psychodynamic or Experiential Group Therapy	20
Intensive Eclectic Programs	24
Light Therapy	26
Pharmacotherapy	27
Methodological Issues of The Treatment Efficacy Literature	30
Prognostic Factors	30
Summary	31
Impulse Control and the Capacity For Self-Soothing	32
Theoretical Literature	32
Empirical Literature	43
Implications For Treatment	48
Guided Imagery	52
CHAPTER II: CONCEPTUAL FRAMEWORK	
GUIDED IMAGERY TREATMENT MODEL	55
Assumptions	55
Operational Definitions	55
A Guided Imagery Treatment Model to Enhance Self-Soothing	56

CHAPTER III: PURPOSES AND HYPOTHESES	63
Purposes	63
Hypotheses	63
CHAPTER IV: METHODS AND PROCEDURES	64
Design	64
Subject Selection	65
Procedure	66
The Active Treatment Group	67
The Control Group	68
Instrumentation	68
Eating Disorder Symptomatology and Psychopathology	68
Diagnostic Survey for Eating Disorders (DSED)	68
Eating Disorder Inventory (EDI)	69
Eating Attitudes Test (EAT-26)	69
Binge/Purge Frequencies	69
Psychological Functioning	71
Basic Personality Inventory- Impulse Expression Scale	71
Aloneness/Evocative Memory Scale	71
Soothing Receptivity Scale	72
Technique Evaluation Questionnaire	72
Personal Journals	73
Data Analysis	73
CHAPTER V: RESULTS	75
Subjects	75
Recruitment & Dropouts	75
Comparability of Patients in Two Treatment Arms	77
Demographic and Clinical Variables	77
Psychopathology Related to the Eating Disorder	79
Psychological Functioning	82
Effectiveness of the Guided Imagery and Control Conditions	84
Hypothesis 1	84
Target Symptoms	84
Eating Disorder Psychopathology	86
Clinical Significance of Treatment Effects	91
Psychological Measures	94
Hypothesis 2	96
Relationship Between Impulse Expression, Soothing, Aloneness and Evocative Memory	96

Predictors of Response	98
CHAPTER VI: DISCUSSION	107
Effectiveness of The Guided Imagery and Control Treatment	107
Consistency With Previous Findings	108
Predictors of Response	112
Theoretical Significance	116
Methodological Limitations	128
CHAPTER VI: IMPLICATIONS FOR TREATMENT/RESEARCH AND CONCLUSIONS	134
Implications for Treatment and Research	134
Conclusions	138
REFERENCES	140
APPENDICES	160
Appendix A Assumptions of Parametric Statistics	160
Appendix B Marital and Occupational Status For Each Study Group . .	162
Appendix C Explanation to Prospective Participants	164
Appendix D Participant's Consent Form	165
Appendix E Daily Eating Behaviour Questionnaire	166
Appendix F Personal Journals	168
Appendix G Guided Imagery Sessions	170
Appendix H Clinical Management- Guided Imagery Administration Manual	181
Appendix I Clinical Management- Control Group Administration Manual	188
Appendix J BPI-Impulse Expression Scale Items	193
Appendix K Aloneness/Evocative Memory Scale	194
Appendix L Soothing Receptivity Scale	196

LIST OF TABLES

Table No

1	Demographic Variables For Guided Imagery and Control Groups Before Treatment	78
2	Pretreatment EAT-26 Scores For Guided Imagery and Control Groups	80
3	Pretreatment EDI Scores For Guided Imagery and Control Groups . .	81
4	Pretreatment Mean Scores on Psychological Functioning Measures For Guided Imagery and Control Groups	83
5	Target Symptom Frequencies for Guided Imagery and Control Groups	85
6	Repeated Measure of Analysis for Pretreatment/Posttreatment EDI Scores	88
7	Repeated Measure of Analysis Pretreatment/Posttreatment EAT-26 Scores	90
8	Proportion of Patients in Imagery and Control Condition Who Made Clinically Significant Improvement on the EDI	93
9	Repeated Measure of Analysis for Psychological Measures	95
10	Correlation Matrix for Pretest Summary Scores for Psychological Measures	97
11	Prediction of Binge Frequency at Posttest	102
12	Prediction of Purge Frequency at Posttest	103
13	Prediction of Percentage Reduction in Binge Frequency	104
14	Prediction of Percentage Reduction in Purge Frequency	105
15	Prediction of Abstinence	106

LIST OF FIGURES

1 The Impulsive Individual	34
2 Impulse Expression (Directed outwardly)	36
3 Impulse Expression (Directed against false self)	37
4 Impulse Expression ("Contained panic")	37
5 Guided Imagery Therapy	57

CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

THE PROBLEM

Bulimia nervosa (BN) is characterized by a loss of control over eating in the form of bingeing episodes, extreme attempts to control body shape and weight, and a set of attitudes frequently described as either a morbid fear of becoming fat, or as concerns regarding weight and shape being an undue influence in the evaluation of the self. Since its description in 1979 (Russell, 1979), a number of treatment approaches have demonstrated efficacy, at least in the short-term (Cox & Merkel, 1989; Mitchell, 1991; Garfinkel & Goldbloom, 1993), however, a significant number of patients do not respond to current treatments (Fairburn, 1988). Treatments that have been demonstrated to be helpful often address the conceptual or cognitive and behavioral aspects of the disorder. The difficulties these individuals have with affect regulation, feelings of emptiness and the experience of extreme aloneness are often less amenable to standard treatments. Bruch (1973) had recognized the limitations of traditional models of dynamic psychotherapy in treating anorexia nervosa; she suggested that the lack of awareness in identifying bodily sensations and feelings, and the inability to be effectively autonomous in interactions with others, were features of the illness that continued to be expressed with insight-oriented treatments.

The recent categorization of BN as a disorder of impulse control (Booth, 1988) has emphasized the need for further understanding of the underlying mechanisms related to impulsive behavior. Impulsive behavior has been linked to an impairment in

the ability to modulate affects or the ability to experience self-soothing (Adler & Buie, 1979a; Horton, 1981; Adler, 1979). This conceptualization suggests the need to design treatments that specifically target the problem of affect regulation and which assist these patients to comfort themselves. The purposes of the current study are to investigate impulsivity and the capacity for soothing in BN and to test a guided imagery treatment model designed to promote self-soothing.

PROBLEM STATEMENT

What are the effects of guided imagery therapy in promoting self-soothing in BN?

LITERATURE REVIEW

The following areas of literature will be reviewed: 1) Treatment efficacy of BN; 2) Impulse control and the capacity for self-soothing; and 3) Guided Imagery.

TREATMENT EFFICACY OF BULIMIA NERVOSA

A number of theoretical viewpoints contribute to our understanding of eating disorders with the most prevalent conceptualizing BN as a multi-determined illness in which the symptom patterns represent final common pathways that may be arrived at from a variety of distinctly different developmental routes (Anderson, 1985; Garner & Garfinkel, 1985). Through this viewpoint, biological, psychological, familial and social factors are all relevant to the development and maintenance of an eating disorder, however, the relative contribution of each factor may vary remarkably across this heterogeneous patient population. Common sustaining factors include the presence of the starvation syndrome, the use of vomiting to control body weight and

regulate negative mood states, altered familial relationships during the course of illness and social and educational skills (Garfinkel & Goldbloom, 1993).

From a sociocultural perspective, the psychosocial pressures on women to conform to the present cultural norms of body weight and shape have been repeatedly documented (Striegel-Moore, Silberstein & Rodin, 1986; Garner et al., 1980). Dietary restraint has been linked to disordered eating and eating disorders (Polivy & Herman, 1985; Wardle, 1987). Bulimic patients frequently report that binge-eating followed starting to diet (Hsu, 1990). Dieting has a variety of biological, cognitive and affective consequences that may predispose to binge-eating. Psychologically, the unrealistically rigid standards of dietary restraint, coupled with the sense of deprivation, may leave the individual vulnerable to loss of control of eating following dieting (Polivy & Herman, 1985). Therapies, such as cognitive-behavioral, psychoeducation and feminist therapeutic approaches incorporate explicit recommendations for challenging the prevailing cultural norms on the basis that they are misguided and contrary to the best interests of the individual and promote the normalization of eating (Garner et al, 1985).

Developmental theories of eating disorders suggest that the disorder reflects a developmental pattern. For example, Bruch (1973) attributed eating disorders to early interactions with the mother which invalidates the child's experiences. Other developmental themes include a basic deficit in self-regulation in which bingeing and vomiting reflect attempts at internal tension regulation and self-definition (Goodsitt, 1985; Stern, 1986) and parental lack of sensitivity to the child's actual needs which

leaves her/him unprepared to deal with the demands of autonomy and self-mastery (Minuchin et al, 1978; Swift & Stern, 1982). Psychodynamic models of therapy aim to assist individuals in interpreting the disorder, in developing ego structures and in enhancing interpersonal functioning.

An anxiety model of BN has been described (Rosen & Leitenberg, 1985) in which it is proposed that vomiting is an escape response strengthened by the relief it provides from anxiety following the consumption of perceived "frightening foods" or large amounts of food. Vomiting leads to the increase and maintenance of binge eating by removing inhibitions against overeating. Such theories propose that the BN patient's fear of eating could be reduced through an exposure plus response prevention model of treatment, thereby, focusing on controlling the vomiting component of binge-eating-vomiting cycle, as opposed to controlling the secondary behavior, binge eating.

Within the biological realm, the possibility of the role of brain serotonin function being dysregulated was first introduced through animal studies implicating serotonin in the hypothalamic control of satiety and macronutrient choice. There is also clinical overlap between BN and other states of serotonin abnormality (e.g. affective disorder, alcoholism, suicidality and impulsivity (Goldbloom, 1987). The antidepressant, fluoxetine (which blocks serotonin reuptake and enhances serotonergic activity) is an example of a treatment for BN conceptualized from a biological model (Goldbloom, 1987).

Since Russell first described the syndrome of Bulimia nervosa (Russell, 1979),

a considerable amount of outcome research has been conducted. Over the past decade an impressive body of literature has demonstrated benefits, particularly in the short-term, with a number of treatments including: cognitive-behavioral, behavioral, psychodynamic, and psychoeducational psychotherapies as well as medications. Multi-faceted treatments utilizing a variety of combinations of these are the predominant form of care for these individuals today. Studies have failed to reveal the superiority of any one particular treatment for this condition (Garfinkel & Goldbloom, 1993; Herzog & Drinkmann, 1992). Recent reviews report that the majority of psychological treatment studies have included a cognitive and/or behavioral strategy, either individually or in groups.

COGNITIVE-BEHAVIORAL THERAPY

Fairburn (1981) first proposed cognitive behavioral therapy (CBT) for bulimia nervosa (BN) patients as it is particularly relevant for the disorder's associated cognitive distortions, attitudes and eating behaviors. Specific components of the therapies vary across studies but generally contain both cognitive and behavioral therapy techniques. The cognitive therapy elements include: 1) education about nutrition and the disorder (e.g. effects of dieting, cultural expectations of thinness); 2) teaching the patient to identify and modify distorted beliefs and preoccupations concerning body shape and weight, negative thoughts and emotions; 3) active problem-solving discussions; and 4) teaching alternative coping strategies. The behavioral therapeutic elements include: 1) self-monitoring of eating patterns and accompanying cognitive, and emotional physiological antecedents; 2) planning and

eating regularly scheduled nutritionally-balanced meals; 3) stimulus control measures such as binge-inducing situations and avoidance of hunger; 4) systematic modification of eating habits (including the gradual re-introduction of forbidden foods); 5) exposure with response prevention; 6) relaxation training; and 7) assertiveness training (Yager, 1994).

Individual Cognitive-behavioral Therapy. Fairburn (1981) conducted the first treatment evaluation. Eleven patients ranging in age from 17 to 27 years, who met Russell's criteria for BN and who were bingeing and vomiting at least 5 times per week were treated as outpatients. The individual CBT approach included self-monitoring, behavioral control techniques, cognitive restructuring and training in problem solving. Treatment duration ranged from 3 to 12 months, with a mean of 7 months. The abstinence rate was 81.8% at the end of treatment. Although only 6 patients were available for 12-month follow-up, for this subgroup treatment gains were consistently maintained and in one case additional improvement had occurred.

Another early study was conducted at a university research and training clinic where subjects were recruited through newspaper articles and flyers advertising the clinic's bulimia treatment program (Ordman & Kirschenbaum, 1985). Participants were 20 women who met DSM-III criteria for bulimia, had been ill for from 1 to 11 years and reported vomiting at least once per week for the two previous months. Subjects were randomly assigned to either the brief intervention waiting list condition or to the full intervention condition, which consisted of between 4 and 22 weekly outpatient sessions with clinical psychology graduate students. The treatment

combined cognitive, behavioral and process-oriented features and included at least two sessions of exposure with response prevention. The brief-intervention-waiting list condition was comprised of one screening session and two assessment sessions, during which subjects received one trial of exposure with response prevention and a review of other behavioral techniques. After treatment there was a 78% reduction in vomiting frequency in the full-intervention group and a 29% reduction in vomiting frequency in the brief intervention condition. The full-intervention group had improved significantly more than the comparison group on vomiting frequency, the Binge Questionnaire, the Eating Attitudes Test, the Body Cathexis Test, the Beck Depression Inventory and the Global Severity Index of a Symptom checklist. However, the treatment group was still vomiting an average of two to three times per week and only two of the ten subjects were abstinent.

Giles, Young and Young (1985) utilized the approach of offering a basic treatment package to all participants and then providing a series of variations for those who failed to respond to the initial package. The basic package included exposure with response prevention, cognitive restructuring and education. Participants were clinic referred patients and individuals who sought treatment following "media publicity". The 34 participants who entered treatment had a mean age of 27 years and a mean duration of illness of 7 years. There were 6 drop-outs, 6 who failed to benefit from 15 weeks of the basic treatment, and 22 responders who received a mean of 12 treatment sessions. Half of the responders or 39% of the completers had stopped purging at the end of treatment. The responders also appeared to show

improvement on the Beck Depression Inventory and the Eating Attitudes Test, although no significance tests were reported.

Another study (Johnson, Schlundt & Jarrell, 1986) investigated a standardized individual treatment program incorporating exposure with response prevention, training in energy balance and problem solving skills. Training in energy balance refers to the provision of information and the development of skills needed to control weight by managing eating habits and exercise. Twelve participants who met Russell's criteria for BN completed the study. Four patients dropped out over a refusal to comply with specific components of the program; in three of these cases the objection was to self-monitoring. The remaining 8 were vomiting an average of 13.7 times per week at pretreatment which was reduced to an average of 0.6 at posttreatment. There were also significant improvements on the Symptom Checklist, the Social Avoidance, the Distress Scale and the Fear of Negative Evaluation Scale.

Fairburn, Kirk, O'Connor and Cooper (1986) compared CBT to psychodynamically-oriented focal psychotherapy. The focal psychotherapy was adapted from Rosen's method (1979) and emphasizes the role of understanding how the eating disorder developed and is perpetuated by other difficulties in the person's life. Therapy focuses on events and feelings that contribute to episodes of bingeing. The patient is also encouraged to recognize and demonstrate confidence in her own feelings and values. They randomly assigned 24 patients, who met Russell's criteria for BN and who were bingeing and vomiting at least once per week, to 19 individual sessions of one of the two treatment modalities, including the CBT described by

Fairburn (1981). There were no drop-outs, however, two patients were withdrawn for clinical reasons. Patients in both treatment groups were significantly less symptomatic at posttreatment and 27% were symptom-free. Both groups also improved equally and significantly on eating attitudes, depression and social adjustment. Improvements on all variables were maintained or continued to improve over the 12-month follow-up period; at follow-up there was a tendency for CBT patients to be healthier than the focal psychotherapy patients as indicated by scores on all of the psychometric instruments. While both groups displayed significant improvement, it is difficult to attribute this to the specific components of the psychotherapies, since both also used treatments which included components of self-monitoring and education; elements which have been demonstrated to have a treatment effect (Garner, Fairburn & Davis, 1987).

Fairburn and colleagues (1991) followed this study with one comparing interpersonal psychotherapy (IPT) to CBT and behavioral therapies (BT). IPT (described by Klerman et al. 1984 for depression) involves a conceptualization of bulimia in interpersonal terms, with no attention focused on the patient's eating habits or attitudes to weight and shape. Interpersonal psychotherapy demonstrated equal improvements on cessation of bingeing, depressive symptoms, general psychopathology and social adjustment and was inferior to CBT only on measures of dieting tendency, frequency of vomiting and altering attitudes to shape and weight. Fairburn and his group (Fairburn, Norman, Welch, O'Connor, Doll & Peveler, 1995) recently reported on the longterm effects of these psychological treatments. Eighty-

nine individuals with BN were followed for a mean of 5.8 years and given the Eating Disorder Examination (EDE). At one year follow-up, CBT and IPT were equally effective, although the authors suggested that they operated through different mechanisms. Patients who received IPT and CBT did better than those receiving BT. There was no significant difference between the three treatment conditions in the proportion of patients with BN or AN at follow-up.

Garner, Rockert, Davis, Garner, Olmsted & Eagle (1993) recently compared 19 individual CBT (as described by Fairburn, 1985) treatment sessions delivered over 18 weeks to a form of psychodynamic supportive-expressive therapy modelled by Luborsky (1984). Fifty patients completed the study. Both forms of treatment led to significant improvements in eating disorder symptomatology and psychological disturbance. CBT was marginally superior in reducing vomiting frequency and had a greater effect in improving attitudes toward eating and weight.

Hsu and Holder (1986) evaluated a "behavioral" treatment approach which included dietary instructions, self-monitoring, cognitive restructuring and interpersonal problem-solving. The 56 patients who entered treatment met Russell's criteria for BN, had a mean age of 27 years, had been ill an average of 4 years and were bingeing about 15 times per week. Eleven patients dropped out and the remaining patients received between two and four months of individual therapy. At the end of treatment 56% of the completers had binged less than once a week for the previous 3 weeks, 24% had binged an average of once or twice per week, and 20% had binged 3 or more times per week. Neither mean symptom levels at posttreatment nor proportion

of patients who were abstinent were reported. At follow-up (12 to 25 months later), the distribution of patients across outcome categories was similar to that at the end of treatment.

Thackwray, Smith, Bodfish & Myers (1993) examined CBT and BT treatment approaches. Fifty female BN patients were randomly assigned to CBT, BT or attention-placebo conditions. At posttreatment, 92% of CBT, 100% of BT and 69% of nonspecific self-monitoring group were abstinent from bingeing and purging. At 6 months follow-up, 69% of CBT, 38% of BT and 15% of self-monitoring were abstinent from bingeing and purging.

One study of stress management demonstrated improvements in feelings of ineffectiveness, interpersonal distrust and anxiety, and a 75% reduction in binge eating at three months post-treatment (Laessle, et al., 1991). However, in this study stress management was compared to behavioral therapy (BT) in the form of nutritional management, and at one year follow-up abstinence rates were 56% for the BT compared to 25% for the stress management group.

Response prevention has demonstrated mixed results. This intervention is comprised of a specific form of CBT which is based on an anxiety-reduction model of BN which conceptualizes vomiting as an escape response. The vomiting episode (following a binge) is believed to contribute to a reduction of guilt and fear of weight gain, therefore, leading to reduced anxiety. This treatment model suggests that by addressing the problem of vomiting, binge eating will be reduced (Rosen & Leitenberg, 1985). The treatment involves exposing the individual to the feared stimulus (e.g.

certain foods) and then preventing the "learned escape" (vomiting). A therapist remains with the patient for a sufficient amount of time following the ingestion of food in order to inhibit vomiting, while promoting a restructuring of the patient's thoughts related to anxiety, fear of weight gain and other cognitions associated with the disorder.

Leitenberg, Rosen, Gross, Nudelman & Vara (1988) and Wilson, Rossiter, Kleifeld & Lindholm (1986) found response prevention to be associated with significant improvement over cognitive-behavioral therapies, while Agras, Schneider, Arnow et al. (1989) found it to be less beneficial than CBT alone. Recently, Kennedy, Katz, Neitzert, Ralevski & Mendlowitz (1995) investigated 20 female inpatients over 9 sessions of exposure with response prevention as an adjunct to standard milieu therapy. Thirteen patients met DSM-III-R criteria for BN and 7 for Bulimic subtype of AN (AN-B). Kennedy's group found significant treatment effects for self-report measures of "urge to binge", "lack of control", "feelings of guilt" and "tension". In particular, the AN-B group had a significantly greater decrease in depression and the urge to vomit compared to BN patients. Little is known about the mechanisms of active ingredients, for whom exposure prevention treatments are best suited, or how best applied (Carter & Bulik, 1994).

In summary, a number of well-controlled trials have found individual CBT to be highly effective in reducing bingeing and purging behaviors and in altering attitudes concerning body weight and dieting. Generally, CBT has demonstrated substantial treatment effects and those of longer duration compared to BT alone.

Group Cognitive-behavioral Therapy. At least four studies have compared group cognitive-behavioral therapy (CBT) to a control group. Lee and Rush (1986) investigated CBT in a sample of participants responding to a newspaper article describing bulimia and the availability of group therapy. Subjects met criteria for bulimia with symptomatology for at least six months. Thirty participants were randomly assigned to 12 sessions of cognitive-behavioral group therapy or to a waiting list control. There were significant reductions in bingeing and purging frequencies at posttreatment in the CBT group. Twenty-nine percent of the CBT group were binge-free and 14.3% were abstinent from purging and 7.1% were completely abstinent from both symptoms. Significant reductions were also observed in the Beck Depression Inventory in the CBT group.

Huon and Brown (1985) recruited 40 women from newspaper advertisements using DSM-III criteria for bulimia. Participants were randomly assigned to a waiting-list control group or to immediate treatment, involving twelve sessions of group therapy. The CBT group demonstrated significant reductions in binge-purge frequencies which were maintained at six month follow-up while the control group did not improve. Following treatment, 33% of the women were abstinent and at six month follow-up the abstinence rate was 68%.

Wolchik, Weis and Katzman (1986) recruited participants through newspaper advertisements which described a treatment program for BN. Subjects met DSM-III criteria for bulimia and reported bingeing at least twice weekly. Eleven women completed CBT treatment (consisting of seven psychoeducational group and two

individual sessions) which was compared to a no-treatment comparison group of seven women. The CBT group displayed significantly reduced symptom frequencies and demonstrated improvement on psychological measures. Improvement was maintained at 10 week follow-up.

Leitenberg et al. (1988) compared three different versions of CBT to a waiting-list control group. Participants were between 18 and 45 years of age and met DSM-III criteria for BN. Treatment consisted of 24 two-hour sessions delivered over 14 weeks of one of four conditions: 1) CBT and exposure with response prevention conducted in multiple settings; 2) CBT and exposure with response prevention conducted in a single setting; 3) CBT with no exposure or 4) waiting list control. Dropouts ranged from 0 to 15% in the active treatment conditions, while 29% of those assigned to waiting list control dropped out. There were significant reductions in vomiting frequency in all three treatment conditions with no significant improvement occurring in the control group. From pre- to posttreatment, there was a 67% reduction in vomiting in the multiple setting condition, a 73% reduction in the single setting condition and a 40% reduction in the CBT group. At six-month follow-up, 42% of the multiple setting group were symptom -free, 18% of the single setting group and 33% of the CBT were abstinent. All groups significantly improved on the Eating Attitudes Test, the Beck Depression Inventory and measures of self-esteem.

Several comparative trials of CBT have been completed. Wilson et al. (1986) compared a group therapy involving cognitive restructuring to a group therapy with cognitive restructuring plus exposure with vomiting prevention. Participants were

recruited through newspaper announcements of a treatment program. DSM-III criteria and Russell's criteria for BN were used for selection. The study included seventeen subjects who were randomly assigned to 16 weeks of one of the two treatments. A significant reduction in vomiting frequency at posttreatment was observed in both conditions; however, 71% of the subjects in the combination condition were symptom-free compared to 33% in the cognitive restructuring group. Treatment gains were generally maintained at one year follow-up. Both groups demonstrated significant improvement on the Beck Depression Inventory and the combination group demonstrated a significant reduction on several of the subscales of the Hopkins Symptom Checklist.

Yates and Sambrailo (1984) recruited women from a local newspaper article and from medical and weight control clinics. Thirty-one women who reported strong urges to overeat and were bingeing and purging at least weekly for the last 3 months were invited for interview. Twenty-four women who agreed to participate in the study were randomly assigned to six weekly group sessions of either CBT alone or in combination with specific behavioral instructions. There were no differences between treatment groups, with both yielding significant improvements in binge-purge frequency (mean reduction of 21.4%) and on the Carrol Rating Scale for Depression scores.

Another study compared group CBT to nondirective group therapy (Kirkley, Schneider, Agras & Bachman, 1985). Both treatments consisted of 16 sessions, including extensive self-monitoring, were symptom-focused and covered the same

topics; however, the CBT treatment incorporated specific prescriptions for behavioral change while in the nondirective treatment the same topics were offered for group discussion. Subjects were women aged 18 to 46 years who responded to newspaper and television announcements describing a research project, who met DSM-III criteria for bulimia and who vomited at least twice weekly. Twenty-eight subjects were randomly assigned to one of the two treatment conditions. At posttreatment there was a significantly greater reduction in vomiting frequency for the CBT group (95.4% reduction) than for the nondirective group (69.2% reduction). There were significant improvements for both groups on the Beck Depression Inventory, the anxiety dimension of the Spielberger State-Trait Personality Inventory, the Eating Attitudes Test and the Eating Disorder Inventory. At three month follow-up, 38% of the subjects in the CBT were abstinent and 11% of the nondirective group were symptom-free.

There are also two uncontrolled studies of group CBT therapy. Connors, Johnson and Stuckey (1984) randomly assigned 26 patients who met DSM-III criteria for bulimia to either immediate treatment or delayed treatment following 3 weeks of baseline. Treatment consisted of 12 psychoeducational group sessions consisting of a combination of education and psychological therapy, including cognitive restructuring, behavioral management through goal contracting, assertiveness training, relaxation training and the expression of affect in the group. The study had six drop-outs. There was a significant decline in symptomatic behaviour at post treatment and 15% of the patients were symptom-free. There were also significant improvements

in psychological disturbance and eating attitudes. These changes were maintained at 10 week follow-up.

Schneider and Agras (1985) treated 13 women who met DSM-III criteria for bulimia with 16 weekly CBT group sessions, modelled after Fairburn's (1981) treatment approach which includes self-monitoring, behavioral control techniques, cognitive restructuring and training in problem solving. At posttreatment, vomiting had been reduced to an average of twice per week and 53.8% of the patients were abstinent. There were also significant improvements on the Eating Attitudes Test, the Beck Depression Inventory and the Assertiveness Inventory at posttreatment. The reduction in depression was maintained at 30 month follow-up, while scores on the Eating Attitudes Test continued to decline indicating further improvement. There was no improvement on the 90-item Symptom Checklist and scores remained above the normal range at posttreatment.

A comparison trial (Olmsted, Davis, Rockert, Irvine, Eagle & Garner, 1991) of brief group "purely" psychoeducational treatment (5 weekly 90-minute sessions) and individual CBT (19 one-hour individual weekly sessions) involving 54 female patients with BN ranging in age from 18-36 years demonstrated that CBT is more effective than psychoeducation. However, on several important outcome measures both treatments were equally effective for the healthiest 25-45% of the sample. The more intense CBT demonstrated greater improvement in those who were more symptomatic. The authors concluded that group psychoeducation was more cost effective and suggested a sequential treatment program for BN.

One investigation has attempted to investigate the dose response effects of CBT. Mitchell et al. (1993) randomly assigned patients to one of four forms of group CBT; the four cells differed in intensity and emphasis on abstinence. Both the high intensity approach and that which focuses on early abstinence or the combination of these two ingredients were significantly effective in promoting remission in patients with BN compared with weekly CBT. Crosby et al. (1993) completed an analysis of treatment response and relapse for the Mitchell et al. (1993) trial using survival analysis, and concluded that an emphasis on abstinence appears to be important in achieving initial abstinence and the intensity of treatment may be important in maintaining it.

Recent investigations have studied the efficacy of self-help approaches of CBT. Cooper, Coker & Fleming (1994) provided supervision to 18 patients who met DSM-III-R BN criteria using a self-help manual based on CBT for BN. Patients were assessed prior to the program and at 4 and 6 month periods using standard measures. At follow-up, half of the patients ceased bulimic episodes and vomiting and most of the others made significant improvement, indicating that minimal supervised self-help may be an appropriate first line treatment for patients.

A randomized controlled trial comparing a self-directed manual approach to CBT and waiting list was completed by Treasure et al. (1994). The participants were 81 referrals, with BN or atypical BN, from a tertiary referral centre. CBT produced significant reductions in frequency of binge eating, vomiting and other behaviors to control weight. The manual treatment significantly reduced binge eating and weight

control behaviors other than vomiting, and there was no change in the waiting-list group. Twenty-four percent of CBT, 22% of the manual-treatment group and 11% on the waiting list were abstinent at posttreatment.

All of the studies of group CBT report significant reductions in target symptoms, however, there is marked variability in symptom reduction ranging from 15% to 91%. The dropout rates are noted to be considerably higher than that of individual CBT (Garner et al., 1987). The variability among the findings of these studies may indicate differences in the CBT approach involved in the treatment delivered. Garner et al. (1987) have noted that within the category of CBT treatment studies there is marked variability between approaches both in the degree of adherence to exclusively CBT techniques and in the specific techniques employed.

In summary, cognitive-behavioral therapies have demonstrated statistically significant improvements in frequencies of binge eating and vomiting episodes compared to no treatment comparisons (McGown, 1994; Agras et al., 1989; Freeman et al., 1988; Ordman & Kirschenbaum, 1985). Significantly more people entirely stop bingeing and vomiting after CBT and significant improvements in psychopathology have also been demonstrated with these methods (Agras et al., 1989; Freeman et al., 1988). Studies comparing CBT with BT have demonstrated mixed results. Some investigations have failed to find significant differences in psychopathology and symptomatology (Freeman et al., 1988; Yates & Sambrailo, 1984) while others have found greater reduction of symptoms (Kirkely, Schneider, Agras & Bachman, 1985) and improvement in psychopathology through the use of CBT (Wolf & Crowther,

1992). Similar results have been obtained in group cognitive-behavioral therapy (Lee and Rush, 1986; Leitenberg et al., 1988; Wolf and Crowther, 1992). However, group therapies generally are associated with higher drop-out rates (Garner et al., 1987).

PSYCHODYNAMIC OR EXPERIENTIAL GROUP THERAPY

Two early uncontrolled studies exposed subjects to "feminist-experiential-behavioral" group therapy (Boskind-Lodahl & White, 1978; White & Boskind-White, 1981). The women were reported to have "bulimarexia", defined as bingeing followed by purging through vomiting, laxative abuse, fasting, dieting or drug use; a distorted body image, and low self-esteem. In the first study (Boskind-Lodahl & White, 1978), 26 women who responded to an advertisement in a university newspaper were treated with eleven 2-hour group sessions and one 6-hour marathon session. Neither pre- nor posttreatment symptom levels were reported, but it was noted that 31% of the women were asymptomatic after treatment. In the second study (White & Boskind-White, 1981), subjects were 14 women who responded to a magazine article and who had been symptomatic for at least 4 years. Treatment consisted of five 5-hour group sessions held on consecutive days. At six months posttreatment, 21% of the women were symptom-free. Significant improvements were also reported on the Body Cathexis Test and several subscales of the California Personality Inventory.

Lacey (1983) conducted the first controlled trial of an eclectic treatment program which included behavioral and insight-oriented features and involved 30 minutes of individual treatment and 90 minutes of group treatment each week for a

period of 10 weeks. The 30 patients, aged 21 to 37 years, met Russell's criteria for BN and were bingeing and vomiting a minimum of once per day. The treatment group showed a dramatic decrease in symptom frequencies over the course of treatment, while the waiting-list control group demonstrated no change. At the end of treatment 80% of the patients were asymptomatic, at four weeks posttreatment 93% were symptom-free and at two year follow-up 71% remained abstinent. Although Lacey demonstrated a large improvement in symptomatic behaviour with a relatively short treatment program, it should be noted that this finding may be limited by the select nature of the studied patient group; entry into the program was contingent on the patient contracting to eat three meals each day and to maintain her weight.

Recently, a comparison study of group CBT and group IPT for binge eating in a sample of non-purging bulimic women was conducted by Wilfley et al., (1993). Fifty-six women were randomly assigned to one of three groups: CBT, IPT or a waiting-list control. Treatment was conducted in small groups over 16 sessions. Both CBT and IPT showed significant improvement in reduction of binge eating compared to controls and binge eating remained below baseline levels for both treatments at six months and one year. The authors emphasized the importance of both interpersonal and eating factors.

Several uncontrolled clinical evaluations of primarily psychodynamic group therapies have been reported. Roy-Byrne, Lee-Benner and Yager (1984) reported on the 11 of 19 patients who remained in a group for at least 5 months. The patients ranged in age from 19 to 25 years and all met DSM-III criteria for bulimia. Subjects

were bingeing at least 5 times per week and 10 of the 11 subjects were also vomiting. Treatment was based on a dynamic model and focused on group process, but educational material about bulimia and nutrition was provided and some attention was given to cognitive distortions. The program consisted of weekly sessions for 12 months, but all 11 patients were involved in some form of uncontrolled concurrent treatment at some time during the course of the study. Therefore, the symptom abstinence rates of 33% of those subjects who remained in treatment at 12 months cannot be attributed to the group treatment with any certainty.

The second uncontrolled study of psychodynamic and behavioral group therapy was based on 8 patients who had a "psychiatric diagnosis of bulimia" and were bingeing and purging at least 5 times per week (Stevens & Salisbury, 1984). After 16 weekly sessions, 2 patients had dropped out with no improvement, 3 patients were bingeing and purging 6 or more times per month and 3 patients were bingeing and purging 4 or fewer times per month; none of the subjects were symptom free.

Frommer, Ames, Gibson and Davis (1987) described an uncontrolled study of short-term group therapy which focused on dynamic issues, group dynamics and CBT interventions; didactic material was provided, but no behavioral instructions were offered. Treatment consisted of 12 weekly 90-minute sessions. Participants were 92 patients who met DSM-III criteria for bulimia, had been ill for between 1 and 6 years and were bingeing an average of close to 9 times per week before treatment. Although the reductions in both bingeing and vomiting at posttreatment were statistically significant, they were very small. There was a 23.1% reduction in

bingeing and 14.5% reduction in vomiting. No information was provided on drop-out rates, abstinence or follow-up.

Dixon and Kiecolt-Glaser (1984) reported on an open group therapy program which apparently included equal proportions of behavioral techniques and insight-oriented discussion. After 10 group sessions, 27.3% of the completers were binge-free; and 9 to 12 months later 45.5% were binge-free. There were also significant reductions on the Eating Attitudes Test, most of the subscales of the Hopkins Symptoms Checklist and the Rotter Locus of Control Scale, indicating a move toward more internal orientation. Interpretation of these changes is complicated by the fact that 7 of the 11 completers received some form of concurrent treatment. This program, however, had a 63.3% drop-out rate.

Two alternative treatments for BN have been evaluated- inpatient analytically-oriented therapy and outpatient systemic therapy (Liedtke, et al., 1991). Twenty-seven patients who completed psychoanalytic therapy (which included four psychoanalytic group sessions weekly over two-months in an inpatient setting) were followed after 1 month and compared to a systemic therapy group (which used the Milan Family Therapy Model, conducted as an outpatient service over 1 year). After treatment, 52% of the inpatient group and 33% of the systemic group were symptom-free, both groups changed in eating attitudes and improved in their self-confidence and the analytical-oriented group also displayed some change in dimensions of affective experience.

In summary, dynamically-oriented group therapy has been investigated often

without a comparison or control group with varying results. Reductions in bingeing range from 23% to 83% (Frommer et al., 1987; Lacey, 1983; Stevens and Salisbury, 1984). Garner et al (1987) conducted a meta-analysis of CBT treatment studies and documented a median reduction in vomiting from pre to posttreatment of 84% and a median abstinence rate of 33%. Several of the mainly psychodynamic group studies reported outcomes which were close to these medians (Boskind-Lodahl & White, 1978; Dixon & Kiecolt-Glaser, 1984; Roy-Byrne et al., 1984; White & Boskind-White, 1981). In many of these studies the dynamically-oriented therapy was used in conjunction with cognitive-behavioral or educational components.

INTENSIVE ECLECTIC PROGRAMS

Intensive eclectic programs, characterized by a large number of treatment hours, may involve a combination of psychoeducation, behavioral methods of symptom control and group and/or family therapy.

Mitchell, Hatsukami, Goff, Pyle, Eckert and Davis (1985) tested a program based on the Alcoholics Anonymous model, consisting of 52.5 hours of treatment over 8 weeks. The program also included group dining and support group sessions. Patients were expected to abstain from bingeing and vomiting upon entry into the program. They were also required to agree to a dietary intake of at least 1200 calories per day. Patients were informed that failure to comply with these demands could lead to their dismissal from the program. The program was intended for severely ill patients who were bingeing and vomiting at least once daily and had been ill for several years. Of 104 patients, 47% reported abstinence from the first day of

the program, 25% reported between 1 and 3 slips during the program, 11% reported 4 or more episodes of vomiting, 11% dropped out and 6% were asked to leave. The study provided little information regarding the number of patients who refused the program because of study entry requirements and therefore the representativeness of the program sample is unknown.

Wooley and Kearney-Cook (1986) reported on an intensive program consisting of approximately 105 hours of treatment over approximately 3 weeks. In addition to education and process group sessions, treatment included two or three individual sessions per week and a body image group session. Outcome data were presented for 15 women who ranged in age from 18 to 31 years, with a mean of 25 years. and who had been ill for from 2 to 15 years, with a mean of 8 years. The women were bingeing and purging at least 5 times per week pretreatment. One year after completing the program 46.7% were abstinent and the mean reduction in symptom frequencies was 91%. Neither outcome immediately after treatment nor the drop-out rate were described.

The results of a two-year follow-up of BN patients treated through a multi-package day hospital program, including CBT, family and other forms of group therapy demonstrated a 56% abstinence rate for bingeing and vomiting with 46% being symptom-free at two year follow-up (Maddocks & Kaplan, 1991).

Recently a one-month intensive residential treatment program for 132 bulimic women was evaluated (Wooley, Wooley & Deddens, 1993). The program largely consisted of a group CBT approach including self-monitoring of eating behaviour.

Additional groups focused on body image, family therapy and the identification of emotions. In addition, patients received individual sessions weekly and two educational seminars. Follow-up at one year demonstrated an 86% reduction in purging and a 38% abstinence rate. Improvement was also demonstrated in relationships and progress towards life goals.

Gendron, Lemberg, Allender & Bohanske (1992) compared an intensive two-day group process "retreat" to a control group and evaluated reduction in bingeing and purging, self-esteem and eating attitudes. Participants were 24 women who met DSM-III criteria for BN and who binged and purged at least once weekly. The treatment group demonstrated significantly greater improvement in self-esteem and binge eating severity, purge frequencies and eating attitudes. The authors concluded that the intensive group process retreat model is an effective adjunct in the treatment of BN.

In summary, these treatment programs appear to be effective for a substantial group of patients (Wooley & Kearney-Cooke, 1986; Mitchell et al., 1985; Maddocks et al., 1992). While efficacy of these multi-dimensional treatment packages has been demonstrated, the active ingredients in these programs have yet to be specified.

LIGHT THERAPY

A new area of treatment for BN involves light therapy. Recent reports of mood and eating symptom patterns being similar to Seasonal Affective Disorder (Lam, Goldner, Solyom & Remick, 1994) have led to trials of light therapy for BN. Lam and his group (1994) compared light therapy during winter (bright white light) to a control

condition of dim red light in bulimic patients who were not selected for a seasonal pattern of bulimia. Seventeen females who met DSM-III-R for BN underwent early morning treatment of bright light exposure over two weeks in a counter-balanced, crossover design. The females receiving white light treatment improved on all mood and eating outcome measures. Seven patients with "seasonal" bulimia had significantly greater improvement than the nonseasonal BN patients. This area requires further study.

PHARMACOTHERAPY

At least 13 double-blind placebo-controlled trials have been conducted with the majority demonstrating the benefits of antidepressant medication over the short-term in the treatment of bulimia nervosa when compared with a placebo (Mitchell & Groat, 1984; Agras et al., 1987; Hughes et al., 1986; Kennedy et al., 1988; Walsh et al., 1984) and a few have compared pharmacotherapy with other therapies (Mitchell et al., 1990; Agras et al., 1992). There is generally about a 60%-70% reduction in the frequency of bingeing and purging found in these studies accompanied by an enhanced sense of control over eating and improvement in psychological disturbance. However, most patients continue to be symptomatic (Mitchell et al., 1993) with reported abstinence rates being at approximately 25% by the end of treatment.

At least 3 recent studies have compared antidepressant medication with psychological treatments alone or in combination. Mitchell et al (1990) found group CBT to be more effective than imipramine and no added benefit by combining the two treatments, other than on anxiety and depressive symptoms. Agras et al (1992)

obtained similar findings when comparing desipramine to CBT and their combination, although there was some evidence favouring their combination.

Fichter et al. (1991) completed a double-blind trial of 40 inpatients who met DSM-III-R criteria for BN. Patients were randomly assigned to either 60 mg fluoxetine or placebo over a period of 35 days. Parallel to the drug trial, patients participated in an intensive inpatient behavioral psychotherapy. Significant improvement over time in both groups was found on attitudes towards eating, eating behavior and general psychopathology, but no group x time difference. The intensive inpatient and psychotherapy program was highly effective in changing eating behavior and attitudes along with general psychopathology and appears to have provided a ceiling effect.

One recent report of a multi-centre double-blind randomized trial of fluoxetine specifically addressed the clinical significance of change (Goldbloom & Olmsted, 1993). In addition to impressive behavioral change scores on primary outcomes of bingeing and purging, a significant number of patients demonstrated improvement on attitudes as measured by the EDI. No information was provided on the sustaining effects of these changes.

Collings and Kin (1994) followed 50 BN patients over ten years following their participation in a double-blind controlled trial of the antidepressant mianserin. Information on 44 patients demonstrated that 52% had recovered fully and 9% continued to have full DSM-III-R diagnostic criteria. Thirty-nine percent had some symptoms. Only younger age of onset, higher social class and a family history of alcohol abuse were predictors of favourable outcome.

Agras et al. (1994) completed a one-year follow-up of a trial involving desipramine, CBT and their combination. Sixty-one patients meeting DSM-III-R criteria for BN were randomly assigned to one of 5 groups: desipramine (withdrawn at 16 or 24 weeks), 18 sessions of CBT or combined treatment (18 CBT sessions + desipramine withdrawn at 16 or 24 weeks). At one year, both combined 24-week treatment and CBT alone were significantly superior in decreasing binge eating compared to desipramine given for 16 weeks. The combined treatment was also superior to 16 weeks of desipramine in decreasing emotionally-driven eating and dietary restraint. Eighteen percent receiving 16 weeks of desipramine were abstinent of binge/purging, compared to 78% of those receiving combined 24-week treatment. Maintenance of improvement occurred, except with desipramine for 16 weeks, and the authors concluded that desipramine for 24 weeks at least either alone or combined with CBT were effective treatments for BN.

A comparison (Goldbloom et al, 1996) involving individual CBT alone, fluoxetine alone and the two in combination similarly demonstrated that the combination of CBT and fluoxetine produced greater benefit than medication alone.

In summary, the pharmacotherapy trials have demonstrated benefits relative to placebo, abstinence rates at approximately 30% in the short-term, and reductions in bulimic behaviors of approximately 60-70%; however, the dropout rates are high (Garfinkel & Goldbloom, 1993). Significant improvement on attitudes towards eating and weight have also been found with pharmacotherapy. It is unclear to what extent the effects of medications are enduring and what are the benefits of combining

medication with psychotherapy. There currently is no indication of significant predictors (including comorbid depression) of response to antidepressant medications (Garfinkel & Goldbloom, 1993).

METHODOLOGICAL ISSUES OF THE TREATMENT EFFICACY LITERATURE

Several methodological issues limiting the conclusions that can be drawn from studies have been identified in the literature and include the following: 1) multi-treatment packages in many of the studies preclude the isolation of active ingredients; 2) small sample sizes; 3) the uncontrolled nature of many studies; 4) changes in the diagnostic criteria for BN over time; 5) lack of uniform definitions of outcome criteria i.e. "binge"; 6) sampling bias; 7) lack of report of "clinically significant change"; 8) lack of information concerning long-term benefits; and 9) few studies have investigated predictors of outcome (Garner et al., 1987; Garfinkel & Goldbloom, 1993; Mitchell et al., 1991; Cox & Merkel, 1989). Efforts are being made to address these methodological concerns and to investigate specific components of therapies that play an active role in change.

PROGNOSTIC FACTORS

Reviews have emphasized the lack of knowledge of predictors of treatment response in this patient population and consequently, it is difficult to know which treatment is best for a particular patient. Personality disorder variables have had varied results depending on which measure was used in a given study (Wonderlich et al., 1994; Davis et al., 1992), as is a past history of anorexia nervosa (Maddocks & Kaplan, 1991; Lacey, 1983). Variables such as level of self-esteem and body

dissatisfaction may be important predictors (Fairburn, Peveler, et al, 1993). Generally, pretreatment binge frequency and duration of illness have not been related to outcome. Blouin et al. (1994) recently found family environment as measured by the Moos Family Environment Scale to be a significant predictor of improvement in binge frequencies and bulimic cognitions. They found that a conflicted, controlling and over-organized family environment impedes improvement in binge frequencies and bulimic cognitions.

SUMMARY

The impressive body of literature on the treatment of BN has demonstrated that a variety of effective treatments exist for BN: CBT, behavioral, and dynamically-oriented psychotherapy, and the addition of antidepressant medication can be helpful. These therapies contribute to substantial reductions in bingeing and purging. They have also been found to be helpful in improving the cognitive aspects of the eating disorder, such as the cognitive distortions, eating attitudes, and attitudes towards body weight and dieting. While many of the current forms of treatment are effective, at least in the short-term, the majority of patients continue to be symptomatic at the end of treatment (Mitchell, Raymond & Specker, 1993) and the relapse rate is high (Herzog et al., 1991). There remains a lack of information that can be useful for matching patients to treatments. Furthermore, the difficulty that these individuals have with the regulation of painful affects and their feelings of emptiness and aloneness are less understood, and the current forms of treatment are not directed at these aspects of the illness.

An added diagnostic dimension of BN has recently emerged with BN being categorized as a disorder of impulse control (Booth, 1988.) This diagnostic category evolved through the following themes from the clinical and empirical literature:

a) **Behavioral-** Individuals with eating disorders have been observed to engage in a number of behaviors described as "impulsive", for example, bingeing, drug and alcohol abuse, theft, and sexual promiscuity (Garfinkel, Moldofsky & Garner, 1980; Garner, Garfinkel & O'Shaughnessy, 1985).

b) **Personality-** Personality disorder clusters have been recognized, including an "impulsive" or dramatic group (i.e. borderline, narcissistic, histrionic and antisocial) (Kennedy & Garfinkel, 1992).

c) **Neurobiological-** Some evidence exists for a disturbance in serotonin function in BN which has been linked to impulsivity (Goldbloom, Garfinkel & Shaw, 1991).

With BN recently categorized as a disorder of impulse control, further understanding of impulsivity and the design and testing of treatments geared towards the management of painful affects are required.

IMPULSE CONTROL AND THE CAPACITY FOR SELF-SOOTHING

Theoretical Literature

Current definitions of impulsivity stem from the diagnostic class of impulse control disorders within the DSM, theories of impulsivity as a personality trait and developmental perspectives (Booth, 1988; Frosch, Frosch & Frosch, 1986; Wishnie, 1977). Booth (1988) classified Eating Disorders within the group of impulse control disorders and described these as disorders of behavior, with impulsivity being an

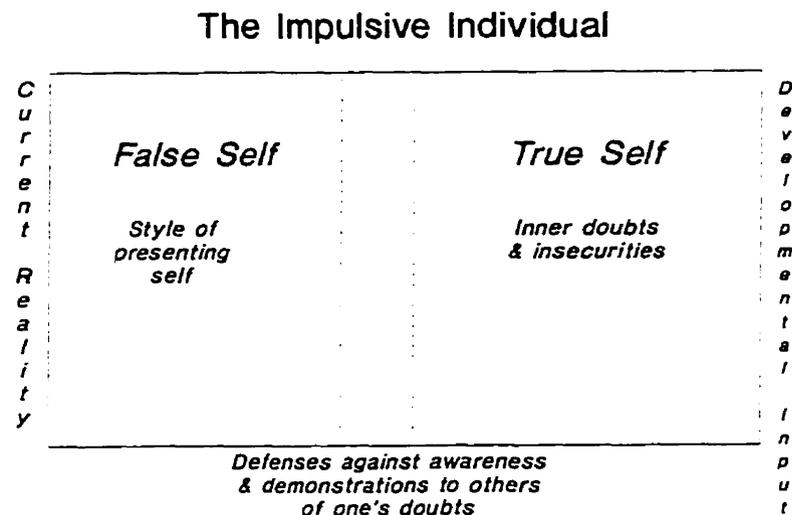
underlying symptom. Impulsivity has been described to result from faulty self-esteem regulation, as behavior used to modulate affects when the experience of inner pain becomes overwhelming, and as a communication for help (Adler, 1979; Wishnie, 1977). Clinical descriptions of impulsivity have identified a variety of "impulsive acts" or behaviors which may vary from individual to individual and include wrist-slashing, violent aggressive acts, binge and purge episodes and the use of drugs and alcohol (Wishnie, 1979; Booth, 1988; Garner et al., 1985). Some individuals demonstrating an impulsive style exhibit more than one of these behaviors (Wishnie, 1977; Booth, 1988).

Wishnie (1979) has defined impulsive behavior as an "action which is rapidly conceived and carried out with poor planning and little thought as to the consequences " (p.52). While the impulsive behaviors among individuals may vary, a consistent theme underlying impulsive behavior has emerged: the existence of a panic or an anxiety-filled state which precedes the impulsive act (Wishnie, 1979; Adler, 1981; Frosch et al., 1986; Booth, 1988). This panic state is believed to arise when an individual is suddenly consciously confronted with an inner view that she/he sees herself/himself as worthless and powerless. This sense of worthlessness and vulnerability generates anxiety (tension) leading to an experience of emotional and physical discomfort. Theories suggest that this discomfort leads the individual to react quickly and automatically in order to rid herself/himself of the discomfort or tension experienced (Wishnie, 1979). Within this model, the impulsive behavior is believed to be a manifestation of inner discomfort, resulting in a feeling of comfort,

release or gratification (Adler, 1981; Booth, 1988; Wishnie, 1979).

Wishnie (1977) provided a model conceptualizing the "impulsive personality", utilizing an object-relations theoretical viewpoint, based on Winnicott's work (Winnicott, 1965). Wishnie's model is helpful to understand impulsive individuals across different diagnostic classes. He portrayed the impulsive individual as having an internal and external self, as similarly conceptualized by Winnicott's "true" and "false" self (see figure 1).

Figure 1



The large rectangle represents the total individual, the area to the left of the rectangle her/his current reality, and the area to the right, the developmental input of early life. Within this rectangle are three subdivisions. The false self consists of an outer self which includes the person's traits, habits, attitudes, character and behavior and provides an appearance of a high level of functioning, control and self-esteem. It serves to protect the inner self from being revealed. The small central area shown

with dotted lines represents the defenses that keep the individual from being aware of her/his doubts and negative self-beliefs. The area to the right or true self (internal view) represents the private world of the individual. It is often referred to as the "real me" by the individual and contains inner doubts, conflicts and beliefs about the self. Individuals with eating disorders have been described as maintaining strong efforts at avoiding any arising tension; this can lead to a self-organization of extreme compliance and self-control (best exemplified by Winnicott's term "false self") (Bruch, 1973; Goodsitt, 1985). Examples of extreme compliance, self-control and perfectionistic thinking (consistent with Winnicott's description of a "false self") have been observed in young eating-disordered women who excel in sports (ie. gymnastics) or the arts (i.e. ballet) and who exhibit a strong need to please others as indicated in the "good little girl syndrome" (Bruch, 1973). This way of being in the world can result in feelings of deadness, numbness and emptiness, a state characterized as being void of feeling and spontaneity and feeling fully alive (Bruch, 1973; Winnicott, 1971; Adler, 1979).

Figures 2 to 4 provide a visual representation of how impulsive behavior is believed to occur. Wishnie's model proposes that it is during times when efforts at hiding the true self are threatened, or when outside events trigger awareness of negative self-doubts or beliefs (cut through defenses) that an emotional reaction in the form of anxiety or panic occurs. Once the anxiety is experienced (which can be instantaneous) the individual reacts. According to Wishnie (1977) there are three basic means of coping with the arising tension: 1) It can be directed externally into

the environment in a destructive anger or rage directed at others (e.g. violent, aggressive acts) (see figure 2); 2) It can be directed against the false self (e.g. addictions, wrist-cutting, sexual behavior, bingeing) (see figure 3); and 3) The individual may attempt to contain the panic in rage-filled thoughts and fantasies that are both repressed and suppressed (see figure 4). This can take the form of phobic concerns or other forms of psychosomatic illness (Wishnie, 1977). All of these methods are believed to relieve the anxiety and serve to redirect the discomfort away from the inner or true self.

Figure 2

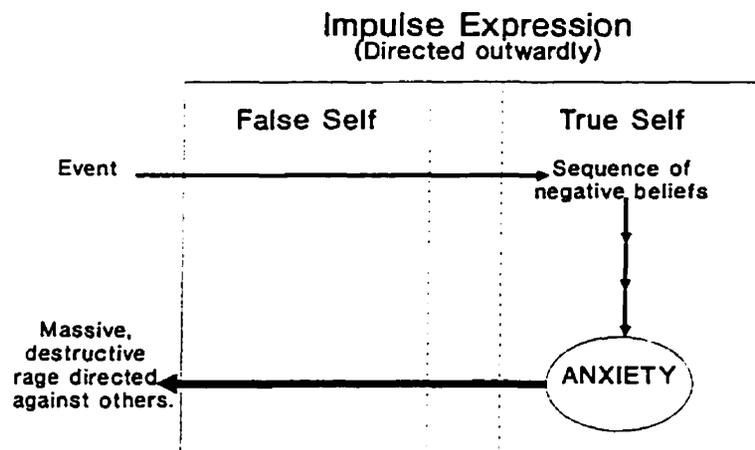


Figure 3

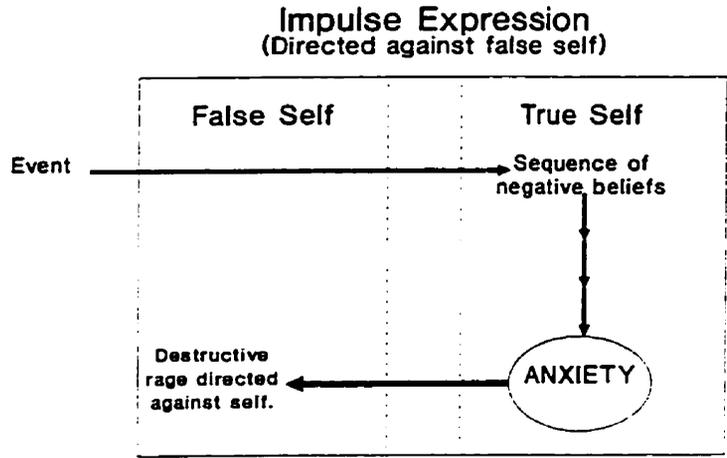
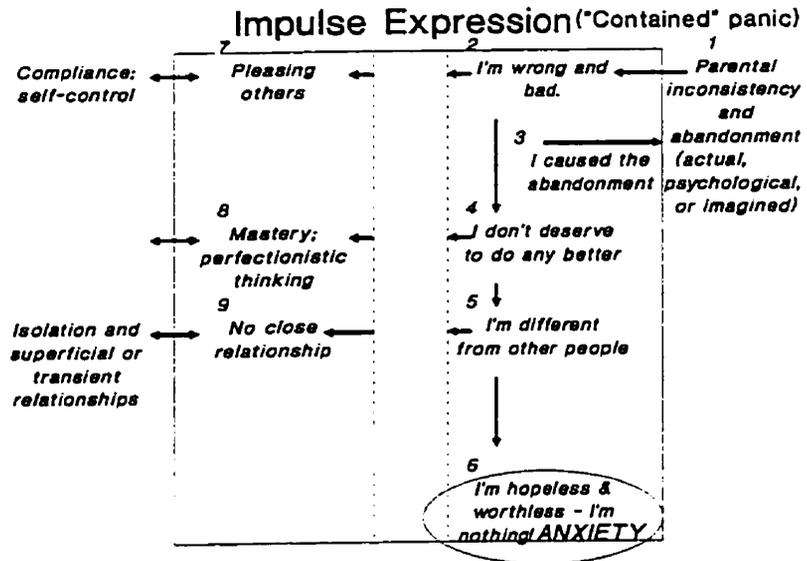


Figure 4



Researchers on eating disorders have found that patients have difficulties identifying, verbally expressing and regulating all forms of physical tension (Bruch, 1973; Swartz, 1988; Troop et al., 1995). The literature has identified a primitive inability among these patients to verbalize emotion, despite the patient being articulate in other areas (Bruch, 1973). This difficulty leads these patients to a state which is "incommunicable" at times and experienced as an "extreme state of tension", while at other times is characterized by feelings of emptiness which they cannot soothe (Cross, 1993). Researchers and theorists have suggested that binge eating and vomiting, as well as drug or alcohol abuse, represent an attempt to artificially modulate negative affect and in a sense serve to "numb" the pain (Bruch, 1973; Cross, 1993; Johnson & Connors, 1987). Eating behavior, specifically, has been described as a sensation-oriented behavior used to block out painful reality and experience; physical hunger is easier to soothe than emotional hunger, and feelings of being "weighed down" are easier to dispel than a sense of a psychological lack of autonomy and impotence (Cross, 1993). This represents a concrete and bodily solution, not involving thinking, and leads to the formation of a new reality which is organized around food (Shulman, 1991).

The ability to manage or regulate tension (affect) has been referred to in the psychodynamic literature as the capacity for self-soothing. Individuals identified as "impulsive" have been described as having a lack of capacity for self-soothing, a decreased repertoire of soothing mechanisms or as using maladaptive soothing

methods (Adler, 1992; Horton, 1981; Booth, 1988). As indicated in Wishnie's model, these individuals are vulnerable when faced with interpersonal events that trigger inner thoughts of insecurities, and therefore, they rely on behavior to manage painful states.

The capacity for self-soothing is believed to develop through the internalization of earlier soothing or comforting experiences during early development. Winnicott's (1965) contributions are useful in elaborating the developmental issues. He described the notions of "good-enough mothering" and the "holding environment" and emphasized the empathic bond between mother and child, outlining the broad limits of what might be "good enough". He introduced the term "transitional phenomena" referring to various soothing experiences and behaviors such as the infant's repetitive babbling sounds and the holding of a soft blanket against the skin. Soft objects such as a teddy bear or blanket represent "transitional objects". Familiarity, availability, physical texture and smell of the soother are among factors that explain the infant's choice of a soother (Busch, et al., 1973). They serve the same comforting functions as transitional phenomena, particularly when the child is anxious or lonely. It is believed that the infant, at the stage of recognition memory, is able to keep in his awareness the soothing of the mother through the holding and feeling of a familiar object which is reminiscent of her touch. This transitional object serves as an "external activator" (Adler & Buie, 1979 a,b) which helps elicit certain qualities that it shares with the mother, for example, softness. With the development of "evocative memory" the infant develops the ability to produce the mental image of the object (mother) in her absence without any perceptual cues of her. The experience of the

transitional object and phenomena (psychological soothing) become represented within the child's inner world. This internalization has been described as "essential" and "basic", and may indicate a type of "imprinting" (Horton, 1981).

The internalization of earlier soothing experiences allows the progressive separation of the child from her/his mother and becomes crucial in the development of the capacity to be alone. The child is able to leave the mother's bosom when she or he can find something of her nurturance in the external world. Therefore, the child no longer depends fully on the presence of actual people for comfort. She/he is able to soothe herself/himself with fantasies, images and memories of her/his earlier interactions with objects which resonate with the soothing maternal primary process presence. This capacity has been referred to as the ability for "transitional relatedness" which has been defined by Horton (1981) as the following:

Transitional relatedness is the person's unique experience of an object whether animate or inanimate, tangible or intangible in a reliable soothing manner based on the object's association or symbolic connection with an abiding mainly maternal primary process presence. In health, this relationship facilitates engagement with novel, conflictual, even frightening circumstances and mediates and catalyses psychological growth. It is a growth process and series of changes, often lifelong. It is influenced by experience through maturation and in response to influences in the environment.

(p.35)

Horton (1981) described transitional relatedness (appearing in the first few months

of life) as antedating the most primitive defenses and identified the initial function of transitional relatedness as permitting mastery of separation of the mother. He extends its role to later in life being central in combating "the worst of all evils-aloneness" by finding a reliable soother, the felt presence of a maternal object and a way into the future prepared to face challenging situations.

The capacity for transitional relatedness may be a distinct biologically-based phenomenon (Horton, 1981; Taylor, 1987). Taylor (1987), in discussing the relationship between transitional objects and disorders of regulation, has drawn upon the psychobiologic research of Hofer (1984) who has found in certain animal species that mothers regulate a number of infant biological systems through separate sensorimotor pathways through specific maternal attributes (e.g. tactile, olfactory, stimuli, milk, body, warmth). Hofer referred to them as "hidden regulators", as they are less readily observable. The anxiety and tension-regulated functions operate by evoking a union with the absent mother. Taylor (1987) suggested that this regulating process may also depend on sensorimotor mechanisms, as evidenced by the importance of the texture and smell of the transitional object and the rhythmic manner in which it is frequently handled. The transitional object may take over some of the psychobiological regulating function of the mother (Taylor, 1987). Theories suggest that without the ability to do this, the world is frighteningly foreign (Horton, 1981).

While there is general agreement among professionals that very young children usually make healthy use of growth-facilitating soothers, the existence of soothing

(solacing) methods at later stages of development has yet to be sufficiently researched (Horton, 1981). Soothers in early childhood or transitional objects exemplified by the blanket, stuffed animal and favourite tune are normally replaced by increasingly subtle and complex vehicles for growth and solace through a lifelong series of progressive psychological transformations (Horton, 1981). "Maturation is accompanied by increasing sensitiveness to the qualities of potential solacing objects" (Horton, 1981, p.129). Any object may suffice as long as it lends itself to interpretation as a representative of the soothing maternal primary process presence (Horton, 1981).

Typical intermediate objects include imaginary companions, tunes, fairy tales, poetry, religious figures, prayers, works of art, mentors, the church, spouses, lovers and friends. It is the relationship with these objects that protect an individual from aloneness and fear and serve to propel an individual to the next stage of finding the highest good in herself/himself and others (Horton, 1981). This developmental process may result in considerable refinement to higher-order object relations as experienced by "oceanic", "near death" and "creative" experiences (Horton, 1981; Winnicott, 1971). Memories of interactions and cultural activities such as those found in art, music and religion are examples of transitional phenomena in adulthood (Winnicott, 1971; Storr, 1989).

For individuals who lack the capacity for self-soothing, a particularly vulnerable time exists when alone, as its chief function has been linked to the development of the capacity to be alone (Adler & Buie, 1979b; Horton, 1981; Adler, 1979; Winnicott,

1958). During these times the individual is left to her/his own resources for self-comforting and the maintenance of a calm state. It is also a time when the false self may be less actively maintained, and therefore, the sense of emptiness and feelings of inner securities may come into awareness. During times alone, emotional arousal of panic or fear can be experienced, and it is these painful emotions that may result in impulsive behaviors (e.g. bingeing/ addictive behaviors) coming into play, as a response to the experienced discomfort and inner pain (Adler, 1993; Ricci, 1991). An impairment in this self-function may be indicated when the use of harmful substances or the overuse of behaviors and difficulties in interpersonal relationships related to over-dependency are observed.

Empirical Literature

Conceptualizations of early development related to self-soothing have been used to understand addictive behaviors (Horton, 1981; Mills, Taricone & Bordieri, 1990; Khantzian, 1981), BN (Swift & Letven, 1984; Hamburg, 1989; Geist, 1989; Cross, 1993), anorexia nervosa (Bruch, 1973; Goodsitt, 1985), obesity (Glucksman, 1989) and borderline personality disorder (BPD)(Adler & Buie, 1979 a,b; Adler, 1993; Richman & Sokolove, 1992; Rosenbluth & Silver, 1992; Horton, 1992). In the eating disorders, the body and bingeing and purging have been conceptualized to be used for self-soothing. Cross (1993) refers to the body as providing a "soothing presence with an intermediate existential status between self and other" and Bruch (1973) linked the sense of loneliness, the feeling of not being listened to or understood and the pervasive sense of emptiness to eating binges. A preoccupation with food and

bingeing and purging behaviors can be thought of as filling a need to relieve pain and may be relied upon for this function. The psychological pain becomes a physical one and emotional experience is concretized (Tabin & Tabin, 1988).

Few studies have been conducted in an attempt to systematically investigate these phenomena in adult clinical populations. Horton and colleagues (1974) interviewed a small sample of military personnel diagnosed with DSM-II personality disorders (antisocial) and found that none of the personality disorder sample demonstrated transitional-object usage in the present, and only 16% reported a history of transitional object usage in childhood. Ninety-three percent of a comparison group of normal military personnel recalled having used a transitional object during childhood.

Arkema (1981) attempted to demonstrate that patients with Borderline Personality Disorder (BPD) can be distinguished from other types of personality disorders by their capacity for transitional relatedness. He interviewed a sample of 45 patients with BPD. All of the sample reported past and present use of transitional objects; however, their use was "rigid" and "maladaptive". For example, he reported that this group of patients repeatedly returned to a potentially soothing world and "wrung from it everything they could get", experiencing rage and exhibiting self-destructive behaviors when transitional objects failed them. Arkema (1981) also suggested that the rigidity in transitional object usage was apparent in the borderline's inability to shift back and forth between the "intermediate area" and reality" (p.175). This study did not include a comparison group.

Gunderson et al. (1985) replicated Arkema's study utilizing more rigorous methodology and a comparison sample. They found that both the borderline and schizophrenic groups scored higher (i.e. demonstrated greater transitional relatedness) on The Transitional Relatedness Interview (TRI) (which taps current and childhood transitional relatedness) than non-borderline personality disorders. Horton (1981) has conceptualized transitional relatedness as the "person's unique experience of an object, whether animate or inanimate, tangible or intangible, in a reliably soothing manner based on the object's associative or symbolic connection with an abiding, mainly maternal primary process presence" or as a "soothing blending of internal and external reality" (p. 262). The Gunderson et al. (1985) study noted that some borderlines failed to demonstrate transitional relatedness while some non-borderline personalities, did and therefore, suggested its limited use as a diagnostic indicator. This study is limited by the failure to test the TRI for reliability and to blind the administration of the TRI to diagnosis.

Lobel (1981) found 2 out of 20 borderline adolescents had transitional objects during childhood that could be recalled by their mothers; but many had other ways of soothing themselves, such as through the use of pacifiers. In comparison, 11 out of 20 normal adolescents reported transitional object use during childhood.

Jampel et al. (1983) in an unpublished manuscript investigated 116 psychiatric inpatients, 40 "disturbed" non-patients and 81 normal controls. They found an association between psychopathology and an inability for self-soothing using the Self-Soothing Capacity Inventory. Trends revealed that the inpatient group endorsed a

greater number of items associated with feeling empty, unable to remember important people and unable to be comforted in comparison to disturbed controls who scored higher on items pertaining to feeling angry and let down by others.

A recent study by Richman & Sokolove (1992) investigated the borderline experience of extreme aloneness, suggesting its indication of an inability for self-soothing. Adler (1993) expanded upon the "empty, desperate" aloneness experienced by borderline patients, emphasizing that these patients cannot rely upon their own internal resources to hold and soothe themselves when faced with separations, and consequently, experience the panic of total aloneness and abandonment.

Generally, studies thus far have focused on BPD and have found that these individuals utilize more maladaptive soothing behaviors (Horton, Louy & Coppolillo, 1974; Sansone, Fine & Mulderig, 1991) and that they possessed fewer transitional objects (items, such as stuffed animals, etc. used for self-comforting) or exhibited rigid or maladaptive use of their transitional objects throughout their development (Horton et al., 1974; Gunderson, Morris & Zanarini, 1985). Studies investigating clinical populations have found an association between psychopathology and an inability for self-soothing (Gunderson et al., 1985; Jampel et al., 1983).

There have been no previous investigations to study the self-soothing capacity of BN patients. In clinical populations of BN, impulsive behaviors, such as binge/purge episodes, theft, wrist-slashing, substance abuse and sexual activity are common (Garfinkel, Moldofsky & Garner, 1980; Johnson, Lewis, Stuckey & Schwartz, 1982; Garner, Garfinkel & O'Shaughnessy, 1985; Sohlberg, Norring, Homgren & Rosmark,

1989) and studies have reported an impulsive cognitive style in this patient group (Toner, Garfinkel & Garner, 1987). There is some empirical evidence to suggest that individuals with eating disorders have difficulty identifying, verbally expressing and regulating forms of physical tension, including hunger and emotional states (Bruch, 1973; Schwartz, 1988; de Groot & Rodin, 1994). The construct of alexithymia, defined as an inability to identify and express emotions and to distinguish between emotional states and physical sensation, has been described among eating-disordered patients (Troop et al., 1995; Schmidt et al., 1993). It has been suggested that this ego deficit has significant effects on the early relationship of self to body (Cross, 1993). It is not clear how this develops. Bruch identified a group of patients who believed that they had been physically or emotionally "insulted". She believed that they were particularly vulnerable to eating disorders. Recent community and clinical studies have demonstrated a significant number of women with eating disorders who have been sexually abused (Herzog, Staley, Carmody, Robbins & van der Kolk, 1993; Garfinkel et al., 1995).

Limitations in the empirical literature are related to conceptual and methodological issues. Some of the studies described involved self-reports to recall earlier transitional-object usage by either the individuals themselves or their parents, and this poses many limitations for the accuracy of the data. Studies have generally attempted to inquire about self-soothing ability in terms of "transitional relatedness". There exists much confusion surrounding this term in the literature. The concept is abstract and difficult to define and quantify. Many of the previous studies have

involved judgements and inferences and exhibited definitional inconsistencies in their attempts to assess transitional relatedness.

In an unpublished manuscript, Glassman (1988) attempted to quantify Winnicott's (1965) concept of the experience of transitional phenomena by defining a construct of "soothing receptivity", which refers to the psychological experience of being soothed, rather than that of transitional relatedness. He suggested that people generally can describe the psychological experience of "feeling better", "soothed" or "comforted" and can identify strategies that achieved such a state. Silver (1985) described this approach in the management of personality-disordered patients. The conceptualization of soothing receptivity was used in this study.

IMPLICATIONS FOR TREATMENT

Treatment approaches stemming from an object relations framework have focused on the role of empathy and the holding environment as it relates to people with deficits in the capacity for self-comforting (Adler, 1979; Horton, 1992; Kernberg, 1975). These approaches propose that therapeutic work occurs in the transference relationship and that patients are provided with a new opportunity for the internalization of self-regulatory structures which had failed to develop in early life. The repeated working through of disruptions and events in therapy leads to a greater capacity to sustain empathic failures in relationships. Interpretations offered by the therapist assist in providing meaning and coherence for the patient, and the naming of affective experiences.

While psychodynamic theorists have emphasized the value of interpretation

others have cautioned against it. Winnicott (1965; 1971) noted the danger that therapist interpretation may pose, as it may serve to repeat experiences, such as intrusiveness or lack of validation in early caregiving. He suggested that any accurate interpretation for which the patient is not ready can reach the innermost self and evoke the most primitive defences. The most valuable interpretation has been described as one which is "felt" and "created" by the patient (Bruch, 1973; Winnicott, 1971).

For effective treatment, it is decisive that a patient experience himself as an active participant in the therapeutic process. If there are things to be uncovered and interpreted, it is important that the patient makes the discovery on his own and has a chance to say it first. The therapist has the privilege of agreeing or disagreeing if it appears relevant. Such a patient needs help and encouragement in becoming aware of impulses, thoughts and feelings that originate within himself. (Bruch, 1973, p.338)

Bruch believed that this approach promoted the development of untapped resources such as, autonomy, initiative, and self-responsibility and would lead to a feeling of aliveness as to what is going on within themselves.

More recently, self-psychological treatment approaches have highlighted the role of validation of subjective experience, which involves assisting the patient in establishing an attitude of interest in, and a feeling of acceptance of, her/his own emotional life (de Groot & Rodin, 1994). These authors propose that such an approach strengthens affect tolerance and the growth and development of functional

capacities to assist in regulating affects and impulses, resulting in a sense of mastery and enhanced self-esteem.

Adler & Buie (1979b) draw upon developments in self-psychology by Kohut (1971) to suggest that the primary function of the psychotherapist is to provide a sufficiently validating and empathic relationship, in order to promote the patient to develop soothing introjects through exposure to and the incorporation of this corrective relationship. They suggest that individuals who lack sustained mental representations of others are prone to the experience of recurrent fears and panicky reactions, particularly around the notion that the therapist does not exist in the intervals between therapeutic sessions. They emphasize the importance of a sense of continuity and stability within the therapeutic relationship to allow for the internalization of more stable soothing representations. For example, in the treatment of BPD, telephone contact with the patient "at the time of emergencies" between therapy sessions is a means of providing concerned attention and fulfils the patient's need to evoke soothing object representations that can offset the fear of being alone (Adler & Buie, 1979b). Hearing a therapist's voice or obtaining reassurance can be of tremendous assistance to these patients. In addition, Adler & Buie (1979b) emphasize the importance of educating patients about alternative means of delaying contacts and offer a variety of techniques that may be suggested to the patient (i.e. distraction with an activity, reading, tape-recorded therapy sessions, increased social activities). These activities assist patients to learn adaptive behavioral responses and assist in delaying impulses, leading to an increase in the tolerance for affects.

The literature on difficulty in affect regulation (self-soothing) and the inability to tolerate aloneness led to the speculation of guided imagery as a therapy which may facilitate the internalization of soothing experiences (and the use of a therapist) for self-soothing. Imagery can be a useful therapeutic tool in the promotion of changes in self-image, in distorted images and in behavior (Johnson, 1987; Sheikh & Jordan, 1983; Ahsen, 1984). In therapy, specific imagery exercises are designed to achieve therapeutic goals defined within the context of a given illness. Guided imagery therapy provides an excellent opportunity to address the difficulty of affect regulation in BN for a number of reasons:

- a) Guided imagery occurs within the context of a therapeutic relationship, thereby facilitating the role of empathy and the development of a holding environment.
- b) The efficacy of guided imagery for enhancing the relaxation response and a calm affective state has been well-documented (Sheikh & Jordan, 1983; Torem, 1992).
- c) Guided imagery provided by the therapist can act as an "external" source of soothing and comfort, and therefore, assist individuals in managing painful affective states. The use of audio-cassette tapes, written scripts or recalled imagery exercises used in a therapeutic session provides a portable "transitional object" that can be used between therapeutic sessions. The imagery provided by a therapist (i.e. therapist's voice) facilitates the connection between the patient and the therapist and may promote a "therapist presence" outside of therapy.
- d) The specific words and phrases of imagery are tailored within the context of the illness, and therefore, can incorporate image descriptions that are relevant for

soothing.

e) Imagery is the language of the inner self. It produces personal images and metaphorical themes and provides an active and "playful" approach that engages the individual in working with her/his imagination and in contemplating meaning in the experience. The subtle, non-intrusive symbolic character of imagery is less apt to trigger defenses or resistance, and frequently evokes revelations. "A single image can symbolize or arouse an entire constellation of meanings, which can then be explored" (Hutchinson, 1991).

f) The increased awareness and self-reflection during guided imagery facilitate the experience of and identification of emotions and themes which can be validated.

g) Self-experience is enhanced through various modes of expression of the imagery, including verbal and written forms and drawings.

A conceptual model of imagery therapy relevant for the treatment of an impairment in self-soothing was developed for the intervention used in this study. In the final section of the literature review, the therapeutic technique of guided imagery is reviewed.

GUIDED IMAGERY

In guided imagery, the therapist enhances image formation through the patient's imagination to achieve specific health-related goals. Theories of the imagination suggest its embodied nature, and therefore, its direct link to behavior (Johnson, 1987).

Guided imagery has been used in a variety of clinical areas and empirical studies

have supported its wide-ranging applications. Imagery has been extensively used as a therapy in oncology, particularly in stress-management (Achterberg & Lawlis, 1978; Simonton et al., 1978) and more actively as a healing imagery focusing on the cancer (Simonton et al., 1978). A few well-controlled studies suggested significant improvement in performance utilizing mental rehearsal (Ryan & Simons, 1983; Gould et al., 1980; Ziegler, 1987); in the promotion of weight loss (Bornstein & Sippelle, 1973); for body-image disturbance (Hutchinson, 1985; 1991); and in the production of physiological changes, for example, increased salivation (Barber et al., 1964) and alterations in skin temperature (Barber et al, 1974; Green & Green, 1977). Its use in the promotion of the relaxation response is well-documented (Achterberg, 1985; Butcher & Parker, 1988) and relaxation imagery remains a frequently utilized treatment either alone or with subsequent imagery exercises.

Imagery has been used in psychotherapy as a method for eliciting insight and feelings associated with past experiences (Reyher, 1977; Shorr, 1980). A few studies have utilized imagery as a treatment for depression (Schultz, 1978; Burtle, 1976; Lipsky et al., 1980; Reardon & Tosi, 1977; Jarvinen & Gold, 1981). These studies provide evidence that various types of directed imagery, either alone or in combination with other cognitive-behavioral approaches, can reduce both self-report and behavioral indices of depression.

No controlled study has investigated the use of guided imagery in BN patients. However, based on clinical observations of BN patients, they demonstrated greater hypnotizability when compared to earlier reports of such responses in anorexics

(Vanderlinden & Vandereycken, 1990). The authors suggested its usefulness in a multi-package treatment program. Imagery has been used clinically in the treatment of eating disorders to correct negative body image (Hutchinson, 1991; Kearney-Cooke, 1989).

In general, studies report greater success with the use of "internal imagery" that is characterized by close approximation to real-life situations in that the person actually "feels" the image (experiencing the sensations as if she/he were actually performing the task in the image). "External" images in comparison, are sensationally quite different in that the subject observes her/himself performing the activity. Imagery exercises practised through the use of audio-cassettes were found to be effective and superior to self-directed practice by newly-trained subjects (Hammond et al., 1988).

Further controlled studies are needed to promote the use of imagery in clinical practice and for understanding its role as a therapy and as a self-care and portable tool. Studies, thus far, suggest its therapeutic value in promoting a feeling of control among clients, as a result of the monitoring and rehearsing of various images, the modified meaning in internal dialogue that precedes, attends and succeeds examples of maladaptive behavior, and the mental rehearsal of alternative responses that lead to the enhancement of coping skills (Sheikh & Jordan, 1983).

CHAPTER II

CONCEPTUAL FRAMEWORK-GUIDED IMAGERY TREATMENT MODEL

ASSUMPTIONS:

- 1. BN is a disorder of impulse control.**
- 2. Impulsive behavior is associated with a lack of capacity for self-soothing, feelings of emptiness and aloneness.**
- 3. BN and disorders of impulse control are associated with a self-organization characterized by a "true" (inner) and "false" (outer) self.**
- 4. Guided imagery is defined and conceptualized as a "soothing" activity that can have therapeutic effects in promoting self-soothing.**

OPERATIONAL DEFINITIONS

In the current investigation the following operational definitions are relevant:

Soothing- The emotional or psychological state of feeling calmed, comforted or solaced in response to a prior feeling of psychological or emotional distress; or it may take the form of simple anxiety-reduction, tension release or maintenance of one's emotional equilibrium. (Glassman, 1988)

Soothing Receptivity- A personality dimension conceptualized as an openness or ability to achieve the psychological state of feeling calmed or comforted in response to a prior feeling of emotional distress (Glassman, 1988).

Impulsivity- A characteristic associated with a manifestation of an individual's inability to modulate affects , to self-soothe, or to contain unbearable psychological pain

and/or urges (Adler, 1979; Wishnie, 1977)

Aloneness- A painful subjective experience of an extreme nature characterized by a sense of inner emptiness, hollowness, deadness, or nothingness and futility of life. This pathological experience represents an inability to evoke images of sustaining memories or people in order to find comfort. This concept differs from "loneliness" which is the experience when individuals are able to use memories and inner images during separations from others. Those who are able to experience loneliness have an intact sense of connectedness to others even during their absence (Kernberg, 1975; Adler & Buie, 1979b).

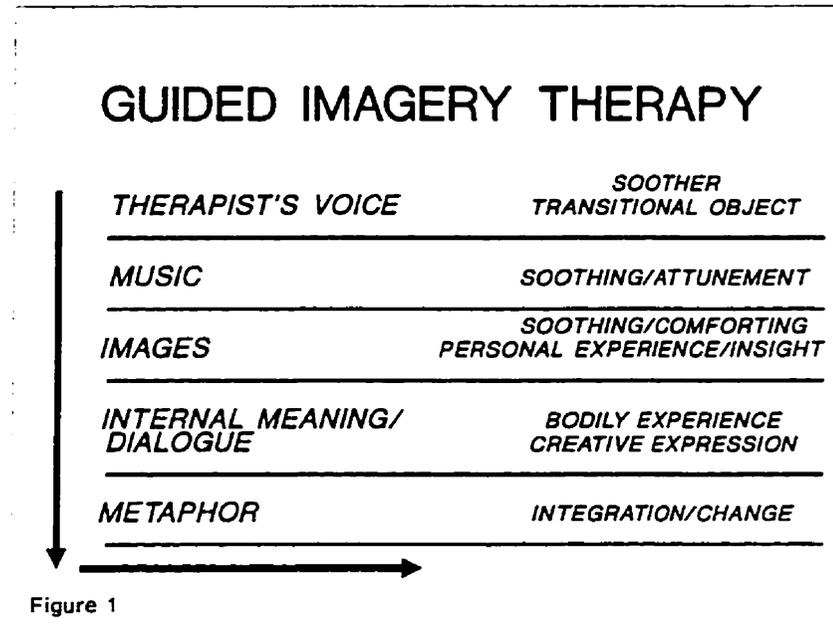
Binge- An episode of binge eating is characterized by both the following: 1) eating, in a discrete period of time (i.e. within any two-hour period), an amount of food that is definitely larger than most people would eat in a similar period of time; and 2) a sense of lack of control over eating during the episode (DSM IV definition)

Guided Imagery- For the purposes of this study guided imagery is defined as a therapy in which the therapist actively engages with the patient's imagination. This study incorporates guided soothing images and imagery that promotes the patient to explore inner self-experience.

A GUIDED IMAGERY TREATMENT MODEL TO ENHANCE SELF-SOOTHING

This treatment approach is conceptualized as having "layers" of active ingredients, with the view that each added layer deepens the effect (see figure 5). Reading the model from left to right, suggests each individual layer promotes a psychological soothing state.

Figure 5



Reading the model in a downward direction indicates the additive and simultaneous nature of the layers in facilitating psychological soothing. It is not necessary to incorporate all of the layers in order to achieve a soothing experience; in fact, working with one or two levels can achieve significant results. For example, an unknown soothing voice suggesting comforting images can result in the experience of a calm state (this is represented by the numerous audio-cassette relaxation/imagery tapes that are commercially available). However, with the addition of a familiar therapist's voice the effect is significantly enhanced, and the imagery tape or exercise may

function as a transitional object. Similarly, the further addition of soothing music (the therapeutic effects of music have been well-documented (Lingerman, 1983)) can complement the other components, such as voice and images, in promoting a calm state.

The specific words and phrases used in guided imagery exercises are generally designed within the context of the illness. Within a self-soothing model, image descriptions that are relevant for soothing and ego strengthening are utilized. The soothing imagery provided by the therapist's voice can become internalized for self-soothing during vulnerable times, and therefore, act as a transitional object outside of therapy. Individuals are encouraged to practice imagery between sessions (either with scripts or audio-cassette tapes). This practice assists the individual in becoming familiar with the technique and enhances personal responsibility and self-efficacy in regulating their emotional states. The guided imagery can promote the development of internalized representations (i.e. of the therapist) that may provide a future and potentially permanent capacity for self-soothing. In considering images that can be utilized in the design of imagery exercises two types of imagery can be incorporated: 1) directive,-these are specifically described in further detail (e.g. "imagine a meadow"); and 2) non-directive- characterized as less directive and specific, allowing for the formation of more personalized and spontaneous imagery (e.g. "imagine some natural environment"; "find some special place"). Some individuals experience ambivalence or difficulty with a non-directive suggestion and prefer the more direct approach. It is important to note that directive imagery is also personal, as

demonstrated by having different individuals describe the "meadow" experienced in their imagination.

Difficulties with the technique or the imagery are explored during therapeutic sessions. Individuals who have difficulty with imagining an open exercise can be encouraged to try a more directive imagery approach. Those who have experienced painful emotions through the experience are encouraged to express their feelings. They can be introduced to alternative more soothing exercises, encouraged to build in greater safety in their imagery, or if willing, contemplate and work with the involved images (e.g. through dialogue with the imagery "is there anything you would like to say or do with the image?").

Images used during the early stages of treatment should suggest an inner atmosphere of safety in order to establish a secure environment and interest in the identification of emotions and themes that will occur through the more challenging self-exploration exercises. Possible imagery themes that enhance safety include: soothing environments (such as outdoor water and meadow scenes, warmth of the sun, a golden light, and familiar places where the individual has felt safety), the construction of a protective structure or the inclusion of a trusted individual.

The imagination is embedded in bodily experience, and therefore, each image is accompanied by physical and emotional sensations (Johnson, 1987; Ahsen, 1984). During the imagery therapy, personal images occur spontaneously, and bring forward reactions. Feelings of fear, surprise and recognition of earlier experiences are among the reactions that may occur. During or following the imagery exercise, the individual

is encouraged to identify and comment on her/his bodily experience. The individual's attention is directed by asking questions about these reactions: "How do you feel here?" and "When you observe this image, what feelings come forward?". The therapist assists in exploring any arising themes or changes in affective states that occur.

According to this model, personal insight is promoted through soothing exercises in a relaxed state. A relaxed state is viewed as a necessary condition for self-reflection. The process of self-reflection occurs at the individual's level of readiness. It is important to allow the individual to comment on her/his self-experience through several sessions, rather than make interpretations. Her/his personal imagery will be linked to experience and frequently individuals are able to find their own meaning in the images.

This process is congruent with Bruch's (1973) therapeutic approach which focused on self-experience and discovery. Imagery therapy is particularly ideal in this regard. The imagery exercises produce personal images within the individual's private imagination. These images range from the concrete, such as objects or persons, to the more abstract, such as a color or metaphor. The therapist guides the individual to concentrate and observe the experienced personal images as they are forming and this promotes a feeling of being active and creative in the therapeutic process. Such an approach results in a kind of "playful" engagement between the therapist and individual as she/he imagines and awaits the images and emotions that emerge during a given exercise. This aspect of guided imagery incorporates the elements of self-

discovery and spontaneity that Bruch and Winnicott emphasized as being particularly important in the treatment of these individuals. The role of creative activities has been linked to feelings of vitality and a sense of being alive, feelings that appear to be lacking in the lives of many with BN.

Personal imagery is frequently abstract, having metaphorical themes. At times, a profound sense of surprise or discovery is experienced with emerging images and themes. A particular image or metaphor may have significant meaning for an individual; for example, by being linked to an earlier memory or experience, by providing insight into some behavioral pattern or emotion or by shedding light on an important goal. The individual is encouraged to "play" with her/his personal imagery, verbally engage with the images, rehearse behaviors or interactions and express any corresponding feelings. Self-expression is encouraged through verbal and written forms and if the individual is willing, through more creative modes, such as drawings of the images. These multiple forms of expression promote communication and reflection of the imagery experience at a cognitive and bodily level. Encouraging drawings or written expression provides the opportunity to observe and inspect aspects of the imagery, and assists in identifying emotional reactions and personal insights.

Discussing an issue or feeling metaphorically, can be experienced as less threatening, as the metaphor or image is viewed in this model as providing permission and safety for the expression of feeling. At times, the individual may be unaware of what is being revealed and gradually come to identify some key insight. Further

deepening of the process occurs when the identification of an important metaphor is linked to some symbol. Once a symbol is identified it can carry with it special meaning and the therapist explores with the individual methods of integrating new discoveries into daily living. The individual is encouraged to bring this symbol into her/his life in some way. Individuals may choose to incorporate a real object that serves to remind them of an important discovery, a goal, or a new skill that is being developed while others may choose a color or symbol in nature to represent some important theme in their imagery. This symbolic form of expression can be viewed as providing a space in the real world where meaning can be represented and stored. The symbol, in a sense, provides a type of bridge between the individual's internal world and physical reality. Once based in reality, the symbol can be utilized as a reminder of progress, personal strengths and possibilities for the future. This symbolic representation promotes the integration of new meaning and insight into experience.

Six imagery exercises that can be used for soothing and which promote a self-exploration of the individual's inner experience were developed for the study (see Appendix G). The two early exercises or themes engage the patient in becoming familiar with the guided imagery process and focus on the relaxation response and the promotion of increased awareness of inner feelings. As the individual becomes familiar with imagery and gains a sense of mastery with the technique, progress is made to the more challenging self-exploration exercises (exercises 3-6).

CHAPTER III

PURPOSES AND HYPOTHESES

PURPOSES

The purposes of the proposed study were: 1) To provide quantitative information about the degree of impulsivity and self-soothing capacity in BN patients and; 2) To investigate the therapeutic technique of guided imagery as a soothing activity and in promoting self-soothing in BN. Information was also obtained on the relationship between impulsivity and self-soothing capacity and the experience of aloneness. These characteristics were investigated as predictors of treatment outcome. This investigation may contribute to increased knowledge of guided imagery and provide further evidence for the therapeutic value of this intervention.

HYPOTHESES

Hypothesis 1: It is hypothesized that the active treatment group, receiving guided imagery, will be associated with greater reductions in bingeing and vomiting frequencies and associated psychopathology in comparison to the control group.

Hypothesis 2: Patients demonstrating higher pretreatment levels of impulsivity and lower levels of soothing receptivity will demonstrate fewer reductions in symptomatology and greater psychopathology following treatment. In line with developmental theory, the measures of impulsivity, soothing receptivity and aloneness are expected to correlate: higher levels of impulsivity are predicted to relate to lower levels of soothing receptivity; higher levels of impulsivity and lower levels of soothing receptivity are predicted to relate to a greater experience of aloneness.

CHAPTER IV

METHODS AND PROCEDURES

DESIGN

The study consisted of a randomized, controlled trial with two groups measured pre and post intervention. Subjects were randomly assigned to one of two groups: an active treatment group of guided imagery therapy and a control group. The control group was not in the form of a waiting-list control. An "active" control group was incorporated for two reasons: previous research has demonstrated that patients do not improve if left untreated and a waiting-list control group introduces ethical concerns through the withholding of an active treatment. In this investigation, the control group provided control for the variables of therapist contact and the effects of self-monitoring by incorporating weekly sessions and by including structured self monitoring, which in itself has been shown to have an effect on frequency of binge eating (Agras et al, 1989). The inclusion of the control group also controlled for the effects of history and maturation.

A series of standard pretests was administered to each subject across both experimental groups. The treatment period for each group was six weeks and subjects were tested at post-treatment (as soon as possible after the sixth week).

Random assignment of subjects promoted statistical equivalence at the outset of the investigation. The investigator was blinded to subjects' pretest measures throughout the treatment protocol and during the completion of post-intervention measures until all subjects had completed the study.

SUBJECT SELECTION

Individuals who seek treatment or who are referred for assessment of an eating disorder at the Toronto Hospital are initially given a consultation. Following the consultation patients are directed toward inpatient, day program or outpatient care. If the patient is suitable for outpatient or day treatment, the clinician will inform the patient of the treatment options and these include receiving treatment through participation in a research study. This study was one treatment option offered to patients who were awaiting outpatient or day treatment care.

Subjects met the full DSM III-R criteria for BN, including the frequency criterion of bingeing and purging at least twice per week (APA, 1987). Additional inclusion criteria were: males and females at current body weight which was >85% of the person's average body weight for age and height; less than 15 years duration of illness (to minimize the possibility of resulting in a sample consisting of patients who may be resistant to a number of other treatments as this is an initial trial of a new treatment); informed consent; no concurrent psychological treatment and no indications for inpatient treatment such as suicide risk or poor physical health. Individuals receiving pharmacological treatment (i.e. antidepressants) were accepted into the study if the pharmacotherapy had been initiated at least two months prior to study entry, did not produce symptomatic improvement and no dose adjustment was made. Exclusion criteria included: concurrent psychological treatment, indication for inpatient treatment (e.g. suicide/poor physical health) and pharmacological treatment initiated or adjusted during the preceding two months.

PROCEDURE

The investigator recruited potential subjects through The Toronto Hospital consultation service. Interested individuals were referred to the investigator and contacted by phone. An explanation of the study was given to potential subjects and the investigator answered any questions pertaining to the study. All interested patients were asked to sign a consent form. Participants were informed that their participation in the study would be confidential and that all questionnaires would be coded with numbers.

The study protocol planned to recruit a convenience sample of 68 subjects (34 assigned to each group). This sample size was calculated using Cohen's tables (Cohen, 1969) to determine the sample size required to detect a between group difference of 0.60 standard deviations ($\alpha = 0.05$, power = 0.70). Subjects were recruited over a twenty-month period (April 1993- December 1994).

Pretreatment psychometric assessments involved self-reports and were completed in the presence of experienced clinicians or the investigator at the Toronto Hospital. Pretreatment measures included: the DSED, the EDI, the EAT-26, the BPI Impulse Expression Scale, the Aloneness/Evocative Memory Scale, and the Soothing Receptivity Scale. Following the pretreatment assessments, subjects were randomly assigned to one of the two groups through the use of a randomized number table. A meeting time and place for the treatment protocol was given to each individual.

Although subjects were informed that two specific treatments would be tested in the study, they were unaware of specific information related to the treatment

protocol to which they had been assigned. A standardized set of instructions and demonstration of the study group protocol by the investigator was provided for subjects (See Appendices H & I).

Following the final week of treatment (week 6) the researcher contacted each subject and administered a set of post-measures. These measures included the EDI, the EAT-26, the Soothing Receptivity Scale and the Aloneness/Evocative Memory Scale. Time for completion of these measures was approximately 50 minutes.

THE ACTIVE TREATMENT GROUP

The guided imagery exercises were conducted by the investigator for the imagery group during individual sessions and participants were given an audio-cassette taped version of the exercise for use at home. Subjects were instructed to practice the taped exercises in privacy within a setting of their choice, as outlined in the treatment manual guidelines. Each session's exercise built on the mastery of previous exercises with the later sessions reflecting the most advanced and challenging levels (See Appendix G). Subjects were introduced to a single guided imagery exercise by the investigator and given a specific set of instructions (see Appendices G & H) for use of the tapes. They were encouraged to follow these instructions accurately and the importance of honesty in their reports concerning the completion of the treatment protocol was emphasized.

The researcher conducted weekly therapeutic sessions and assisted in any difficulties or questions concerning the treatment protocol. This contact assisted in minimizing error in the technique and in maintaining motivation, and therefore,

attempted to maximize the potential therapeutic value of the tapes. Journals were assessed during each weekly session (see Appendix F) and the patient's experiences with the imagery was explored. The researcher was blinded to all subjects' pretest measures.

THE CONTROL GROUP

Subjects assigned to the control group attended weekly sessions for a period of six weeks. Subjects were asked to keep personal journals (recording eating patterns) which were used as the central component of each weekly visit (See Appendix E). Sessions focused on the content of the journals. The manual for the control treatment is included in Appendix I.

INSTRUMENTATION

EATING DISORDER SYMPTOMATOLOGY AND PSYCHOPATHOLOGY

Diagnostic Survey for Eating Disorders (DSED). A modified version of the DSED (Johnson, 1984) is used during the consultation process at the Toronto Hospital. The DSED is a multi-item survey that focuses on various aspects of AN and BN. The questionnaire is divided into twelve sections, which provide information on demographic factors, weight history and body image, dieting behavior, binge eating behavior, purging behavior, exercise, related behaviors, sexual functioning, menstruation, medical and psychiatric history, life adjustment and family history. This survey can be used as a self-report instrument or as a semi-structured interview. The DSED is used as a standardized format for collecting relevant information and is a routine part of all consultations at the Toronto Hospital. It was used as a self-report

in this study.

Eating Disorder Inventory (EDI). This 64-item self-report questionnaire assesses psychological dimensions (cognitive, affective, and behavioral) of eating disorders (Garner & Olmsted, 1984). It consists of eight subscales which include the following: 1) Drive for Thinness, 2) Bulimia, 3) Body Dissatisfaction, 4) Ineffectiveness, 5) Perfectionism, 6) Interpersonal Distrust, 7) Interoceptive Awareness, and 8) Maturity Fears. This scale is included in the assessment package at the Toronto Hospital.

Eating Attitudes Test (EAT-26). This 26-item self-report questionnaire (Garner, Olmsted, Bohr & Garfinkel, 1982) measures general symptoms prevalent in eating disorder patients. The three factors of 1) Dieting, 2) Bulimia and Food Preoccupation, and 3) Oral control are the foci of the scale. Reliability coefficients for AN patients of 0.83 to 0.90 for the three factors and the total score have been found. This scale is a routine part of the assessment package included in the consultations at the Toronto Hospital.

Binge/Purge Frequencies. Binge and purge episodes were calculated through self-reports utilizing a combination of retrospective and prospective reporting. During the initial interview, subjects verbally reported the number of binge and purge episodes that had occurred during the week preceding assessment. The investigator categorized binges as either "subjective" or "objective". An objective binge must have met the criteria of consisting of greater than 1000 kcal of food and be associated with the element of "being out of control". "Subjective" binges represented the patient's perception of a binge, however, did not necessarily meet the

criteria for an "objective binge".

During the course of the study, subjects were asked to maintain a daily diary of eating behavior which included recording binge and purge episodes (see Appendix E). Binge eating was defined to the patient as "rapid eating of relatively large amounts of food (> 1000 kcal), within a two-hour period, and in a manner in which they felt out of control and were unable to self-interrupt their eating. A purge episode included vomiting as defined for the patient as "inducing oneself to vomit after eating due to fear or discomfort with food eaten or weight gain" and/or the use of laxatives. The combination of episodes of self-induced vomiting and laxatives were used to obtain a measure of weekly purge frequencies.

At pre-intervention, the pretest binge and purge episodes were obtained by taking the mean of the retrospective self-report (based on the week prior to the initial assessment) and the first week of prospective self-monitoring. At post-intervention, the measures of binge and purge frequencies were obtained by combining the last treatment week's prospective recording binge and purge episodes with the number of binge and purge episodes obtained through interview (as similarly obtained during the initial assessment) following week 7, and calculating the mean of the two weeks.

While difficulties associated with the use of self-reports on treatment outcome of eating behaviors has been recognized, reports have indicated that they are generally valid (Wilson, 1987). Wilson (1987) has suggested that utilizing both retrospective and prospective self-reports increases the validity of self-reports, and suggests their use with multiple measures of wide range of functioning. One study has found

greater accuracy in self-reporting of binge episodes when subjects were presented with a clear, unambiguous definition (e.g. self-reporting of "binges" with an emphasis on loss of control was included in the definition, Beglin & Fairburn, 1992). Therefore, subjects in this study were asked to record binge episodes only if they included the element of feeling a lack of control. A list of foods ingested (types and amounts) was also recorded by the subject and the investigator abstracted only those episodes which involved food intake > 1000 kcal in order to maximize the validity of the self-reports of eating behavior.

PSYCHOLOGICAL FUNCTIONING:

Basic Personality Inventory (BPI)- Impulse Expression Scale. The Basic Personality Inventory (Jackson, 1989) is a 240-item self-report scale (true/false format) with 12 subscales that assess a variety of personality traits. The 20-item "impulse expression" subscale measures the trait of impulsivity. A high scorer on the impulse expression scale is described as someone who "lacks ability to think beyond the present and to consider the consequences of action; is prone to undertake risky and reckless actions, is inclined to behave irresponsibly and finds routine tasks boring" (Jackson, 1989, p.9). A test-retest reliability of 0.74 and an internal reliability coefficient (alpha) of 0.90 have been reported for the impulse expression scale (Holden, Fekken, Reddon, Helmes and Jackson, 1988).

Aloneness/Evocative Memory Scale. This scale is a modified version of the UCLA Loneliness Scale (Russell, Peplau & Cutrano, 1980) used to assess the phenomenological experience of aloneness. This original scale consists of 20 self-

report items indicating the subjective experience of loneliness. The modified version was developed by Richman (1986) and expanded the scale to include the more extreme experience of borderline loneliness. The author created two scales, the first measuring aloneness which consists of 23-items with an internal reliability Cronbach Coefficient alpha of 0.92 and the second, assessing evocative memory capacity which consists of 10 items that indicate lack of evocative memory capacity. Evocative memory capacity represents the capacity to evoke a memory of a sustaining internal object to be called upon for self-soothing and calming. The two scales were randomly combined and administered as one measure (Richman, 1986). Verbal consent to use the modified scale created by Richman (1986) in this study was obtained from Dr. N. Richman in 1992.

Soothing Receptivity Scale. Glassman (1988) developed a self-report inventory measuring soothing receptivity. Soothing receptivity is conceptualized as a universally present and measurable personality dimension. The inventory was administered to undergraduate psychology students along with a battery of symptom and personality measures. Item analysis resulted in 20-items identifying four factors: physical soothing, resilience, disclosure and self-soothing. The scale demonstrated good internal reliability ($\alpha = 0.81$) with a university sample and with a diagnostically-heterogeneous psychiatric sample ($\alpha = 0.73$). No test-retest reliability is currently available. Verbal consent for the use of the Soothing Receptivity Scale in this study was obtained in 1992 from Dr. E. Glassman.

Technique Evaluation Questionnaire (included in Personal Journals).

Each subject in the guided imagery group was asked to evaluate the guided imagery technique. This questionnaire requires subjects to respond on a 1-8 scale with 1 indicating "not at all" and 8 indicating "extremely well" on ease of performing the technique and any difficulties encountered. This measure was incorporated into the subjects' personal journals to provide information on each assigned imagery exercise (Appendix F)

Personal Journals. All subjects in the active treatment group were asked to record daily when the guided imagery techniques were used, thoughts and feelings surrounding the time of the exercises, foods eaten, the amounts of foods eaten, location of meals and binge-purge frequencies. Participants were encouraged to describe or to draw images experienced while doing the exercises in their personal journals and this was considered a component of treatment.

Subjects in the control group were similarly asked to record daily foods and amounts of foods eaten, location of meals, binge-purge frequencies and briefly thoughts, feelings or special events during eating times over the week prior to each session (Appendix E).

DATA ANALYSIS

The data were analyzed for normality and to determine parametric test criteria. For the purposes of this study the level of significance chosen was $p < 0.05$ (two-tailed). Kerlinger (1986) recognizes this as the most acceptable level of significance in research.

Hypothesis #1. To investigate between group differences and the main effects of time, a 2 (treatment) X 2 (time) repeated measures analysis of variance was calculated for each outcome variable (i.e. binge and purge frequencies, EDI subscales).

Hypothesis #2. Regression analysis was used to investigate the relationship between impulsivity, soothing receptivity, aloneness and the dependent variables (e.g. binge-purge frequencies, psychopathology). A series of correlations was completed to investigate the associations between measures of impulse expression, soothing receptivity and aloneness. A Chi-square analysis was performed to investigate abstinence rates of binge/purge episodes in the two groups. An "active dose" of treatment was considered to have occurred by the end of week 4 of the treatment protocol and any dropouts who had received an active dose were included in the main analyses.

CHAPTER V

RESULTS

Appendix A outlines the justification for use of parametric statistical tests and describes the statistical computer program utilized.

SUBJECTS

Recruitment and Dropouts. Seventy-four patients were approached following consultation at the Eating Disorder Program and informed about the study over a twenty month time period. A total of 58 subjects were recruited into the study: 51 subjects were recruited following consultation at the Toronto Hospital and 7 subjects responded to a newspaper advertisement outlining a treatment study for BN. Based on the random assignment, 28 patients entered the guided imagery condition (three were recruited from newspaper advertisement), and 30 the control condition; the later were instructed to rely on self-monitoring for their symptoms.

The age of the patients ranged between 18 and 44 years, with a mean of 26.6 (S.D. = 6.01) and they had current weights (expressed as Body Mass Index (BMI) which accounts for height) ranging from 19.00 to 25.08 with a mean of 21.22 (S.D. = 1.1). The majority were female (two were male). All patients had been ill for between 6 months and 14 years (M = 6.5 years, S.D. = 5.8) and they reported bingeing between 2 and 20 times per week before treatment (M = 5.41, S.D. = 3.49) and had between 0 and 22 purge episodes per week prior to treatment (M = 5.90, S.D. = 5.47). Five patients were not vomiting at the time of study entry (one engaged in spitting out food during binges and all five used laxatives); three of the five non-

vomiting patients were in the control group. Six patients were concurrently receiving anti-depressant medication at the time of the study (four were in the imagery condition and two in the control group) and had begun their pharmacotherapy treatment at least two months prior to study entry.

A total of 8 patients dropped out of the study (four from each group), representing a 14.3% dropout rate in the guided imagery condition and 13.3% in the control group, resulting in 50 study completers. A comparison between patients recruited from the clinic and those recruited through newspaper advertisement revealed no differences on demographic variables.

An analysis of the dropouts was conducted to assess the threat to both internal and external validity which may occur when not all of the recruited subjects remain in a study. The internal validity of a study may be threatened when dropouts occur as the randomized treatment groups may no longer be comparable before the independent variable (of treatment) is applied. The potential threat to external validity occurs when those subjects who complete treatment are not representative of the general population of BN patients; in this case any treatment effects of the study would be limited in their generality. The representativeness of treatment completers in the present study was evaluated by comparing the 8 drop-outs to the 50 completers, collapsing across treatment conditions. The evaluation utilized individual t-tests on all demographic variables, symptom frequencies and measures of psychopathology.

Dropouts and completers did not differ on age, duration of illness, target

symptom frequencies, weights (previously lowest, current and highest previous BMI, weights are expressed as BMI which controls for height) or attitudes concerning eating or body shape. Of the 8 dropouts, 6 (75%) reported a previous history of AN, although none met DSM-III-R criteria for AN at the time of the study. Of the study completers, 12 (24%) reported a previous history of AN. This was not a significant difference. There were no differences on the psychological measures. The finding that dropouts did not differ from study completers on variables, such as eating symptomatology and pathology or on psychological measures suggests that the sample is generally representative of the sample of BN patients who sought treatment, and therefore, claims concerning treatment effects are generalizable to the general population of BN patients presenting to a treatment clinic.

COMPARABILITY OF PATIENTS IN TWO TREATMENT ARMS

Demographic and Clinical Variables

Seventy-two percent of the patients were single, 34% were students and the majority of those who were working had jobs at the clerical/technical level or higher. There were no significant differences between the groups on any of these variables and a complete description of marital status and occupational level is included in Appendix B -Table 1. Means for age, duration of illness, present maximum and minimum weights (all weights are expressed as BMI) and bingeing and vomiting frequencies are presented in Table 1. Univariate t-tests were conducted to evaluate the similarity of the patients in the two treatment conditions. The groups differed on previous maximum weights, with the control group having a history of higher previous weights. On demographic and clinical features the two groups were similar.

Table 1
Demographic Variables For Guided Imagery and Control Groups
Before Treatment

Variable	Guided Imagery n = 24 <u>M (SD)</u>	Control n = 26 <u>M (SD)</u>	<u>t</u> (48)	<u>p</u>
Age	27.2 (6.3)	26.1 (5.8)	0.64	0.30
Current BMI	21.0 (1.0)	21.3 (1.3)	-0.80	0.43
Min BMI	19.7 (.86)	19.8 (.86)	-0.50	0.62
Max BMI	21.7 (1.2)	22.9 (1.8)	-2.92	0.01
Duration of Eating Disorder (months)	82.95 (55.5)	86.0 (63.9)	-0.17	0.87
Binge Frequency (average weekly binge episodes taken over 2 weeks)	5.58 (3.5)	4.92(2.6)	0.76	0.45
Purge Frequency (average weekly purge episodes taken over 2 weeks)	6.25 (5.8)	4.96 (4.59)	0.86	0.39

PSYCHOPATHOLOGY RELATED TO THE EATING DISORDER

Univariate t -tests for the EAT-26 are presented in Table 2. None of the univariate t -tests approached significance (all $ps > .43$), indicating that EAT-26 scores for the Imagery and Control groups were similar. Means on the EAT-26 total, Dieting and Bulimia subscales were at the 50th percentile for eating disorder patients and above the 95th percentile for college women. Scores on the Oral control subscale were low and correspond to the 25th percentile for patients and the 60th percentile for college women (Garner et al, 1982).

Table 3 outlines the EDI results prior to treatment for the two groups. Means on all subscales were between the 38th and 72nd percentiles BN patients and above the 77th percentile for college women. The mean for the perfectionism subscale for the imagery group tended to be higher than the control condition ($p = 0.06$), indicating that patients in this group tended to be more perfectionistic.

Table 2

Pretreatment EAT-26 Scores For Guided Imagery and Control Groups

Measure	Guided Imagery n = 24 <u>M</u> (SD)	Control n = 26 <u>M</u> (SD)	<u>t</u>(48)	<u>p</u>
Eat-26 Total	33.37 (10.5)	33.20 (14.3)	0.05	0.96
Dieting	21.31 (7.6)	20.38 (9.6)	0.38	0.71
Bulimia	10.08 (3.6)	11.00 (4.6)	-0.78	0.43
Oral Control	1.98 (1.4)	1.82 (1.8)	0.34	0.73

Table 3
Pretreatment EDI Scores For Guided Imagery and Control Groups

EDI Subscales	Guided Imagery n = 24 M (SD)	Control n = 26 M (SD)	t(48)	p
Drive for Thinness	14.47 (4.5)	14.15 (5.5)	0.44	0.66
Bulimia	9.42 (5.0)	11.50 (5.5)	-1.40	0.17
Body Dissatisfaction	16.10 (8.8)	18.80 (7.9)	-1.16	0.25
Ineffectiveness	12.87 (7.6)	11.30 (7.6)	0.73	0.47
Perfectionism	11.14 (5.2)	8.33 (5.2)	1.92	0.06
Interpersonal Distrust	6.42 (3.5)	6.33 (3.8)	0.09	0.93
Interoceptive Awareness	11.79 (5.7)	11.89 (7.8)	- 0.05	0.96
Maturity Fears	4.18 (5.4)	4.54 (4.9)	- 0.24	0.81

PSYCHOLOGICAL FUNCTIONING

Mean scores on the **Basic Personality Inventory (BPI) Impulse Expression subscale, Glassman (1988) Soothing Receptivity Measure, the modified UCLA Aloneness Scale and the Evocative Memory Capacity Scale** are included in Table 4. Univariate *t*'s were computed on these measures.

The control group was significantly different from the imagery group on mean scores of the **BPI impulse expression scale**, indicating a tendency towards greater impulse expression. The mean represents a T-score for the imagery group of 55 which is in the 70th percentile for female adults in the general population (T score = 52). The control group had a T score of 68; this is in the 96th percentile for female adults. There were no significant differences between groups on measures of **Soothing Receptivity, Aloneness and Evocative Memory Capacity**. The pretest scores of soothing receptivity for the bulimia nervosa patients as a group are less than the reported mean of the total soothing scale for female adults based on a university sample ($M = 70.64$, $S.D. = 9.96$), indicating that the clinical sample demonstrate a decreased capacity or openness to achieve a psychological state of calmness or to be comforted. The pretest scores on the modified UCLA measure of aloneness for the BN patients as a group are higher than the reported means of two clinical populations. Richman (1986) reported a mean of 53.85($S.D = 13.2$) for patients diagnosed with **Borderline Personality Disorder** and a mean of 39.45($S.D = 10.0$) for a diagnostic group categorized as "Neurotic". The pretest scores of evocative memory capacity are similar to the reported mean of a clinical sample of borderline

Table 4

**Pretreatment Mean Scores on Psychological Functioning Measures
For Guided Imagery and Control Groups**

Measure	Guided Imagery n = 28 <u>M (SD)</u>	Control n = 30 <u>M (SD)</u>	<u>t</u>(48)	<u>p</u>
Impulsivity (BPI)	7.46 (3.9)	11.0 (4.2)	-3.11	0.003
Soothing Receptivity (Glassman 20-item)	62.14 (9.8)	64.9 (10.3)	-9.8	0.33
Aloneness (mod-UCLA)	62.28 (13.9)	59.14 (16.8)	1.01	0.32
Evocative Memory	21.67 (4.8)	21.28 (5.7)	0.29	0.78

Note: With an individual alpha set at $p < .01$, the family-wise error rate for the four scales is .04.

patients ($M = 20.75$, $S.D. = 3.78$) and greater than a reported mean of a clinical sample of neurotic patients ($M = 17.05$; $S.D. = 3.17$) (Richman & Sokolove, 1992), suggesting that the sample of bulimia nervosa patients have a relative lack of capacity for evocative memory compared to other clinical samples, and one similar to borderline patients.

EFFECTIVENESS OF THE GUIDED IMAGERY AND THE CONTROL CONDITIONS

HYPOTHESIS 1

In hypothesis #1 it was predicted that patients receiving guided imagery would have lower posttreatment bingeing and vomiting frequencies and lower scores on measures of psychopathology than patients who received the control condition of self-monitoring of symptoms.

TARGET SYMPTOMS

Repeated measures analysis of Variance for pretest and posttest bingeing and purge frequencies are presented in Table 5. There are significant time and treatment x time interaction effects for bingeing frequencies, indicating a significantly greater decrease in bingeing frequencies over time in the guided imagery group.

For vomiting frequencies, there was a significant change over time and a significant treatment x time interaction, indicating significantly greater reduction in purge frequencies in the guided imagery condition. These differences were maintained after controlling for levels of impulse expression (using analysis of covariance with impulse expression as the covariate) indicating that the difference between groups in impulse expression is not responsible for the treatment effects.

Table 5

Target Symptom Frequencies for Guided Imagery and Control Groups

Target Symptoms	<u>Guided Imagery</u> n = 24 <u>M (SD)</u>	<u>Control</u> N = 26 <u>M (SD)</u>	<u>Group</u> df = 1,48	<u>Time</u> df = 1,48	<u>Group x Time</u> df = 1,48
<u>Binge Frequency</u> (average weekly binge episodes over two weeks)					
pretreatment	5.58(3.5)	4.92(2.6)	F = 4.05	F = 38.39	F = 48.7
posttreatment	1.71 (1.7)	5.15(2.6)	p = .05	p < .001	p < .001
<u>%Reduction</u> (pre-post)	73.6 (23.9)	+ 9.0 (43.4)			
<u>Purge Frequency</u> (average weekly vomiting episodes over 2 weeks)					
pretreatment	6.25(5.8)	4.96(4.6)	F = .63	F = 22.04	F = 18.63
posttreatment	1.67(1.7)	4.77(4.6)	p = .43	p < .001	p < .001
<u>% Reduction</u> (pre-post)	72.5 (26.1)	+ 6.2 (32.5)			

Percent reductions in symptom frequencies, presented in Table 5 , provide an estimate of the amount of change which occurred over the course of treatment. There was a 74% mean reduction in bingeing frequency and a 73% mean reduction in purge frequency in the guided imagery group. Chi-square analysis of the proportion of patients in each study group who were abstinent at posttest indicated that six patients were symptom free at posttest; all were in the imagery condition, representing a 25% abstinence rate ($X^2 = 0.79, p < .001$)

EATING DISORDER PSYCHOPATHOLOGY

Table 6 describes the repeated measures analyses on the eight EDI subscales. Multiple comparisons were completed, and therefore, a Bonferroni correction was applied to take into account the higher probability of finding significance by chance, as a result of these multiple comparisons. At $p < .01$ for each comparison, the family-wise error-rate for the 8 EDI subscales is 0.08.

There were significant group by time interactions for the Drive for Thinness, Bulimia and Ineffectiveness subscales and trends for the Body Dissatisfaction, Interoceptive Awareness and Maturity Fears subscales. In each case the interaction showed a reduction in disturbance for the treatment group over time but not for the control group. For the Perfectionism and Interpersonal Distrust subscales group x time interactions did not reach conventional levels of significance. A trend was demonstrated for both group and time effects for the Perfectionism subscale.

Table 7 describes the results of the repeated measures analyses for the EAT-26. With individual alpha set at $p < .01$, the family-wise error-rate (Bonferroni correction)

for the 3 subscales is .03. There were significant group by time interactions for the total score of the EAT-26 and the Bulimia and the Dieting subscales, showing a reduction in disturbance for the treatment group over time but not for the control group. The oral control subscale did not reach the conventional level of significance ($p < 0.05$) for group, time or treatment x time interaction, but was low at the time of pretest.

Table 6

Repeated Measure of Analysis for Pretreatment/Posttreatment EDI Scores

EDI Subscale	<u>Guided Imagery</u> n = 24 <u>M</u> (SD)	<u>Control</u> n = 26 <u>M</u> (SD)	<u>Group</u> df = 1,48	<u>Time</u> df = 1,48	<u>Group x Time</u> df = 1,48
Drive for Thinness					
<u>Pretest</u>	14.77(4.5)	14.14(5.5)	F = 2.85	F = 6.36	F = 21.42
<u>Posttest</u>	10.12 (6.4)	15.51(5.4)	p = 0.098	p = 0.015	p < 0.001
Bulimia					
<u>Pretest</u>	9.42(5.0)	11.5(5.5)	F = 11.61	F = 10.83	F = 15.54
<u>Posttest</u>	4.71(5.1)	11.92(5.7)	p = 0.001	p = 0.002	p < 0.001
Body Dissatisfaction					
<u>Pretest</u>	16.10(8.8)	18.85(7.9)	F = 4.13	F = 5.13	F = 4.31
<u>Posttest</u>	12.54(8.7)	18.69(7.7)	p = 0.048	p = 0.028	p = 0.043
Ineffectiveness					
<u>Pretest</u>	12.87(7.6)	11.30(7.6)	F = 0.14	F = 10.50	F = 9.15
<u>Posttest</u>	8.13(6.6)	11.14(7.1)	p = 0.707	p = 0.002	p = 0.004
Perfectionism					
<u>Pretest</u>	11.14(5.2)	8.33(5.2)	F = 3.15	F = 3.54	F = 0.94
<u>Posttest</u>	9.62(4.1)	7.85(5.1)	p = 0.082	p = 0.066	p = 0.337

Note: With individual alpha set at $p < .01$, the family-wise error-rate for the 8 EDI subscales is 0.08.

Table 6 (cont'd)

Repeated Measure of Analysis for Pretreatment/Posttreatment EDI Scores

EDI Subscale	Guided Imagery n = 24 <u>M</u> (SD)	Control n = 26 <u>M</u> (SD)	<u>Group</u> df = 1,48	<u>Time</u> df = 1,48	<u>Group x Time</u> df = 1,48
Interpersonal Distrust					
<u>Pretest</u>	6.42(3.4)	6.33(3.8)	F = 0.19	F = 1.75	F = 1.63
<u>Posttest</u>	5.38(3.9)	6.31(3.5)	p = 0.663	p = 0.192	p = 0.208
Interoceptive Awareness					
<u>Pretest</u>	11.79(5.7)	11.89(7.6)	F = 1.09	F = 6.97	F = 5.40
<u>Posttest</u>	7.96(7.1)	11.65(7.1)	p = 0.301	p = 0.011	p = 0.024
Maturity Fears					
<u>Pretest</u>	4.18(5.4)	4.54(4.96)	F = 1.28	F = 0.37	F = 6.01
<u>Posttest</u>	3.32(3.7)	5.96(5.5)	p = 0.263	p = 0.546	p = 0.018

Note. With individual alpha set at $p < .01$, the family-wise error-rate for the 8 EDI subscales is .08.

Table 7

Repeated Measure of Analysis Pretreatment Posttreatment Eat-26 Scores

Score	<u>Guided Imagery</u> n = 24 M (SD)	<u>Control</u> n = 26 M (SD)	<u>Group</u> df = 1,48	<u>Time</u> df = 1,48	<u>Group x Time</u> 1,48
<u>Eat-26 Total</u>					
<u>Pretest</u>	33.37 (10.5)	33.19 (14.3)	F = 2.17	F = 15.37	F = 14.30
<u>Posttest</u>	22.56 (13.3)	33.00 (14.4)	p = 0.148	p < 0.001	p < 0.001
<u>Dieting</u>					
<u>Pretest</u>	21.31 (7.6)	20.38 (9.6)	F = 0.59	F = 7.88	F = 7.42
<u>Posttest</u>	15.71 (9.4)	20.29 (9.5)	p = 0.445	p = 0.007	p = 0.009
<u>Bulimia</u>					
<u>Pretest</u>	10.08 (3.6)	11.00 (4.6)	F = 7.25	F = 18.78	F = 18.15
<u>Posttest</u>	5.58 (4.1)	10.96 (5.5)	p = 0.010	p < 0.001	p < 0.001
<u>Oral Control</u>					
<u>Pretest</u>	1.98 (1.5)	1.82 (1.8)	F = 0.14	F = 3.13	F = 2.06
<u>Posttest</u>	1.27 (1.5)	1.75 (1.9)	p = 0.715	p = 0.083	p = 0.157

Note. With an individual alpha set at $p < .01$, the family-wise error-rate for the 3 subscales and the total scale is .04.

CLINICAL SIGNIFICANCE OF TREATMENT EFFECTS

Prior to treatment the mean EDI scores for both groups were similar to those seen in eating disorder patients and ranged from the 38th percentile to the 72nd percentile based on published norms (Garner & Olmsted, 1984). Following treatment, mean scores in the imagery condition were between the 19th percentile and the 59th percentile for eating disorder patients. The percentiles for the control condition ranged from the 44th to the 72nd. Similar results were demonstrated for the EAT-26. Prior to treatment, the EAT-26 scores for both groups were between the 20th and 50th percentile for eating disorder patients. Following treatment, the mean EAT-26 scores were between the 2nd and 33rd percentile for eating disorder patients in the imagery group and ranged from the 5th to the 50th percentile for the control group.

Recent reviews of research on the eating disorders have suggested that statistically significant results may not be clinically meaningful and have suggested that future research should report "clinical significance" (Cox & Merkel, 1989; Garfinkel & Goldbloom, 1993). A "clinically significant" treatment effect for a given measure in psychotherapy research has been defined by Jacobson, Follette and Revenstorf (1984) as occurring only when patient functioning is demonstrated to be within a "normal" range on the outcome variables. In the area of eating disorder research, abstinence of bingeing and purging has been identified as the most stringent and suitable criterion for clinical meaning (Goldbloom & Garfinkel, 1993) since relapse is less likely following abstinence of these eating behaviours. It has been also suggested that the definition of clinically significant change include other features of

the illness, such as changes in attitude, affective experience and interpersonal functioning. While several studies have reported abstinence rates, one recent review (Garfinkel & Goldbloom, 1993) cites only two studies which have reported clinical significance of change. These include a trial comparing CBT to group psychoeducation (Olmsted et al., 1991) and one investigating fluoxetine (Goldbloom & Olmsted, 1993).

Of the patients who received imagery therapy, 25% were symptom-free following treatment compared to no abstinent patients in the control condition. This abstinence rate in the imagery condition represents 21.4% of the patients who entered the imagery condition (i.e. including dropouts). In the imagery condition a further 16.3% reported only one episode of bingeing and purging per week following treatment.

Table 8 outlines the proportions of Imagery and Control patients who demonstrate clinically significant improvement for the EDI subscales. Clinically significant change was determined by cut-off scores for the EDI subscales as outlined by Davis, Olmsted & Rockert (1990). Cut-off scores were calculated through methods outlined by Jacobson et., al (1984) with the correction recommended by Christensen & Mendoza (1986). This formula specifies the following: 1) change in a test score must traverse the probabilistic boundary between dysfunctional and functional norms for the test, and 2) the change must be at least 1.96 times larger than the standard error of measurement of the difference scores for that test (indicating that $p < 0.05$ that a score would change the observed amount by chance).

In the imagery condition, 50.0% of the patients showed clinically significant improvement on the Drive for Thinness subscale, 37.5% on the Bulimia subscales, 33.3% on the Body Dissatisfaction subscale, 54.2% on the interoceptive awareness subscale and 20.8% on the Ineffectiveness subscale. In the control condition, less than 10% of the patients improved on any given EDI subscale.

Table 8

**Proportion of Patients in Imagery and Control Condition
Who Made Clinically Significant Improvement on the EDI**

EDI Subscale	Cut-off Score	% Imagery n = 24	%Control n = 26
Drive For Thinness	9	50.0	3.8
Bulimia	3	37.5	3.8
Body Dissatisfaction	12	33.3	7.7
Ineffectiveness	5	20.8	7.7
Perfectionism	7	12.5	3.8
Interpersonal Distrust	3	8.3	3.8
Interoceptive Awareness	5	54.2	3.8
Maturity Fears	3	0	3.8

Similarly, for the EAT-26, 58% of the patients met criteria for clinically significant improvement in the imagery group and for the control group the corresponding figure was less than 10%.

PSYCHOLOGICAL MEASURES

Table 9 outlines the results of the repeated measures analyses on the Soothing Receptivity Scale, the modified UCLA aloneness scale and the Evocative memory scales. The Soothing receptivity scale demonstrated significant time and group x time effects, indicating improvement in the "openness" or receptivity for psychological soothing for the imagery group.

There was a trend in the group x time effect for the modified UCLA aloneness scale, indicating a decrease in the experience of "aloneness" for the imagery group. There was a trend in the time effect for the measure of Evocative memory capacity, but not a significant group x time effect.

In conclusion, there is strong support for hypothesis 1. Improvement in symptom frequency and psychopathology occurred for patients receiving guided imagery therapy. Twenty-five percent of the patients in the imagery treatment condition were abstinent from bingeing and vomiting symptoms and there were no significant changes on symptom frequencies or on any measures of psychopathology for patients in the control group.

The imagery treatment did not significantly impact on indices of perfectionism, interpersonal distrust or evocative memory capacity.

Table 9

Repeated Measure of Analysis for Psychological Measures

Measure	<u>Guided Imagery</u> n = 24 M (SD)	<u>Control</u> N = 26 M (SD)	<u>Group</u> df = 1,48	<u>Time</u> df = 1,48	<u>Group x Time</u> df = 1,48
<u>Soothing Receptivity</u> (Glassman, 20-item)					
pretest	62.14(9.8)	64.9(10.3)	F = 0.04	F = 29.25	F = 15.58
posttest	69.96(9.4)	66.13(11.3)	p = 0.85	p < 0.001	p < 0.001
<u>Aloneness</u> (mod-UCLA)					
pretest	62.28(13.9)	59.14(16.8)	F = 0.06	F = 1.44	F = 5.53
posttest	56.44(6.4)	61.04(6.8)	p = 0.81	p = 0.24	p = 0.02
<u>Evocative Memory</u>					
pretest	21.77(4.8)	21.69(5.8)	F = 0.84	F = 4.54	F = 0.33
posttest	24.57(3.18)	23.30(3.5)	p = 0.36	p = 0.04	p = 0.57

Note. With an individual alpha set at $p < .01$, the family-wise error-rate for the 3 scales is .03.

HYPOTHESIS 2

In hypothesis 2 it was predicted that patients demonstrating higher pretreatment levels of impulse expression and lower levels of soothing receptivity would demonstrate fewer reductions in symptomatology. In line with developmental theory, the measures of impulsive expression, soothing receptivity and aloneness were expected to correlate: higher levels of impulsivity were predicted to relate to lower levels of soothing receptivity; higher levels of impulsivity and lower levels of soothing receptivity were predicted to relate to a greater experience of aloneness.

Relationship Between Impulse Expression, Soothing Receptivity, Aloneness and Evocative Memory

A series of correlations was completed to investigate the relationship between the measures of impulse expression, soothing receptivity and aloneness on the whole sample ($n=50$) (see table 10). It was predicted that lower levels of soothing receptivity would relate to a greater experience of aloneness. There was a significant negative correlation ($p<0.001$) between the measures of soothing receptivity and aloneness, indicating that lower levels of soothing receptivity (openness to soothing and self-soothing ability) are associated with a greater experience of aloneness as predicted.

It was predicted that greater impulse expression would relate to lower levels of soothing receptivity. There were no significant correlations between the measures of impulse expression and soothing receptivity or aloneness when examining the BN sample as a whole.

Table 10

**Correlation Matrix For Pretest Summary
Scores For Psychological Measures**

(n = 50)

	Impulse Expression (BPI)	Soothing Receptivity	Aloneness (UCLA)	Evocative Memory
Impulse Expression	1 .000			
Soothing Receptivity	-0.034	1.000		
Aloneness (UCLA)	0.221	-0.456**	1.000	
Evocative Memory	0.326*	- 0.461**	0.630**	1.000

note: All significance tests were two-tailed.

* $p \leq 0.05$ ** $p \leq 0.001$

The measure of evocative memory was also examined. When computing correlations for the whole sample of BN patients, there was a significant negative correlation ($p < .001$) between soothing receptivity and evocative memory, indicating that a lower level of soothing receptivity is associated with a poorer capacity for evocative memory. There was also a significant positive correlation between the measure of impulse expression and evocative memory ($p < .05$) indicating that a greater tendency towards impulse expression is associated with a poorer capacity for evocative memory. A significant positive correlation between the measure of aloneness and evocative memory ($p < .001$) was also observed, indicating that a lack of capacity for evocative memory is associated with a greater experience of aloneness.

These correlations are in accord with the suggestions of the developmental literature: Impulsive individuals are believed to have a decreased capacity for self-soothing which has been associated with decreased evocative memory ability (Horton, 1981; Richman & Sokolove, 1992), and therefore, these individuals would be prone to experiencing feelings of abandonment and a greater sense of extreme aloneness (Richman & Sokolove, 1992).

PREDICTORS OF RESPONSE

It was predicted that patients demonstrating higher pretreatment levels of impulse expression and lower levels of soothing receptivity would demonstrate fewer reductions in symptomatology. In order to address this hypothesis a series of stepwise multiple regression analyses were conducted on the imagery treatment group

using the predictor variables of impulse expression, soothing receptivity and aloneness. Pretest binge and purge frequencies were included first as control variables in the stepwise regression analyses. These independent variables were regressed on the following dependent variables: binge frequency at posttest, purge frequency at posttest and percentage reduction in binge and purge frequencies.

It is recognized that the sample size of the imagery group is small ($n = 24$), and therefore, results from the multiple regression analyses must be interpreted with caution. (For example, results generated from the multiple regression analyses in this study may not be replicated in future studies with larger sample sizes). The limitations of small sample size in multiple regression analysis include overspecificity of a model. Cohen (1969) suggests having at least ten cases per predictor variable in the consideration to utilize multiple regression analysis. Since pretest binge and purge frequencies are entered into the model as "control" variables, the remaining two (or less) significant predictor variables in equations generated from this trial seem reasonable to accept. The generated models from this study are based on planned analyses through interest in specific theoretical themes and represent only "examples" of treatment response equations among a number of possible models combining predictors of treatment. The predictors of treatment response generated from this study can be viewed as providing direction for future studies.

A stepwise multiple regression analysis of the independent variables: binge and purge frequency at pretest, impulse expression, aloneness and soothing receptivity on the dependent variable of binge frequency at posttest demonstrated that pretest binge

frequency explained 55% of the variance (see table 11). Soothing receptivity and aloneness were also significant predictors resulting in a total of 70% of the variance in binge frequency at posttest being explained by the combination of the three predictor variables (pretest binge frequency, soothing receptivity and aloneness).

A stepwise multiple regression analysis entering the independent variables of pretest bingeing and purge frequency, impulse expression, aloneness and soothing receptivity was conducted on the dependent variable of purge frequency at posttest (see table 12). Fifty-three percent of the variance of posttest purge frequency was explained by purge frequency prior to the intervention. Two other significant predictor variables were observed- impulse expression and aloneness, resulting in a total of 75% of the variance in purge frequency at posttest being explained by the combination of these three independent variables.

A multiple stepwise regression analysis was conducted on the dependent variables- percentage of change in bingeing and purge frequency, entering the independent variables of binge and purge frequency at pretest, soothing receptivity, impulse expression and aloneness (see tables 13 & 14). Aloneness and soothing receptivity accounted for 38% of the variance of the percentage reduction in binge frequency and 23% of the variance in the percentage reduction in purge frequency was explained by soothing receptivity.

To investigate the predictors of abstinence, the independent variables of soothing receptivity, impulse expression, aloneness, and evocative memory were included in the pool of potential predictors along with pretest binge and purge

frequencies, the EDI subscales, and age in a stepwise multiple regression analysis of the dependent variable of abstinence (see table 18). Body dissatisfaction (EDI) and pretest purge frequency were the only significant predictors and combined explained 35% of the variance in abstinence.

In addition to the planned analyses of predictor variables, a number of potential predictors related to the severity of the disorder were investigated, including current and previous weight history, duration of the eating disorder and a history of sexual abuse. These analyses revealed no significant predictors.

In summary, there is partial support for hypothesis #2. The most consistent predictor variable for change in symptomatology is soothing receptivity; it was a significant predictor for both binge and purge frequencies at posttest and change in binge and purge frequencies. These findings suggest that those who responded to the guided imagery treatment may have been more receptive to psychological soothing or had a greater capacity for self-soothing. However, soothing receptivity was not a significant predictor of abstinence at posttest.

The measure of impulsivity (BPI impulse expression scale) was a less important predictor than hypothesized. It was a predictor for only purge frequency at posttest with the most significant predictor being pretest purge frequency. The correlations among the variables: impulse expression, soothing receptivity and aloneness were found to be partially as expected. Aloneness and soothing receptivity are correlated as predicted. Although, not originally speculated upon, the variable of evocative memory consistently correlated significantly with measures of aloneness, soothing receptivity, and impulse expression in directions consistent with the literature.

Table 11

Prediction of Binge Frequency at Posttest

<u>Step</u>	<u>Variable</u>	<u>Cumulative R-Squared</u>
1	Pretest Binge Frequency	.55
2	Soothing Receptivity	.64
3	Aloneness	.70

F = 18.92 DF = 3,20 p < .0001

Structure Matrix

<u>Variable</u>	<u>Correlations With Regression Equation</u>
Pretest binge frequency	0.88
Aloneness	0.31
Pretest purge frequency	0.30
Soothing receptivity	0.30
Impulse expression	0.23

* **Note** Correlations > 0.15 are included in Structure Matrix

Table 12

Prediction of Purge Frequency at Posttest

<u>Step</u>	<u>Variable</u>	<u>Cumulative R-Squared</u>
1	Pretest Purge Frequency	.53
2	Impulse Expression	.66
3	Soothing Receptivity	.75

F = 20.92 DF = 3,20 p < .0001

Structure Matrix

<u>Variable</u>	<u>Correlations With Regression Equation</u>
Pretest purge frequency	0.84
Pretest binge frequency	0.40
Impulse expression	-0.24
Soothing receptivity	-0.22
Aloneness	0.20

* **Note** Correlations > 0.15 are included in Structure Matrix

Table 13

Prediction of Percentage Reduction in Binge Frequency

<u>Step</u>	<u>Variable</u>	<u>Cumulative R-Squared</u>
1	Aloneness	.24
2	Soothing Receptivity	.38

F = 6.31 DF = 2,21 p = .007

Structure Matrix

<u>Variable</u>	<u>Correlations With Regression Equation</u>
Aloneness	0.79
Soothing receptivity	0.63

* **Note** Correlations > 0.15 are included in Structure Matrix

Table 14**Prediction of Percentage Reduction in Purge Frequency**

<u>Step</u>	<u>Variable</u>	<u>Cumulative R-Squared</u>
1	Soothing Receptivity	.23

F = 5.52 DF = 1,19 p = .03

Structure Matrix

<u>Variable</u>	<u>Correlations With Regression Equation</u>
Soothing receptivity	0.98
Pretest purge frequency	- 0.15

* **Note** Correlations > 0.15 are included in Structure Matrix

Table 15

Prediction of Abstinence

<u>Step</u>	<u>Variable</u>	<u>Cumulative R-Squared</u>
1	Body Dissatisfaction (EDI)	.21
2	Pretest Purge Frequency	.35

F = 5.62 DF = 2,21 p = .01

Structure Matrix

<u>Variable</u>	<u>Correlations With Regression Equation</u>
Body dissatisfaction	-0.77
Pretest purge frequency	-0.73
Pretest binge frequency	-0.52
Drive for Thinness	-0.52
Bulimia	-0.44
Ineffectiveness	-0.29
Interpersonal Distrust	-0.28
Aloneness	-0.26
Impulse expression	-0.20
Interoceptive Awareness	-0.20

* **Note** Correlations > 0.15 are included in Structure Matrix

CHAPTER VI

DISCUSSION

EFFECTIVENESS OF THE GUIDED IMAGERY AND CONTROL TREATMENT

As predicted in hypothesis 1, the guided imagery therapy was associated with significantly greater reductions in bingeing and purge frequencies and associated psychopathology than the control condition.

A 74% reduction in bingeing frequency and a 73% reduction in purge episodes were observed following the imagery therapy, while the subjects in the control condition did not change. Abstinence of eating symptoms was observed only in the imagery group, with a rate of 25%. Similarly, the imagery therapy was associated with statistically significant changes in measures of psychopathology and in psychological functioning, while the control group demonstrated no significant change.

Significant reductions were observed on the EDI subscales of Drive for Thinness, Bulimia and Ineffectiveness and trends were found in the EDI subscales of Body Dissatisfaction, Interoceptive Awareness and Maturity Fears for the imagery condition. The control group demonstrated no significant changes on these measures.

The EAT-26 total and the EAT-26 Dieting and Bulimia subscales also demonstrated significant reductions for the imagery treatment compared to no significant reductions in the control group.

CONSISTENCY WITH PREVIOUS FINDINGS

The treatment gains in the current study are impressive and comparable to other forms of treatment. Controlled clinical trials of CBT have demonstrated reductions in binge eating and vomiting episodes ranging from 15% to 93% (Fairburn, 1993; Garner et al., 1993; Mitchell et al., 1993; Wilfley et al., 1993). However, these trials have involved therapies that occur over a significantly greater time period and include a greater number of sessions. While many of these trials involved between 10 to 20 therapeutic sessions it is important to note that treatment gains in these studies were frequently reached by the 6th week of treatment (Jones et al., 1993). Interpersonal Psychotherapy has demonstrated a 62%-93% reduction in bingeing and purging behaviors (Fairburn, et al., 1991). The current study compares favourably to psychoeducation which demonstrated a 61% reduction in binge frequencies following 5 group sessions (Olmsted et al., 1991) and to pharmacotherapy demonstrating a 70% reduction (Mitchell et al., 1990).

Abstinence rates vary across studies from 20% to 91% (Fairburn & colleagues, 1986; 1991; Lacey, 1983; Agras et al, 1989). The 25% abstinent rate of the present study is somewhat lower than in many of the CBT studies (Thackwray et al., 1993; Fairburn et al., 1993), and IPT (Fairburn et al., 1993), and is similar to group psychoeducation (Olmsted et al., 1991).

The imagery condition had a 14.3% dropout rate which is similar to the reported median of 15% for individual therapies (Garner et al., 1987), indicating that the individual imagery therapy was acceptable and tolerable to patients. Dropout

rates in previous studies range from 7.1% to 47% (Lee & Rush, 1986; Fairburn et al., 1993) for CBT and 17% for psychoeducation (Olmsted et al., 1991). The individual attention may have been an important factor in considering dropouts since the control group had a similar dropout rate. Individual therapies in general have fewer dropouts in comparison to group therapies (Garner et al., 1987).

With respect to the psychopathology characteristic of the eating disorders, the imagery treatment demonstrated a similar effect on the EDI subscale of Drive for Thinness as reported for CBT therapy and greater than that reported for group psychoeducation (Olmsted, 1989). The imagery treatment was less effective on the symptoms measured by the Bulimia subscale than both CBT and psychoeducation, but as effective as psychoeducation in addressing body dissatisfaction concerns (Olmsted, 1989). In addition to addressing eating attitudes and body image concerns, the imagery therapy had a greater impact on the EDI Interoceptive Awareness subscale than individual CBT and psychoeducation in one study (Olmsted, 1989). The EDI Ineffectiveness subscale post-treatment scores are similar to a report of group psychoeducation and slightly less than individual CBT (Olmsted, 1989). The post-treatment EDI scores were similar to those reported for group CBT (Wolf & Crowther, 1992; Thackwray et al., 1993) and for individual psychodynamic therapy (Garner et al., 1993).

The current study is comparable to two earlier well-designed studies of therapies that do not focus on eating behaviors and attitudes (Fairburn et al., 1991; Garner et al., 1993). The magnitude of the results of the current study are somewhat

less than Fairburn's IPT, however the treatment in Fairburn's study occurred over 18 weeks (Fairburn et al., 1991). The interpersonal therapy treatment demonstrated a 93% mean reduction of bulimic episodes in that study. IPT was effective in reducing the frequency of overeating and was equivalent to CBT. It was also as effective as CBT in ameliorating the patient's depressive symptoms and psychiatric symptoms in general, as well as in improving social functioning. The IPT, however, was less effective at the end of treatment in modifying patients' disturbed attitudes to shape and weight.

Garner et al. (1993), in a course of individual psychodynamic therapy lasting 19 sessions, compared with individual CBT reported a 12% abstinence rate from vomiting in the psychodynamic condition. The therapy was non-directive with an emphasis on listening to the patient and helping her to identify problems and their solutions. The therapist had a facilitative role in encouraging the patient to be responsible for change. There was an 81.9% reduction in vomiting frequency for individual CBT and a 62.1% reduction in the psychodynamic therapy group in this study. The EDI post-treatment scores for the psychodynamic therapy in the Garner et al. study (1993) were similar to the current study for the Drive for Thinness, Bulimia, Body Dissatisfaction, Ineffectiveness and Maturity Fears subscales.

These converging results suggest that treatments which do not specifically focus on eating behavior or concerns about eating or weight are able to lead to significant improvements in these areas. CBT has been found to be marginally superior to supportive expressive therapy in reducing vomiting episodes and concerns

regarding eating and weight (Garner et al., 1993; Fairburn and colleagues, 1991; 1993). However, a recent report suggests that IPT may have the best long-term outcome (Fairburn, 1995). Future prospective research is required to address the active ingredients of these therapies and the longterm benefits.

The lack of change in the control group which involved self-monitoring in the current study is inconsistent with previous trials demonstrating self-monitoring to be associated with some improvement (Jones et al., 1993; Thackwray et al., 1993; Agras et al., 1989). However, it is important to note that some direction may have been provided for encouraging normalization of eating in these previous trials. The current study involved only the "act" of recording eating behaviors and patterns of mood and a conscious attempt (as outlined in the manual) was maintained by the therapist to refrain from offering eating guidelines or therapist interpretation/reaction to eating symptomatology. At least one other study utilizing self-monitoring which involved no specific direction failed to show significant improvement (Wolf & Crowther, 1992). One possible explanation for the lack of even minimal improvement may be related to the therapist's consistent weekly focus on the personal records of "eating symptoms" rather than on the patient's reactions or affective experience. This focus may have enhanced the preoccupation with eating behavior and weight experienced by the patient.

In summary, the guided imagery condition had an impact on patients' eating behaviors and attitudes toward eating and weight. This clinically significant improvement is an impressive finding, given that the treatment consisted of only six

weekly sessions and did not directly address eating behavior or cognitions around body weight and shape.

PREDICTORS OF RESPONSE

The finding that soothing receptivity may be related to response in treatment was as predicted by hypothesis 2 which stated that those individuals who possess a greater capacity for self-soothing (or openness for soothing) would respond to treatment. Soothing receptivity accounted for 23% of the variance in purge reduction and 38% of the variance (combined with aloneness) in binge episode reduction. This finding is consistent with the theoretical literature on eating disorders, suggesting that personality disturbances associated with ego-functioning are related to outcome. Findings on personality disturbance in the empirical literature have been inconsistent. While no previous study has investigated soothing capacity, studies have examined personality disturbance. Rossiter, Agras, Telch & Schneider (1993) administered the Personality Disorder Examination to 71 BN patients in a trial investigating CBT and Desipramine. Personality disorder subscales were combined into DSM-III-R "cluster" scores. High cluster "B" scores (consisting of antisocial, borderline, histrionic and narcissistic features) significantly predicted poor outcome at 16 weeks. Rossiter et al. (1993) speculated that this "cluster" was related to characteristics in the impulse control/dramatic spectrum. Similarly, other studies have found that borderline personality disorder is related to poorer clinical outcome (Herzog, Hartmann, Sandholz & Stammer, 1991; Wonderlich et al., 1994; Fahy & Russell, 1993). In contrast, other studies have failed to demonstrate borderline organization as being related to outcome

(Davis et al., 1992). The current findings suggest that those who responded to the guided imagery treatment may have been receptive to receiving or utilizing psychological soothing or had a greater capacity for self-soothing. However, soothing receptivity was not a significant predictor for abstinence.

The finding that the measure of impulse expression was not related to change is surprising, and not as predicted in hypothesis 2. The mean impulse expression score for the current sample of BN patients as a whole was only slightly elevated in comparison to female college norms on this construct. The sample's mean was 9.3 (S.D. = 4.4) which corresponds to the 88th percentile for female adult norms and represents a T score of 62. While this is somewhat greater than the reported population norm, it is less than one would expect for a sample obtained to represent a "disorder of impulse control". Chandarana, Helmes & Benson (1988) utilized the Basic Personality Inventory (Jackson, 1989) in a sample of high school students to investigate the relationship between abnormal eating attitudes and psychopathology. They did not find elevated scores on the subscale of Impulse Expression for their sample. The finding of the current study is consistent with that of Fahy and Russell (1993) who failed to find impulsivity to be a significant predictor of clinical outcome using the Eysenck, Pearson, Easting & Allsopp (1985) "Impulsiveness Questionnaire".

The current study failed to find a positive correlation between impulse expression and eating symptoms. Earlier studies have reported inconsistent findings with regard to the association between binge and purge frequencies and measures of impulsivity. Some have found higher frequencies of binge and purge episodes to be

positively correlated with higher levels of impulsivity (Newton et al., 1993), while others have failed to demonstrate this pattern (Wolfe et al., 1994).

The BPI subscale of impulse expression may not have been adequately sensitive to capture the tendency for the specific impulsive behaviors that have been identified in BN. A more sensitive measure of impulsivity may be required for this population, such as the recently developed EDI-2 Impulsivity subscale (Garner, 1991) which focuses on behaviors (ie. addictive behavior, shoplifting, sexual behavior) that have been found among this population. In addition, the BPI was a single measure of impulsivity and targeted "behavioral" indices of impulsivity, therefore, findings from the study must be interpreted with caution.

The relationship between behavioral style and patterns of eating in BN requires additional research. Wolfe et al., (1994) noted that there are patients with BN for whom the timing of binges is highly structured and ritualized and related this to reports of obsessive-compulsive behavioral traits. Part of the difficulty with the construct of impulsivity is the lack of clarity as to what it means and previous studies reflect this difficulty (Newton et al., 1993; Wolfe et al, 1994). The term "bi-impulsive", rather than multi-impulsive has been applied to describe the population of BN as it has been suggested that these individuals usually have only one other dyscontrol behavior in addition to bulimic behavior (Newton et al., 1993). Elevated scores for obsessiveness, impulsivity and dyscontrol have been found simultaneously in BN (Newton et al, 1993). These authors suggested that drug and alcohol abuse, compulsive sex, along with other behaviors all share a sense of compulsion to carry

out such self-harmful behaviors. While patients frequently describe obtaining relief from tension with such behaviors, they often spend hours trying to delay carrying them out. Sohlberg (1991) similarly described obsessional hyper- and hypocontrol as being present in the same individual and suggested that the chief incapacity is to regulate impulses flexibly. At the same time it has been recognized that BN patients are heterogeneous in their characteristics and that a subgroup of BN patients may be categorized as "impulsive". These descriptions are important in considering the nature of impulsivity as current measures of impulsivity may be limited in their potential to measure the "premeditated" and "predictable" behaviors that may be characteristic of this disorder, therefore, leading to an underestimation of impulsivity in BN.

The current study demonstrated a lower level of body dissatisfaction to be a significant predictor of abstinence. Body dissatisfaction has been demonstrated to be a significant predictor of treatment response in previous studies. Fairburn et al (1993) found that patients with an intermediate level of attitudinal disturbance (measured by the EDE Shape Concern and Weight Concern Subscales) had a significant tendency to do the least well in a study comparing short-term psychological treatments. Those with residual attitudinal disturbance were more prone to relapse. Their study indicated that the relationship between attitudinal disturbance and outcome was complex. Surprisingly, those with greater levels of attitudinal disturbance around body shape and weight did the best. Walsh, Hadigan, Devlin, Gladis & Roose (1991) found that patients responding to desipramine had significantly greater scores on a self-report

measures of dissatisfaction with body shape.

The current study demonstrated a lower frequency of purge episodes at pretest to be a significant predictor of abstinence. Pretest vomiting frequency as a predictor has had varied results in previous studies. Davis, Olmsted & Rockert (1992) found higher frequency of vomiting predicted poorer outcome. This might be what one would expect as it represents a greater degree of dietary disturbance and lack of control. Individuals with greater disturbances in the bingeing and purging cycle may require more intensive intervention. However, other studies have demonstrated eating symptoms to be unrelated to outcome (Fairburn et al., 1987; Mitchell et al., 1986).

In summary, the findings of the current study support a general lack of consensus in the BN treatment literature demonstrating robust predictors of clinical outcomes as had been noted by Garner (1987); but a number of potential contributing factors have been identified as being related to this problem. Among these are sample size, degree of variance among scores on any one variable, statistical analysis methods and operational definitions of predictor and criterion variables (Davis et al, 1992).

THEORETICAL SIGNIFICANCE

The findings of the present study are exciting, particularly given the short-term nature of the treatment. This is the first study to systematically investigate the theoretical constructs of self-soothing, impulse control and aloneness in BN. It is also the first clinical trial to investigate a treatment specifically developed to target difficulties with affect regulation or with self-soothing and impulse control, features

of the illness that have been frequently described in the literature on eating disorders (de Groot & Rodin, 1994; Bruch, 1973; Booth, 1988; Garner et al., 1985).

The results of the current study lend support to Bruch's earlier model as well as to others who describe BN within a particular psychodynamic theory (Sugarman & Kurash, 1982; Shulman, 1991; Swift & Letven, 1984; Krueger, 1988), suggesting that the development and maintenance of an eating disorder is related to early development and indicates a lack of capacity to regulate painful affects. Within such a conceptualization, eating symptoms are viewed as being symptomatic of a deeper psychological difficulty related to the individual's sense of self and maintenance of self-esteem. The eating behaviors are believed to serve a function related to the maintenance of self-esteem and are used for affect regulation (Bruch, 1973).

The conceptualization of BN as a disorder of impulse control led to the development of a treatment which targeted the difficulties with affect regulation and self-esteem. Bruch (1973) earlier recognized the difficulties that these individuals have in identifying and verbally expressing sensations (including hunger and satiety). She described their core problems as being their sense of ineffectiveness, lack of accurate awareness of their sensations and of a disturbance in body image.

Glassman (1988) divided soothing receptivity into nonsocial self-soothing mechanisms and the experience of being soothed by others. He also distinguished between everyday idiosyncratic rituals individuals rely on to maintain their emotional equilibrium and strategies used to cope with unusual or extreme emotional distress. Individuals possessing a high degree of soothing receptivity were described as being

able to identify feelings and to self-soothe and respond to soothing from others. These individuals have multiple soothing strategies that can be flexibly utilized, are able to recover from emotional upsets and are not as dependent on psychologically primitive, sensation-evoking behaviors (e.g. drinking or binge eating) to escape negative affects (Glassman, 1988). Individuals demonstrating a lower level of soothing receptivity, in contrast, have limited and rigid strategies, if any, available to comfort themselves and are unresponsive to, or not really helped by the efforts of others to provide comfort. They recover slowly from emotional upsets and may utilize one or more primitive behaviors to escape from unpleasant affects (Glassman, 1988).

The level of soothing receptivity described for the current sample of BN is lower than a reported mean for a female college sample (Glassman, 1988). The findings of this study lend support to the theoretical notion that these individuals may possess a decreased ability for self-soothing and/or may be less able to receive soothing from a caring other. It may be speculated that the symptomatic sample may be utilizing binge eating for soothing. Further research is required to support this initial finding.

An interesting finding of the present study is that a change in the measure of soothing receptivity occurred over time for the imagery group . The imagery group demonstrated a statistically significant greater increase in the measure of "openness" to soothing or ability for self-soothing compared to the control group and there was a trend towards a greater reduction in the measure of aloneness for the imagery treatment. There are no previous trials involving a measure of soothing available for comparison. One might speculate that the development of a therapeutic alliance

facilitated a sense of increased trust, or a context of "safety" that encouraged the examination of personal images. Another explanation may be that the practice (homework component of using imagery tapes) contributed to an increase in familiarity and self-efficacy with the imagery technique over time, leading to greater confidence, trust and skill in "imaging" scenarios, and therefore, in evoking the imagery during periods of emotional distress. The change in soothing receptivity may be indicative of an internalization of the specific imagery (or therapist voice and/or music) leading to an enhanced ability for self-soothing and a greater sense of self-control.

The finding that aloneness began to decrease over time is congruent with clinical expectations of therapy. It is not surprising that shifts in this measure are associated with changes in the soothing measure. One would expect from the psychodynamic literature that an increase in the ability to be soothed or in self-soothing would contribute to an experience of feeling "less alone" (Horton, 1981; Adler, 1992). This finding may also be related to the development of a therapeutic alliance, which may be indicative of the individual feeling a sense of being cared for and understood, resulting in a "therapist presence" being experienced and therefore decreased aloneness.

The imagery treatment did not significantly impact on indices of perfectionism, interpersonal distrust or evocative memory capacity. These results are not surprising given the fact that these subscales represent personality, developmental or interpersonal disturbance which are known to be less amenable to change through short-term therapies and may require more lengthy psychotherapies (Applebaum,

1994; Bruch, 1973; Horton, 1991).

In considering the guided imagery model, a number of possible explanations for the treatment effect can be considered. Self-reports from patient journals and quantitative evidence suggest that the imagery operated , at least at some level as a relaxation technique, facilitating a decrease in physical tension or discomfort. Ninety percent of the patients in the imagery group reported that exercises 1, 2 , 4 and 6 were "extremely relaxing" and 75% of the imagery group patients reported that exercises 3 and 5 were at least "somewhat relaxing". Several patients stated that " I felt so relaxed going to my inner sanctuary...." and 42% of patients reported falling asleep on occasion following the use of the tapes. In addition, 63% of the patients in the imagery group reported utilizing the tapes specifically around times of distress and referred to the tapes as "relaxation tapes".

In considering the model of imagery proposed, the imagery appeared to successfully act as a relaxation technique; this is a finding consistent with previous imagery trials investigating this effect (Torem, 1992). One might be tempted to, therefore, speculate that the imagery acted "only " as a relaxation technique by decreasing tension or anxiety that is experienced during the urge to binge, resulting in a decreased urge and leading to greater success at preventing the act to binge. While this is a possible explanation at the simplest level of the model and relaxation through the imagery appeared to play a role in managing tension, other evidence suggests that it acted beyond the role of relaxation.

Ninety-five percent of the patients in the imagery group reported feeling

"extremely" comforted during or following the imagery exercises. Ninety percent of the patients reported being able to picture or experience the imagery and found the imagery "fairly" to "extremely" easy to do. The notion of self-comforting is an interesting one upon which to speculate. A report of feeling comforted may indicate a fundamentally different experience than feeling relaxed, being linked more closely to the internal experience of being solaced or soothed. The specific "images" appeared to be sufficiently non-directive to facilitate personal imagery, yet within a context of "solacing" and "comforting". This was particularly true for the imagery exercises 1, 2, 4, and 6. The inner sanctuary exercise was described as the most comforting one for the majority of the patients. Patients generally imagined a consistent inner sanctuary (special place) either by creating one, or by evoking memories of a place where they had experienced prior comfort. Forty-two percent of the patients reported doing the inner sanctuary exercise without the use of the tape on several occasions. These self-reports suggest that the images were called up through the patient's memory and utilized for comforting, frequently leading to an internal state of feeling serene and calm.

It is probable that over time the patients became more proficient in using imagery, building skill and mastery in the technique which may have led to a sense of greater self-control. In this regard they were using a self-skill that could be used outside of therapy. At the same time, the imagery was connected to the therapeutic session and the therapist, for example, by incorporating the therapist's voice and memories of doing the exercise initially during a therapeutic session in the presence

of a therapist. While the extent to which this therapist connection was an important factor cannot be determined from the study, one might postulate upon this feature of the treatment as being a key component according to the psychotherapy literature. Several patients reported a positive effect from hearing the therapist's voice. Statements, such as " It is like having you with me", " I keep you in my pocket" and "When I hear your voice...I think of the therapy and what I did in the session" may indicate the importance of the connection between the tapes and the therapist. In this respect, the imagery may have performed as a transitional object (Winnicott, 1965), and therefore, may have activated qualities experienced in therapy (memories of the therapist, memories of the session) resulting in a felt presence of the therapist. Transitional object functions may provide the patient with an external soothing device that enhances the patient's ability to soothe and comfort herself during difficult periods or when feeling alone. This reliance on the imagery for comforting can be considered similar to the role of a comforting caretaker in infancy.

Applebaum (1994) has elegantly described the supportive aspects of psychotherapy that sustain or re-establish the working ego state - a state within which a patient can experience an array of affects and study their meaning. He identifies the role of the therapist in identifying and describing the discomfort in terms close to the patient's experience, the need to enlist the patient's cooperation in looking for its source and choosing a soothing device that will strengthen rather than undermine the patient's capacities for self-observation. He also identifies the therapist's need to refrain from intervening, so as to allow the patient time to discover

her own capacity to master the anxiety.

A number of supportive interventions that serve soothing functions have been identified in the literature and include the nonverbal reminder of the therapist's presence and interest (Applebaum, 1994; Bruch, 1973; Horton, 1981). The presence of the therapist is believed to support the management of unpleasant affects and the control of inclinations to act defensively. This component of therapy is similar to circumstances when a child's anxiety is comforted early on by contact with the mother (holding), and later by recollection of the mother as an enduring presence who if momentarily absent, will return.

It is interesting to note that a number of patients in the current study imagined a type of maternal or nurturing figure (particularly during the inner sanctuary exercise). One patient stated the following:

"I felt so relaxed going to my Inner Sanctuary- the porch on the water...I brought someone with me though, a woman, kind of an "ideal" mother. She was comforting and loving and ethereal and encouraging...I felt so good to have her with me. She is so kind and warm...She gently strokes my back when I'm upset, she calms me and sometimes she holds me...at other times she just sits quietly..."

When this patient was asked who the woman was, she stated "She has a face like mine....maybe she is me" . This statement may reflect the patient's engagement in

self-soothing.

Another young woman, who at the age of 17 experienced the death of her mother from cancer, following which she developed anorexia nervosa and later bulimia described her inner sanctuary. She frequently imagined a scene that involved her family's cottage on a lake and she openly discussed her sensory experience of "being at the cottage on the lakefront". This imagined scene was perceived by her as being helpful in the management of her urges to binge. During the 5th therapeutic session, when asked whether her mother ever appeared in her imagery, she replied:

"Yes, certainly...she is always there. I am on the porch, but I hear in the background the voices of my mother and grandmother...softly talking....they are with me...". While she had never previously disclosed this aspect of her imagery during earlier sessions, she reported that her mother had been part of her imagery for several weeks. She was able to describe her experience of the loss of her mother in an emotional way. She also explored her experience of having her mother "present" during the imagery and described a deep sense of "comfort" and connection that she came to view as a way of bringing her mother with her. While the pain associated with the prior loss was revealed and expressed, she found solace in being able to imagine her mother in a way that represented a sense (in her words) that "she is with me...sometimes I discuss decisions I have with her"...It is also interesting that this young woman was symptom-free at this point in the therapy. She was encouraged to continue this soothing strategy and to share with her mother through her imagery.

These patient descriptions have direct relevance to Horton's (1981) writings on

the soothing experience of a maternal presence, exemplified through his clinical and literary case examples. He elaborates on specific maternal imagery as being "safely ensconced in a maternal surround" and portrays the felt presence of a maternal object as a way forward into the future. Horton distinguishes these types of experiences from other pleasures and fantasies, describing them as "fundamentally different" through their meeting criteria for transitional relatedness.

It is the special *cohesion* of factors that make it transitional relatedness-separation from the mother, the use of objects that in some way stand for and are connected with her, the occurrence of reliable soothing, the development of greater freedom from oppressive circumstances, internal and/or external, and the facilitation of an adaptive solution to an otherwise overwhelming conflict (Horton, 1981, p.78).

The clinical case examples portrayed support these criteria, suggesting that the personal imagery functioned as a transitional object; the imagery was specifically connected to a maternal presence (in her absence), which facilitated solace and was evoked by each patient creatively and specifically used as a means to deal with stressful or challenging events.

Pine (1985) contrasts adult health, which is indicated by the consoling presence of parents which has been internalized into comforting aspects of the superego to adult illness involving internalized objects representing caregiver's failure to perform

the soothing function. Applebaum (1994) has included teaching patients methods of self-soothing to help them restore the working state in therapy where self-expression and observation can occur. Imagery therapy may be considered such a technique that directly invites patients to find a soothing presence by linking them to previously soothing experiences and for those who didn't have them, by facilitating the experience of the therapist as a soother. The practice of the imagery enhances the production of memories of successful self-mastery in regulating tension that can be utilized in a reliable manner when anxiety arises.

The imagery model also includes the role of the specific imagery, symbols and metaphor and the component of expression (drawing or writing about the experienced imagery). All 24 patients in the imagery group maintained journals and either described in written form or drew their imagery. This feature of the treatment may have been important in promoting self-experience and its contemplation. Patients were encouraged to identify and describe their emotions during and outside of therapeutic sessions. The role of self-experience has been identified as crucial in psychodynamic therapy (de Groot & Rodin, 1994; Bruch, 1973). The creative expression of imagery is included to facilitate self-experience and discussions around experienced affect related to the imagery. Therapeutic discussions on the experienced imagery involve a playful engagement between the therapist and the patient. The imagery was frequently discussed by the patients in terms of metaphor or particular images that were at times interpreted by the patients as being symbolic of some behavior, meaning or feeling. This playful engagement facilitated the patient's

message and assisted in capturing what the patient was thinking and feeling. It was not unusual for patients to express feelings or insights concerning painful experiences by identifying and describing specific images, and they participated in making their own interpretations concerning their imagery. These discussions in therapy may have facilitated the patient's experience of being understood that Bruch (1973) emphasized.

The patient's participation in psychotherapy and sense of being understood encourage the conviction of being able to relate to or draw close (ie not alien). Applebaum (1994) suggests that empathic interventions promote self-acceptance with associated decreased defensiveness and lead to increased tolerance for a wider range of affects and greater comfort in more diverse circumstances. The therapist's exploration of the personal imagery may have fostered a sense of personal value and uniqueness, contributing to an empathic response. This explicit acceptance of the patient's expressions and confirmation of the patient's feelings and attitudes or respectful disagreement with them may have contributed to the patient's enhanced sense of self (Applebaum, 1994).

All of these features point to a deeper level of intervention, suggesting that the imagery likely acted as a form of psychotherapy. The imagery, including symbols, personal themes and affective experience may have contributed to an expanded self-view through being made aware of an increasing ability to observe and describe experience and in naming affects. Statements such as "I didn't realize I was creative". "I became smaller and changed colour when interacting with my father" and the offering of a personal "blueprint" interpretation associated with imagined colors and

feelings through the "colorform" (exercise 4) highlight the role of experiencing and contemplating the imagery, the discussions and "play" in identifying imagery themes and the associated emotions that were experienced. The imagery may have contributed to putting feelings into words, an important component of any form of psychotherapy. As Applebaum (1994) stated "effective psychotherapy creates the conditions for putting feelings, intentions, wishes and memories into words, thereby strengthening a sense of agency" (p. 50).

In summary, several exciting potential explanations related to the guided imagery treatment model can be considered. Specific elements of the imagery therapy, for example, its connection to the therapist, its use as a soothing activity and its potential in promoting self-experience and expression may be important. However, this is an initial study involving a short time period and further research is required to replicate these results and to determine the specific active ingredients of the therapy. Evidence from this study lends support to the effects of the guided imagery therapy as a "package" of elements, and in that regard, it appears to be an effective therapy, particularly in promoting self-comforting.

METHODOLOGICAL LIMITATIONS

An important limitation of the current study is that no follow-up beyond the six-week treatment period was conducted, and therefore, it is not known whether the treatment effect of the imagery condition is of any significant duration or merely a transient benefit. While follow-up is recognized by the investigator as important, it is difficult to obtain reliable and meaningful follow-up information on the current

study's BN sample. The majority of the patients in this study were recruited from a consultation service at an eating disorder clinic and were directed towards a variety of other treatments following their participation in this study. Therefore, any conclusions on maintenance of guided imagery treatment effects or change in symptomatology/psychopathology could not be explained by the effects of the imagery treatment alone from follow-up data had it been obtained. While the current study assisted in bridging a waiting period between consultation and treatment, it would have seemed unjustified ethically to interrupt the treatment program of these patients by asking them to refrain from further treatment. The primary objective of this study was to provide information on the effects of guided imagery in the interruption of symptoms during an acute period of the illness. Future studies are needed to investigate the longterm benefits.

The investigator was the therapist who delivered therapy to both experimental conditions. This introduces the element of experimenter bias (in favour of the guided imagery treatment group). It is possible that the investigator's enthusiasm for the guided imagery treatment (being the new treatment) may have either influenced the investigator's judgement of the patient's progress or was transmitted to the patient, affecting the patient's subjective responses. Altman (1991) recognizes the difficulty of eliminating experimenter bias, particularly in designing studies that test new treatments. This possible confound was somewhat limited by having the investigator blinded to subjects' pretest measures throughout the treatment protocol and to post-test measures until all patients had completed the study.

A related limitation is that one therapist delivered all treatments, thus limiting the internal validity of the imagery condition (i.e. therapist variables may have caused the effect). In the context of the current trial being an initial pilot trial of a new treatment (in which the investigator is skilled) the current design can be considered acceptable, recognizing this limitation. Since there was no change in the control group, it appears that the therapist presence alone was not enough to produce the treatment effect. It is important to note that there are strengths associated with having a single therapist deliver both treatments, such as specific therapist variables (e.g. empathic style) being present in both treatments.

A pretest posttest design involves the possibility of a sensitizing effect on subjects which may decrease the external validity of the study. This problem arises when participants, having had a pretest, become more aware of issues/problems included in the scales. This is not unique to this particular trial; pretests have been given in many of the previous studies of eating disorders, making this study comparable to others for this population.

Another limitation is associated with the use of self-reports which can be a threat to both internal and external validity. All of the measures used in this study, including the primary outcomes of bingeing and vomiting frequencies, were obtained through the use of self-reports. This introduces the possibility of a novelty effect which is present when a patient is participating in a study for the first time and self-reports are influenced by excitement about participating or by what the participant believes the researcher is expecting or desiring to find (social desirability). In addition,

self-reports introduce the possibility that the patients denied or did not accurately report their true bingeing and purging episodes, particularly given the element of secrecy and shame associated with the illness. All previous studies in the eating disorder literature have included self-reported data (using similar measures), making this study comparable to others. Currently, there are no biological markers nor behavioral observations available that can accurately measure the outcomes of interest in this study, and therefore self-report standardized scales which meet acceptable criteria for reliability and validity are the current state of the art in psychological research. The primary outcome measures of bingeing and vomiting frequencies were based on a two-week period involving retrospective self-reports of one-week frequencies combined with one week of prospective daily recording. This is in keeping with other recent research.

Another limitation involves the use of an unstandardized scale (e.g. soothing receptivity). The use of unstandardized measures minimizes opportunity for comparison to other studies and may threaten the internal validity of the study (e.g. there is less certainty that the questionnaire is measuring what it intends to measure). Altman (1991) and Kerlinger (1986) recognize that occasionally research involves variables of interest which have not been extensively studied previously, and therefore, there may be a lack of reliable and valid standardized measures. They suggest that in the design of studies which are focusing on concepts which are difficult to measure or have a lack of available measures it may be necessary to include unstandardized measures. A literature search for measures related to self-

soothing revealed few available measures for the concept of self-soothing. The Glassman (1988) 20-item total scale which proposes to measure "soothing receptivity", defined as a patient's "openness" to external soothing and ability for self-comforting seemed particularly relevant for our conceptualization of the guided imagery treatment. It demonstrated acceptable internal reliability ($\alpha = 0.81$) with a university sample and with a diagnostically heterogeneous psychiatric sample ($\alpha = 0.73$), and therefore, seemed most appropriate for the current study.

The investigation occurred within one hospital setting and this can pose a threat to the external validity of the study. Patients who seek out treatment in tertiary settings may not be representative of the general BN population. External validity of this setting was strengthened by including only those patients who met the DSM-III-R criteria for BN, including the stringent criteria of at least two binges per week, and therefore, findings of this study should be generalizable to BN patients seeking treatment at Eating Disorder clinics.

Six patients received concurrent pharmacological treatment that is known to affect eating symptoms (Goldbloom & Olmsted, 1993); four were in the imagery condition and two in the control group. No differences were found in treatment response among those patients taking antidepressants in comparison to those not on medication. In all cases the pharmacological treatment had been initiated at least two months prior to entry into the current study and patients were symptomatic with bingeing and vomiting behaviors that met DSM-III-R frequency criteria for BN. The study plan initially had called for excluding those patients who were engaged in

pharmacological treatments, however, a significant number of BN patients receive medication and study recruitment may have been significantly reduced had the study not included these patients. Therefore, in order to maintain a reasonable sample size for adequate power of the study design it was decided to include patients receiving concurrent pharmacotherapy with the condition that concurrent treatment had been ongoing for greater than two months and patients were still symptomatic. It may be argued that the external validity of the current study is enhanced by broadening our inclusion criteria of concurrent pharmacotherapy, given the number of BN patients who receive such treatment.

In addition to these limitations, the study has some important strengths to note. The study maximized the opportunity for controlling a number of possible confounding factors (e.g. maturation, sample bias) through its random assignment to treatment and the use of pretest posttest measures. The use of treatment manuals (for both experimental groups) and the inclusion of regular supervision of manual adherence, the use of audio-cassette tapes, standardized measures and prospective bingeing and vomiting recording (in addition to retrospective reporting) contributed to the internal validity of the study.

CHAPTER VI

IMPLICATIONS FOR TREATMENT/ RESEARCH AND CONCLUSIONS

IMPLICATIONS FOR TREATMENT AND RESEARCH

The primary objectives of this study were to provide quantitative information about the degree of impulsivity and self-soothing capacity in BN and to test a treatment which was designed to target difficulties of affect regulation experienced in BN.

This study is the first to systematically investigate the theoretical concepts of impulse control, self-soothing capacity and the experience of aloneness. Evidence from this study suggests that these individuals may have a decreased ability for self-soothing and highlights the sense of extreme aloneness and isolation that these individuals experience. There appears to be an association between the ability for soothing receptivity and feelings of aloneness; a link that has been suggested in the theoretical literature. This finding lends further support to the features of BN related to difficulties with affect regulation; these individuals are believed to possess a decreased ability for self-soothing, utilize primitive (maladaptive) soothing methods and may be less receptive to the soothing efforts of others. It was surprising to find, however, that the impulse expression scores were not elevated (although they were somewhat higher than female norm scores). This finding, at face value, lends less support to BN as being a disorder of impulse control, however provides new evidence to support the complexity related to definitions of impulsivity and its relevance for this population, for example, the existence of a subgroup of "impulsive" individuals along

a continuum of impulsiveness. The results in this study may indicate a lack of sensitivity of the impulsivity measure used for BN and indicate the need for alternative measures that are more relevant for investigating the specific impulsive behaviors in this population. The study lends support to previous studies, suggesting that eating behaviors may not always be described as "actions without thought" (one definition of impulsivity), as many individuals with BN report "planned premeditated binges". Further research is required to replicate these findings and to further explore the notion of impulse control specific to this disorder.

The findings of this study lend support to the affective experience of individuals with BN. The extreme feelings of aloneness and lack of awareness of specific affects may be less amenable to CBT treatment. The affective component of the illness may require treatments which promote self-experience and the identification of emotions. The extreme sense of isolation and alienation that these individuals experience seemed evident both quantitatively and qualitatively and may be a feature of the illness that perpetuates the disorder. Feelings such as extreme isolation and aloneness may persist if left unaddressed and may perpetuate the disorder by contributing to interpersonal withdrawal, maladaptive mechanisms (i.e. bingeing) to decrease the painful state, and a sense of being cut off from affective experience. This aspect of the disorder may not be adequately addressed by current forms of treatment and guided imagery may offer a new dimension to treatment if added to the package of treatments currently being offered to BN patients.

Findings of this study suggest that those individuals who had a capacity for

soothing receptivity (i.e. being able to receive comforting efforts of others) may have benefited the most from the guided imagery. This was as predicted, suggesting that the psychologically healthier individuals did better with the treatment and were able to receive and utilize the guided imagery. However, one exciting finding is that the soothing receptivity measure changed over time for individuals with both high and low levels of soothing receptivity at baseline. This finding suggests that individuals can build skill in using imagery and those who are initially unable to be open to receiving the imagery as a soothing activity or who possess fewer resources for self-soothing may become more receptive to being soothed over time within the context of a therapeutic relationship. This finding requires replication.

One major limitation of the current study is the lack of longterm follow-up and therefore, it is unclear to what extent the treatment effects were enduring. It is also unknown to what extent the effects of the guided imagery may be further enhanced by slowing the pace of the introduction of imagery exercises offered in therapy or by providing a longer therapeutic time period. It may be advantageous to encourage individuals to experience and contemplate each exercise at a slower pace and over an extended time period, perhaps by deepening the response. This would allow further time and opportunity for contemplation and expression of the imagery. Further research is required concerning the treatment time period and the endurance of its benefits.

The current study's aim was to test a new treatment. The results gained in this study point to a number of research questions: **What are the effects of guided imagery**

in relation to longterm maintenance? Could the effects be enhanced through a longer treatment period? How does guided imagery compare to CBT? Can it be delivered in group format, and would this further assist in decreasing the sense of aloneness through the group's shared experience? Would it be possible for these individuals to share their personal imagery through group discussions? Can a form of guided imagery be integrated with CBT? At what point during CBT would guided imagery be best integrated? For whom, is guided imagery most effective? What specific components of the treatment model were most responsible for outcome? These are important questions for further research and results of studies investigating these areas will contribute to our knowledge of treating the disorder. As the current empirical literature indicates, a significant number of patients do not improve with the current forms of treatments and the relapse rate is high (Herzog, 1992). Further research on the use of guided imagery, conceptualized as a treatment addressing the affective component of the disorder, may promote a more comprehensive approach in treatment through the expansion of a repertoire of therapeutic models that result in addressing all features of the illness.

This study investigated guided imagery therapy as a "package" of relevant elements (ie. soothing images, therapist voice, tapes, music) and further research geared at dismantelling the specific components of the therapy is required for a complete understanding of the therapeutic elements. This is a challenging area for research, but one that should follow the direction of rigorous psychotherapy research. Designs required should include treatment arms involving partial components or levels

of the guided imagery therapy, a multitude of therapists to rule out specific therapist effects, therapist competence ratings and patient ratings, well-designed treatment manuals and treatment adherence ratings. Such investigations would promote a line of research directed at fine-tuning the intervention and would contribute to an identification of the key aspects of the guided imagery therapy, as well as identify for whom the imagery treatment is best suited.

CONCLUSIONS

The objectives of the current study were to investigate impulse control and self-soothing in BN and to evaluate the effectiveness of guided imagery therapy as a treatment to enhance self-comforting. The guided imagery treatment had substantial effects on the reduction of bingeing and vomiting episodes and also demonstrated improvement on measures of attitudes concerning eating, dieting and body weight in comparison to a control group. In addition, the guided imagery demonstrated improvement on psychological measures of aloneness and the patients in the imagery group improved on a measure of soothing receptivity, indicating the ability for self-comforting and the openness to receiving the solacing attempts of others.

The BN sample demonstrated slightly elevated levels of impulse expression in comparison to a reported mean for a female college sample. The level of impulse expression was uncorrelated with eating symptoms and did not predict response to treatment. The BN sample demonstrated a decreased level of soothing receptivity, compared to a female college sample, suggesting that these individuals may have difficulty in regulating negative affective states and may be less responsive to the

soothing attempts of others. Patients who demonstrated a higher level of soothing receptivity benefited more from the guided imagery treatment.

The final objective was to identify predictors of treatment response. Pretreatment levels of soothing receptivity and decreased aloneness were significant predictors. Other significant predictors included lower pretest vomiting frequency and a lower score on a measure of body dissatisfaction.

In summary, the current study demonstrated that guided imagery therapy is an effective treatment for BN, at least in the short-term, and evidence suggests that it assisted in providing patients with a transitional object that could be utilized for self-soothing. In this regard, it appeared to address the difficulties with affect regulation experienced by these individuals. Guided imagery may add an important new dimension to the available package of current forms of treatments for this population. Further research is required to replicate these initial findings and to investigate its longterm benefits. In addition, future research is required to identify the specific mechanisms involved in the guided imagery treatment model.

REFERENCES

- Achterberg, J. (1985). *Imagery in healing: Shamanism and modern medicine*. Boston: New Science Library Shambhala Publications, Inc.
- Achterberg, J. & Lawlis, C.F. (1978). *Imagery and cancer*. Institute for Personality and Ability Testing, Champaign, Illinois, p. 19.
- Achterberg, J., Kenner, C. & Lawlis, F. (1988). Severe burn injury: A comparison of relaxation, imagery and biofeedback for pain management, *Journal of Mental Imagery*, 12(1), 71-88.
- Adler, G. (1992). The myth of the therapeutic alliance with borderline patients revisited. In D. Silver & M. Rosenbluth (Eds.) *Handbook of borderline disorders*. (pp.251-265), Madison: International Universities Press.
- Adler, G. (1979). Psychodynamic of impulsive behavior. In H.A. Wishnie & J. Nevis-Olesen (Eds.) *Working with the impulsive person*, (pp.2-17). New York: Plenum Press.
- Adler, G. & Buie, D.(1979a). Aloneness and borderline psychopathology: The possible relevance of child development issues. *International Journal of Psycho-analysis*, 60, 83-96.
- Adler, G. & Buie, D. (1979b) The psychotherapeutic approach to aloneness in borderline patients. In J. LeBoit & A. Capponi (Eds.), *Advances in the psychotherapy of the borderline patient* (pp. 433-448). New York: Aronson.
- Adler, G. (1993). The psychotherapy of core borderline psychopathology, *American Journal of Psychotherapy*, 47(2), 194-204.
- Agras, W.S., Dorian, B., Kirkley, B.G., et al. (1987). Imipramine in the treatment of bulimia: a double-blind controlled study. *International Journal of Eating Disorders*, 6, 29-38.
- Agras, W.S., Rossiter, E.M., Arnow, B., et al (1992). Pharmacologic and cognitive-behavioral treatment for bulimia nervosa: A controlled comparison, *American Journal of Psychiatry*, 149, 82-87.
- Agras, W.S., Kirley, B.G., et al (1987). Imipramine in the treatment of bulimia: a double-blind controlled study, *International Journal of Eating Disorders*, 6, 29-38.

- Agras, W.S., Rossiter, E.M., Arnow, B., Telch, C.F., Raeburn, S.D., Bruce, B., Koran, L.M. (1994). One-year follow-up of psychosocial & pharmacologic treatment for bulimia nervosa. *Journal of Clinical Psychiatry*, *55*(5), 179-83.
- Agras, W.S., Schneider, J.A., Arnow, B. et al (1989). Cognitive-behavioral and response-prevention treatments for bulimia nervosa. *Journal of Consult Clinical Psychology*, *57*, 215-221.
- Ahsen, A. (1984). ISM: The triple code model for imagery and psychophysiology. *Journal of Mental Imagery*, *8*(4), 15-42.
- Altman, D.G. (1991). *Practical statistics for medical research*. New York: Chapman and Hall.
- American Psychiatric Association (1987). Diagnostic and statistical manual of mental disorders (3rd ed., rev.), Washington, D.C., American Psychiatric Association.
- Anderson, N. (1961). Scales and statistics: Parametric & Nonparametric, *Psychological Bulletin*, *58*, 305-316.
- Anderson, A.E. (1985). *Practical comprehensive treatment of Anorexia nervosa & Bulimia*. Baltimore: John Hopkins University Press.
- Applebaum, A.H. (1994). Psychotherapeutic routes to structural change. *Bulletin of the Menniger Clinic*, *58* (1), 37-54.
- Arkema, P.H. (1981). The borderline personality and transitional relatedness. *American Journal of Psychiatry*, *138*, 172-177.
- Barber, T.X., Chauncey, H.M. & Winer, R. A. (1964). The effect of hypnotic and nonhypnotic suggestions on parotid gland response to gustatory stimuli. *Psychosomatic Medicine*, *26*, 374-380.
- Barber, T.X., Spanos, N.P. & Chaves, J.F. (1974). *Hypnosis, imagination and human potentialities*. New York: Pergamon Press.
- Beglin, S.J. & Fairburn, C.G. (1992). What is meant by the term binge? *American Journal of Psychiatry*, *1*, 123-124.
- Bird, E.I. & Wilson, V.E. (1988). The effects of psychosocial practice upon psychophysiological response during mental rehearsal of novice conductors, *Journal of Mental Imagery* *12*(2), 51.
- Blouin, J.H., Carter, J., Blousin, A.G., Tener, L., Schnace-Hayes, K., Zuro, C., Barlow,

- J. & Perez, E. (1994). Prognostic indicators in BN treated with CB group therapy. *International Journal of Eating Disorders*, 15(2), 113-23.
- Booth, G.K. (1988). Disorders of impulse control. In H.H. Goldman (Ed.), *Review of General Psychiatry* (2nd Ed.) (pp 381-389). Norwalk, CT: Appleton and Lange.
- Bornstein, P.H. & Sippelle, C.N. (1973). Clinical applications of induced anxiety in the treatment of obesity. Paper presented at the Southeastern Psychological Association meeting, April, 1973.
- Boskind-Lodahl, M. & White, W.C., (1978). The definition and treatment of bulimarexia in college women: A pilot study. *Journal of the American College Health Association*, 27, 84-87.
- Bruch, H. (1973). *Eating disorders: Anorexia, obesity and the person within*. New York: Basic Books.
- Burtle, V. (1976). Learning in the appositional mind: Imagery in the treatment of depression, *Dissertation Abstracts International*, 36, 11-B, p. 5781.
- Busch, F., Nagera, H., McKnight, J., & Pezzarossi, G. (1973). Primary transitional objects. *Journal of the American Academy of Child Psychiatry*, 12, 193-214.
- Butcher, H.K. & Parker, N.I. (1988). Guided imagery within Rogers' science of unitary human beings: An experimental study. *Nursing Science Quarterly*, 1(3), 103-110.
- Carter, F.A. & Bulik, C.M. (1994). Exposure treatments for bulimia nervosa: Procedure, efficacy, and mechanisms. *Advances in Behaviour Research & Therapy*, 16(2), 77-129.
- Chandarana, P., Helmes, E., Benson, N. (1988) Eating attitudes as related to demographic and personality characteristics: A high school survey. *Canadian Journal of Psychology*, 33, 834-837.
- Christensen, L & Mendosa, J.A. (1986). A method of assessing change in a single subject: An alteration of the RC index. *Behavior Therapy*, 17, 305-308.
- Cohen, J. (1969). *Statistical power analysis for the behavioral sciences*. New York: Academic Press.
- Collings, S. & King, M. (1994). Ten-year follow-up of 50 patients with BN. *British Journal of Psychiatry*, 164(1): 80-7.

- Connors, M.E., Johnson, C.L., Stuckey, M.K., (1984). Treatment of bulimia with brief psychoeducational group therapy. *American Journal of Psychiatry*, *141*, 1512-1516.
- Cooper, P.J., Coker, S., & Fleming, C. (1994). Self-help for BN: A preliminary report. *International Journal of Eating Disorders*, *16*(4), 401-4.
- Cooper, P.J. & Fairburn, C.G. (1983). Binge eating and self-induced vomiting in the community: A preliminary study. *British Journal of Psychiatry*, *142*, 139-144.
- Cooper, P.J., Charnock, D.J. & Taylor, M.J. (1987). The prevalence of bulimia nervosa: A replication study. *British Journal of Psychiatry*, *151*, 684-686.
- Cooper, A. & Fairburn & C.G. (1987). The Eating Disorder Examination: A semi-structured interview for the assessment of the specific psychopathology of eating disorders. *International Journal of Eating Disorders*, *6*, 1-8.
- Cox, G.L. & Merkel, W.T. (1989). A qualitative review of psychosocial treatments for bulimia, *Journal of Nervous and Mental Disease*, *177*(2), 77-84.
- Crosby, R.D., Mitchell, J.E., Raymond, N., Specker, S., Nugent, S.M. & Pyle, R.L. (1993). Survival analysis of response to group psychotherapy in BN. *International Journal of Eating Disorders*, *13*(4), 359-68.
- Cross, L.W. (1993). Body and self in feminine development: Implications for eating disorders and delicate self-mutilation. *Bulletin of the Menninger Clinic*, *57*(1), 41-68.
- Davis, R., Olmsted, M.P., Rochert, W. (1992). Brief group psychoeducation for bulimia nervosa: II. Prediction of clinical outcome. *International Journal of Eating Disorders*, *11*(3), 205-211.
- Davis, R., Olmsted, M. & Rockert, W. (1990). Brief group psychoeducation for bulimia nervosa: Assessing the clinical significance of change. *Journal of Consulting and Clinical Psychology*, *58*(6), 882-885.
- de Groot, J. & Rodin, G. (1994) Eating disorders, female psychology and the self, *Journal of the American Academy of Psychoanalysis*, *22*(2), 299-317.
- Dixon, K.N. & Kiecolt-Glaser, J. (1984). Group therapy for bulimia. *Hillside Journal of Clinical Psychiatry*, *6*, 156-170.
- Eysenck, S.B.G., Pearson, P.R., Easting, G. & Allsopp, J.F. (1985). Age norms for Impulsiveness, Venturesomeness & Empathy in adults. *Personality & Individual*

Differences, 6, 613-619.

- Fahy, T. & Russell, G. (1993). Outcome and prognostic variables in Bulimia nervosa, *International Journal of Eating Disorders, 14(2), 135-145.*
- Fairburn, C.G. (1985). Cognitive - behavioral treatment for bulimia. *Handbook of Psychotherapy for Anorexia Nervosa and Bulimia.* Edited by Garner D.M., Garfinkel P.E. New York, Guilford Press.
- Fairburn, C.G. (1988). The current status of the psychological treatments for bulimia nervosa. *Journal of Psychosom Res, 32, 645-645.*
- Fairburn, C.G. (1981). A cognitive-behavioral approach to the management of bulimia. *Psychological Medicine, 11, 707-711.*
- Fairburn, C.G. & Garner, D.M. (1986). The diagnosis of bulimia nervosa. *International Journal of Eating Disorders, 5, 403-419.*
- Fairburn, C.G., Kirk, J., O'Connor, M. & Cooper, P.J. (1986). A comparison of two psychological treatments for bulimia nervosa. *Behavior Research & Therapy, 24, 629-643.*
- Fairburn, C.G. & Beglin, S. (1990). Studies of the epidemiology of bulimia nervosa. *American Journal of Psychiatry, 147, 401-408.*
- Fairburn, C., Norman, P.A., Welch, S.L., O'Connor, M.E., Doll, H.A., Peveler, R.C. (1995). A prospective study of outcome in Bulimia nervosa and the long-term effects of three psychological treatments. *Archives of General Psychiatry, 52(4), 304-312.*
- Fairburn, C.G., Jones, R., Peveler, R.C., Hope, R.A., O'Connor, M. (1993). Psychotherapy and bulimia nervosa: Longer-term effects of interpersonal psychotherapy, behaviour therapy, and cognitive behaviour therapy. *Archives of General Psychiatry, 50, 419-428.*
- Fairburn, C.G., Jones, R., Peveler, R.C., Carr, S.J., Solomon, R. O'Connor, M.E., Burton, J. & Hope, R. (1991). Three psychological treatments for bulimia nervosa, *Archives of General Psychiatry, 48, 463-469.*
- Fichter, M.M., Leibel, K., Rief, W. Brunner, E., Schmidt-Auberger, S. & Engel, R.R. (1991). Fluoxetine versus placebo: A double blind study with bulimic inpatients undergoing intensive psychotherapy. *Pharmacopsychiatry, 24(1), 1-7.*

- Fluoxetine Bulimia Nervosa Collaborative Study Group. Fluoxetine in the treatment of bulimia nervosa. (1992). *Archives of General Psychiatry*, *49*, 139-147.
- Freeman, C., Barry, F. Dunkeld-Turnbull, J. et al(1988). Controlled trial of psychotherapy for bulimia nervosa. *British Medical Journal*, *296*, 521-525.
- Frommer, M.A., Ames, J.R., Gibson, J.W. & Davis, W.N. (1987). Patterns of symptom change in the short-term group treatment of bulimia. *International Journal of Eating Disorders*, *13*, 358- 390.
- Frosch, W.A., Frosch, J.P., & Frosch, J. (1986). The impulse disorders. In A.J.Frances & M.H. Sacks (Eds.) *Psychiatry: The personality disorders and neuroses*.(pp. 275-282). New York: Basic Books.
- Games, P. & Lucas, P. (1966). Power of the analysis of variance of independent groups on non-normal and normal transformed data, *Educational and Psychological Measurement*, *26*, 311-327.
- Garfinkel, P.E. & Garner, D.M. (1982). *Anorexia Nervosa: A multidimensional perspective*. New York: Brunner-Mazel.
- Garfinkel, P.E. & Goldbloom, D.S. (1993). Bulimia nervosa: A Review of Therapy Research, *Journal of Psychotherapy Practice & Research*, *2*(1), 38-50.
- Garfinkel, P.E. & Gallop, R. (1992). Eating disorders and borderline personality disorder. In D. Silver & M.Rosenbluth (Eds.) *Handbook of borderline disorders* (pp.579-598), Madison: International Universities Press.
- Garfinkel, P.E., Lin, E., Goering, P., Spegg, C., Goldbloom, D.S., Kennedy, S., Kaplan, A.S., Woodside, B. (1995). Bulimia nervosa in a Canadian community ample:Prevalence and comparison of subgroups, *The American Journal of Psychiatry*, 1052-1058.
- Garfinkel, P.E., Moldofsky, H. & Garner, D.M.(1980). The heterogeneity of anorexia nervosa: bulimia as a distinct subgroup, *Archives of General Psychiatry*, *37*, 1036-1040.
- Garner, D.M. (1991). *Eating Disorder Inventory-2: Professional manual*. Odessa, Florida: Psychological Assessment Resources, Inc.
- Garner, D.M., Garfinkel, P.E., Schwartz, D.M. & Thompson, M.M. (1980). Cultural expectations of thinness in women. *Psychological Reports*, *11*, 483-491.
- Garner, D.M. & Garfinkel, P.E. (Eds.) (1985). *Handbook of psychotherapy for Anorexia*

nervosa & Bulimia. New York: Guilford Press.

- Garner, D.M., Fairburn, C.G., Davis, R. (1987). Behavioral treatment of bulimia nervosa. *Behavioral Medicine II*, 398-431.
- Garner, D.M. & Garfinkel, P.E. (1980). Socio-cultural factors in the development of anorexia nervosa. *Psychological Medicine*, 10, 647-656.
- Garner, D.M., Garfinkel, P.E. & O'Shaughnessy, M.(1985). The validity of the distinction between bulimia with and without anorexia nervosa. *American Journal of Psychiatry*, 142, 581-587.
- Garner, D. & Bemis, K. M. (1982). A cognitive-behavioral approach to anorexia nervosa. *Cognitive Therapy & Research*, 6, 123-150.
- Garner, D.M. & Olmsted, M.P. (1984). *The Eating Disorder Inventory manual*. Odessa, Florida: Psychological Assessment Resources.
- Garner, D.M., Olmsted, M.P., Bohr, Y. & Garfinkel, P.E. (1982). The eating attitudes test: Psychometric features and clinical correlates. *Psychological Medicine*, 12, 871-878.
- Garner, D., Rochert, W., Davis, R., Garner, M.V., Olmsted, M. & Eagle, M. (1993). Comparison of cognitive-behavioural and Supportive-expressive therapy for bulimic nervosa. *American Journal of Psychiatry*, 150(1), 37-46.
- Gendron, M., Lemberg, R., Allender, J., Bohanske, J. (1992). Effectiveness of the intensive group process-retreat model in the treatment of bulimia. *Group Psychotherapy*, 16(2), 69-78.
- Geist, R.A. (1989). Self-psychological reflections on the origins of eating disorders. *Journal of the American Academy of Psychoanalysis*, 17(1), 5-27.
- Giles, T.R., Young, R.R., Young, D.E. (1985). Case studies and clinical replication series: Behavioral treatment of severe bulimia. *Behaviour Therapy*, 16, 393-405.
- Glassman, E.J. (1988). *Development of a self-report measure of soothing receptivity*. Unpublished doctoral dissertation, York University, Toronto.
- Glucksman, M.L. (1989). Obesity: A psychoanalytic challenge, *Journal of the American Academy of Psychoanalysis*, 17(1), 131-140.

- Goldbloom, D. (1987). Serotonin in Eating disorders: Theory and therapy. In Garfinkel, P.E., Garner, D.M. (Eds.). *The role of drug treatments for eating disorders*. New York: Brunner/Mazel.
- Goldbloom, D. Garfinkel, P. & Shaw, B. (1991). Biochemical aspects of bulimia nervosa, *Journal of Psychosomatic Research*, 35(1), 11-22.
- Goldbloom, D.S. & Olmsted, M.P. (1993). Pharmacotherapy of bulimia nervosa with fluoxetine: assessment of clinically significant attitudinal change. *American Journal of Psychiatry*, 150(5), 770-774.
- Goodsitt, A. (1985). Self psychology and the treatment of anorexia nervosa. In D.M.Garner & P.E. Garfinkel (Eds.). *Handbook of psychotherapy for anorexia nervosa and bulimia*. New York: Guilford Press.
- Gould, D., Weinberg, R. & Jackson, A. (1980). Mental preparation strategies, cognitions, and strength performance, *Journal of Sport Psychology*, 2, 329-339.
- Green, E. & Green, A. (1977). *Beyond biofeedback*. New York: Delacorte Press.
- Gunderson, J.G., Morris, H., & Zanarini, M.C. (1985). Transitional objects and borderline patients. In T. McGlashan (Ed.) *The borderline: Current empirical research*. (pp. 45-60), Washington: American Psychiatric Press Inc.
- Hamburg, P. (1989). Bulimia: The construction of a symptom. *Journal of the American Academy of Psychoanalysis*, 17(1), 151-171.
- Hammond, D.C., Haskins-Bartsch, C. Grant, C.W. & McGhee, M.(1988). Comparison of self-directed and tape-assisted self-hypnosis. *American Journal of Clinical Hypnosis*, 31(2), 129-137.
- Hartman, A., Herzog, T. & Drinkmann, A. (1992). Psychotherapy of bulimia nervosa: What is effective? A meta-analysis. *Journal of Psychosomatic Research*, 36(2), 159-167.
- Herzog, D.B., Franko, D.L., Botman, A.W. (1989). Integrating treatments for bulimia nervosa. *American Academy of Psychoanalysis*, 17 (1), 141-150.
- Herzog, T., Hartmann, A., Sandholz, A. & Stammer, H. (1991). Prognostic factors in outpatient psychotherapy of bulimia. *Psychotherapy & Psychosomatics*, 56, 48-55.

- Herzog, D.B., Staley, J.E., Carmody, S. Robbins, W.M. & van der Kolk, B.A. (1993). Childhood sexual abuse in anorexia nervosa and bulimia nervosa: A pilot study. *Journal of the American Academy of Child & Adolescent Psychiatry, 32(5)*, 92-62.
- Holden, R.R., Fekken, G.C., Reddon, J.R., Helmes, E. & Jackson, D.N. (1988). Clinical reliabilities and validities of the Basic Personality Inventory. *J. of Consulting and Clinical Psychology, 56*, 766-768.
- Holland, A.J., Hall, A., Murray, R., Russell, G.F.M. & Crisp, A.H. (1984). Anorexia nervosa: A study of 34 twin pairs and one set of triplets. *British Journal of Psychiatry, 145*, 414-419.
- Horton, P.C. (1981). *Solace: The missing dimension in psychiatry*. Chicago: University of Chicago Press.
- Horton, P.C., Louy, J.W., & Coppelillo, H.P. (1974). Personality disorder and transitional relatedness. *Archives of General Psychiatry, 30*, 618-622.
- Horton, P.C. (1992). A borderline treatment dilemma: To solace or not to solace. In D. Silver & M. Rosenbluth (Eds.) *Handbook of borderline disorders*, (pp. 267-290), Madison, Ct: International Universities Press.
- Hsu, L.K.G. (1990). *Eating disorders*. New York: Guilford Press.
- Hsu, L.K.G., Holder, D. (1986). Bulimia nervosa: Treatment and short-term outcome. *Psychological Medicine, 16*, 65-70.
- Hsu, L.K., Clements, L., Santhouse, R., Ju, ES. (1991). Treatment of bulimia nervosa with lithium carbonate. A controlled study (1991). *Journal of Nervosa & Mental Disease, 179(6)*, 351-5.
- Hubner, M.K. (1984). Pain and potential space, *Bulletin of the Menninger Clinic, 48(5)*, 443-454
- Hughes, P.L., Wells, L.A., Cunningham, C.J., et al (1986). Treating bulimia with desipramine: A double-blind, placebo-controlled study. *Archives of General Psychiatry, 43*, 182-186.

- Huon, G.F., Brown, L.P.N. (1985). Evaluating a group treatment for bulimia. *Journal of Psychiatric Research, 19*, 479-483.
- Hutchinson, M. (1985). *Transforming body image*. California: Freedom.
- Hutchinson, M.G. (1991). Imagining ourselves whole: A feminist approach to treating body image disorders, In P. Fallon, M. Katzman & S. Wooley (Eds.), *Feminist perspectives on eating disorders*, (pp. 152-168), New York: Guilford Press.
- Jackson, D.N. (1989). *Basic Personality Inventory manual*. Port Huron, Michigan: Research Psychologists Press, Inc.
- Jacobson, N.S., Follette, W.C., Revenstorf, D. (1984). Psychotherapy outcome research: Methods for reporting variability and evaluating clinical significance. *Behaviour Therapy, 15*, 336-352.
- Jampel, R., Bernstein, S., Harder, S., Heijn, D., Myerson, P., Paulson, R., & Zelin, M. (1983). *Loss of evocative memory*. Unpublished manuscript, Tufts University School of Medicine.
- Jarvinen, P.J. & Gold, S.R. (1981). Imagery as an aid in reducing depression, *Journal of Clinical Psychology, 37(3)*, 523-529.
- Johnson, C. (1984). Initial consultation for patients with Bulimia and Anorexia nervosa. In D.M. Garner & P. E. Garfinkel (Eds). *Handbook of Psychotherapy For Anorexia and Bulimia*, New York: The Guilford Press.
- Johnson, M. (1987). *The body in the mind*. Chicago: The University of Chicago Press.
- Johnson, C. & Connors, M.E. (1987). *The etiology and treatment of bulimia nervosa: A biopsychosocial perspective*, New York: Basic Books.
- Johnson, C., Lewis, L, Stuckey, M., Schwartz, D. (1982). Bulimia: A descriptive study of 316 patients, *International Journal of Eating Disorders, 2*, 3-16.
- Johnson, W.G., Schlundt, D.G., Jarrell, M.P. (1986). Exposure with response prevention training in energy balance and problem solving therapy for bulimia nervosa. *International Journal of Eating Disorders, 5*, 35-45.
- Jones, R., Peveler, R., Hope, R. & Fairburn, C. (1993). Changes during treatment for Bulimia nervosa: A comparison of three psychological treatments, *Behavioral Research & Therapy, 31(5)*, 479-485.

- Kearney-Cooke, A. (1989). Imagining ourselves whole: A feminist approach to treating body image disorders. In P. Fallon, M. Katzman & S. Wooley (Eds.), *Feminist perspectives on eating disorders*. (pp.152-168). New York: Guilford Press.
- Kennedy, S.H., Katz, R., Neizert, C.S., Raleuski E., Mendlowitz, S. (1995). Exposure with response prevention treatment of anorexia-nervosa bulimic subtype & BN. *Behaviour Research & Therapy*, 33(6), 685-9.
- Kennedy, S.H. & Garfinkel, P.E. (1992). Advances in diagnosis and treatment of anorexia nervosa and bulimia nervosa, *Canadian Journal of Psychiatry*, 37, 309-315.
- Kennedy, S.H., Piran, N., Warsh, J.J., et al. (1988). A trial of isocarboxazid in the treatment of bulimia nervosa. *Journal of Clinical Psychopharmacology*, 8, 391-396.
- Khantzian, E.J. (1981). Some treatment implications of the ego and self disturbances in alcoholism. In M.H. Bean & N. Zenberg (Eds.) *Dynamic approaches to understanding and treatment of alcoholism*. New York: The Free Press.
- Kerlinger, F.N.(1986). *Foundations in behavioral research*. (3rd Ed.) New York: Holt, Rinehart & Winston, Inc.
- Kernberg, O.F. (1975). *Borderline conditions and pathological narcissism*. New York: Jason Aronson.
- Kirkley, B.G., Schneider, J.A., Agras, W.S. & Bachman, J.A. (1985). Comparison of two group treatments for bulimia. *Journal of Consulting and Clinical Psychology*, 53, 43-48.
- Klerman, GL, Weissman, M., Rounsaville, B. et al. (1984). *Interpersonal psychotherapy for depression*. New York: Basic Books.
- Kohut, H. (1971). *The analysis of the self: A systematic approach to the psychoanalytic treatment of Narcissistic Personality Disorders: Psychoanalytic Study of the Child Monograph 4*, New York: Jason Aronson.
- Krueger, D. (1988). Body self, psychological self and bulimia: Developmental and clinical considerations. In H.Schwartz (Ed.), *Bulimia: psychoanalytic treatment and theory* , (pp. 55-72). Connecticut: International Universities Press, Inc.
- Lacey, J.H. (1983). Bulimia nervosa, binge eating and psychogenic vomiting: A controlled treatment study and long-term outcome. *British Medical J.*, 266, 1609-1613.

- Laessle, R.G., Beumont, P.J.V., Butow, P., et al. (1991). A comparison of nutritional management with stress management in the treatments of bulimia nervosa. *British Journal of Psychiatry*, *159*, 250-261.
- Laessle, R.G., Tuschl, R.J., Waadt, S., & Pirke, K.M. (1989). The specific psychopathology of bulimia nervosa: A comparison with restrained and unrestrained (normal) eaters. *Journal of Consulting and Clinical Psychology*, *57*, 772-775.
- Lam, R.W., Goldner, E.M., Solyom, L., Remick, R.A. (1994). A controlled study of light therapy for BN. *American Journal of Psychiatry*, *151*(5), 744-50.
- Lee, N.F. & Rush, A.J. (1986). Cognitive-behavioral group therapy for bulimia. *International Journal of Eating Disorders*, *5*, 599-615.
- Lee, R.G., Zoetl, C., Pirke, K.M. (1987). Meta-analysis of treatment studies for bulimia. *International Journal of Eating Disorders*, *6*, 103-109.
- Liedtke, R., Jager, B., Lempa, W., Kunsebeck, Hans-Werner et al (1991). *Psychotherapy & Psychosomatics*, *56*(1-2), 56-63.
- Leitenberg, H., Rosen, J.C., Gross, J., Nudelman, S. & Vara, L.S. (1988). Exposure plus response prevention treatment of bulimia nervosa: A controlled evaluation. *Journal of Consulting and Clinical Psychology*, *56*, 535-541.
- Leuner, H. (1978). Basic principles and therapeutic efficacy of guided affective imagery (GAI). In J.L. Singer & K.S. Pope (Eds.). *The power of human imagination*. (pp.126-166). New York: Plenum Press.
- Levin, A.P. & Hyler, S.E. (1986). DSM-III personality diagnosis in bulimia. *Comprehensive Psychiatry*, *27*, 47-53.
- Lingerman, H.A. (1983). *The healing energies of music*. London: Theosophical Publishing House.
- Lindberg, C. & Lawlis, F.G. (1988). The effectiveness of imagery as a childbirth preparatory technique, *Journal of Mental Imagery*, *12*(1), 103-114.
- Lipsky, M.J., Kassinove, H. & Miller, N.J. (1980). Effects of rational-emotive therapy, rational role reversal, and rational-emotive imagery on emotional adjustment of community mental health center patients, *Journal of Consulting and Clinical Psychology*, *48*(3), 366-374.
- Lobel, L. (1981). A study of transitional objects in the early histories of borderline adolescents. *Adolescent Psychiatry*, *9*, 199-213.

- Luborsky, L. (1984). *Principles of Psychoanalytic Psychotherapy: A Manual for Supportive-Expressive Treatment*. New York, Basic Books.
- Maddocks, S.E., Kaplan, A.S., Woodside, D.B., et al. (1992) Two-year follow-up of bulimia nervosa: The importance of abstinence as the criterion of outcome. *International Journal of Eating Disorders* 12, 133-141.
- Maddocks, S.E. & Kaplan, A.S. (1991) The prediction of treatment response on bulimia nervosa: A study of patient variables. *British Journal of Psychiatry*, 159, 846-849.
- McGowan, A. (1994). The treatment of bulimia nervosa: What is effective? A meta-analysis. *Indian Journal of Clinical Psychology*, 21(2), 32-44.
- Mills, J.K., Taricone, P.F., Bordieri, J.E. (1990). Oral character and alcoholism. *Psychology - American Journal of Human Behavior*, 27(3), 1-6.
- Minuchin, S., Rosman, B.L. & Baker, L. (1978). *Psychosomatic families: Anorexia nervosa in context*. Cambridge: Harvard University Press.
- Mitchell, J.E. (1991). A review of the controlled trials of psychotherapy for bulimia nervosa, *Journal of Psychosomatic Research*, 35, 23-31.
- Mitchell, J.E., Hatsukami, D., Goff, G., Pyle, R.L., Eckert, E.D. & Davis, L.E. (1985). Intensive outpatient group treatment for bulimia. In D.M. Garner and P.E. Garfinkel (Eds.) *Handbook of psychotherapy for anorexia nervosa and bulimia* (pp.240-256). New York: Guilford Press.
- Mitchell, J.E., Pyle, R.L., Eckert, E.D., et al (1990). A comparison study of antidepressants and structured intensive group psychotherapy in the treatment of bulimia nervosa. *Archives of General Psychiatry*, 47, 149-157.
- Mitchell, J.E., Pyle, R.L., Pomeroy, C., Zellman, M., Crosby, R., Seim, H., Eckert, E.D. & Zimmerman, R. (1993). Cognitive-behavioural group psychotherapy of bulimia nervosa: Importance of logistical variables. *International Journal of Eating Disorders*, 14(3), 277-87.
- Mitchell, J.E., Raymond, N. & Specker, S. (1993). A review of the controlled trial of pharmacotherapy and psychotherapy in the treatment of BN. *International Journal Eating Disorder*, 14(3), 229-47.
- Moleski, L.M., Ishii, M.M & Sheikh, A.A. (1986). Imagery Techniques in Psychosynthesis. In A.A. Sheikh (Ed.) *Anthology of Imagery Techniques*, Milwaukee: American Imagery Institute.

- Newton, J.R., Freeman, C.P. & Munro, J. (1993). Impulsivity and dyscontrol in bulimia nervosa: Is impulsivity an independent phenomenon or a marker of severity? *Acta Psychiatrica Scandinavica* 87, 389-394.
- Olmsted, M.P., Davis, R., Rockert, W., Irvine, M.J., Eagle, M. & Garner, D.M. (1991). Efficacy of a brief group psychoeducational intervention for bulimia nervosa, *Behavior Research & Therapy*, 29(1), 71-83.
- Olmsted, M.P. (1989). Bulimia nervosa: Minimal treatment and rapid response. Unpublished Doctoral Dissertation, York University, Toronto.
- Ordman, A.M. & Kirschenbaum, D.S. (1985). Cognitive-behavioral therapy for bulimia: An initial outcome study. *Journal of Consulting and Clinical Psychology*, 53, 305-313.
- Pine, F. (1985). *Developmental theory and clinical process*. New Haven, CT: Yale University Press.
- Piran, N., Kennedy, S., Garfinkel, P.E. & Owens, M. (1985). Affective disturbance in eating disorders. *Journal of Nervous and Mental Disease*, 173, 395-400.
- Piran, N., Lerner, P., Garfinkel, P.E., Kennedy, S., & Brouillette, C. (1988). Personality disorders in anorexic patients. *International Journal of Eating Disorders*, 7, 589-599.
- Palan, B.M. & Chandwani, S. (1989). Coping with examination stress through hypnosis: An experimental study. *American Journal of Clinical Hypnosis*, 31(3), 173-181.
- Polivy, J. & Herman, C.P. (1985). Dieting and bingeing: A causal analysis. *American Psychologist*, 40, 193-201.
- Reardon, J.P. & Tosi, D.J. (1977). The effects of rational stage directed imagery on self-concept and reduction of psychological stress in adolescent delinquent females, *Journal of Clinical Psychology*, 33(4), 1084-1092.
- Reyher, J. (1977). Spontaneous visual imagery: Implications for psychoanalysis, psychopathology, and psychotherapy. *Journal of Mental Imagery*, 2, 253-274.
- Richman, N.E. & Sokolove, R.L. (1992). The experience of aloneness, object representation, and evocative memory in borderline and neurotic patients, *Psychoanalytic Psychology*, 9(1), 77-91.

- Richman, N.E. (1986). **Borderline personality: An investigation of object representation, evocative memory, and the experience of aloneness**, Doctoral Dissertation, Boston University.
- Ricci, M.S.(1991). Aloneness in tenuous self-states. *Perspectives in Psychiatric Care, Vol 27 (2)*, 7-11.
- Rosen, B. (1979). A method of structured brief psychotherapy. *British Journal of Medical Psychology, 52*, 157-162.
- Rosen, J.C., Leitenberg, H. (1985). Exposure plus response prevention treatment of bulimia. In D.M. Garner and P.E. Garfinkel (Eds.), *Handbook of psychotherapy for anorexia nervosa and bulimia (pp. 193-212)*. New York: Guilford Press.
- Rosenbluth, M. & Silver, D. (1992). The inpatient treatment of borderline personality disorder. In D.Silver & M. Rosenbluth (Eds.) *Handbook of borderline disorders*, (pp.509-532), Madison: International Universities Press.
- Rossiter, E. Agras, S., Telch,C. & Schneider, J. (1993). Cluster B personality disorder characteristics predict outcome in the treatment of bulimia nervosa, *International Journal of Eating Disorders, 13(4)*, 349-357.
- Roy-Byrne, P. Lee-Benner, K., Yager, J. (1984). Group therapy for bulimia: A year's experience. *International Journal of Eating Disorders, 3*, 97-116.
- Russell, G.F.M. (1979). Bulimia nervosa: An ominous variant of anorexia nervosa. *Psychological Medicine, 9*, 429-448.
- Russell, D., Peplau, A., & Cutrano, C.E. (1980). Concurrent and discriminant validity evidence for the UCLA Loneliness Scale. *Journal of Personality & Social Psychology, 39(3)*, 475.
- Ryan, E.D., & Simmons, J. (1983) What is learned in mental practice of motor skills: A test of the cognitive-motor hypothesis. *Journal of Sport Psychology, 5*, 419-426.
- Sankowsky, M.H. (aka M. Hutchinson). (1981). The effect of a treatment based on the use of guided visuo-kinesthetic imagery on the alteration of negative body-cathexis in women. Unpublished doctoral dissertation, Boston University.
- Sansone, R.A., Fine, M.A. & Mulderig, J.K. (1991). An empirical examination of soothing tactics in borderline personality disorder, *Comprehensive Psychiatry, 32(5)*, 431-439.

- Schmidt, U., Jiwany, A. & Treasure, J. (1993). A controlled study of alexithymia in eating disorders. *Comprehensive Psychiatry*, *34*, 54-58.
- Schneider, J.A., Agras, W.S. (1985). A cognitive-behavioral group treatment of bulimia. *British Journal of Psychiatry*, *146*, 66-69.
- Schultz, K.D. (1976). *Fantasy Stimulation in depression: Direct intervention and correlational studies*. Unpublished doctoral dissertation: Yale University.
- Schultz, K.D. (1978). Imagery and control of depression, In *The power of human imagination*. J.L. Singer & K.S. Pope (Eds.). New York: Plenum Press.
- Schwartz, H.J. (1988). Bulimia: Psychoanalytic perspectives. In H.J. Swartz (Ed.) *Bulimia: Psychanalytic treatment and theory*. (pp. 31-53) Madison, C.T.: International Universities Press.
- Shaw, B.F. & Garfinkel, P.E. (1990). Research problems in the eating disorders, *International Journal of Eating Disorders*, *9*(5), 545-555.
- Sheikh, A.A. & Jordan, C.S. (1983) . Clinical uses of mental imagery. In A.A. Sheikh (Ed.) *Imagery: Current theory, research and application*. Milwaukee, WI: American Imagery Institute.
- Shorr, J.D. (1980). Discoveries about the mind's ability to organize and find meaning in imagery. In E. Shorr., G.E. Sobel, P. Robin, & J.A. Connella (Eds.) *Imagery: its many dimensions and applications*. New York: Plenum Press.
- Shulman, D. (1991). A multitiered view of bulimia. *International Journal of Eating Disorders*, *10*(3), 333-343.
- Silver, D. (1985). Psychodynamics and psychotherapeutic management of the self-destructive character-disordered patients. *Psychiatric Clinics of North America*, *8*(2), 357-375.
- Simmonton, C., Simmonton, S. & Creighton, J.L. (1978). *Getting well again*. San Francisco: J.P. Tarcher.
- Sohlberg, S., Norring, C., Homgren, S. & Rosmark, B. (1989). Impulsivity and long-term prognosis of psychiatric patients with anorexia nervosa/bulimia nervosa. *Journal of Nervous and Mental Disease*, *177*(5), 249-258.
- Sohlberg, S. (1991). Impulsive regulation in anorexia and bulimia nervosa: Some formulations. *Behavior & Neurology*, *4*, 189-202.

- Stern, S. (1986). The dynamics of clinical management in the treatment of anorexia nervosa and bulimia: An organizing theory. *International Journal of Eating Disorders*, *5*, 233-254.
- Stevens, E.V. & Salisbury, J.D. (1984). Group therapy for bulimic adults. *American Journal of Orthopsychiatry*, *54*, 156-161.
- Striegel-Moore, R.H., Silberstein, L.R. & Rodin, J. (1986). Toward an understanding of risk factors for bulimia. *American Psychologist*, *41*, 246-263.
- Storr, A. (1989). *Solitude*. London: Flamingo.
- Sugarman, A. & Kurash, D. (1982). The body as a transitional object in bulimia. *International Journal of Eating Disorder*, *1*, 57-62.
- Swift, W.J. & Letven, R. (1984). Bulimia and the basic fault: A psychoanalytic interpretation of the bingeing-vomiting syndrome. *Journal of Child Psychiatry*, *23*, 1-6.
- Swift, W.J. & Stern, S. (1982). The psychodynamic diversity of anorexia nervosa. *International Journal of Eating Disorders*, *2*, 17-35.
- Tabin, C.J. & Tabin, J.K. (1988). Bulimia and anorexia: Understanding their gender specificity and their complex of symptoms. In H.J. Schwartz (Ed.) *Bulimia: Psychoanalytic treatment and theory* (pp 173-225). Madison, CT: International Universities Press.
- Taylor, G. (1987). *Psychosomatic medicine and contemporary psychoanalysis*. Madison CT: International Universities Press.
- Thackwray, D.E., Smith, M.C., Bodfish, J.W. & Meyers, A.W. (1993). *Journal of Consulting & Clinical Psychology*, *61*(4), 639-45.
- Therapy outcome after treatment models for bulimia nervosa: Preliminary results of a controlled study*. 18th European Conference on Psychosomatic Research (1990, Helsinki, Finland).
- Toner, B.B., Garfinkel, P.E. & Garner, D.M. (1987). Cognitive style of patients with bulimic and diet-restricting anorexia nervosa. *American Journal of Psychiatry*, *144*(4), 510-512.
- Torem, M.S. (1992). The use of hypnosis with eating disorders, *Psychiatric Medicine*, *10*(4), 105-118.

- Treasure, J., Schmidt, M., Troop, N., Tiller, J., Todd, G., Keilen, M. & Dodge, E. (1994). First step in managing bulimia nervosa: Controlled trial of therapeutic manual. *British Medical Journal*, *308*, 686-9.
- Troop, N.A., Schmidt, U.H. & Treasure, J.L. (1995). Feelings and fantasy in eating disorders: A factor analysis of the Toronto Alexithymia Scale. *International Journal of Eating Disorders* *18*(2), 151-157.
- Vanderlinden, J. & Vandereycken, W. (1990). The use of hypnosis in the treatment of bulimia nervosa. *International Journal of Clinical and Experimental Hypnosis*, *XXXVII* (2), 101-111.
- Walsh, B.T., Hadigan, C.M., Devlin, M.J., Gladis, M., Roose, S.P. (1991). Long-term outcome of antidepressant treatment for bulimia nervosa. *American Journal of Psychiatry*, *148*, 1206-1212.
- Walsh, B.T., Gladis, M., Roose, S.P., et al (1988). Phenzelzine vs placebo in 50 patients with bulimia, *Archives of General Psychiatry*, *45*, 471-475.
- Walsh, B.T., Stewart, J.W., Roose, S.P., et al. (1984). Treatment of bulimia with phenelzine: A double-blind placebo-controlled study. *Archives of General Psychiatry*, *41*, 1105-1109.
- Wardle, J. (1987). Compulsive eating and dietary restraint. *British Journal of Clinical Psychology*, *26*, 47-55.
- White, W., Boskind-White, M.(1981). An experiential-behavioral approach to the treatment of bulimarexia. *Psychotherapy Theory, Research & Practice*, *18*, 501-507.
- Wilfley, D.E., Agras, W.S., Telch, C.F., Rossiter, E.M., Schneider, J.A., Cole, A.G., Sifford, L.A., Raeburn, S.D. (1993). Group cognitive-behavioural therapy & group interpersonal psychotherapy for the nonpurging bulimic ind: A controlled comparison. *Journal of Consulting & Clinical Psychology*, *6*(2), 296-305.
- Wilson, G.T. (1987). Assessing treatment outcome in Bulimia nervosa: A methodological note. *International Journal of Eating Disorders*, *6*(3) 339-348.
- Wilson, G.T., Rossiter, E., Kleifeld, E.I & Lindholm, L. (1986). Cognitive-behavioral treatment of bulimia nervosa: A controlled evaluation. *Behavior Research and Therapy*, *24*, 277- 288.
- Winnicott, D.W. (1958). The capacity to be alone. *International Journal of Psychoanalysis*, *39*, 416-420.

- Winnicott, D.W. (1965). *The maturational processes and the facilitating environment*. London: Hogarth Press.
- Winnicott, D.W. (1971). *Playing and reality*. New York: Tavistock Publications.
- Wishnie, H.A. (1979). Panic states and impulsive behaviour. In H.A. Wishnie and J. Nevis-Oleson (Eds.). *Working with the impulsive person* . (pp. 47-62) Plenum Press, New York.
- Wishnie, H. (1977). *The impulsive personality*. New York: Plenum Press.
- Wolchik, S.A., Weiss, L., Katzman, M.A. (1986). An empirically validated short-term psychoeducational group treatment program for bulimia. *International Journal of Eating Disorders*, 5, 21-34.
- Wolf, E.M. & Crowther, J.H. (1992). An evaluation of behavioral and cognitive-behavioral group interventions for the treatment of bulimia nervosa in women. *International Journal of Eating Disorders*, 11, 3-15.
- Wolfe, B.E., Jimerson, D.C., Levine, J.M. (1994). Impulsivity ratings in bulimia nervosa: Relationship to binge eating behaviour. *International Journal of Eating Disorders*, 15(3), 289-292.
- Wonderlich, S.A., Fullerton, D., Swift, W.J., Klein, M.H. (1994). Five-year outcome from eating disorders: Relevance of personality disorders. *International Journal Eating Disorders*, 15(3), 233-43.
- Wooley, S.C. & Kearney-Cooke, A. (1986). Intensive treatment of bulimia and body-image disturbance. In K.D. Brownell & J.P. Foreyt (Eds.), *Handbook of eating disorders* (pp.476-502). New York: Basic Books.
- Wooley, O.W., Wooley, S.C., Deddens, J.A. (1993). Outcome evaluation of an intensive residential treatment program for bulimia. *Journal of Psychotherapy Practice & Research*, 2(3), 242-256.
- Yager, J. (1994). *Psychiatry*, 57, 153-164.
- Yater, A. & Sambrailo, F. (1984). Bulimia nervosa: A descriptive and therapeutic study. *Behavior Therapy & Research*, 22, 503- 517.
- Zahourek, R.P. (1988). *Relaxation and imagery: Tools for therapeutic communication and intervention*. Philadelphia: W.B. Saunders Co.

Ziegler, S.G. (1987). Comparison of imagery styles and past experience in skills performance, *Perceptual and Motor Skills*, 64, 579-586.

APPENDIX A

Assumptions of Parametric Statistics

Parametric statistical tests depend on a number of assumptions about the population from which the sample was drawn. One assumption is that the population scores are normally distributed. Normal probability plots and the Kolmogorov-Smirnov and Shapiro-Wilk's goodness of fit tests were obtained on pretest and posttest variables in order to determine the validity of this assumption.

The distributions which rejected the hypothesis of normality included the following: the primary outcome measures of pretest binge frequency for the control group, posttest binge frequency for imagery treatment, pretest vomiting frequencies for both experimental groups, the Bulimia, Interoceptive Awareness and Maturity EDI subscales at posttreatment for the imagery group only, the pretest Interpersonal Distrust (EDI) subscale of the control group, and the pretest Maturity Fears subscale (EDI) for both experimental groups.

Another assumption for parametric testing is that both groups come from populations with equal variances. The Levene test for homogeneity-of-variance was conducted for pretest and posttest variables. Variances for the guided imagery and control groups were significantly ($p < 0.05$) heterogeneous on posttest vomiting frequency, percent reduction in bingeing and vomiting from pre to post-treatment, the total EAT-26, the Dieting and Bulimia factors of the EAT-26 and Impulse Expression (BPI).

The assumptions of normality and homogeneity of variances have been examined by empirical methods and it has been demonstrated that the violations of these assumptions will not adversely affect significance tests, such as the robust F and t-tests when sample sizes are similar (Kerlinger, 1986; Games & Lucas, 1966; Anderson, 1961). Normalizing data with transformations has been suggested to be unnecessary with similar sample sizes. The current study describes "almost equal" sample sizes and parametric tests are the most powerful tests, therefore, it seemed acceptable to justify the use of parametric testing.

Other Considerations

When multiple comparisons were conducted, the family-wise error-rate (Bonferroni adjustment) was reported in order to adjust for inflations in type I error-rate which can occur during multiple comparisons.

Computer Program

All statistical analyses were computed with the SPSS-PC program.

APPENDIX B**Table 1****Marital and Occupational Status for Each Study Group**

Measure	Guided Imagery n = 24 %	Control n = 26 %
Marital Status		
Single	66.7	76.9
Married	33.3	15.4
Separated or divorced	0	7.7
Occupational Status		
Major Business or Professional	8.3	7.7
Medium business/ lesser Professional	20.9	19.2
Small business/ Minor professional	20.8	11.5
Clerical/Technical	4.2	27.0
Homemaker	12.5	0
Student	33.3	34.6

Table 1 (cont'd)

Marital and Occupational Status for Each Study Group

Measure	Guided Imagery n = 24 %	Control n = 26 %
Father's Occupational Status		
Major Business/Professional	25.0	30.8
Medium business/ Lesser professional	29.2	26.9
Small business/ Minor professional	20.8	15.4
Clerical/Technical	8.3	11.5
Skilled manual worker	4.2	15.4
Unskilled workers	12.5	0

Appendix C

Explanation to Prospective Participants

My name is Mary Jane Esplen and I am conducting a treatment study for patients with bulimia nervosa. This study is conducted through the Department of Psychiatry at the University of Toronto and will occur at the Toronto Hospital. It is in partial fulfilment of the requirements for a Ph.D. program in Medical Science and will be conducted under the supervision of Dr. Paul Garfinkel.

The purpose of this study is to examine two treatments and their effects in helping bulimia nervosa patients. Both treatments are naturalistic, involving the patient's self-participation and will be administered by an experienced clinician. The treatments do not involve the use of medications. One treatment involves the use of the patient's imagination in the healing process. Although this treatment has been found to be therapeutic in other illnesses, and offers much potential for bulimic patients, it has not been formally tested. Therefore, all questionnaires in this study should be answered as truthfully and accurately as possible. I hope that the information gained from this study will contribute to the treatment of bulimia nervosa, as well as for others with similar symptoms.

Your participation will involve your being randomly assigned to one of two treatment groups. Both groups will participate in a 6-week treatment involving weekly contact with an experienced therapist and homework exercises. The weekly sessions will range from 35 to approximately 60 minutes in length. The homework exercises are fairly brief and can be easily adapted to an individual's lifestyle. Questionnaires will be given out prior to the beginning of the study and as soon as possible after the sixth week of treatment. Generally, these questionnaires can be completed within an hour. You may be asked if the therapy sessions can be audio-cassette recorded. Your name will not be recorded on the tape and the tape will only be used for purposes of this study. Your confidentiality will be protected at all times. You are not obligated to agree to the recording of the sessions and you are free to change your mind at any time.

Following your initial consultation at the Toronto Hospital, this study will be offered to those patients awaiting outpatient therapy. Your questionnaires will not contain your name, but will be coded by a number and will be kept in a locked filing cabinet. You will not be identified in any way in the written reports of the study. You are free to refuse to answer any questions, to terminate the sessions or to withdraw from the study at any time. There are no known risks involved in the study.

Participation in the study may not be of direct benefit to you, however, it may contribute to our knowledge in treating bulimia nervosa. It is possible that you will benefit from the experience in the study through the treatments, specifically, or through an increased awareness. I would be happy to provide a summary of the results to you, if you should be interested.

APPENDIX D

Participant's Consent Form

I have been asked to participate in a study investigating treatments for bulimia nervosa being conducted by Mary Jane Esplen, a Ph.D. student at the University of Toronto. This study is being conducted under the supervision of Dr. Paul Garfinkel.

It has been explained to me that my participation involves the following:

I will be assigned via a random method to one of two treatment groups. These treatments are described in the "Explanation to Prospective Participants". I have read and understand this document.

As a member of either group I will be enrolled in a 6-week treatment program that involves weekly sessions with a therapist and homework exercises.

I will be asked to complete some brief questionnaires prior to the treatment and as soon as possible following week 6 of the treatment program. I understand that I may be asked for consent to the audio-cassette recording of the therapist sessions.

Following the treatment program, I will be referred back to the Toronto Hospital Consultation service and a referral for further treatment will be made if required.

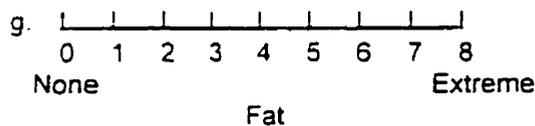
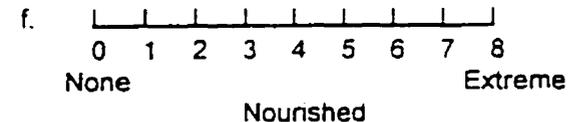
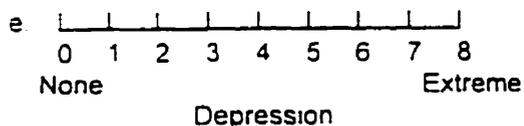
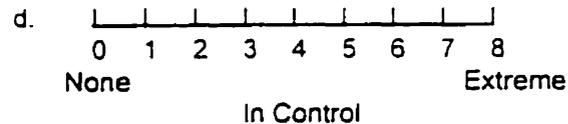
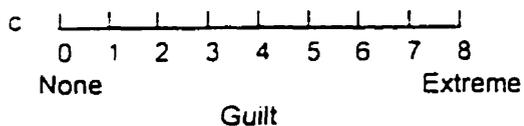
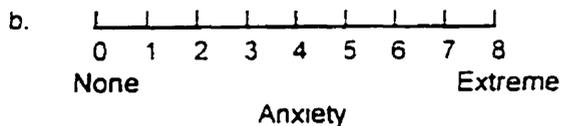
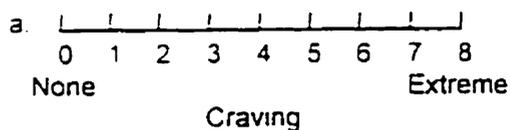
I understand that my name will not be attached to any of the study data; a code number will be used and all information will be confidential.

Although I have volunteered, I am not obligated to continue in the study and may withdraw freely at any time. I also understand that I may refuse to supply any information requested. My decision to participate, refuse and/or withdraw will in no way affect the care that I receive or any further referrals. I understand in any presentations or publications of material from this study, my anonymity will be protected.

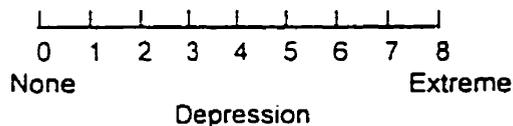
I, _____ consent to participate in this study as described above.
I may withdraw at any time.

Date _____ Signed _____

1. After eating , I felt:



2. Today my mood is:



3. I exerted myself:

<1Hr. >1 Hr. >2 Hrs. >3 Hrs. >4 Hrs. >5 Hrs. >6 Hrs.

Kinds of exertion:

walking standing running swimming exercise other _____

4. I spent \$ _____ of money on food.

5. I ended the binge by: NA vomiting abdominal pain social interruption
sleep self-control lack of money other _____

APPENDIX F

PERSONAL JOURNALS

Daily Imagery Questionnaire

DATE	TAPE #	TIME	LOCATION	COMPLETE YES / NO	IMAGES EXPERIENCED FEELINGS, THOUGHTS

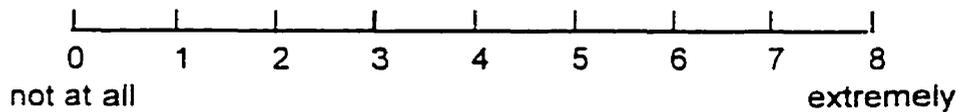
Technique Evaluation Questionnaire

1. When doing the imagery exercise:

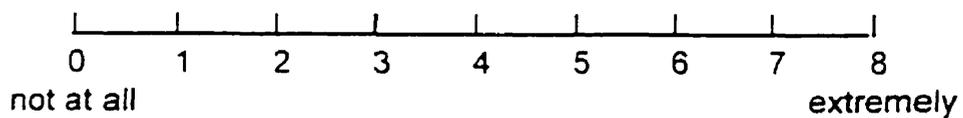
a. I felt



b. I was able to picture or experience the images:



c. It was easy to do

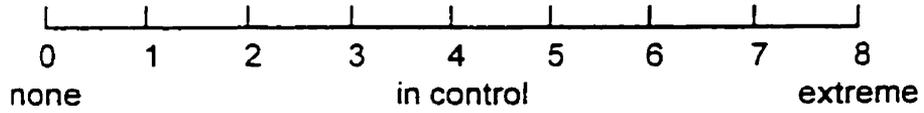


2. Following the imagery exercise:

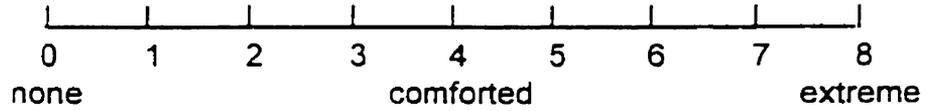
a. I felt



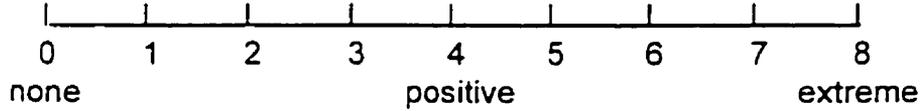
b. I felt



c. I felt



d. I felt



3. Description of Image (either written or drawing):

APPENDIX G

GUIDED IMAGERY SESSIONS

Session I "Sanctuary" (Tape #1)

Instruction- Tape #1 will given at session I with the instructions to put the tape on "whenever feeling the urge to binge". There are no restrictions on the frequency of its use over the week. Patients will also be instructed to use tape #1 immediately following the binge in the event that they were unsuccessful in preventing or interrupting the binge. In both cases, the taped exercise will be described as an exercise which will help them during these distressing and painful times. Each patient will be informed that optimally the tape may assist in preventing a binge, however, it is equally designed to ease the pain of the post-binge period. It will be emphasized that accurate recording of when the tape is used is important in this study, despite which patterns of use they choose.

Exercise: -The wording on the tape will involve the following:

This is an exercise through which I will guide you. just follow the instructions on the tape, but remember that you have control over the exercise and you are not alone. You may be experiencing a build-up of your emotions and feelings, but you have put the tape on.... and you have taken control....This tape will help you to feel relaxed...and safe and I will work with you in helping you to gain control and to manage the feelings that you are experiencing. So, just follow my voice and allow the images to come. You may be feeling some very painful feelings....Your pain is real. Recognize your feelings and know that we together are going to manage these feelings....to understand them....and you will feel more relaxed...and more in control....and some release from these emotions....So just follow my voice...I'm with you...and we will explore together....through ;your senses and through your imagination....Remember, it will be within your ability to follow these instructions...and you are not alone...Just feel my voice and allow your senses and imagination to follow the voice...You are safe...and although you may be feeling some difficulty or pain...you will soon feel more relaxed and in control. Feel free to use all of your senses...Feel the images...Imagine yourself experiencing these images....

We're going to start by focusing on your bodily feelings. Make yourself comfortable....Close your eyes and allow your body to feel loose and comfortable. Take a deep breath...slowly...a deep breath. Concentrate on your breathing as you count silently to yourself. Inhale, "In...one...two...Out...one...two" (repeated several times). Feel yourself relax as you breathe...Breathe out slowly...Concentrate on your breathing...slowly and deeply...Breathing deeply... Feel the air going into your lungs...Out of your lungs. As you breathe out, you begin to feel more and more relaxed. Tension is draining from your body. Let the painful feelings go...Go from your body....They will go...and soon you will feel more in control...and more at

ease...Continue breathing slowly. Continue in...and out...Breathing slowly...Continue to listen to my voice.

Now, I want you to continue to focus on relaxing and I am going to describe some images. Just follow my voice. Continue to breathe slowly and deeply...and allow the images to soothe your feelings. By continuing to breathe slowly and deeply...you will allow the tension that you are experiencing to flow from your body...to leave your body. (Further breathing instructions repeated)...

Now, you are beginning to feel more relaxed and in control...Continue to close your eyes and just follow my voice and the images that I describe....Imagine yourself in some beautiful natural environment...It can be any comforting place that appeals to you...in a meadow...on a mountain...in a forest...or beside a lake or an ocean. It may be some special place where you have been before...where you felt warm and safe...and where you felt the beauty and strength of its atmosphere. If you find difficulty in relating to a place where you have been before...Imagine and create a beautiful, serene and peaceful place...It may be another planet if you like...or a place that you recall from a novel...or a place in your imagination...The special place is one of your choice...any place that appeals to you...one that you would like to return to...or perhaps one that you have created in your own imagination...that would have this special, wonderful atmosphere. Wherever it is...it should feel comfortable, pleasant, and peaceful to you.

Feel this environment around you. Use all of your senses...the beauty of it that you see...the quiet and pleasant rhythmic sounds of the environment...Feel the warmth on your skin....the breeze feels so warm and gentle...The smells...it feels familiar to you...your senses are open to all of the atmosphere's textures, smells, sounds....and warmth....Explore your environment, noticing all of its details...This is your special place...and notice the feelings and impressions that you are beginning to experienced.

Now, continue exploring your surroundings...and do anything that you would like to do to make it your special place and comfortable for you....If you would like to build some type of shelter or house...begin to imagine its structure....Or perhaps you would like to surround the whole area with a golden light of protection and safety...Create and arrange things that are there for your convenience...and enjoyment...in order to establish it as your special place.

Create a sanctuary...and it is only yours...so that when you need to visit it you can at will...Every time that you return you will feel these warm feelings...These feelings of safety...and increased understanding...and peace...You can come here to explore yourself...To find this calmness and to experience and enjoy it...When you need to get away...from moments of tension...

This can be your inner sanctuary...it's personal...and you can explore your feelings...and your thoughts and to recognize your feelings.... and why you are experiencing these feelings....Allow the calmness here to help you...to feel safe...to

come in touch with your feelings...and to learn new things about your feelings...

This calmness will always be in your personal place...It will be soothing and it can be reached when you need to feel comforting. You can return at any time to this special place by closing your eyes and desiring to be there. You will always feel these comforting feelings and your imagination can become a trusting friend that will help you to return to this place...when you need to...just by closing your eyes...or by following my voice on the tape.

Sense this personal inner sanctuary as a healing and relaxing place...It belongs only to you...You are the only one who knows about this place...and you do not have to share it with anyone if you don't want to...This place will become more and more familiar to you as you visit it more often...and it will become more and more easy for you to recall this place as you continue to visit it when you are feeling frightened...or tense...or angry...for any reason...You can even visit it any time you want to feel that comfort...and trust...or when you wish to explore your own inner feelings...and thoughts....It is always open...any time...at night....or during the day...This place is to help you to explore....to heal....and to feel more in control and in touch with your experience of your mind and your body.

You may want to make changes and additions to your sanctuary...from time to time...and you are free to add things to it...but it will always remain peaceful...and tranquil...and you will always feel safe there....It is comforting and a soothing atmosphere...

Now, you may stay within your inner sanctuary as long as you wish.....And when you are ready to leave...just count slowly from one....to five...and you can leave...by focusing again on your breathing and bodily feelings....Notice how relaxed you feel....The tension that you felt before has left and you feel more in control...and more calm....and you feel more positive...and trustworthy....that you could be in touch with your inner self...and feelings...You were able to manage the tension and the painful feelings...They are now diminished...and you feel much more relaxed... (Repeat of breathing exercises....to end of taped exercise).

Session II "Meadow/Brook/Journey" (Tape #2)

Instruction: Practice this exercise once/day at a time and place of your choice. Continue to utilize tape #1 as you feel you need it.

Exercise: (Begin with the standard breathing and general relaxation exercise)....

Continue to feel relaxed...and breathe very slowly...and follow my voice. Now, imagine a meadow...any meadow that comes to mind...It may have been a meadow that you have experienced before...or imagine how a meadow feels...with all of its accompanying smells and sounds...and the warmth that accompanies the Spring breeze on your cheek...

Now, continue to breathe slowly ...and begin to wander through the

meadow....Explore it in its entirety...Take your time and experience the atmosphere...Take the time to notice all around you...Notice the colours before you...and begin to explore slowly all the details of this meadow...Notice the details and explore this meadow at your own pace....What colours do you see? Notice the vegetation...the trees, the plants...and move slowly and peacefully observing this meadow...and all of the things that are in it...Continue to breathe slowly...and continue to be relaxed. This experience of the meadow feels peaceful...and you are comfortable exploring it...You have the time to slow down, to be feeling its tranquillity as you explore it...And you are able to explore it on your own...without interruption...and in your own time...Take time to feel the images of this meadow...Do you hear any sounds? If so, note what sounds you hear in this meadow...The breeze continues to stroke your cheek and it feels warm...The sun feels warm too...and soothing as you explore your way through...Take time to note your observations and feelings about this meadow...

How do you feel here? What things are particular about this meadow? Continue to feel relaxed ...and to breathe slowly...Just allow the energy from you to go from your body as you relax...Enjoy the experience of this meadow...Continue to explore...In this meadow you find a brook...A brook of clear water running in the sunlight...You notice the water smoothly flowing over the rocks in the meadow and it seems almost musical...It's quiet..., but the bubbling sounds seem to produce a sense of rhythm...like music...and its movement arouses your curiosity as you continue to explore...You feel free in the meadow...and you are alone...and have the time so you continue to explore the meadow...

You may choose to follow this brook...There appears to be a source of energy associated with brook...A sense of freedom...and you like the feeling and are curious to follow it...Either to its source...upstream...or in the direction...to the open sea....You are curious to see where the brook will take you...and you begin to explore along its path....Begin to move with the water...along side the brook...You may choose any direction...that you wish...You may feel the water if you like...Notice its texture...and its feeling as it runs over your fingers...Continue to follow the water...and its movement...as long as you wish to...If you wish to stop and observe the meadow around the brook at any particular point...or if you wish to taste the water...and feel it on your fingers, feel free to do so...Continue to notice all that is around you....What you experience as you follow the water...whether it is upward...or downstream...You may continue for as long as you wish...Continue to experience the meadow and the brook for as long as you like...Continue to feel the warmth...and the safety...and notice your sense of feeling here ...and your energy as you follow the brook

Continue to explore... and to sense the brook as you travel with it...You may stay as long as you like...You may remain longer...or choose to come back later....When you return...you may choose how far you wish to follow the brook...and its musical and comforting sounds....

Continue to breathe slowly....and follow my voice with your

breathing....Breathe slowly and count with me....(Series of breathing instructions)

After completing the exercise...take note of your meadow...you may find it helpful to record a description...or any particular thought you had about the meadow...and the brook...Describe or draw in your personal journal what you were able to sense...these images may be helpful...your personal image of the brook....

Session III "The Creation of a Mask" (Tape #3)

Instruction: Practice the taped exercise once /day for one week. Choose a private place and time of your choice. Continue to use the previous two tapes as desired.

Exercise: (Begin with relaxation and breathing exercise)

...Continue to breathe slowly and to follow my voice...You will feel relaxed and follow my voice as we begin the exercise.

Imagine yourself in a comfortable room where you can be alone and work without interruption....This is a room of your choice...perhaps one that you are quite familiar with, where you frequently work or where you can quietly read or relax. Choose a room that you feel comfortable in and where you can work without interruption...If you wish, you may find it helpful to create a room. It is up to you...the only requirement of this room is that it contain a quiet and comfortable atmosphere and that it be a place where you can work...This work area should be a flat surface...a desk, or it can be the floor space...or wherever you can spread out some materials.....Once you have located a suitable place...continue to breathe slowly and to remain relaxed and flow with the guided images. Sense the feelings that you have in this room...experiencing it as if you are there...Remember that by allowing yourself to relax and to have the tension leave your body you will be able to flow the experiences...and to feel the images...Allow your imagination to continue along with my voice...and try to put all other thoughts and distractions out of your mind....Concentrate on the images and the activity that you are about to begin...

Now, in this room is a box full of supplies...paper...fabric...of many types...tape...paints and crayons...scissors...and glue...any material that you may need...Go through the box exploring these supplies...to see what you like to use....Take the items out of the box...in order to be aware of the vast number of materials....you have many materials from which to choose....Notice your feelings as you explore through this box...It feels fun...and delightful...to locate these materials...some materials you may not have used for some time....as in school...or when you were younger...But you enjoy seeing many of these materials...again...and you feel creative...and playful....to explore these materials now....

We are going to create a mask...The mask can have a purpose if you wish...such as a party or a special event or occasion...Or you can choose to make a mask just for the enjoyment of creating...Allow yourself to experiment and to take pleasure in this activity....Allow your self to be creative...and to feel free as you enjoy this creative activity...Continue to breathe slowly and to allow your imagination to

take you through this box...Taking the items out of the box....Observe their many colours...and shapes...Smell them...and feel them...and begin to think how you can utilize them to make your mask...The box contains any colour or any medium that you may require....paints...moulding clay...Some of the items may appeal more to you than others...or you may be familiar with certain mediums...or you may choose to explore working with some items that you have never used before...such as modelling clay.....

...Once you have inspected the items...and are aware of what materials you would like to use...begin to create your mask...Be imaginative...choose any colours that you wish...any medium...You may choose to draw an outline...or begin to form a three-dimensional mask with clay...Feel the medium on your fingers...as you mould or outline its shape....The medium and methods are entirely up to you...Feel free to create a design that is your own...Observe the colours of your mask and concentrate on the form of it that is beginning to emerge....Allow yourself to feel free in this creation... You are alone...and private... and this is a time when you can be alone to experience some release of tensions...Allow all bodily tensions and thoughts to be released as you concentrate and focus on making your mask.

...Notice your feelings...throughout this activity...You may feel as you did as a youngster...Feeling free and caught up in the boundarylessness of creating. Play with the colours...feel free to try different forms and methods in your creation....And observe how your mask is beginning to take form...Notice its look its colours...Continue to create your mask as long as you like....You have lots of materials...and the time to explore.....

When you feel that you have created your mask...or as it takes its form...Hold up your mask and examine it....Notice its colours....its textures...and its form....What feelings arise as you examine it? If you wish ...try the mask on...or if you prefer you can just choose to hold it and to observe its features....How does it feel to hold? Is it heavy...or light? What colours does it consist of? What expressions or features do notice about your mask? Do you experience any feelings as you inspect your mask or as you try it on? Take time to note your feelings....It is important that you observe your bodily feelings and emotions...as you do this activity...and as you observe your mask....

.....As you set your mask down...or remove your mask....what feelings do you sense? Do your feelings change as you remove the mask? Continue to take note of your mask and your feelings...
You may add to your mask as you wish....

When you are finished you may put the mask in a drawer before leaving the room...or in a safe place....or leave it out if you wish....Until another time when you may feel like working on the mask...or trying it on...or observing your creation. This mask is special in a sense...because you can add to it or change it as you wish....As you repeat this exercise your mask may change over time...as you add to it or change its features....you may even prefer to make another mask...as you do this exercise

again....Remember, that the box in this special room has many materials...and you can use this exercise as a creative outlet...and as a time to explore....your feelings...your potential for this creation....and your potential to relax and to be playful...and thoughtful....it is a free time....free of pressures...free of negative thoughts....free of tension....you feel good about this time.....

Now, continue to relax and to breathe slowly...and to follow my voice...At the completion of this exercise...or as you write in your journal...make some notes or some drawings if you wish about your special mask....Its colour...and form...or feel free to sketch it or your feelings associated with it. You may find this exercise of recording these thoughts and drawings in your journal to be helpful....for understanding of your "self"and for growth....
Note any feelings you had about this exercise....or those you felt about your mask....

Session IV "The Colours of Self" (Tape #4):

Instruction: During the 1:1 session the investigator will ask the patient to draw her "self" utilizing crayons while listening to music. The patient will be instructed to focus primarily on colours, rather than on the shape or form. The patient will be asked to comment on her drawing. She will be asked to practice the taped exercise once/ day for a one week period. Choose a private place and time of your choice, free of interruptions if possible. Continue to utilize the previous tapes as you desire.

Exercise (Begin with standard relaxation and breathing exercise)

...Continue to feel relaxed...and to follow my voice...Now, in this exercise imagine that you are before a canvas that is used for painting....The canvas is presently free of any drawing or image....Imagine that on this canvas....now is the drawing or sketch...or image that you created in the 1:1 session with your therapist....You can observe its colour and its form...as you remember drawing it....Take the time to focus on this drawing until you can visualize it...as you remember it....If you have the drawing with you, and you have some difficulty remembering your image that you previously drew, you may take the time to observe the actual drawing that you made.....

Recall your comments about your drawing that you made in the session....If you made any...and note any particular feelings that you may have experienced or are experiencing concerning this drawing....How do you feel now while seeing it on this canvas? If you have difficulty recalling it...try to focus on its colour....the colour in any form on this canvas....If your image of the drawing has changed since the session....or you experience any difficulty recalling it....focus on its colour or a colour that you are seeing on this canvas...the colour is what you are to focus on in this exercise.....What colour or combination of colours...are you seeing on the canvas? Note where the colours are on this canvas.

AT the bottom of this canvas ...is a set of jars...of many colours of paints....and some brushes...of all sizes.....The jars are open...and there are many jars

of paints at the bottom of this canvas....One of the jars...is labelled the "colour of aliveness"...Take a brush.....of your choice....and dip it into this the jar at the bottom of the canvas.....Observe the colour on the end of the brush....What colour or colours do you see? Gently, stroke your drawing with this brush....Notice as you touch the brush to your drawing....movement seems to occur...the colour changes.....If you stroke the colour slowly and lightly...the colour only faintly changes...and slowly....But, notice if you apply more pressure on the brush...or stroke it faster....the colour changes more quickly....It is like a "special" kind of paint....and it seems to have an energy associated with it....Even a brief stroke....or a gentle touch appears to change slightly the colour of your drawing.....

Continue to test the brushes on your drawing as you like...You may wish to try a heavier stroke...or you may prefer gentle strokes. Watch the colours...change from slight changes to more greater ones as you continue to stroke more paint from the jar onto the canvas. You may wish to try painting with this special jar of paint alone...or you may try this paint along with other colours from the base of your canvas....Notice how fascinated you are with the "change" that occurs as you mix colours....Each paint while coming into contact with another paint...changes slightly...and continuously....the colours seem infinite...and your drawing appears to be continuously and fluidly changing....or evolving...like a kaleidoscope....Your colour may be evolving slowly...or quickly...It may represent one main colour...or many colours....The kaleidoscope-like changes may be so continuous that a static form may be difficult to see...

Play with the paints as you like...You may choose any of the colours...or you may choose to continue experimenting with the jar labelled "aliveness" to see what colours evolve...Notice your feelings as you observe the colours changing...Continue to paint as you like....You feel warm...and you are alone...and are able to spend this time....freely, experimenting with the paints....Allow the music....to help you flow with this exercise....Continue to paint while listening to the music....Allowing your creativity to be expressed...Allowing yourself this time....Explore your canvas....the colours that have evolved....Note whether it is static or more continuous....Continue this exercise as long as you wish....You will continue to return to this canvas....and to experiment with the colours.... as you repeat this exercise...

Continue to feel relaxed...and to follow my voice....During your next journal entry....Record your colours....or draw your image.....or describe what you were able to visualize on the canvas...Record your feelings experienced as you did this exercise...Continue to practice imagining this canvas...and you may paint or return to the canvasas you wish...Explore the colours...What feelings are associated with your colours?

Session V "The Theatre Scene" (Tape #5)

Instruction: Practice this exercise once/ day for a period of one week. Continue to

utilize any of the previous tapes as you desire.

Exercise: (Begin with standard relaxation exercise)

...Continue to feel relaxed and to follow my voice....Breathe slowly and concentrate on following the guided images...Sense the images as if you are there...Feel the atmosphere...and allow any tensions and outside thoughts to flow from you...Just concentrate on the exercise...Imagine that you are in a theatre...alone...It is a smaller theatre...with a stage...and you are the only one in the theatre...Although you are alone here...you feel safe...and comfortable....No one is watching with you...you are going to observe the stage on your own...without interruption....You have permission to be in this theatre...and it feels warm...It is subdued in its lighting...but a warm, subdued lighting....and you are able to observe all the empty seats....No one is in the theatre but you...but you feel safe...and secure...and are about to observe the stage...The temperature is warm...it is quiet and serene...You notice the colours of the stage...and it looks peaceful...with its serene and warm-toned background...

Now, imagine that you are in this theatre...and you continue to be alone and to feel safe...and you watch ...on stage some form...This form is your colour form....that you have been drawing....a form that represents your "self"...and You recognize the form...and watch its movement slowly to the centre of the stage...Notice its colour...or colours....they may be static...or continuously evolving like the kaleidoscope...there is a fluid-like quality about your colour form....and you recognize it as a form that you have observed before...Examine it...take your time...and notice its colour...or form...

Now, imagine yourself talking to someone else on the stage...This can be anyone that you like...This other person is with you on the stage...The person may appear either in their familiar form or as a colour if you like...It is not important to observe their features...but, rather to concentrate on your colour as you are interacting with this other person...Observe the colour that your form takes during this interaction....Does it change? Is it static?

This interaction can be a previous interaction...or you can choose to picture your "self" at an earlier time in life ...with this person if you wish...What colour is your "self" at this time in your life? Is it different from your earlier drawing or picture of your self? If you prefer... it can be a recent interaction...or an interaction that you can imagine will occur in the future....Observe the interaction...as you sit in the theatre....and observe the colours ...of your "self" ...What observations can you make about this interaction? How do you feel about your colour? Is there anything that you note in particular as the interaction takes place in relation to your colour?

Continue to follow the interaction...You are still alone and feel safe in this theatre....and you are free to examine the interaction and to note the changes...Are there motions associated with your colour? Play around with this stage...and this interaction...Feel free to go back in time in interactions.....and try to move ahead if you like to future interactions. As you repeat this exercise...you may choose any interaction you like to observe....or to work on....or to explore...

Play around with this stage...Explore....Note the colours...your feelings.... and Continue to sit back and observe as you wish...Continue throughout to breathe slowly...and to take note of your observations and feelings....

When you like...you can choose to close the curtain on the stage....and to sit quietly in the theatre....Contemplate your feelings surrounding any interaction that you were able to imagine...you may sit alone quietly and comfortably in the theatre for as long as you like...Note any feelings or observations that you had with the experience of this exercise in your journal.

Session VI "Designing a Quilt- Taking Care of the Self" (Tape #6)

Instruction: Practice the taped exercise once/ day for a period of one week. Continue to utilize any of the previous tapes as you wish.

Exercise (Begin with standard breathing and relaxation exercise)

...Continue to feel relaxed and to follow my voice...Use your imagination to follow the guided images...Let all the tension and previous thoughts...go from your body....Just concentrate on your breathing...and the images described by my voice...

Imagine yourself...in a comfortable space...a room...outside on a porch...Sitting in a meadow...anywhere you feel warm...and relaxed...and peaceful...as you sit alone...It may be your sanctuary...It is up to you to choose this place....Imagine that you are exploring your surroundings....in this comfortable place...Use all of your senses...the beauty of it that you see...the quiet and pleasant rhythmic sounds...the feeling of warmth...the familiarity of this place...and its comfort.

There is a sense of calmness about this place...and take time to relax...breathing slowly...to feel this calmness...Now, imagine that you are sitting quietly...and that you have coloured threads...or yarn...that you are going to use...to create a quilt...You may choose to weave it...or to knit...or to sew...What is important is that you observe the colours...and you begin to weave them...Into a quilt form...This quilt is creative...and very personal....it is yours...and it is an activity that you find solacing...and pleasurable...and very relaxing. As your hands work with these threads...there appears to be an ease of tension....and while you work...you feel the atmosphere...and experience the sounds around you...It's a comforting place...and you can relax and work on your quilt while at the same time enjoy the things around you...the sounds...the tranquillity...and the solitude...

You have time to think while you work on your quilt...You are in a comfortable position...and can work on your quilt for as long as you wish. From time to time you examine your quilt....Inspect the pattern of colour that is beginning to emerge...It feels warm...and soft...as it is draped and you feel it growing...and the quilt is a longterm project...It is continuously growing... but, the activity of working on it feels satisfying...and peaceful...The colours evolve into a pattern...and you find that as it progresses...the quilt becomes more and more beautiful...You may work on this quilt as long as you wish...and as often...It is your quilt...personal...and you work

on this quilt at your own pace...creating your own design.

At times, you may find yourself too bush or unable to come to this area to work on it...but it is healing...and the quilt will always remain...and when you wish to feel the peacefulness and the satisfaction from working with your hands...in this rhythmic fashion...you will come and work on it...Continue working on your quilt...taking note of its form...It will evolve...and its material will create a warmth as it soothes you...it covers you...and draped as your hands continue to work...and you'll enjoy its creation...and feel fulfilled that you have created and controlled the design of this quilt....

Since the work on this quilt takes place through your imagination...that trusting friend...you are free to work on it any time you call on your imagination...to provide the quilt...you can feel the atmosphere at the same time...the peace...while at the same time feel the accomplishment...and fulfillment from creating and evolving your quilt....

Now you may stay and work on your quilt as long as you wish...Notice how relaxed you feel...The tension that your body often feels is lessened....You may return...any time you wish to work on your quilt...It is within your ability to use your imagination to take you back to these feelings...You have the control....to use your imagination...to help you...to grow...and to feel good....It is within yourself....

Following this exercise...you may find it helpful to record feelings or information on the colours you used...in this exercise....Continue to feel relaxed. (End with breathing instruction).

APPENDIX H

**Clinical Management-Guided Imagery
Administration Manual**

Bulimia nervosa Treatment Study

**"The Effects of Guided Imagery in the Promotion of Self-
Soothing in Bulimia nervosa"**

Introduction

The Clinical Management-Guided Imagery administration manual was written for the purpose of a clinical trial in the treatment of bulimia nervosa. This manual was modelled after the Clinical Management-Fluoxetine Administrative Manual developed for a bulimia nervosa treatment study at the Toronto Hospital (Goldbloom et al., 1993) with the permission of the first author.

This study compares an active treatment group receiving therapeutic guided imagery with a control group receiving instruction for self-monitoring. Since both groups of subjects will participate in weekly sessions with the same therapist, a systematic approach to both the administration of the guided imagery and the self-monitoring instructions is required to prevent contamination with specific cognitive, behavioral, or psychodynamic therapeutic techniques from becoming an extra component of a pure self-monitoring and guided imagery condition. These guidelines also provide a route for the assessment of the therapist's adherence to the treatment protocol.

This manual serves the following purposes:

- 1) It provides specific guidelines for the therapist administering the guided imagery and for the sessions involving patients, the control group.
- 2) It provides guidelines for the assessment of adherence to the protocol when independent raters assess tape-audited treatment sessions.
- 3) It defines the parameters of interaction between therapist and patient that come under the headings of "guided imagery" and "self-monitoring", but which do not involve specific psychotherapeutic and psychoeducational principles.

Purpose of the Study

The major aim of this study is to investigate the therapeutic technique of guided imagery in promoting self-soothing in bulimia nervosa patients. The technique will be tested for its effectiveness in promoting self-control over eating behaviour, in reducing binge-purging frequencies and in relation to associated psychopathology. A two-group pretest-posttest experimental design will be used in this clinical trial involving subjects being randomly assigned to one of two groups: an active treatment group of guided imagery therapy and a control group. Control for the effects of self-monitoring of symptoms and weekly sessions will be achieved by having patients attend weekly sessions with the therapist that focus on the self-reports of target symptoms. Both the guided imagery treatment group and the control condition are manual-driven. The manual for the guided imagery condition was developed specifically for this study.

Aims of Guided Imagery Treatment

The guided imagery in the active treatment group will be practised in the presence of the therapist and will consist of a series of six audio-cassette taped exercises designed by the researcher. Each session's exercise will build on the mastery of previous exercises with the later sessions reflecting the most advanced and challenging levels. Therefore, an initial goal is the promotion of a therapeutic alliance with the patient that will lead to compliance with the protocol of the study and to the maximum potential of the guided imagery. Although the therapeutic alliance itself, through weekly sessions and self-monitoring may result in positive effects, these results are also likely to occur in the control group conditions. The control group must also be encouraged to comply with the study protocol.

The audio-cassette taped imagery exercises are designed with two goals: 1) To offer soothing through the combined features of the voice/music on the tape and the specific images described. The tape acts as a type of transitional object-providing some support and comfort, ("holding") during periods of acute distress and when the patient is unable to modulate the intensity of affects. 2) The specific package of progressive exercises are tailored to promote a self-exploration of the patient's inner experience and to initiate a healing of the patient's "sense of self".

Through the use of the imagination, the patient is encouraged to explore her feelings and her past experiences, at her own pace and in a safe environment. The exercises assist the patient to derive and contemplate some meaning from her inner world. At the same time the patient is experiencing the effects of soothing through the therapeutic relationship. The painted images are designed to be soothing and to focus on the "self", while at the same time weave the positive themes of personal growth and the capacity for change. These themes in turn are designed to create some hope in the context of a painfully experienced sense of aloneness.

i) The patient must be educated about the therapeutic value of guided imagery and the power of her own imagination in the healing process. The therapist's role as a guide and the patient's role as an active participant in the therapy will be emphasized. Guided imagery must be portrayed as a treatment that individuals can learn to do and which can be perfected with practice. Patients will be informed that different imagery exercises may be easier to do and that strategies to assist them in their ability to do the imagery will be offered as required.

ii) The patient should understand that the imagery is designed to exert a specific effect against the urge to binge or purge and that additional benefits may occur with its continued use. It should be made clear that no harmful effects have been reported with the use of imagery. Support may be given for the fact that many lay persons may be sceptical or question the use of a creative or an "alternative" approach in the treatment of bulimia nervosa despite scientific evidence of its success with other illnesses. It should be emphasized that while imagery has helped other patients, no one treatment works for everyone. The patient's symptoms will be evaluated on a

weekly basis.

iii) The patient must be instructed in the importance of discussing any ongoing difficulties in doing the imagery exercises. In addition the importance of honesty in the patient's self-report of imagery ability and success with the exercises must be emphasized. This interchange between the therapist and the patient must be identified as a vital component in the success of the treatment.

iv) The patient must be told that weekly sessions will include a demonstration by the therapist of each new taped exercise and a specific set of instructions for use of the tapes. Patients must be encouraged to follow these instructions accurately and to discuss ongoing problems or questions that may arise. The weekly contact will assist in minimizing errors of technique in the protocol and in maintaining motivation for completion of the treatment program. Weekly sessions will also involve a discussion of personal journals- reflecting the previous week's symptomatology, eating behaviours, mood symptoms, monitoring of compliance and a review of the rationale for guided imagery in the treatment of bulimia nervosa.

Protocol-Guided Imagery

A. Initial Session

The first visit will have approximately a one-hour duration. The initial session has the following purposes:

- i) A brief review from the patient of his/her experience with the initial psychiatric assessment obtained during the consultation.
- ii) The current level of bulimic symptomatology. This will provide a baseline of target symptoms for ongoing clinical assessment. They may include the frequency of bingeing and purging, associated mood disturbances, urges to binge and purge, and senses of hunger and satiety. These symptoms may change with treatment.
- iii) A brief discussion of bulimia symptomatology related to the psychodynamic model behind this study. Concepts such as self-soothing and self-comforting, intense inner feelings and urges and examples of responses without reflection should be defined and discussed and any concerns or questions explained.
- iv) A brief description of guided imagery and how it is designed impact upon the symptomatology of bulimia nervosa should be provided. This can include some discussion of how the imagination works, its link to the body and the inner sense of self, the value of imagery in considering past experiences, its link to future behaviour and its value as a creative and innovative treatment that the patient can learn to understand and control. Examples of its use in other illnesses may be provided, for example, its value in pain management among medical patients.

- v) The patient should be encouraged to verbalize her beliefs and concerns about imagery in order to promote a discussion of such concerns.

B. Initial and Subsequent Sessions

Subsequent sessions will last approximately 45 minutes.

- i) A few very brief or "trial" imagery exercises will be administered to encourage active participation and to informally assess the patient's ability to engage in the imagery exercises. These will be a vital component of each session in order to maximize the treatment potential. Patients should be encouraged to report any difficulties encountered during the imagery exercises.
- ii) Brief exercises and strategies to promote imagery ability will be provided as needed. These strategies may include relaxation training, brief imagery exercises which assist in demonstrating mastery that may promote the self-efficacy required for the progressively difficult weekly assignment, and brief exercises to assist in utilizing senses outside of the visual mode.
- iii) Prior to all imagery exercises the therapist will promote relaxation through relaxation exercises (two to three minutes). The therapist will emphasize its importance as a step prior to beginning all of the imagery exercises. Patients will be asked to give a brief description of the images experienced and to report any questions or difficulties encountered with the experience.
- iv) A demonstration of one new imagery exercise will occur during each session.
- v) Discussion of the use of Personal Journals - The patient will be asked to review the previous week's experience with the exercise. Journal entries will be discussed prior to the demonstration of each new exercise. Patients will be asked to report general well-being, symptomatology, bingeing and purging frequencies, mood level, and past week activities. Journals may also include drawings or thoughts that the patient will be asked to interpret and/or discuss.
- vi) The instructions that accompany tape #1 indicate that this tape is to be utilized when feeling the urge to binge or to purge or during a post-binge or post-purge period. All subsequent tapes (#2-#6) are to be used once daily during a time and place of the patient's choice. Tape #1 may be utilized as initially instructed throughout the treatment protocol. And once a new tape is distributed, any of the previous tape may be used as a patient prefers.

General Management Issues

- i) Avoiding dropouts - a supportive relationship, optimism about the treatment, education about the practice effects of imagery over time and the promise of

new and varied exercises throughout the six weeks may help to minimize dropouts.

- ii) Contact with the family may occur when absolutely necessary and should serve only to provide an explanation of the patient's illness (with her consent) and education about her treatment. No formal family therapy is permitted.
- iii) Clinical deterioration - In the event of clinical worsening or lack of improvement that may be detrimental to the patient and the therapist will choose to withdraw her from the protocol after discussion with the supervisor of the study (Dr. Paul Garfinkel). If there is doubt, either the patient or the therapist may request a consultation with a senior eating disorders specialist who is not involved in this study. A referral will be facilitated when indicated. When urgent the investigator will refer the patient to the Toronto Hospital emergency or to Dr. Garfinkel.
- iv) Termination - A therapeutic relationship will likely develop over the course of the study. The patient will be encouraged to verbalize the various feelings and attitudes that she may have at the end of the study. This must not include an interpretation of the relationship by the therapist or the exploration of the connection between losing the relationship and other aspects of the patient's life. It is legitimate to discuss concerns or fears concerning the end of the treatment protocol, however, the patient will be encouraged to continue the use of imagery and/or any of the tapes that she found useful. It will be made clear to the patient that if, at the end of the treatment protocol, further treatment is required an appropriate clinical referral will be made. During the study the patient will be given the office hours and telephone number of the therapist and will be instructed to contact the Toronto Hospital Emergency if advice is needed after hours.

The Interpersonal Context

- i) Therapist Factors - The therapist must display familiarity with imagery techniques and convey hope and trust in the treatment. The therapist must also assume clinical responsibility for the patient during the treatment protocol. The therapist-patient relationship will incorporate some interpersonal interventions, however, they will centre primarily on the imagery and the patient's interpretations and experiences of the treatment, rather than on formal psychotherapeutic interventions, such as therapist interpretations.
- ii) Interpersonal Processes:
The following types of intervention are permissible within the guided imagery treatment condition:
 - a) Reassurance and support for the continued use of imagery in alleviating symptoms of the illness and in promoting self-control and healing.

- b) Optimism and Conviction in the belief of the imagery treatment in addressing symptoms. Optimism and support for each patient to adopt the imagery techniques and to learn more challenging exercises with practice.
- c) Instruction, education and information about guided imagery, the imagination, and bulimia nervosa.
- d) Ventilation and self-interpretation of journal entries and feelings. It is likely that patients will ventilate difficult feelings and painful thoughts. This should be not discouraged, but attempts should be made to guide such expressions through the discussion of journal entries and to promote self-interpretations, rather than interpretations by the therapist.

The following types of intervention are not permissible within the guided imagery condition:

- a) Specific behavioural instructions regarding eating routines, food selection, or meal-planning strategies.
- b) Focusing on societal preoccupations and values regarding weight and shape.
- c) Discussions on other treatment approaches, such as medication, and psychoeducation and comparisons of treatments.
- d) Focusing on past relationships with therapists and comparisons of therapists.

The therapist/investigator will meet regularly with her supervisor for supervision that will promote therapist competency and the adherence to the treatment protocol.

APPENDIX I

Clinical Management- Self-Monitoring (Control Group)

Administration Manual

Bulimia nervosa Treatment Study
"The Effects of Guided Imagery in the Promotion of Self-Soothing
in Bulimia nervosa"

Introduction

The Clinical Management- Control Group administration manual has been written for the purpose of a clinical trial in the treatment of bulimia nervosa comparing an active treatment group receiving therapeutic guided imagery with a control group receiving instruction for self-monitoring. Since both groups of subjects will participate in weekly sessions with the same therapist a systematic approach to both the administration of the guided imagery and the self-monitoring instructions is required to prevent contamination with psychotherapy. Although the weekly sessions with patients in the control group may involve a therapeutic alliance and non-specific supportive relationship between the therapist and the patient, it is necessary to prevent specific cognitive, behavioral or psychodynamic therapeutic techniques from becoming an extra component of a pure self-monitoring condition. These guidelines also provide a route for the assessment of the therapist's adherence to the treatment protocol.

This manual serves the following purposes:

- 1) It provides specific guidelines for the therapist administering the self-monitoring instructions in the control group.
- 2) It provides guidelines for the assessment of adherence to the protocol when independent raters assess tape-audited experimental group sessions.
- 3) It defines the parameters of interaction between the therapist and patient that come under the headings of "self-monitoring" during the weekly sessions, but which do not involve specific psychotherapeutic and psychoeducational principles.

Purpose of the Study

The major aim of this study is to investigate the therapeutic technique of guided imagery in promoting self-soothing in bulimia nervosa patients. The technique will be tested for its effectiveness in promoting self-control over eating behavior, in reducing binge-purging frequencies and in relation to associated psychopathology. A two-group pretest-posttest experimental design will be used in this clinical trial involving subjects being randomly assigned to one of two groups: an active treatment group of guided imagery and a control group engaging only in self-monitoring. Control for the effects of self-monitoring of symptoms and weekly sessions will be achieved by having the patients in both groups attend weekly sessions with the therapist that focus on the self-reports of target symptoms. Both the guided imagery treatment group and the control condition are manual-driven.

Aims of Control Group Sessions

The control group will control for effects of weekly therapist contact (time) and self-monitoring of symptoms and eating behavior. Self-monitoring will be introduced to the patients as a form of treatment. Weekly discussions will focus on the contents of the personal journals.

Protocol for the Control Group Self-Monitoring Condition

A. Initial Session

The first visit will have approximately a one-hour duration. The initial session has the following purposes:

- i) A brief review of the initial psychiatric assessment that occurred during the consultation will be obtained from the patient.
- ii) The current level of bulimic symptomatology. This will provide a baseline of target symptoms for ongoing clinical assessment. They may include the frequency of bingeing and purging, associated mood disturbances, urges to binge and purge, and senses of hunger and satiety.
- iii) An overview of the protocol for the self-monitoring condition. This will include a description and demonstration of self-monitoring through the format of the personal journals. Patients will be given a structured journal and will be asked to record information that will include meal patterns, amounts and types of foods eaten, feelings surrounding times when food is eaten, binge and purge frequencies, mood levels, and exercise activities over the week.
- iv) The patient will be encouraged to verbalize her concerns about self-monitoring in order to promote a discussion of such concerns.

B. Subsequent Sessions

These briefer sessions (approximately 45 minutes) must include a review of the frequency, intensity and the features of the target and associated symptoms over a one-week period. Sessions must focus on the records provided through the personal journals and this information will be generated through the self-reports of the patient.

General Management Issues

- i) Avoiding dropouts- a supportive relationship and encouragement for the self-monitoring and attendance to the sessions may help to minimize dropouts.
- ii) Contact with the family may occur when absolutely necessary and should serve only to provide an explanation of the patient's illness (with her consent) and education about her treatment and the study. No formal family therapy is

permitted.

- iii) **Clinical deterioration-** In the event of a clinical worsening or lack of improvement that may be detrimental to the patient, the therapist will choose to withdraw her from the protocol after discussion with the supervisor of the study (Dr. Paul Garfinkel). If there is doubt, either the patient or the therapist may request a consultation with a senior eating disorders specialist who is not involved in this study. A referral will be facilitated when indicated. When treatment is urgent, the patient will be referred to the Toronto Hospital Emergency department or to Dr. Garfinkel. During the course of the study the therapist's office hours will be provided along with a telephone number and the Toronto Hospital Emergency telephone number will be given if the patient requires advice after hours.
- iv) **Termination-** A therapeutic relationship may develop over the course of the study. The patient will be encouraged to verbalize the various feelings and attitudes that she may have at the end of the study. This must not include an interpretation of the relationship by the therapist or the exploration of the connection between losing the relationship and other aspects of the patient's life. It is legitimate to discuss concerns or fears concerning the end of the treatment protocol, however, the patient will be encouraged to continue the self-monitoring if it is helpful. It will be made clear to the patient that if at the end of the treatment protocol, further treatment is required an appropriate clinical referral will be made. If the patient's symptoms are in remission, a referral back to the Eating Disorder Consultation Service will also be done.

The Interpersonal Context

- i) **Therapist Factors-** The therapist must convey encouragement and trust in the effects of self-monitoring. The therapist must also assume clinical responsibility for the patient during the treatment protocol. Although the therapist-patient relationship will incorporate some interpersonal interventions, they will center primarily on the records in the personal journals and the past week events. The sessions will attempt to centre around the patient's verbalizations and own interpretations of the past week's journal records, rather than on formal psychotherapeutic interventions, such as therapist interpretations.
- ii) **Interpersonal Processes -**The following types of intervention are permissible within the self-monitoring control condition:
 - a) **Reassurance and support** for the continued use of the personal journals for self-monitoring in providing information on personal patterns.
 - b) **Instruction and information** about the personal journals, methods of use, and relevance (i.e. providing personal patterns)

- c) Descriptions from the patient of the journal entries and feelings may be expressed. It is likely that the patients will ventilate difficult feelings and painful thoughts or experiences. This should not be discouraged, but attempts should be made to guide such expressions through the discussion of the journal entries and to avoid advice and interpretations by the therapist. It is permissible for the patient to identify patterns in her journal, but the therapist should avoid identifying the patterns or making interpretations. It is permissible to discuss upcoming plans or activities during the current week, but discussions should be free from therapist advice and guidance.

The following types of intervention are not permissible within the self-monitoring control group condition:

- a) Specific behavioral instructions regarding eating routines, food selection, or meal-planning strategies.
- b) Focusing on societal preoccupations and values regarding weight and shape.
- c) Discussions on other treatment approaches, such as medication, and psychoeducation and comparisons of treatment.
- d) Focusing on past relationships with therapists and comparisons of therapists.

The therapist/investigator will meet regularly with her supervisor for supervision that will promote therapist competency and the adherence to the treatment protocol.

APPENDIX J

BPI - IMPULSE EXPRESSION SCALE ITEMS

Please answer T (true) or F (false) for the following statements as they reflect you.

1. Many times I act without thinking. _____
2. I would not do something foolhardy just for the fun of it. _____
3. I often behave in a reckless manner. _____
4. Ideas do not race through my head faster than I can speak them. _____
5. Sometimes I suddenly get up and act without warning or reason. _____
6. I am careful in almost everything I do. _____
7. I'll try almost anything regardless of the consequences. _____
8. I can work for a reasonable length of time without becoming bored. _____
9. I often take risks without stopping to think about the results. _____
10. I am not the type to be bored one minute and excited about something the next. _____
11. I am usually somewhat restless. _____
12. My feelings about people do not change much from day to day. _____
13. I often leave jobs unfinished. _____
14. I generally make careful plans. _____
15. At times I am rather careless. _____
16. I never take unnecessary chances. _____
17. I usually say the first thing that comes into my mind. _____
18. I have a well thought out reason for almost everything I undertake. _____
19. I find it exciting to drive in a fast car. _____
20. I seldom do silly things without thinking. _____

APPENDIX K

ALONENESS/EVOCATIVE MEMORY SCALE

DIRECTIONS: Indicate how often you feel the way described in each of the following statements. Circle one number for each.

	<u>Not At All</u>	<u>A Little Bit</u>	<u>A Moderate Amount</u>	<u>A Great Deal</u>
1. I feel in tune with the people around me.	1	2	3	4
2. I lack companionship	1	2	3	4
3. There is no one I can turn to.	1	2	3	4
4. All the people I know can't fill the emptiness I feel.	1	2	3	4
5. I feel left out.	1	2	3	4
6. I feel full of wonderful memories of people who are important to me.	1	2	3	4
7. I am no longer close to anyone.	1	2	3	4
8. I feel as if I'm evaporating or disintegrating when I'm alone.	1	2	3	4
9. If I don't have pictures of people I love, I can't remember their faces.	1	2	3	4
10. I feel part of a group of friends.	1	2	3	4
11. I have a feeling of inner deadness.	1	2	3	4
12. When I'm away from someone I'm close to, it's easy for me to picture their face.	1	2	3	4
13. My interests and ideas are not shared by those around me.	1	2	3	4
14. I am an outgoing person.	1	2	3	4
15. There are people I feel close to.	1	2	3	4
16. When I'm away from someone I'm close to, deep inside I can't be sure he/she still exists.	1	2	3	4

	<u>Not At All</u>	<u>A Little Bit</u>	<u>A Moderate Amount</u>	<u>A Great Deal</u>
17. I want to eat or drink just to fill the space inside of me.	1	2	3	4
18. When I'm feeling "down", I can comfort myself by remembering the people I love.	1	2	3	4
19. I feel connected and in tune with my friends, even when I'm not with them.	1	2	3	4
20. My social relationships are superficial.	1	2	3	4
21. No one really knows me well.	1	2	3	4
22. I feel isolated from others.	1	2	3	4
23. I have a hollow feeling inside.	1	2	3	4
24. From one meeting to the next it's hard for me to remember what a person looks like.	1	2	3	4
25. I can find companionship when I want it.	1	2	3	4
26. I am unhappy being so withdrawn.	1	2	3	4
27. If I try, I can remember exactly the way my mother sounds when she talks.	1	2	3	4
28. I like to daydream about special people and remember the good times we've had.	1	2	3	4
29. It feels like there is nothing and nobody that can comfort me.	1	2	3	4
30. People are around me but not with me.	1	2	3	4
31. When someone I'm close to goes away, I keep the sense of being connected to them inside me.	1	2	3	4
32. There are people I can talk to.	1	2	3	4
33. There are people I can turn to.	1	2	3	4

APPENDIX L
SOOTHING RECEPTIVITY SCALE (Glassman, 1988)

This rating scale is used to study the different ways people respond to being emotionally upset. Please rate how much you agree or disagree with each of the following statements by placing a circle around the appropriate number. When making your ratings, imagine that each statement begins with "Generally, when I am upset ...". You can think about "upset" as meaning, for example, sad or depressed or anxious or unhappy or nervous etc., whichever is easiest for you to imagine when rating the statements. Please don't skip any items.

1	Strongly Disagree	4	Moderately Agree
2	Moderately Disagree	5	Strongly Agree
3	Neither Agree nor Disagree		

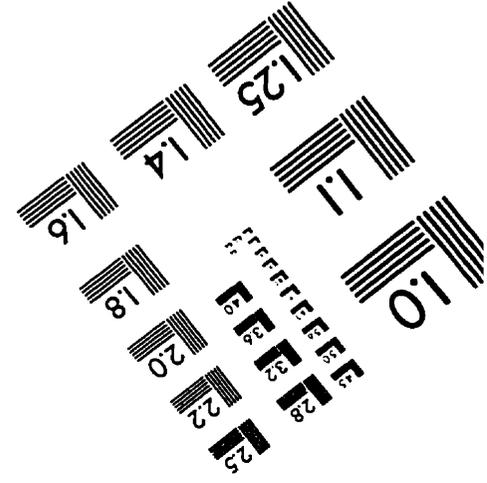
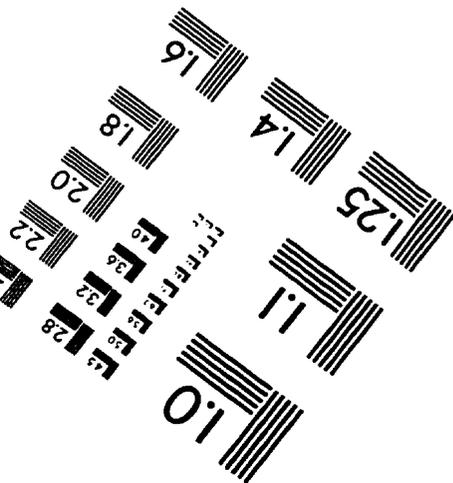
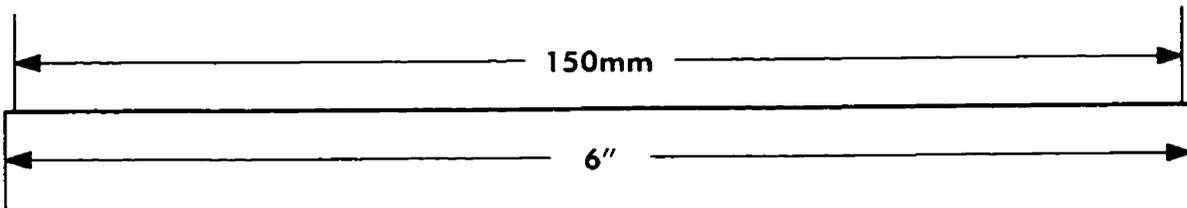
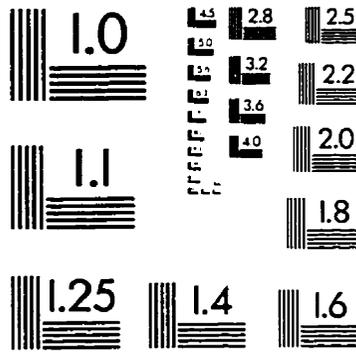
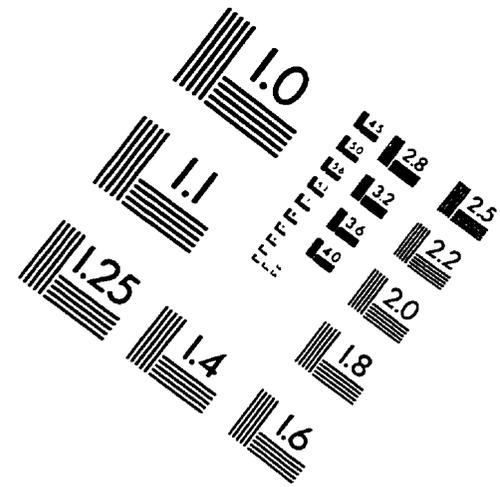
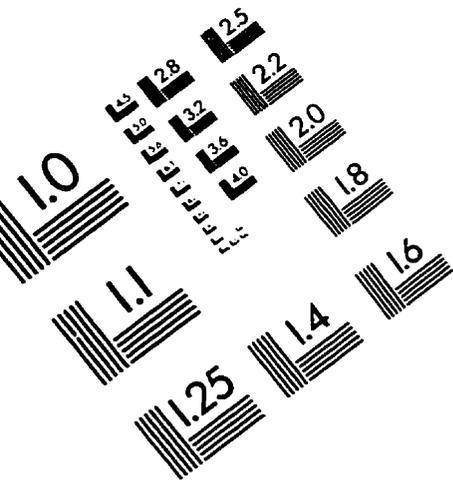
Generally, when I am upset ...

1.	Going for a long walk or drive can help me feel better.	1	2	3	4	5
2.	People find it hard to cheer me up.	1	2	3	4	5
3.	I could recall a pleasurable memory that has a soothing effect on me if I wanted to.	1	2	3	4	5
4.	A hug from someone special will comfort me.	1	2	3	4	5
5.	Going to see a friend will pick me up.	1	2	3	4	5
6.	A warm bath can be a soothing experience for me.	1	2	3	4	5
7.	I feel better after having a good cry.	1	2	3	4	5
8.	It usually takes me a long time to get over whatever is upsetting me.	1	2	3	4	5
9.	Being held and cuddled by someone close to me will soothe me.	1	2	3	4	5
10.	I find that although I talk about it a lot with others, I really don't feel much better afterwards.	1	2	3	4	5
11.	Just spending time with someone close to me will help me to feel better.	1	2	3	4	5
12.	I rebound quickly from whatever is upsetting me.	1	2	3	4	5
13.	Finding some peace and quiet away from it all can help me to feel better.	1	2	3	4	5
14.	I actively try to find someone to be with who can cheer me up.	1	2	3	4	5

Generally, when I am upset ...

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 15. | Time is the main thing that helps me to feel better. | 1 | 2 | 3 | 4 | 5 |
| 16. | I keep my feelings to myself so others won't try to comfort me. | 1 | 2 | 3 | 4 | 5 |
| 17. | Going to work (or school) can help me to forget about what is troubling me. | 1 | 2 | 3 | 4 | 5 |
| 18. | Although it may be hard for me to talk about whatever is upsetting me, I still like having someone hold me and comfort me. | 1 | 2 | 3 | 4 | 5 |
| 19. | Talking things over with a friend provides only momentary comfort. | 1 | 2 | 3 | 4 | 5 |
| 20. | Listening to music (or reading a novel, watching a movie, or a similar activity) will soothe me. | 1 | 2 | 3 | 4 | 5 |
| 21. | I find it hard to cheer myself up. | 1 | 2 | 3 | 4 | 5 |
| 22. | The experience of nestling in the arms of someone close to me is a soothing one. | 1 | 2 | 3 | 4 | 5 |
| 23. | I respond well when someone tries to cheer me up. | 1 | 2 | 3 | 4 | 5 |
| 24. | Having someone hold and cuddle me may not help me to feel any better. | 1 | 2 | 3 | 4 | 5 |
| 25. | Meditation or relaxation exercises can have a soothing effect on me. | 1 | 2 | 3 | 4 | 5 |
| 26. | I rarely ask other people for help with whatever is troubling me. | 1 | 2 | 3 | 4 | 5 |
| 27. | It's comforting to know that I have someone I can talk about it with. | 1 | 2 | 3 | 4 | 5 |

IMAGE EVALUATION TEST TARGET (QA-3)



APPLIED IMAGE, Inc
1653 East Main Street
Rochester, NY 14609 USA
Phone: 716/482-0300
Fax: 716/288-5989

© 1993, Applied Image, Inc., All Rights Reserved