GROUP COGNITIVE-BEHAVIORAL TREATMENT FOR WOMEN WHO BINGE EAT

by

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ABSTRACT

This study tested the initial effects of cognitive-behavioural therapy (CBT) for binge eating, body image/self esteem disturbances and mood disturbances in obese women who binge eat. Participants were recruited from the communities of Quesnel, Williams Lake and 100 Mile House through newspaper and radio advertisements. The advertisements invited women who have a problem controlling their eating to take part in a University of Northern British Columbia study of a new treatment program. Respondents were screened by telephone. Appropriate participants attended a group meeting where the purpose of the program was explained, including procedures for ensuring confidentiality, the process of random assignment and informed consent. They were randomly assigned to either cognitive-behavioural treatment (CBT) or a waiting list (WL) control. Treatment was administered in small groups that met for 6 weekly sessions. The wait list group was later treated with the same program for 3 weeks, meeting twice a week.

There were five primary measures used in this study: the Beck Depression Inventory, a measure of the degree of depression; a short form of the Texas Social Behaviour Inventory, a measure of social self esteem; the Body Shape Questionnaire, a measure of body dissatisfaction; fear of fatness, and poor self–worth; the Eating Habits Checklist, a measure of binge eating severity, and finally, a 7-day calendar recall method which measured binge frequency. The only secondary measure recorded was weight.

In all cases, excluding weight, there were statistically significant results $p < .05$. There were no significant changes in body weight - this was expected because of the short duration of the program and the likely altered metabolisms of the participants. A group cognitive-behavioural program designed for obese women who eat compulsively resulted in significant improvements in mood, self-esteem, body image, binge severity and binge frequency. These women could control their lives when their program ended -- they liked themselves, which is a positive outcome.

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To my mother Jean, my father Stuart, my dear husband Michael, and my girls Kristina, Erika, and Mikayla.

CHAPTER ONE

INTRODUCTION

Statement of Problem

Obesity is the focus of this research, more particularly, obesity in women. Registered dietitians experience first hand the frustration and anguish obese women experienced over their body weight. Friends, family members and the medical establishment suggest they should lose weight. But, with each weight loss attempt, or diet, the lost weight returns and often further weight gains occur. When nutritional assessments are performed for these women, their daily caloric intake is generally much lower than their non-obese counter parts -- a woman of the same age, height, body frame and race. Investigations of this problem through the literature concerning obesity brought to light the existence of a binge-eating disorder and this led to the conclusion that some obese clients may suffer from this problem. They are quite willing to report their usual food intake, but reporting that they binge eat would be difficult for them. More information about this problem is needed and these obese women need help to control this disorder.

Significance of the Problem

There are a number of existing weight loss treatment avenues for the obese and these include: dieting on one's own, attending a Twelve-Step program, exercising, attending a commercial group program, attending a commercial program where food is provided, attending individual or group counselling sessions that are university, private, or residentially based, taking weight loss medication, and surgery (Schwartz & Brownell, 1995). But, as described by Brownell and Wadden (1992), obesity is a serious, prevalent, and refractory disorder. At any given time in North America it is estimated that at least 50 percent of North American women are dieting (Rosenthal, 1998); even though, 95 to 98 percent of diets fail (Bennet & Gurin, 1982; Polivy & Herman, 1983). The goal of this research is to better understand the experiences of obese women and to provide them with skills to deal with some of their destructive thoughts, feelings and behaviours -- and not to focus on or encourage weight loss.

This study is limited to women because obesity in women is more stigmatized in our culture, then for men.

Obese people have low self-esteem (Flack & Grayer, 1975; Gilbert, 1986). Adami et al. (1996) reported that obese people's main behavioural problems were loss of control over eating and binge eating, but low body-esteem and psychological self-esteem were problematic as well. Krenkel and Sachiko (1995) note that obese women, in particular, have a greater incidence of yo-yo dieting and binge eating. And, both Marcus, Wing and Lamparski (1985) and Wilson and Fairburn (1993) report positive correlations between binge eating severity and the measure of dietary restraint. Obese binge eaters are highly concerned about body shape, weight and eating (Wilson & Fairburn, 1993). The reports of the percentage of obese people who binge range from 25 to 82% (Brownell & Wadden, 1992; Gilbert, 1986; Marcus et al., 1995). There are significant positive correlations between binge eating severity and dietary restraint, compulsive dieting efforts, and preoccupation with weight (Marcus et al., 1995). Stunkard and Wadden (1992) report that binge eaters describe significantly greater psychological distress, including depression, anxiety, and obsessive-like behaviour, than do obese nonbingers. Self-esteem problems, in the obese, include high and unrealistic self-expectations and interpersonal distrust (Adami et al., 1996; Stein, 1987). Marcus, Wing and Hopkins (1988) also reported that obese binge eaters reported significantly more psychological distress than did non binge eaters. Binge eaters described more negative moods, more maladaptive cognitions about dieting and higher levels of dietary restraint.

Body image disparagement is common among obese persons – their body is seen as an enemy and they have hatred and loathing for it (Brownell & Wadden, 1992; Stunkard & Wadden, 1992). Those who report a negative body image typically have poor self-esteem, social anxieties and inhibitions, as well as sexual difficulties and vulnerability to depression. Other problems specific to obese persons are noted by Stunkard and Wadden to include lack of confidence, a sense of isolation or humiliation arising from experiences -- such as the failure to fit into theatre and

airplane seats.

In the paper *Obesity treatment: The high cost of false hope* (1991), Wooley and Garner criticize counsellors for failing to recognize that the obese person's reasons for seeking counselling may be triggered by psychological problems that are not addressed in obesity treatment; and that diet therapies are based on an inaccurate model of the pathogenesis of obesity. Compliance with a rigid diet takes a toll on a person and inevitably leads to lapses and extreme hunger that lead to binges which leave the dieter feeling worthless and hopeless. A therapeutic relationship should provide people with a sense of being valued, respected and understood, no matter what their weight. People should not have to weigh their self-esteem. Wooley and Garner state: "It is widely agreed that obesity treatment is in general, ineffective. It may be argued, moreover, that it is more than ineffective: in many instances it is destructive."

Binge eating or compulsive eating, body image disparagement and altered moods or depression are problems that exist for the obese woman. Cognitive treatment in these areas has been successful. Dobson (1989) reported that cognitive therapy for depression created the greatest degree of change, compared with a waiting list or no-treatment control, pharmacotherapy, behaviour therapy, and other psychotherapies.

Treasure, Todd, Brolly, Tilly, Nehmed and Denman (1995) administered two treatments for adult anorexia nervosa: a randomized trial of cognitive analytical therapy versus educational behavioural therapy. The group given cognitive analytical treatment reported significantly greater subjective or self-rated improvement. Telch, Agras, Rossiter, Wifley, and Kennardy (1990) compared group cognitive-behavioral treatment for binge eating to those on a wait list and found a significant difference in the frequency of binge eating between those treated and those on a wait list. Carter and Fairburn (1998) assessed a self-help cognitive-behavioural program for binge eating disorder and discovered that those in the cognitive program versus the wait list clients, showed substantial and sustained impact, with almost half of the participants

in the treatment ceasing to binge eat.

Wifley, Agras, Telch, Rossiter, Scheider, Cole, Sifford and Raeburn (1993) compared group cognitive-behavioural therapy (CBT) to group interpersonal psychotherapy (IP) for those who binge eat and found that both treatments reduced binge eating significantly and that differences remained significant at 6 and 12 months. Butters and Cash (1987) compared cognitive-behavioural treatment of women's body-image dissatisfaction to that of control conditions and found that the CBT program successfully improved affective body image, weakened maladaptive body image, weakened maladaptive body image cognitions, and enhanced social self esteem and feelings about physical fitness and sexuality.

Research Goal

Obese women who binge eat experience low self-esteem, poor body image, depression and general psychological distress. The global goal of this study is to relieve obese women of some of these problems, by providing them with cognitive-behavioural treatment in a group setting, which has been successful in the past.
The progress of the study participants is monitored using measures that address depression, self-esteem, body image, binge eating severity, binge frequency and body weight.

It appears that those who binge, or eat compulsively, experience many problems. These include depression, dietary restraint, poor body image, poor self-esteem and a preoccupation with weight. But, cognitive treatment has been successful for both depression and binge eating. Relating to the studies previously cited, what follows is a review of the literature on cognitive theory, motivation theory and restraint release phenomenon, binge or compulsive eating, body-image/self-esteem, and, as its relationship to the phenomenon of binge or compulsive eating, depression and its treatment.

CHAPTER TWO

LITERATURE REVIEW

In chapter two there are five sections: cognitive theory; motivation theory and restraint release phenomenon; binge or compulsive eating; body-image/self-esteem; and depression. Each section contains reviews of various studies. The summaries of these studies allowed me to make informed choices with respect to the treatment chosen, the recruitment of my sample, the instruments used, and the analyses applied to the study results. Cognitive therapy is successful with the treatment of depression and depression is common in those with binge eating problems. It allows the examination of thoughts that may be disrupting an individual's well being. It also includes behavioural components such as homework that encourage self-determination and growth. Recruitment of a sample using local media initially seemed brash, but many of the studies that follow used such methods successfully. In choosing instruments I first decided what I wanted to measure and then I searched for measures that had been frequently and successfully used by other researchers. Many of the measures are noted in the studies below. The instruments had to be reliable and valid. The analysis of the study results first and foremost had to be appropriate and understandable for the first time researcher. Research done in this area does use the t-test, which is appropriate for group assessment. It is easy to calculate and the results are straight forward.

Cognitive Theory

A primarily cognitive approach was chosen for my research because it is successful with those who binge or eat compulsively (Smith, Marcus, & Kaye, 1992; Telch, et al., 1990). Obese people who binge eat experience greater psychological distress than those who do not binge. These concerns include depression, anxiety, obsessive-like behaviour, unrealistic self-expectations, and maladaptive cognitions (Adami et al., 1996; Marcus, et al., 1988; Stein, 1987; Stunkard & Wadden, 1992).

A cognitive approach has been successful with those who binge or eat compulsively. Cognitive theorists believe that people can use their tools of common sense. What people think and say about themselves, their attitudes, ideas and ideals, are important, and when those are causing distress they can be changed (Beck, 1991a; 1991b; 1993). The key concepts of the cognitive theory are the existence of schemas, a law of rules, and cognitive errors. Schemas are defined as cognitive structures that organize our experience and behaviour. They help us classify, label, interpret and make meaning of our world. The obese woman who binges, recognizes that our society promotes the concept that a thin woman is better than a heavy woman. The law of rules refers to the fact that people's reactions to many situations are consistent, suggesting their responses are guided by their own personal set of rules. These rules form a basis for an individual's interpretations, expectations, and self-instructions, and thus provide a framework for understanding life's experiences and their world. The obese woman has developed specific rules with respect to her eating behaviour: for instance, never eating breakfast or never snacking. If those rules are broken, she experiences guilt and self-recrimination. Cognitive errors are described simply as disorders of thinking. There are a number of cognitive errors categorized by Beck, which I will not list here, but individuals experiencing psychological distress experience distortions of reality to varying degrees. An example of a cognitive error is the obese woman who thinks dichotomously: she sees things as either "black or white", or more aptly, she sees foods as either "good or bad". When a 'bad" food is eaten, she experiences guilt and self-recrimination, which leads to a binge.

The therapeutic techniques employed in cognitive therapy are used to clarify a person's distortions of reality, the self-injunctions and self-reproaches which lead to distress, and the rules that underlie their faulty self-signals (Patterson & Watkins, 1996). Individuals are encouraged to use problem solving to change their ways of interpreting experiences and controlling their actions. When individuals become aware of their maladaptive self-signals they can work to correct them. There are a number of techniques used for this purpose. The first is recognizing maladaptive

ideation which are thoughts that interfere with the ability to cope with life experiences, disrupt internal harmony, and which produce inappropriate or excessive emotional reactions that are painful. The next is filling in the blank, which is the process of identifying cognitions (automatic thoughts) that exist between a stimulus and a response. Another is distancing and decentering where clients are encouraged to view their thoughts objectively and to understand that automatic thoughts do not necessarily reflect reality. Yet another is authenticating conclusions whereby individuals are encouraged to explore their conclusions and to test them against reality. And finally there is changing the rules where clients are encouraged to replace unrealistic maladaptive rules with more adaptive approaches. The cognitive approach also includes behavioural techniques such as homework, behavioural rehearsal, role playing, assertive training, activity monitoring and scheduling, graded tasks and *in vivo* exposure.

The goal of cognitive therapy is to help clients overcome blind spots in their thinking, to recognize their blurred perceptions, and self deceptions, to correct incorrect judgements and to be capable of using problem-solving methods in their daily life to address these issues (Patterson & Watkins, 1996). More simply put, these techniques decrease a person's level of psychological distress. This is why I chose a cognitive approach for my therapeutic groups.

Motivation Theory and Restraint Release Phenomenon

I would be remiss if I did not discuss motivation theory's restraint release phenomenon as it applies to dieting and obesity in women. Motivational research can be divided into three primary areas, biological, behavioural, and cognitive (Petri, 1996). The biological approach tries to understand the physical underpinnings of motivated behaviour. The behavioural approach examines other concepts such as learning in the activation of motivated behaviour, drive, incentive motivation, and learned motives. The cognitive approach encompasses areas that have adopted the assumption that organisms can act in purposive ways to pursue anticipated goals. These areas include expectancy-value theory, consistency theory, self-perception

theory, social learning theory, actualization theories, and attribution theory. Eating disinhibition or restraint release primarily involves the biological and cognitive wings of motivation theory.

As noted by Rosenthal (1998), at any given time, 50 percent of North American women are dieting, yet 95 to 98 percent of diets fail (Bennet & Gurin, 1982; Polivy & Herman, 1983). Obese women, in particular, have a greater incidence of yo-yo dieting and binge eating (Krenkel & Sachiko, 1995). Dieting creates a restraint-release situation because the dieter is attempting to override physiological needs -- placing eating behaviour under cognitive, rather than physiological control (Reeve, 1997). More often than not, dieting (restraint) causes binge eating (release) because the dieter becomes increasingly susceptible to eating disinhibition or restraint release, -- especially under conditions of anxiety, stress, alcohol use, depression, or exposure to high-calorie foods (Greeno & Wing, 1994; Polivy & Herman, 1983, 1985). It is important to note that we cannot assume a woman who eats compulsively also diets.

Polivy, Herman, Hackett and Kuleshnyk (1986) suggest that the upper and lower boundaries for hunger and satiety vary from person to person. The hunger boundary is lower in dieters than in nondieters and the satiety boundary is higher with dieters than nondieters. Polivy et al. (1986) argue that, because dieters want to control their weight, they impose an upper boundary for their food intake that is well below the biological satiety boundary. This boundary is purely cognitive. I agree with Polivy et al. that dieters often prescribe very low calorie intakes for themselves, which are difficult to maintain. I have difficulty accepting that dieters have higher satiety boundaries because when an individual releases or binges, satiety is reached well before a binge may end. Restrained eaters -- those dieting -- often feel hungry, think a great deal about food, and are easily tempted by the sight and smell of food, because they consciously attempt to control their impulse to eat. If they do "overeat", which is a subjective term, or eat high–calorie foods, they feel guilty. Unrestrained eaters -- who tend to be nondieters, do not experience persistent feelings of hunger, do not dwell on thoughts of food, and are not unduly tempted by the sight and smell of food.

They are not constantly trying to control their food intake and do not feel guilty if they overeat. Polivy et al. (1986) argue that the ideal weight, as prescribed by society, is often below the lower limit of a person's natural range. In an attempt to achieve these unrealistic expectations, which are enshrined in our current cultural norms, individuals must constantly restrain their natural urges. Herman et al. (1986) suggest that when dieters fail to restrain their eating, they adopt a "what-the-hell" attitude and they become disinhibited. They say to themselves, "As long as I've already lost control, I might as well eat as much as I want."

Greeno and Wing (1994) also describe counter regulation, where dieters eat very little on a regular basis but if they experience a disinhibitor, such as consuming high-calorie foods or feeling depressed or anxious, they are released from their self imposed restraint and this leads to a binge. In my own experience, working as a clinical dietitian, I have witnessed this behaviour time and again. People abandon their cognitive diet boundaries and they binge eat. These same people consider the next day a new beginning, and restrained eating is again the rule. In part, Herman and Polivy's approach can account for binge eating as people decrease their calorie intake, the brain and muscles demand for fuel causes a binge, which often includes high fat and high sugar items. Dieting and binge eating are associated (Franken, 1998).

The struggle women have meeting the current cultural norm of being extremely lean changes their bodies' biological mechanisms. When the dieter begins to reduce consumption, the body responds with a reduced metabolic rate (anabolism), which hinders weight loss. To overcome this regulatory mechanism, the dieter must reduce her intake even further, and again the body responds by further reducing the metabolic rate (Franken, 1998). As a result, these restrictions will increase the risk of overeating or binge eating. Furthermore, when a person restricts her intake, the output of the hormone insulin remains high. This condition enhances fat storage because insulin accelerates the conversion of sugar into stored fat. This higher level of insulin or hyperinsulemia also increases appetite. Dieters are hungry, but when they eat, their bodies efficiently convert food to fat -- their bodies are unforgiving (Franken, 1998).

The result of this struggle is the yo-yo effect where weight loss is followed by even greater weight gain. As this occurs, self-esteem declines which leads to a disinhibtion effect and binge eating (Franken, 1998). Despite these negative implications, children by the age of 13, (80% of girls and 10% of boys), have already been on weight loss diets (Hawkins, Turell, & Jackson, 1983). I agree with Franken (1998) when he writes, "Society needs to accept people as they are and appreciate diversity".

In summary, in relation to the restraint release phenomenon and dieting, those who diet are attempting to control their eating patterns cognitively rather than biologically, and this discrepancy eventually leads to a compensatory act, such as a binge.

Binge or Compulsive Eating

The study of individuals who binge or eat compulsively but do not purge is a relatively new field. In this section of the literature review, six studies that specifically address binge eating are described and critiqued.

One-year follow-up of cognitive-behavioural therapy

Agras, Telch, Arnow, Eldrige & Marnell (1997) assessed the status of 93 obese women one-year post cognitive-behavioural therapy for binge eating disorder followed by weight loss treatment. Their mean onset of overweight was 17 years (SD = 11.8), the mean onset of binge eating was 19.7 years (SD = 11.3), their average mean body mass index was 36.7 kg/m^2 (SD = 6.6), and their mean rate of binge eating was 4.2 days/week (SD = 1.6). The program consisted of 90 minute group sessions for 12 weeks of CBT for binge eating, followed by 18 group weight loss sessions over 24 weeks. The weight loss treatment was based on a modified version of the LEARN Program for Weight Control (Brownell, 1985) which stresses gradual weight loss with caloric restriction, achieved largely by reductions in fat intake.

The primary measures for this study were binge eating and weight -- both objective binges (the consumption of large amounts of food and loss of control) and subjective binges (characterized by loss of control over eating) were counted. The secondary measures included the Binge Eating Scale (BES); the Three-Factor Eating

Questionnaire (TFEQ), which measures cognitive restraint, tendency toward disinhibition of eating, and perceived hunger; and the Beck Depression Inventory (BDI). Both the primary and secondary measures were assessed using repeated measures ANOVA. Post hoc tests were performed to assess the stability of change over time. Those who abstained from binge eating lost 6.4 kg (n = 14) those who had partial abstinence lost 4.1 kg (n = 9). Those who continued to binge eat showed further weight gain.

The change in the secondary measures from the end of CBT to 1 year follow -- up showed no significant differences between those who were abstinent and those who continued to binge. Neither body image nor self-esteem was measured -- those factors may have shown differences between those bingeing and those not bingeing. Agras et al. note that stopping binge eating appears critical to sustained weight loss for those with Binge Eating Disorder (BED). Those who did not stop binge eating gained weight throughout both treatment and follow-up. Agras et al. also note that extending CBT to 20 sessions and including a maintenance treatment aimed at correcting lapses in binge eating might be useful.

This study focussed on weight loss as one of its primary measures. I would hope that in a cognitively-based program, the goal is to help clients have healthier cognitions and if weight loss does occur as a by-line that is fine. But, the program did lead to positive results.

Cognitive-behavioural self-help for binge eating disorder

In contrast to Agras et. al. (1997) Carter and Fairburn (1998) evaluated the effectiveness of two methods of administering a cognitive-behavioural self-help program for binge eating disorder. The two treatments were Pure Self-help (PSH) and Guided Self-help . There was also a Waiting List (WL) control condition. Participants were recruited directly from the community through newspaper advertisements, which invited women who had problems controlling their eating to take part in a study of a new self-help program. Participants were screened by telephone prior to attending an initial meeting, thereby making this sample more representative of binge eaters in the

general community compared to many studies who use college and university students as subjects.

Carter and Fairburn (1998) used specific exclusion criteria and defined binge eating using the DSM-IV definition of the binge eating disorder. The definition was operationalized by participants reporting at least weekly objective bulimic episodes, as defined by the Eating Disorder Examination (EDE) over the previous 3 months with no purging behaviour. Participants were informed of the purpose of the study and were told they would be randomly assigned to one of three treatment conditions. All participants gave their full informed consent, and ethical concerns were well addressed. The 72 participants were then randomly assigned to one of the three conditions. The conditions were pure self-help PSH, guided self-help GSH and untreated wait-list (WL).

Treatment occurred over 12 weeks. The book *Overcoming Binge Eating* (Fairburn, 1995), which contains a six-step program, was the manual assigned to the participants. Those in the PSH group were mailed the manual while the GSH group met with facilitators for six to eight, 25-minute sessions.

There were a number of measures used in this study. The overeating section of the Eating Disorder Examination (EDE) measured binge frequency. The fourth edition of the self-report version of the EDE (EDE-Q4) measured Restraint, Eating Concern, Shape Concern, and Weight Concern. The average of those four subscales described a global score. General psychiatric disturbance was measured using the General Severity Index (GSI) of the Brief Symptom Inventory (BSI). Self-esteem was measured by the Rosenburg Self-Esteem Scale, a 15 item true and false questionnaire designed to measure the participant's knowledge of the manual. Finally, an analogue scale with its poles labeled from "not at all" to "extremely," was used to assess the participants' views on the suitability and likely effectiveness of their treatment. Compliance was measured by a brief telephone interview using a Likert-type scale, which ranged from 0 (not at all) to 7 (always).

The primary outcome variable was the frequency of binge eating. Analysis

included repeated-measures ANOVA' then significant effects were followed by the Tukey tests for repeated measures, between-groups t tests and Pearson chi-square tests. Four secondary outcome variables were severity of eating disorder features (global EDE-Q4 score), dietary restraint (EDE-Q4 restraint score), BMI and level of general psychiatric disturbance (GSI score). The statistics are discussed in great detail but in summary, both forms of cognitive-behavioural self-help had substantial and lasting impact on binge eating and other associated eating disorder features. Guided self-help (GHS) was more potent than PSH and there was a marked reduction in the frequency of binge eating, which was maintained 6 months later on follow-up. In this study, the specific criteria for inclusion and exclusion of participants, as well as the brief discussion of the measures are helpful because they are discussed in a manner such that another researcher can easily repeat the procedure. Again a cognitively-based program was successful in aiding women with eating disturbances.

Onset of binge eating, dieting, obesity, and mood disorders in those with BED

Rather than providing treatment, Mussel, Mitchell, Weller, Raymon, Crow & Crosby (1995) examined the chronology of the onset of binge eating, dieting, obesity, and mood disorders based on 30 subjects' retrospective reports. Retrospective reports are suspect with respect to the accuracy of subjects' responses or their validity, but they are an efficient cost saving approach to collecting information. Binge eating disorder (BED) is described as being characterized by feelings of marked distress associated to binge eating. It occurs at a rate between 1.2% to 4.6% in the general population and at a rate of 30% in those seeking help for weight loss.

Subjects in this study met the criteria of being between 18 and 60 years of age, meeting the proposed DSM-IV criteria for BED, and having binged three times per week for the last 6 months. Binge eating was operationally defined as, "eating within a short period of time what most people would regard as an unusually large amount of food" accompanied by "a feeling that you couldn't stop eating, or control what, or how much you were eating." A 1,500 kcal minimum within a 2-hour period was also used to define a binge eating episode. Specific exclusion criteria were used.

Overweight was defined as a BMI of >25 and obesity as >30.

The above information was collected using three self-report questionnaires: The Height and Weight History Questionnaire (HWHQ); The Binge Eating Module of the University of Minnesota Impulse Control Questionnaire (MICQ); and the Questionnaire on Eating and Weight Patterns (QEWP) – which assesses the onset of binge eating, dieting and obesity. The data were reported using means, standard deviations and percentages.

Mussell et al. (1995) reported that the average onset of binge eating was 18 years, 44% of the women reported episodes by the age of 16 years, and 76% had been binge eating by the age of 24 years. The average age when a pattern of binge eating appeared was 26 years of age. The average age for the onset of significant dieting was 22 years; therefore, significant dieting did not appear to precede the onset of binge eating. The average age when obesity was reported was 32.6 years. These results fly in the face of common perception that bingeing results from significant dieting. Even more interesting is the fact that binge eating preceded obesity by almost a decade. Half of the sample reported a history of clinical depression and a majority of the subjects reported the onset of bingeing predated their first depressive episode. What is astounding about this study is the young age at which a number of these women began binge eating.

Cognitive-behavioural treatment of obese binge eaters

Smith, et al. (1992) evaluated a group of obese women with binge eating problems before and after cognitive-behavioral therapy (CBT) utilizing the Eating Disorder Examination or EDE. Note that Carter and Fairburn (1998) also used the EDE. The goal was the amelioration of binge eating. The EDE involves a structured clinical interview and is recommended as the most comprehensive instrument for assessing eating behaviour, extreme attempts to weight control, and concern with weight and shape, all of which are critical to the diagnosis of eating disorders. The EDE includes five subscales: Dietary Restraint, Overeating, Eating Concern, Shape Concern, and Weight Concern. The investigators also used the Beck Depression

Inventory (BDI).

The study was a pre-test, post-test, single-group design where eight women participated in the group program. They attended 16, 90-minute sessions over an 18-week period. Program participants were charged $500. Many changes post CBT were reported. The frequency of bulimic episodes decreased significantly for both objective and subjective binges. Also, the restraint and eating concern subscales showed marked improvements as did the shape concern and weight concern subscales. The restraint scale did not change. This is explained by the fact that the subjects did not have elevated levels at baseline. Depressive symtomatology reported on the BDI indicated that mood improved from the moderately-depressed range to the minimally-depressed range post-treatment.

I have two concerns about this study. First, is it ethical to charge subjects a large fee for participation in research. Second, after completion of the research were participants debriefed? The women who participated in this study were described as having a chronic history of weight loss efforts and they would likely pay a great amount of money if they thought this program could solve their overweight problem. It is not clear in the text of the study that these women were debriefed or told the purpose of the study, or if they were even made aware it was not a weight loss program. There was no control or waitlist group to control for rival plausible explanations. In other words, alternate factors outside of the treatment (the independent variable) could account for the study's results. By including a control group, rival plausible explanations for the research results comparing the treatment and control group would have been controlled.

The obese binge eaters who participated in the study appear to have benefited from the cognitive-behavioral program: their binge frequency decreased; their concerns about restraint and eating decreased, as did their concerns about their shape and weight. But a follow up study at 6 and 12 months on the maintenance of those benefits would have been beneficial.

Group cognitive-behavioural treatment for the nonpurging bulimic

The goal of Telch, et al.'s (1990) treatment study using short term cognitive-behavioral treatment was to normalize eating patterns, to reduce avoidance of feared foods, and to lessen the restrictive dieting that is believed to drive binge eating. All subjects were recruited by newspaper advertisements that offered free treatment for compulsive binge eating problems. This method of recruiting subjects will increase the representativeness of the results to the binge eater in the general population. One hundred women responded to the advertisements. Fifty-two attended a screening interview and 44 women met the criteria for inclusion. The women's BMI's ranged from 22.2 to 42.6. The primary definition for a binge in this study was the perceived loss of control over eating.

Participants were randomly assigned to either a cognitive-behavioural treatment group or a waiting-list control group. Therefore the assumption of pre-test equivalence was addressed. Two CBT treatment groups met once a week for 90-minute sessions over10 weeks. After the treatment groups completed their 10 weeks of therapy the waitlist participants received the same program. Each subject attended three assessments, at baseline, at 10 weeks, and at a 10-week follow-up. The measures included a 7- day calendar recall method to assess binge eating episodes, the Beck Depression Inventory (BDI), the Eating Disorders Inventory (EDI), the Eating Attitudes Test (EAT), and the Three-Factor Eating Inventory (TFEI).

The binge frequency was submitted to both within-group and between-group t tests, and Chi-square analyses were performed on the percentage abstinent from binge eating in each of the two conditions. Treated subjects binge ate significantly less than untreated WL subjects at post-test. Once treated, wait-list subjects also significantly reduced the number of binge episodes during the week. At 20 weeks, CBT subjects continued to binge significantly less than at baseline. This study supports the use of short-term cognitive-behavioural treatment for binge eating. My method, to a certain degree, will emulate this research design.

Group cognitive-behavioural therapy versus interpersonal psychotherapy

To this point, I have presented research involving only cognitive treatment. Wilfly et al. (1993) evaluated the effectiveness of group cognitive-behavioral treatment (CBT) and group interpersonal psychotherapy (IPT) for binge eating. Fifty-six female subjects participated after being recruited by newspaper advertisements offering free treatment for compulsive binge eating problems. This study did not require a participant to be obese. As such, the mean sample BMI was 32.8 (SD=5.2) with a range of 22.3 to 43.8. Subjects were randomly assigned to group CBT, group IPT, or the wait-list (WL) condition.

Both objective and subjective binges were recorded as long as all episodes involved perceived loss of control. For the CBT group, the treatment manual developed by Telch et al., (1990) was used, and for the IPT group, Fairburn et al.'s (1991) approach for bulimia nervosa was adapted and used. Participants attended weekly 90-minute group sessions for 16 weeks. Each subject was assessed at baseline and 16 weeks post-test. Those in the CBT and IPT groups were assessed at 6 months and 1 year following treatment. The measures included a frequency of binge eating using a 7-day calendar recall method, the Beck Depression Inventory (BDI), the Inventory of Interpersonal Problems (IIP), the Rosenberg Self-esteem Questionnaire, and the Three-Factor Eating Questionnaire (TFEQ). Statistical analyses included repeated measures of analysis of variance (ANOVA), Scheffe tests, chi-square and paired t tests.

Patients in both treatment conditions showed equally significant reductions in binge frequency when compared against the WL condition. Each program was adjusted such that the cognitive treatment included no interpersonal components and the interpersonal treatment was adjusted to include no cognitive components. By making these adjustments to program content, do we risk decreasing the clinical significance of these two programs? By stripping the CBT group of interpersonal components and the IPT group of cognitive components, did the participants' eating behaviour improve less?

Binge eating remained significantly below baseline levels for both treatment conditions at 6-months (CBT $p < .04$, IPT $p < .02$) and 1-year follow-up (CBT $p < .003$, IPT $p < .001$). Neither of the programs focussed on eating behaviour, yet binge eating did decrease. Both IPT and CBT had a significant impact on disinhibiton and disinhibiton has been shown to be a better predictor of behaviour than has dietary restraint. The disinhibtion scale measures emotional eating (Ganly, 1988), which is relevant because negative affect is often a precursor to bingeing behaviour. Wilfley et al. note that binge eating appears to be driven by at least two factors: highly restrictive dieting, which CBT addresses, and mood changes arising from interpersonal difficulties, measured by IPT. Wilfley et al.'s study included non-obese participants and her definition of binge is not clearly defined in her paper. But, she did recognize that obese binge eaters experience more psychopathology than their non-binge-eating counterparts; therefore, if we can reduce the binge eating behaviour and the associated psychopathology, maybe we can improve their quality of life. It is apparent that a cognitive-behavioral program does lead to decreased binge frequency in those with a binge eating disorder.

Body Image and Self Esteem

Holding a negative body image is prevalent among women, evident among the obese' and associated with negative self-esteem (Rosen, Saltzberg & Srebnik, 1989; Stein, 1987.) Because of this, treating body image will be included in my group treatment. Three studies about body image are reviewed and critiqued in this section of the literature review.

Cognitive treatment for women's body-image dissatisfaction

A study by Butters and Cash (1987) provided cognitive-behavioral treatment for women's body-image dissatisfaction. Participants were 32 undergraduate psychology students, which, of course, limits the external validity of the results. Initially, 186 women were tested using the Body-Self Relations Questionnaire, BSRQ (Winstead & Cash, 1984) and the Symptom Checklist-90-Revised, SCL-90-R (Derogatis, 1977). Those who met the inclusionary criteria were interviewed by

telephone, and at this time the Psychoticism and Paranoid Ideation scales of the SCL-90-R were used to exclude severely disturbed persons.

The participants were randomly assigned to the treatment group or the waitlist which addresses the assumption of pre-test equivalence. Weekly, those in the treatment group attended 1-hour , individual cognitive-behavioral treatments for a period of 6 weeks. All subjects were assessed during weeks 1 (pre-test), 6 (post-test), and 13 (follow-up), using a number of assessment tools. They included the Body-Self Relations Questionnaire (BSQR), the Body Parts Satisfaction Scale (BPSS), the Mirror Distress Rating, Photo self-ratings, observers' ratings of physical attractiveness, the Body Image Detection Device (BIDD), the Personal Appearance Beliefs Test (PABT), the Texas Social Behavior Inventory (TSBI), SCL-90-R and the Client Satisfaction Questionnaire (CSQ).

Outcome variables were organized into measures of affective evaluation of appearance, measures pertaining to appearance-related cognitions, and measures related to other body-image domains or area of psychological functioning. Results were first analyzed using MANOVA – (Wilk's lamba criterion), followed by ANOVA—univariate analysis of variance, and ANCOVA – used to test between-groups differences at post-test. The Newman-Keuls procedure was used to evaluate follow-up maintenance of treatment changes. Simply put, those in the CBT program made significant gains on the multiple measures of their presenting target complaint – feelings of unattractiveness and dissatisfaction with their physical appearance. I have two concerns with this study. The participants were not informed of the purpose of the study, which is an ethical issue, and those placed on the wait list were not provided that same program later. It was abbreviated to 3-weeks for the wait list individuals rather than the full 6-week CBT treatment because of insufficient time to conduct two 6-week treatments. But, the program improved affective body image, weakened maladaptive body image cognitions, and enhanced social self-esteem and feelings about physical fitness and sexuality. This short program resulted in statistically significant ($p < .05$) results for its CBT participants.

Comparison of interventions for women experiencing body image problems

Dworkin and Kerr (1987) compared interventions for women experiencing body image problems. They noted that women's nonacceptance of their bodies generalizes to almost every aspect of their life, and many of their cognitions related to self image and self-concept are irrational. The main purpose of Dworkin and Kerr's study was to compare the effects of three counselling interventions on women's body image and self-concept or self esteem. A secondary purpose was to compare the effectiveness for those with moderate body image problems and those with severe body image problems. The three interventions were cognitive therapy techniques, cognitive-behavioral therapy techniques , and reflective therapy techniques. A waiting list group was included. The subjects were female university students who considered body image a problem. Most were Education majors receiving credit for their participation. This type of sampling program affects the external validity, or the generalizability of the results.

The dependent measures used were the Body-Cathexis and the Self-Cathexis Scale (Secord & Jourard, 1953) which were used as the pre-test and post-test, respectively. Participants first attended a group session where the two scales were completed and from that they were split into either a moderate, or severe image disturbance group. They were then randomly assigned to cognitive therapy techniques (CT), cognitive behavior therapy techniques (CBT), reflective therapy techniques (RT), or a waiting list control group (WL) which would make the waiting list and experimental groups comparable on all extraneous variables. Participants attended three half-hour individual counselling sessions, which were taped.

The research led to significant results, but are they clinically significant given the limited treatment time, or in other words, were the changes large enough to be useful in the real world? Dworkin and Kerr (1987) concluded that treatment was better than no treatment. The analysis tested the effects of the four experimental conditions and two levels of problem severity on the body acceptance and self-concepts of the participants. A double, repeated - measures, multivariate analysis of

variance (MANOVA) was performed on the pre-test and post-test scores of the BC and SC scales in accordance with the 2 x 2 x 4 (Time x Severity Level x Treatment) design. The Tukey and Pearson statistics were also calculated. Cognitive therapy was more effective than CBT and RT, for improving body image. As well, CT was equivalent to CBT, and more effective than RT in terms of self-concept. No follow–up was performed. The researchers concluded that cognitive therapy is appropriate to encourage body acceptance and self-concept.

Cognitive behaviour therapy for negative body image

Rosen, Saltzberg, & Srebnik (1989) noted that a negative body image is distressing and is associated with depression, social introversion, anxiety, and negative self-esteem. The purpose of the study was to compare the results of treating clients with either cognitive behavior therapy or a minimal treatment condition that did not include cognitive techniques. The researchers acquired their female subjects by advertising, using posters at their university. Other students completed a questionnaire for course credit, and if interested, could volunteer for therapy. This type of sampling will limit external validity because the generlizability of the results will be limited. The eligibility criteria for subjects were thorough and included the completion of the Body Shape Questionnaire (BSQ). Prior to therapy, subjects were assessed for the perceptual component of body image which has a reliability range from r = .79 to .96. They completed two questionnaires to assess the cognitive-evaluation aspect of body image, the Body Shape Questionnaire (BSQ)' and the Body Shape Dissatisfaction Scale of the Eating Disorder Inventory (EDI). The EDI is described as internally consistent and valid, and its test-retest reliability is high. The 23 subjects were randomly assigned to the two conditions to meet the assumption of pre-test equivalence. There were 6 sessions lasting 2 hours. Assessment was done pre, post and two months following the program.

The means and standard deviations of the body image measures were assessed using a within/between multivariate analysis of variance (MANOVA), followed by Hotelling's T^2 and Newman Keul tests. Cognitive behavior therapy proved to be

more effective than non-directive therapy in producing positive changes in body image. The participants in the cognitive behavior therapy condition improved significantly, moving from pathological ranges to normal ranges on all three dimensions perception, cognition, behavior, of body image, targeted in the treatment. The minimal group showed mild improvements.

Holding a negative body image is prevalent in obese individuals and this nonacceptance of their bodies generalizes to many aspects of their lives. They are more prone to depression, having negative self-esteem, experiencing social introversion, anxiety, and feelings of unattractiveness and experiencing dissatisfaction with their physical appearance. But it is apparent from the research reviewed, that body image problems can be treated through a program that is relatively short and that contains cognitive interventions.

Depression

Because obese women are vulnerable to depression, an assessment of the efficacy of cognitive treatment for depression is included in this review.

Dobson (1989) performed a meta-analysis of the effectiveness of cognitive therapy for depression, and compared it to no treatment, behavior therapy, and pharmacotherapy in the treatment of clinical depression. Dobson's purpose was to assess the result of previous studies, using a single well-established outcome measure, the Beck Depression Inventory (BDI). Dobson assessed 28 studies that used the BDI as an outcome measure. Dobson used effect sizes to determine unit differences on the BDI between the cognitive therapy client and a contrast group. Although there is only one measure of outcome and the statistics are rudimentary, the results are important. In ten studies comparing CT to either no-treatment or a waitlist control, the average cognitive therapy client did better than did 98% of the control subjects. Nine studies compared CT to behavioral therapies. They found that CT had an outcome superior to that of 67% of the behavior therapy clients. Eight studies compared cognitive therapy clients to those receiving pharmatherapy. These found

that CT clients did better than 70% of the drug therapy patients. When CT was compared to a number of other approaches in seven other studies, on average, CT clients did better than 70% of the other psychotherapy clients.

Dobson noted that in the studies reviewed, women outnumbered the men by roughly 3 to 1. Follow-up post therapy was not addressed. In Dobson's review, CT is reported as more effective than nothing at all, behavior therapy, or pharmatherapy in the treatment of clinical depression. To use Dobson's words, "CT should not be accepted as a psychotherapeutic panacea for depression." (1989, p. 418). But his results do support my choice to use a cognitive approach in my program.

Summary

Obese women who binge or eat compulsively also have problems with low body-esteem, low psychological self-esteem and depression (Adami et. al, 1996; Stunkard & Wadden, 1992). In the process of performing my research I want to help my participants gain more control over and improve the quality of their lives. This is why I have chosen to focus my treatment on binge eating, body image/self esteem and depression.

The literature review allowed me to make informed choices about my research decisions. The review is a summary in itself. I reviewed many other materials that were not included in the review, but they directed me to my core literature list and also helped me choose my research approach. Table 1 is a brief summary of my research choices and the instruments I chose to use.

The method, which involved advertising for participants in local media, treating women in groups, and using cognitive and behavioural theories during that treatment was chosen because it has been successful for researchers in this area in the past (Dworkin & Kerr, 1987; Telch et al., 1990; Wilfley et al., 1993).

Table 1
Research Decisions Based on the Literature Review

Components	Research Choices	Reference Samples
Advertisement	Newspaper & Radio Appendix F	Agras et al. (1997)
Screening	Telephone Appendix A	Carter & Fairburn (1998)
Treatment	Group CBT	Telch et al. (1990)
Instruments	Weight	Agras et al. (1997)
	BDI	Beck (1991a, 1991b, & 1993)
	BSQ	Rosen et al. (1989)
	TSBI	Butters & Cash (1998)
	BES	Agras et al. (1997)
	BF	Telch et al. (1990)
Analyses	Univariate	Kirk (1990)

Note. CBT = Cognitive Behavioural Treatment; BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BF = Binge Frequency.

It is apparent that cognitive treatment has been a successful treatment approach for depression, body image and binge eating. But, many of the programs for the obese also included a weight loss component. My cognitive-behavioural based program will attempt to alter abnormal attitudes about body shape and weight, replace dysfunctional dieting with normal eating habits, and develop coping skills for resisting binge eating, but it will not contain a weight loss component.

Purpose

The purpose of this study was to investigate the effects of a group cognitive-behavioural treatment program for obese women who binge eat. The four specific areas studied were changes in binge frequency, body image, self-esteem and mood or depression. The research statements follow:

Participants' binge frequency will decrease as measured by a 7-day recall method.

Participants' body image will improve as measured by the BSQ.

Participants' self esteem will improve as measured by the TSBI.

Participants' level of depression or mood will improve as measured by the BDI.

CHAPTER 3

METHOD

Participants

Participants were recruited directly through newspaper and radio advertisements from the communities of Quesnel, Williams Lake, 100 Mile House, and their surrounding areas. These advertisements invited women who have a problem controlling their eating to take part in an University of Northern British Columbia (UNBC) study of a new treatment program. The advertisement is in Appendix A. The exclusion criteria used were: (a) a body mass index (BMI) of less than 30, (b) reporting less than one binge episode per week, (c) pregnancy, (d) medical disorder or treatment known to influence eating habits or weight, (e) current psychiatric treatment, (f) previous treatment for a binge eating problem, (g) being male, (h) age below 20 or greater than 60. The BMI is an accepted calculation that indicates appropriate weight for height. It has been shown to have a low correlation with body height and a high correlation with body fatness (Krause & Mahan, 1984). It is calculated as weight (in kilograms) divided by height (in meters squared). A BMI of 27 or greater indicates obesity and increased risk for developing health problems, but for most people, a BMI of 20 to 25 is considered an indication that they are at a healthy weight.

Although information concerning age, culture, socio-economic status, and education were not collected, the participants came from a broad cross section of the community. The group included First Nations and those of European extraction, with different household income and education.

Measures

There were five primary measures and one secondary measure used in this study. Each measure is found in full in Appendix B. Five measures are considered primary, because they are first in importance -- they address or measure the areas that are salient to this study. They are: (1) the Beck Depression Inventory (Beck, Ward,

Mendelson, Mock & Erbaugh, 1961) which measures mood; (2) the short form of the Texas Social Behaviour Inventory (Helmeich & Stapp, 1974) which is a measure of social self esteem; (3) the Body Shape Questionnaire (Cooper, Taylor, Cooper, & Fairburn, 1987) which is a measure of body dissatisfaction, fear of fatness, feelings of low self-worth; (4) the Eating Habits Checklist (Gormally, Black, Daston, & Rardin, 1982) which measures binge eating severity; and (5) a 7-day calendar recall method to measure frequency of bingeing. The only secondary measure was weight in kilograms. Weight as a measure, was considered secondary because it was not a program goal. Weight loss was not expected and it is not a covariate.

Beck Depression Inventory

The Beck Depression Inventory was chosen because it is a measure of the degree of depression (Beck, et al., 1961). It is labeled section one in Appendix B. The BDI was developed by Beck and his associates to measure the behavioural manifestations of depression. It contains 21 items or symptom-attitude categories, labeled A to U, with each item providing 4 or 5 response alternatives. Each response is given a value from 0 to 3. A lower score indicates a lower level of depression. These values are considered a measure of the depth of depression where 0 equals none, 1 equals mild, 2 equals moderate, and 3 equals severe. Beck derived the inventory by systematically observing and recording the characteristic attitudes and symptoms of depressed patients. The population used to assess the reliability and validity of the BDI were psychiatric patients who were either inpatients or outpatients of either the Hospital of the University of Pennsylvania or the Philadelphia General Hospital. There were two patient samples: an initial group of 226 patients and a replication group of 183 patients. Four psychiatrists participated in a series of interviews. Two psychiatrists individually interviewed patients, while two simultaneously observed the interviews.

The reliability of the inventory was assessed in two ways. First, the protocols of 200 consecutive cases were analyzed and the score for each of the 21 categories was compared with the total score on the Depression Inventory for each individual.

An analysis of variance found that all of the 21 categories showed a significant relationship to the total score for the inventory ($p < .001$) except weight-loss which was less significant ($p < 0.01$). The second evaluation used a split-half reliability, with 97 cases from the first sample. Using the Pearson r, a reliability coefficient of 0.86 was determined. With a Spearman-Brown correction, the coefficient was 0.93. The validity of the Depression Inventory was assessed using the means and standard deviations for each of the depth of depression categories from both studies. The Kruskal-Wallis One-Way Analysis of Variance by Ranks was used to assess the statistical significance of the relationship between a change in an increment of the magnitude of depression, to a change in mean scores; ($p < .001$). The Mann-Whitney U test was used to appraise the power of the Depression Inventory to discriminate between Depth of Depression categories. All differences between adjacent categories (none, mild, moderate, and severe), in both studies, were significant at less than .0004. Exceptions to this pattern were the differences between the moderate and severe categories. These had p values less than .1 in study 1, and less than .02 in study 2. A Pearson biserial r was computed to determine the degree of correlation between the scores on the Depression Inventory and clinicians' ratings of the Depth of Depression. The correlations were .65 for study 1 and .67 for study 2. After subjecting the BDI to a variety of statistical tests to determine its validity and reliability, Beck (1961) concluded it was highly reliable and valid as an instrument.

Texas Social Behaviour Inventory

A short form of the Texas Social Behaviour Inventory or TSBI (Helmreich & Stapp, 1974) was included as a measure of social self-esteem. The original TSBI is a 32 item, multiple choice scale, designed to assess individual perceptions of social competence and self-esteem (Helmreich & Stapp, & Ervin, 1974). The inventory development began in 1969; it contained 60 items dealing with aspects of personal worth and social interaction. It was administered to over 1000 male and female students in introductory psychology courses at the University of Texas in Austin. On the basis of factor and item analysis, a final scale of 32 items was developed. The

TBSI was then administered to 7,000 students at the University of Texas, student populations at other universities, and to non-student adults. The test-retest reliability is reported as .94 for males and .93 for females. It proved to be a means of categorizing research populations on the dimension of self-esteem. It is described as a highly reliable instrument for the assessment of self-perceptions of social competence, or self-esteem. The short form of the TSBI, found in section two of Appendix B, was used because it decreased the time participants spent completing the measure package, and it is indicated in settings where retesting for changes in self-esteem is performed. The short form is a validated objective measure of self-esteem or social competence. Correlations between the short (16-item) and long (32-item) form were .97. The long form, as noted above, has been given to more than 8,000 individuals. Each item in the TSBI has five response alternatives, ranging from "not at all characteristic of me", to "very characteristic of me." Each item is given a score from 0 to 4, with 0 representing the response associated with the lowest self-esteem and 4 the highest self-esteem.

Body Shape Questionnaire

The Body Shape Questionnaire or BSQ (Cooper, et al., 1987) measure contains 34 questions constructed with a 6-point Likert-type scale ("never," "rarely," "sometimes," "often," "very often," "always"). This measure addresses body dissatisfaction, fear of fatness, feelings of low self–worth because of appearance, and desire to lose weight. The BSQ, found in section three of Appendix B, was developed by conducting semistructured interviews with four samples of young women who suffer from eating disorders. Using an open-ended approach, 28 young women were interviewed: 6 patients with bulimia nervosa, 4 patients with anorexia nervosa, 7 women on weight-reducing diets, 3 women attending an exercise class, and 8 female university students. These interviews led to the first self-report questionnaire containing 51 separate questions. The 51-item questionnaire was completed by four sample groups of women. The first group was 38 women who were outpatients, diagnosed with bulimia nervosa and who were treated either at Cambridge or Oxford clinic. The second was 331 women attending a family planning clinic over a 4-week

period in Cambridge. The third group was 119 occupational therapy students, and the fourth was 84 female university undergraduate students. The questionnaire was then reduced to 34 responses. Correlations indicated six items were closely related and one item was removed. A t-test comparing patients and non-patients resulted in six items being eliminated because differences failed to reach the .001 level of significance. Finally, five items were eliminated because they fell below an arbitrary threshold with fewer than 25% of patients and fewer than 5% of non-patients rating them as occurring at least "often" in the past 4 weeks. Binge Severity Questionnaire scores of patients were significantly higher than non-patients. To test for concurrent validity, the BSQ was correlated with the Body Dissatisfaction Subscale of the Eating Disorders Examination, EDE, (Cooper, & Fairburn, 1987). The BSQ scores also correlated with the total Eating Attitudes Test (EAT) scores (Garner, & Garfinkle, 1979). Scores among patients with bulimia nervosa and with the EAT total score among the occupational therapy students were used. Among patients, the BSQ correlated very highly with the EDI Body Dissatisfaction score. A second measure of validity compared two groups of women from the non-patient sample. Ninety-five of those dieting and concerned about weight and shape were compared to 79 women unconcerned about weight and shape who were not dieting. The mean scores on the BSQ were significantly different $p < .0005$. A final assessment of validity compared the BSQ scores of two groups. The first group included 10 subjects, who fulfilled the criteria for bulimia nervosa; that is, persons who binged or experienced episodes of excessive uncontrolled overeating at least once fortnightly. The second group contained 316 women who were classified as "definite non-cases." The two groups differed markedly on the BSQ with respect to their mean and standard deviations. The concurrent and discriminant validity of the BSQ is described as good. It is simple to fill out and it can be completed in about 10 minutes. This measure was altered for use in this study. The words "fat" and "fatter" were replaced with "large" and "larger".

Binge Eating Scale

The Binge Eating Scale (BES) developed by Gormally et al. 1982, was designed to assess binge-eating problems among obese people. It addresses both behavioural manifestations of a binge as well as feelings/cognitions that cue or follow a binge. The BES contains 16 items and each item has 3 to 4 responses. Each item is given a score from 0 to 3 (0 = indicates no binge eating problem; 3 = reflects severe binge eating problems). Two samples of overweight persons seeking behavioural obesity treatment at two different sites were studied. The first sample included one sample of 65 women with a mean weight of 178.1 pounds and a standard deviation of 21.6. The second sample was comprised of 32 women and 15 men. Their mean weight was 209.9 pounds, with a standard deviation of 40.3. Both samples were almost entirely middle class and Caucasian. The measures' development included the authors' observations from five years of treating binge eaters, the DSM-III, discussions with colleagues, and structured interviews to determine severity of binge eating. The trained interviewers were provided rater manuals. Half of the participants in each sample were interviewed by a second interviewer to assess reliability. Participants in both samples received the Binge Eating Scale and a Cognitive Factors Scale prior to treatment for obesity. The two scales were administered in a random order. The Binge Eating Scale was significantly correlated with the Cognitive Factors Scale in both samples ($p < .001$). The Binge Eating Scale was not significantly correlated with the percentage of overweight in both samples ($r = .17$; $r = .18$). Thus, serious binge eating is not associated with greater obesity. The internal consistency of the scale was determined by comparing the respondent's total scale scores and grouping scores based on which weighted statement was endorsed. Kruskal-Wallis analysis of variance of ranked data was used to compare the groups of scores using the 65 cases from sample one. All of the tests of significance for the 16 items, excluding item 12, were significant at a p value of less than .01. The researchers report the scale to be reliable and internally consistent.

Binge Frequency

The final primary measure was frequency of binges using a seven day calendar recall method, which is found in section one of Appendix B. A binge is defined as either: (1) subjective (the feeling of loss of control over eating); or (2) objective (the consumption of large amounts of food and a feeling of loss of control over eating). The participants were given a table, which required them to record the day(s) they binged in the previous week and the number of binges that occurred on each day.

Weight in Kilograms

Weight change was the sole secondary measure. Weight was included as a measure because it provided a check and balance. If only women who lost weight improved while completing the program, it would be difficult to determine if the program itself led to change or the experience of losing weight affected their feelings about themselves and their behaviour. Weights of the participants were taken on a standard medical scale and recorded in kilograms. In some cases weights were recorded with individuals facing away from the weigh beam. This was their preference.

Procedures

Individuals who responded to the newspaper and/or radio advertisements received a brief screening interview over the phone to address the exclusion criteria. The screening tool employed is found in Appendix C. Objective binges were defined for interviewees as the consumption of large amounts of food and loss of control over eating, while subjective binges were defined as a loss of control over eating. Those who appeared suitable were invited to a group meeting.

At the group meeting, the purpose of the study was explained to potential participants and that if they choose to participate, they would be randomly assigned to a treatment (CBT) condition or a wait list condition (WL), with treatment for them being delayed (DCBT). The randomization involved individuals picking one of two colours of paper from a bucket -- there were equal numbers of each colour. Participants were asked to pay twenty dollars to attend the program. It was felt that

participants would value the program more if there were a small cost to participate. The money received was used to pay a nominal fee to the primary counsellor for her time and to pay for research costs such as the purchase of Apple and Agras' (1997) manual and for material replication.

An adaptation of Robin Apple and Stewart Agras' (1997) existing program, "*Overcoming Eating Disorders: A Cognitive-Behavioural Treatment for Bulimia Nervosa and Binge-Eating Disorder*" was used. It is a cognitive behavioural treatment for bulimia nervosa and binge-eating disorder. A brief overview of the program is found in Appendix D. The program is developed for individual counselling which would last up to 6 months with participants attending 18-20 sessions. Individuals work through their manuals on their own, and they also attend individual counselling sessions for support. Each chapter of the manual includes an introductory section describing the topic for that chapter, and clients are reminded to continue to follow through with all aspects of the program. Each chapter could be reviewed with a cousellor in one session, but some chapters could require additional sessions. Case studies of approximately 500 to 1000 words are included in some of the sessions and they provide an example of an individual experiencing and coping with the topic for that chapter. For instance, the topic of chapter 11 is challenging problem thoughts. The case study is an examination of a client and therapist session and their approach to identifying the client's problem thoughts. Each chapter includes "hands" on self-assessment activities, such as making a list of personal triggers that lead to a binge. The chapters close with a brief chapter summary, a self-assessment quiz addressing the chapter's content, and homework exercises.

There are 14 areas addressed by the program. Chapters 1, 2, 3 and 4 address self-assessment of eating problems and eating patterns; program expectations, and the introduction of the binge-eating cycle. The binge-eating cycle is a term describing how weight and shape concerns are associated with low self-esteem and dietary restriction. Dietary restriction leads to hunger, loss of control and binge eating. Binge eating is associated with guilt and low self-esteem, and the cycle begins again.

Chapters 6, 7, 8 and 9 address the medical consequences of an eating disorder; participant's progress in the program; feared, avoided, and problem foods; and binge triggers. Chapters 10, 11, 12 and 13 deal with solving problems, challenging problem thoughts, weight and shape concerns, and further work on understanding interpersonal and emotional triggers. The final portion of the program, found in chapter 14, deals with participants maintaining changes after treatment. From this program, I created a 6-session group program. The treatment session agendas are seen in Appendix E.

Those who agreed to participate in the study provided informed consent (see Appendix F). They were also provided a statement of confidentiality, which is found in Appendix G. At this first meeting the participants completed the chosen measures in the presence of the researcher and assistant. Once the measures were completed, the participants were randomly assigned to the treatment or wait-list condition. The wait-list condition received treatment following a wait period of six weeks. The initial treatment program itself consisted of six weekly, 90-minute group sessions, and the program was cognitive-behavioural in focus. The research assistant and myself facilitated the groups. There were 13 participants in the initial treatment group, and 9 participants in the second. These small groups allowed free discussion among members. The focus of the treatment was not weight loss, but normalization of eating patterns. At the completion of the six week treatment program, the participants completed post-test measures. The waitlist group also repeated the same measures. The WL group, which is now referred to in the text and tables as DCBT, was provided the same six session program, but meetings were held twice a week for the sake of brevity. At the completion of their treatment, they also completed post-test measures.

CHAPTER 4

RESULTS

In this chapter, the statistical results of the six measures introduced in chapter three are discussed. The two study groups before and after their programs completed all six measures. The two groups were: (1) a cognitive-behavioural treatment group, the CBT group, which received six treatment sessions over a six-week period; and (2) the wait-list (WL) group which received no treatment over the same six weeks. The WL group, following the six-week wait period, received the same six session cognitive-behavioural treatment program but delivered over a 3 week period. They are identified in the text and tables as the DCBT group. The weight measure was included with the expectation that no change would occur given the short period for the program and the minimal focus on food management. Thus, the presence of weight as a measure allows for the possibility of statistical correction. The results section will begin with a comparison of the CBT and WL groups prior to their treatment and waiting periods, followed by a comparison of the CBT and WL groups following the six week treatment and wait periods. Then the DCBT is presented with a comparison of their measured results prior to and following their three-week treatment program.
A decrease in value, or a negative value indicates a good result for all of the measures, excluding the Texas Social Behaviour Inventory (TSBI), where an increase or positive t-test values indicate an improvement.

The participants paid a 20 dollar registration fee. No individuals left either treatment program. In the CBT group, six individuals missed one session and a seventh missed two sessions, while in the DCBT group an individual missed one.

Pre -Treatment Comparison of the CBT and WL Groups

The means and standard deviations for the two groups are displayed in Table 2. The statistical tests performed before treatment on all measures revealed no significant differences between the cognitive behavioural treatment group (CBT) and the waiting list group (WL). Although the WL group appears systematically lower on every measure in Table 2, independent t-test (equal variances assumption) results indicate that the two groups did not differ significantly on any of the measures when an alpha level of .05 was employed. The results of the pre-treatment t-test for two samples assuming equal variances are found in Table 5, column 1. When the CBT and WL groups are compared on all measures, the CBT prior to their 6-week treatment, and the WL group prior to their waiting time, there were no significant differences between the groups at baseline (alpha = .05).

The WL group served as a control group during the six-week treatment period for the CBT group. The WL received no treatment during that time, and both groups were re-tested after 6-weeks.

Table 2
Means and Standard Deviations at Baseline for the CBT and WL Groups on all Measures

	CBT		Waiting List (WL)	
	Baseline (n =13)		Baseline (n = 9)	
Variable	M	SD	M	SD
Weight	107.20	17.28	102.52	14.70
BDI	19.69	9.66	16.44	8.56
BSQ	142.08	25.49	136.89	27.75
TSBI	38.46	12.16	29.89	10.90
BES	27.00	9.01	25.33	9.11
BPW	6.77	3.65	5.44	4.82

Note. BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BPW = Binges Past Week; WL = Waiting List.

Relationship Among Variables

A correlation matrix for the measures used in this study (see Table 3) at baseline for the combined CBT and WL groups indicates most of the measures tend to be correlated with each other to a degree. Correlations of .5 or greater are noted for the BDI, BSQ, TSBI, and the BES measures. Changes in one measure are associated with changes in others, and this is very apparent for the BDI, BSQ, TSBI, and the BES. A correlation coefficient value of .54 relating the BDI to weight and a value of -.55 relating the TSBI to weight indicate that if weight changed, depression and self-esteem would change as well. The assumption in this case would be weight loss would be associated with improved depression and self-esteem levels and the reverse for weight gain. The BDI correlates with the BSQ at .60, the TSBI at .61, and with the BES at .55; therefore, a change in depression levels is associated with changes in body shape assessment, self-esteem and binge-eating severity. The largest correlation coefficient was between the BSQ and the BES at .75. This indicates that changes in body shape assessment are closely associated with changes in binge severity. A woman who becomes more accepting of her body will experience less severe binge behaviour or the reverse may be true. The Binge Frequency (BF) displays no significant ($p < .05$) relationship with the other measures.

Table 3
Correlation Matrix of Measures at Baseline for the Combined CBT and WL Groups

Variable	Weight	BDI	BSQ	TSBI	BES	BF
Weight	1.00					
BDI	0.54**	1.00				
BSQ	0.35	0.60**	1.00			
TSBI	-0.55**	-0.61**	-0.40	1.00		
BES	0.29	0.55**	0.75**	-0.24	1.00	
BF	0.01	0.25	0.08	0.06	0.28	1.00

Note: BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BF = Binge Frequency.
* $p < .05$ ** $p < .01$.

Post-Treatment Comparison of the CBT and WL Groups

The results of the randomized controlled trial designed to test the effects of CBT for binge or compulsive eaters during a 6-week treatment phase are presented below. The means and standard deviations for the WL and CBT groups after 6-weeks of treatment or waiting are given in Table 4. Although the means indicate a slight improvement for the WL group with depression, as measured by the BDI, in body shape appreciation, measured by the BSQ, in self esteem, measured by the TSBI, and in binge frequency, paired t-test results (see Table 6, column 2) indicate that the WL group did not change significantly ($p < .05$) on any measure during the 6-week waiting period. The means and standard deviations for the CBT group, (see Table 4) suggest significant post test changes in depression level, body image assessment, binge severity and binge frequency. These changes are supported by paired t-tests. The results of these tests indicate that all measures but weight show statistical significant change (see table 6).

Table 4
Means and Standard Deviations at 6-weeks for the CBT and WL Groups on all Measures

	CBT		Waiting List (WL)	
	6-week post-test (n =13)		6-week post-test (n = 9)	
Variable	M	SD	M	SD
Weight	107.24	18.86	103.41	13.20
BDI	5.31	3.82	13.67	9.17
BSQ	80.23	27.85	125.22	27.95
TSBI	43.62	10.36	32.78	12.65
BES	11.85	8.23	25.11	8.80
BF	2.92	4.31	4.00	4.06

Note. BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BF =Binge Frequency; WL = Waiting List.

As discussed previously, the CBT and WL groups were similar at baseline there were no significant differences between the two groups (see Table 5 column 1). After the 6-week treatment/wait time the groups were no longer similar. In Table 5, column 2, the initial comparison of the CBT group to the WL group, using a t-test for two samples assuming equal variances, indicates that the two groups differed significantly on the BDI, the BSQ, the TSBI and the BES. A more detailed discussion of the t-tests performed follows.

Table 5

T – Test Results at Baseline and Post-test Comparing CBT to WL and CBT to DCBT on all Measures Assuming Equal Variance

		t–Test Two Sample Assuming Equal Variances		
		(df = 20) CBT/WL pre 6-week	(df = 20) CBT/WL 6-week	(df = 20) CBT post 6-week/ DCBT post 3-week
Variable				
Weight	t obs	0.66	0.52	0.55
	p	0.52	0.61	0.59
BDI	t obs	0.81	-2.96	-0.88
	p	0.43	0.01**	0.39
BSQ	t obs	0.45	-3.72	-0.59
	p	0.66	0.00**	0.56
TSBI	t obs	1.69	2.21	1.84
	p	0.11	0.04*	0.08
BES	t obs	0.42	-3.61	-0.52
	p	0.68	0.00**	0.61
BF	t obs	0.73	-0.59	1.77
	p	0.47	0.56	0.09

Note. CBT = Cognitive Behavioural Treatment; WL = Waiting List; BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BF = Binge Frequency; P is two-tailed.
* $p < .05$. ** $p < .01$.

Depression

Depression, measured by the BDI, was significantly decreased for the CBT group at six weeks, $t(12) = -5.86$, $p < .0001$. While the WL group showed no significant change in their BDI scores, $t(8) = -1.75$, $p > .05$ (see Table 6, columns 1 and 2 and Figure 1). When the t-test for two samples assuming equal variance was applied to the CBT and WL groups at six weeks (see Table 5, column 2) the null hypothesis was rejected. The groups were now found to be different $t(20) = -2.96$, $p < .01$.

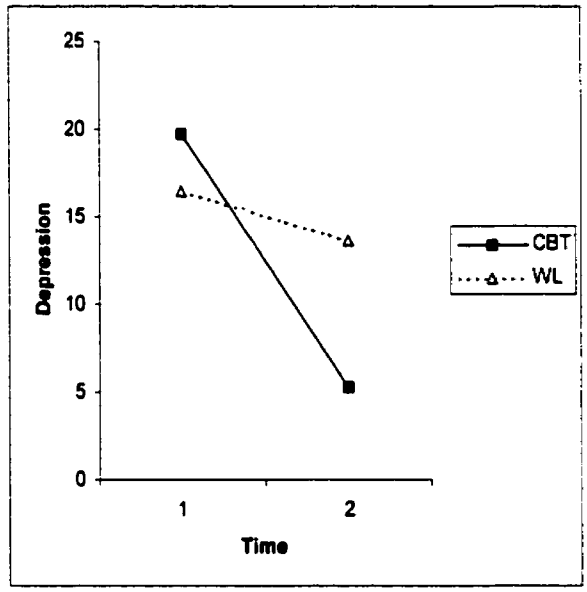

Figure 1. **Depression (BDI) at baseline and post-treatment (6-weeks) for group cognitive-behavioural therapy (CBT, n = 13), and wait-list (WL, n = 9).**

Body Image

Body Image, measured by the BSQ, was significantly improved for the CBT group at six weeks, $t(12) = -13.77$, $p < .0001$, while the WL group showed no significant change in their BSQ scores, $t(8) = -1.28$, $p > .05$ (see Table 6, columns 1 and 2 and Figure 2). When the t-test was applied to the CBT and WL groups at 6 weeks, shown in Table 5 column 2, the null hypothesis was rejected. The groups were different $t(20) = -3.72$, $p < .01$. The values for the t statistics appear odd when you compare the CBT group with a $t(12) = -13.77$, pre- and post treatment in Table 6 , to a $t(20) = -3.72$ for the CBT group and WL group, compared at six weeks in Table 5. But, when comparing the means on the BSQ for the CBT and WL groups found in Table 4 it is apparent that these values are feasible because the CBT and WL means, prior to treatment were 142.04 and 136.89 respectively. After treatment the means were 80.23 and 125.22. The CBT group showed change.

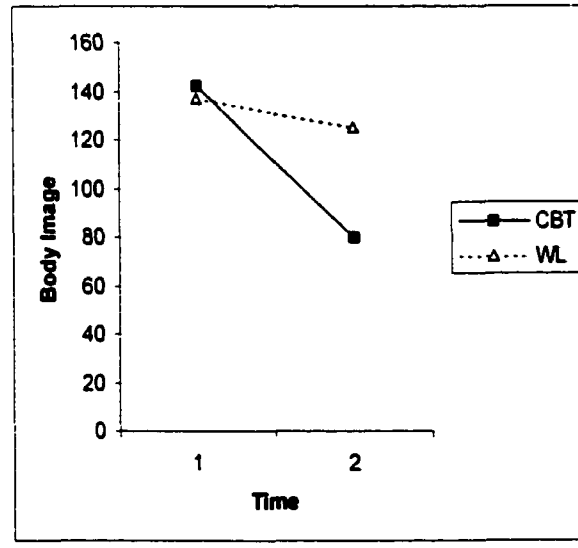

Figure 2. **Body image (BSQ) at baseline and post-treatment (6 weeks) for group cognitive-behavioural therapy (CBT, n = 13), and wait-list (WL, n = 9).**

Self Esteem

Self esteem, measured by the TSBI, was significantly improved for the CBT group at six weeks, $t(12) = 3.17$, $p < .01$; while the WL group showed no significant change in their TSBI scores, $t(8) = 2.31$, $p = .05$ (see Table 6, columns 1 and 2, and Figure 3). When the t-test was applied to the CBT and WL groups at six weeks, shown in Table 5 column 2, the groups were significantly different $t(20) = 2.21$, $p < .04$.

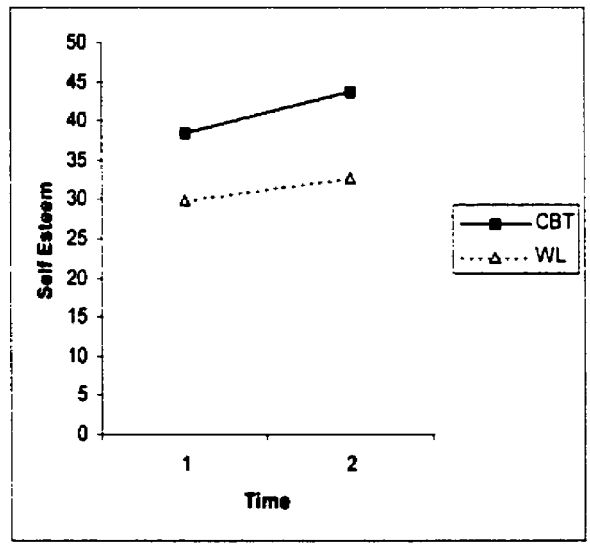

Figure 3. **Self esteem (TSBI) at baseline and post-treatment (6-weeks) for group cognitive-behavioural therapy (CBT, n = 13), and wait-list (WL, n = 9).**

Binge Severity

Binge severity, measured by the BES, was significantly reduced for the CBT group at six weeks, $t(12) = -7.17$, $p < .0001$, while the WL group showed no significant change in their BES scores, $t(8) = -0.22$, $p > .05$ (see Table 6, columns 1 and 2, and Figure 4). When the t-test was applied to the CBT and WL groups at six

weeks, shown in Table 5, column 2, the null hypothesis was rejected; the groups were different $t(20) = -3.61$, $p < .002$.

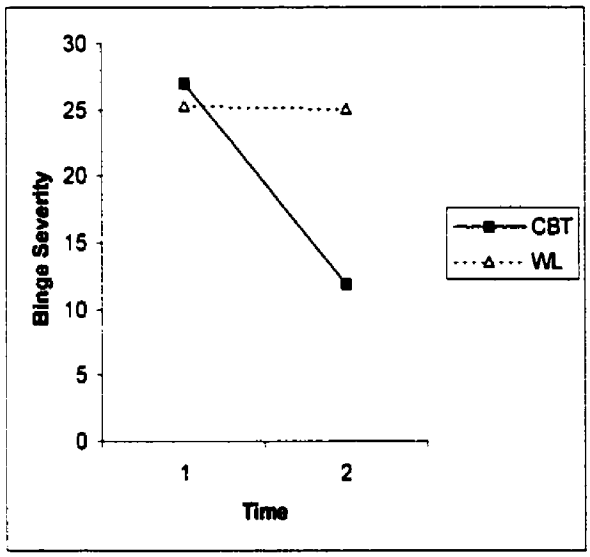

Figure 4. **Binge severity (BES) at baseline and post-treatment (6 weeks) for group cognitive-behavioural therapy (CBT, n = 13), and wait-list (WL, n = 9).**

Binge Frequency

Binge frequency, measured by a 7-day recall method, was significantly reduced for the CBT group at 6-weeks, $t(12) = -3.78$, $p < .003$, while the WL group showed no significant change in their binge frequency, $t(8) = -1.93$, $p > .05$ (Table 6, columns 1 and 2, and Figure 5). When the t-test was applied to the CBT and WL groups at 6-weeks, shown in Table 5, column 2, the null hypothesis was not rejected; the groups were similar $t(20) = -0.59$, $p > .05$ in this case. The CBT group experienced a 59% drop in binge frequency, while the WL group experienced a drop of 26%, over the 6-week period. At baseline there were no abstainers in the CBT group and only one in the WL group. At 6-weeks there were five abstainers in the CBT group and one in the WL group.

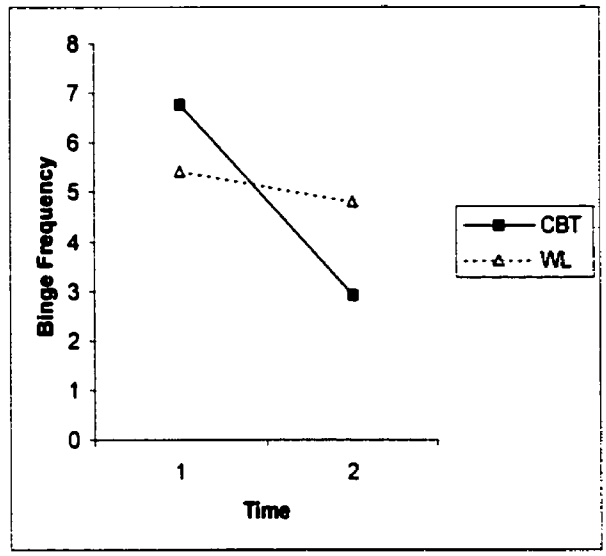

Figure 5. **Binge frequency (BF) at baseline and post-treatment (6 weeks) for group cognitive-behavioural therapy (CBT, n = 13), and wait-list (WL, n = 9).**

Weight and its Implications

The only secondary measure utilized in this study was weight in kilograms. A comparison of the CBT and WL group prior to treatment, shown in Table 5, column 1, indicates the two groups were similar on this measure ($t(20) = 0.66$, $p > .05$) and the results were similar after treatment, ($t(20) = 0.52$, $p > .05$) as noted in column 2. Despite the CBT group receiving the therapy program, their weights did not differ from those of the WL group post treatment. Further statistical testing with the results displayed in Table 6 columns 1 and 2, also indicate that weight did not change for either group. When CBT group members initial weights were compared to their post treatment weights, they had not experienced weight loss, $t(12) = 0.06$, $p > .05$. The results were similar for those of WL group. When their initial weights were compared to their final weights at 6-weeks, they had not lost weight, $t(8) = 0.56$, $p > .05$. In summary, the t-tests in Table 5 and 6 indicate that at 6 weeks, the CBT and WL

groups showed no significant weight change (alpha = .05). A comparison of the groups at 6 weeks found the groups were not significantly different. Significant weight loss was not expected (see Figure 6) because this was not a weight loss program. But, experiencing little or no weight loss did not impede the participants in this group from experiencing change in other areas. The program had an effect for them.

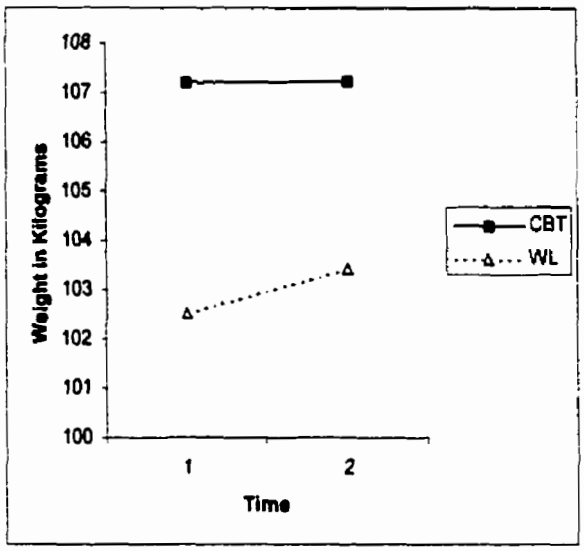

Figure 6. **Weight at baseline and post-treatment (6-weeks) for group cognitive-behavioural therapy (CBT, n = 13), and wait-list (WL, n = 9).**

Table 6

T – Test Results at Baseline and Post- test for CBT, WL and DCBT on all Measures t-Test Two Samples for Means

		t-Test Two Sample For Means		
		(df = 12) CBT pre/post 6-week	(df = 8) WL pre/post 6-week	(df = 8) DCBT pre/post 3-week
Variable				
Weight	t obs	0.06	0.56	-0.67
	p	0.96	0.59	0.52
BDI	t obs	-5.86	-1.75	-3.36
	p	0.00***	0.12	0.01**
BSQ	t obs	-13.77	-1.28	-4.09
	p	0.00***	0.24	0.00**
TSBI	t obs	3.17	2.31	0.96
	p	0.01**	0.05	0.37
BES	t obs	-7.17	-0.22	-4.34
	p	0.00***	0.83	0.00**
BF	t obs	-3.78	-1.93	-2.52
	p	0.00**	0.09	0.04*

Note. CBT = Cognitive Behavioural Treatment; WL = Waiting List; DCBT = Delayed CBT; BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BF = Binge Frequency; p is two-tailed.
* $p < .05$. ** $p < .01$. *** $p < .0001$.

Six Week Treatment Differences, Cohen's d for Effect Size

After reviewing the figures, in particular the self-esteem figure, where it appeared that both the CBT and WL showed movement, it was deemed necessary to further assess the results of the 6-week CBT treatment and WL effects. Another t-test was performed to determine a difference score, which is shown in Table 7, and a Cohen's d for effect size at six weeks, which is seen in Table 8. Figure 3, representing self esteem, appeared to show little change for both the CBT and WL groups. The difference score and the Cohen's d were calculated because the actual significance of the initial self-esteem scores for the CBT group, post 6-weeks, seen in Table 5 column 2, were in question (further discussion is found in chapter 5). The difference score is a

further indicator of the effect of the CBT program. All but weight and the TSBI indicate significant differences between the CBT and WL groups at 6-weeks. The treatment was more effective than no treatment. The TSBI measure for the CBT group after treatment, despite showing significant results with initial t - tests found in Tables 5 and 6, did not endure when the difference score was determined. The change was not large enough to assume that the group's feeling of self worth had actually improved. The t-test of difference results presented in Table 7 coincide with the figures found in this chapter. Differing slopes of lines in Figures 1, 2, 4, and 5 depict the apparent differences between the CBT and WL groups at 6-weeks on the BDI, the BSQ, the BES and BF. Figure 3, addressing the TSBI, and Figure 6, addressing weight, depict little difference between the two groups at 6-weeks.

Table 7

T – Test Results Prior to and Post the 6- week Treatment
2 Samples Assuming Equal Variance

CBT/WL 6-week Comparison

Variable	t obs	df	p
Weight	-0.46	42	0.65
BDI	-3.33	42	0.00**
BSQ	-3.93	42	0.00***
TSBI	1.50	42	0.14
BES	-4.27	42	0.00***
BF	-2.12	42	0.04*

Note. CBT = Cognitive Behavioural Treatment; WL = Waiting List; BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BF = Binge Frequency; p is two-tailed.
*p < .05. **p < .01. ***p < .001.

Table 8, which follows, addresses effect size at 6-weeks of the study, and all the measures, excluding weight and self esteem, indicate that those in the CBT group showed change; therefore, the program was effective in those areas.

Table 8
Cohen's d Test for Effect Size a 6-week Comparison

Variable	CBT	Effect Size
Weight	0.00	Nil
BDI	-1.49	Large
BSQ	-2.43	Large
TSIB	0.42	Small
BES	-1.68	Large
BF	-1.05	Large

Note. CBT = Cognitive Behavioural Treatment: DCBT = Delayed CBT; BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BF = Binge Frequency.
Small = 0.20 - < 0.50. Medium = 0.50 - < 0.80. Large = ≥ 0.80.

Pre, Post-Treatment Comparison of the DCBT

Following the 6-week wait period, the WL group received the same program, meeting twice a week for 3-weeks, to assess the replicability of the program and to allow those who had patiently waited for 6-weeks to participate. They are referred to in the tables and text as the delayed CBT (DCBT) group. A Cohen's d calculation was performed for this group and it is found in this section as are the groups' means and standard deviations. The nine women in this treatment group had less time to review the materials introduced, and less time to complete homework assignments than did those in the 6-week program.

The means and standard deviations found in Table 9 indicate little change for the measures of weight and self-esteem, but depression, body image, binge severity and binge frequency appear to have changed over the course of the 3-week treatment period. These apparent changes are corroborated by t-tests, which are presented in Table 10.

Table 9
Means and Standard Deviations for the DCBT Group at Baseline and Post- test

DCBT Group

	Baseline (n = 9)		3-week post-test (n=9)	
Variable	M	SD	M	SD
Weight	103.41	13.20	103.19	13.31
BDI	13.67	9.17	7.78	9.16
BSQ	125.22	27.95	88.33	36.23
TSBI	32.78	12.65	34.89	11.69
BES	25.11	8.80	14.11	12.35
BF	4.00	4.06	0.33	0.71

Note. BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BF = Binge Frequency.

Depression

Depression, measured by the BDI, was significantly improved for the DCBT group at 3-weeks, $t(8) = -3.36$, $p < .01$ (see Table 6, column 3). When the t-test for two samples assuming equal variance, (Table 5), was applied to the CBT group at 6-weeks and the DCBT group at 3-weeks, the null hypothesis was not rejected; the groups were similar, the treatment had the same effect for both groups $t(20) = -0.88$, $p > .05$.

Body Image

Body Image, measured by the BSQ, was significantly improved for the DCBT group at 3-weeks, $t(8) = -4.09$, $p < .003$ (see Table 6, column 3). When the t-test was applied to the CBT group at 6-weeks and the DCBT group at 3-weeks, (seen in Table 5, column 3) the null hypothesis was not rejected, the groups were similar. The treatment had the same effect for both groups $t(20) = -0.59$, $p > .05$.

Self-esteem

Self-esteem, measured by the TSBI, was not significantly improved for the DCBT group at 3-weeks, $t(8) = 0.96$, $p > .05$ (see Table 6, column 3). When the t-test for was applied to the CBT group at 6-weeks and the DCBT group at 3-weeks, seen in Table 5 column 3, the null hypothesis was not rejected; thereby, indicating the groups were similar post treatment, $t(20) = 1.84$, $p > .05$.

It is important to note that in Table 5, column 2, when the CBT and the WL group were compared, the two groups were different after the treatment and waiting conditions, $t(20) = 2.21$, $p < .05$. But, when the DCBT group is compared prior to treatment, and after treatment for self-esteem, noted in Table 6 column 3, the null hypothesis was not rejected, $t(8) = 0.96$, $p > .05$. It appears the program did not affect the group's self-esteem when this measure is applied.

Binge Severity

Binge severity, measured by the BES, was significantly reduced for the DCBT group at 3-weeks, $t(8) = -4.34$, $p < .001$ (see Table 6, column 3). When the t-test was applied to the CBT group at 6-weeks and the DCBT group at three weeks (Table 5, column 3) the null hypothesis was not rejected. The groups were similar. The treatment had the same effect for both groups $t(20) = -0.52$, $p > .05$

Binge Frequency

Binge frequency, measured by a 7 day recall method, was significantly improved for the DCBT group at three weeks, $t(8) = -2.52$, $p < .04$ (see Table 6, column 3). The group's binge frequency decreased by 92%. When the t-test was applied to the CBT group at 6-weeks and the DCBT group at 3-weeks, seen in Table

5, column 3, the null hypothesis was not rejected. Again, the groups were similar. The treatment had the same lack of effect for both groups $t(20) = 1.77$, $p > .05$; that is, binge frequency declined.

Weight in Kilograms

The results of the secondary measure for the DCBT, weight in kilograms, mirrored those for the CBT. A review of the t-Test in Table 6, column 3 indicated that at 3-weeks, the DCBT group showed no significant weight change, $p > .05$. A comparison of the groups at 6-weeks and 3-weeks , seen in Table 5, column 3, found the groups were not significantly different $t(20) = 0.55$, $p > .05$. Again, significant weight loss for either group was not expected. Like the CBT group before them, the DCBT group experienced change in four of the six measures despite experiencing little or no weight loss. The cognitive-behavioural program had an effect for them.

Table 10

T – Test Results Summary for the DCBT Group Prior to and Post Treatment and a Post Treatment Comparison of the CBT and DCBT Groups

		t-Test Two Sample For Means (df = 8) DCBT pre/post 3-week	t-Test Two Sample Assuming Equal Variances (df = 20) CBT post 6-week/ DCBT post 3-week
Variable			
Weight	t obs	-0.67	0.55
	p	0.52	0.59
BDI	t obs	-3.36	-0.88
	p	0.01**	0.39
BSQ	t obs	-4.09	-0.59
	p	0.00**	0.56
TSBI	t obs	0.96	1.84
	p	0.37	0.08
BES	t obs	-4.34	-0.52
	p	0.00**	0.61
BF	t obs	-2.52	1.77
	p	0.04*	0.09

Note. CBT = Cognitive Behavioural Treatment; DCBT = Delayed CBT; BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BF = Binge Frequency; P is two-tailed.
* $p < .05$. ** $p < .01$.

The Cohen's d calculation when applied to the DCBT group, which is shown in Table 11, mirrored those of the CBT group. All of the measures, excluding weight and self esteem, indicate that those in the DCBT group showed change; therefore, the program was effective in those areas. A difference test and figures were not included in this section for the DCBT group because they would have mirrored those of the CBT group.

Table 11
Cohen's d Test for Effect Size a 3-week Comparison

Variable	DCBT	Effect Size
Weight	-0.02	Nil
BDI	-0.64	Medium
BSQ	-1.32	Large
TSIB	0.17	Nil
BES	-1.25	Large
BF	-0.90	Large

Note. DCBT = Delayed Cognitive Behavioural Treatment; BDI = Beck Depression Inventory; BSQ = Body Shape Questionnaire; TSBI = Texas Social Behaviour Inventory; BES = Binge Eating Scale; BF = Binge Frequency.
Small = 0.20 - < 0.50. Medium = 0.50 - < 0.80. Large = $\geq$ 0.80.

Results Summary

The participants came together to complete the measures and be weighed prior to being randomly assigned to the CBT group or the WL group. A t-test for two samples of assumed equal variances shows the members of the group were similar, which is expected due to random assignment (see Table 5, column 1). The probability value or p-value was never less than .05. The null hypothesis was not rejected for any measure.

The CBT and WL groups following the 6-week period of either treatment or waiting were no longer similar. The null hypothesis for a t-test for two samples assuming equal variance, found in Table 5, column 2, was rejected for the BDI, BSQ, TSBI and the BES. The values for weight were not surprising, because weight for both groups was not expected to change, but the binge frequency values were expected to change. When the means for binge frequency in Tables 2 and 4 are reviewed, it appears that over the 6-week period both the treatment group and the wait groups' binge frequencies decreased, which led to a non-significant p-value. Anticipation of

being included in a treatment group may have led to a change in their eating patterns. Most importantly, the treatment had an effect and change did occur.

The evidence that the treatment had an effect becomes more apparent when the CBT and WL groups are reviewed separately. The CBT group shows significant change in all measures but weight after 6-weeks of treatment, while the WL group showed no significant change in any measure (see Table 6, columns 1 & 2). But results of a t-test for a difference score calculation (see Table 7) indicate that for the CBT group, change occurred and it was in the direction of improvement for four measures, but not for weight or self-esteem. Although the initial results for self-esteem (post-treatment) for the CBT group were significant, further examination led to a more conservative interpretation of the data from the CBT and WL groups. There was no consistent difference in self-esteem between the two samples. A change in the negative direction indicates improvement for all the measures, excluding the TSBI. A Cohen's d for effect size, seen in Table 8, further supports the conclusion that the treatment program was effective and that the participants improved in a significant manner in four ways: depression lessened, body image assessment improved, binge severity decreased, and binge frequency decreased.

When the DCBT group completed their treatment program in 3-weeks, their results were similar to the 6-week CBT group. Self-esteem and weight status did not improve significantly for those in the DCBT group (see Table 6, column 3). The 6-week and 3-week post treatment comparison, seen in Table 11 column 2, indicates that the two groups are similar and the null hypothesis was retained for all measures. The CBT and DCBT groups were similar post-treatment and both groups experienced beneficial change through participating in the group treatment program.

CHAPTER 5

DISCUSSION

Binge eating is a common problem among overweight individuals. The current study was designed to test the short-term effects of cognitive-behavioural therapy for binge eaters who do not purge. A randomized trial, comparing active treatment and wait-list control subjects on binge outcome as well as mood, body image, self–esteem, binge severity and weight was performed. The additional measures, were added because low self-esteem, body image disparagement, and altered moods or depression are problems that exist for the obese woman who binge eats (Adami et. al, 1996: Stunkard & Wadden, 1992). Those who were members of the waiting group were provided that same treatment following their 6- week wait period, but they met twice a week over 3-weeks.

Conclusions

The hypotheses of the study, excluding self-esteem, were supported by the study results. The expectations for the study were that a group cognitive-behavioural therapy program for the treatment of binge eating would lead to a decrease in binge frequency and severity, and an improvement in body image, self-esteem, and mood. These changes occurred for both the group treated over a 6-week period and for those in a follow-up 3-week treatment program. But, neither group showed significant improvements in self-esteem. Initial t-test results indicated that the 6-week treatment group had experienced improved self-esteem, but when treatment differences at 6-weeks were determined this apparent change disappeared (Table 7). It is important to distinguish between statistical significance, which leads to the decision that a sample

is different from a population, and practical significance, which means the difference between a sample and a population is large enough to be useful in the real world (Kirk, 1990). In this case, the initial t-tests for the 6-week treatment group showed a significant change but further evaluation showed that the difference was likely not large enough to be useful in the lives of the participants.

The participants' weights did not change during the course of treatment nor were weights expected to change, but the participants improved significantly on the remaining measures. Depression (measured by the BDI) and body image (measured by the BSQ) improved while binge severity (measured by the BES) and frequency (measured by a 7-day recall method) declined. These measures did not improve as a function of weight loss; thus, it seems the psychological distress of obese binge eaters is not tied so tightly to their weight status. Table 6 provides a simple visual representation of the changes that occurred over the length of the treatment periods. Although this program addressed a number of areas, the focus of the study was treatment for women who binged or ate compulsively. When the frequency of binges are represented as percentages, the changes are clear; the CBT groups' frequency decreased by 59%, the WL group by 26% and after treatment (DCBT) by 92%. This study demonstrates that a treatment not focussed on weight loss is successful in treating binge or compulsive eating.

The CBT and DCBT groups did not experience a significant change in their self-esteem (see Tables 7 and 11). This could be attributed to the relatively short period over which their treatment occurred. Changes in self-esteem may require additional time and more emphasis on techniques that encourage self worth.

The sample size (22) was small from a statistical point of view. Nevertheless, differences were pronounced enough to be statistically and practically significant. The

results of a Cohen's d calculation, shown in Tables 8 and 9, indicate that the program assessed at 6-weeks and at 3-weeks was effective. The results can be generalized to obese women between the age of 20 and 60 who have a BMI > 30, are not pregnant and binge eat at least once a week.

The issue of weight needs further discussion. This program was not designed to be a weight loss program and it did not affect participants' weights in a significant manner. But some of these women were morbidly obese with BMI's of greater than 40 putting them at risk for diseases such as diabetes. A treatment program that extended over a longer period, where they continued to abstain from binge eating, and that included further information about nutrition and exercise may lead to some weight loss in this population. Huge weight losses may not be important because researchers have discovered that small weight losses can lead to significant improvements in medical conditions (Wilfley et. al., 1993). Once binge eating has decreased, women who eat compulsively may benefit from treatment aimed at achieving reasonable versus ideal weight loss. Decreasing binge eating alone may decrease weight fluctuations, which may improve their health status. The statistical results of this study indicate that a decrease in binge severity and frequency are associated with improved psychological functioning.

Implications and Future Research

Further research in this area would measure the effects of extending the treatment period to at least 10 weeks and including further information concerning nutrition and exercise. An extended treatment would help solidify the new behaviours participants have acquired, including abstaining from bingeing and using problem solving and effective strategies. Further training could be provided in relapse

prevention as well. The CBT and the DCBT groups should have been followed-up at 6 and 12 months to assess the permanence of their changes. Treatment credibility, and therefore, the clinical significance of studies, could be assessed by providing a questionnaire to participants that addressed therapy credibility at the end of the program. This would be a measure of their confidence and belief that the program helped them achieve an improved quality of life that will endure. Further research should also contain a qualitative component that deals with the actual words and feelings of the study participants. There was laughter and tears in the treatment groups when the women talked about their experiences as obese women who binge eat. The results are statistically significant, but it would be nice to know if the changes seen on paper will translate into permanent changes in these women's lives.

This study demonstrates that a treatment not focused on eating behaviour can be successful in treating binge or compulsive eating. The goal of this study was to provide women who binge eat with the skills to deal with their destructive thoughts, feelings and behaviours. It was not a weight loss program and the results of this study indicate that the initial goal was achieved through the use of a cognitive-behavioural treatment.

Additional research is needed to further understand binge or compulsive eating. When and why does it begin? If we knew about these factors prevention programs could be developed. Its frequency among women, men and adolescents might provide us ammunition to support treatment programs included under the umbrella of eating disorder programs. In any future research, one might also consider binge eating in relation to age, culture, education and socio-economic status. Further knowledge about the behaviours among obese individuals, in particular, their fears and their real and perceived stumbling blocks would help us to develop treatment

programs that ameliorate their problems.

REFERENCES

Adami, G. F., Campostano, A., Gandolf, P., Ravera, G., Petti, A. R., & Scorpinar, N. (1996).Three-factor eating questionnaire and eating disorder inventory in the evaluation of psychological traits and emotional reactivity in obese patients. *Journal of The American Dietetic Association, 96*, 67-68.

Agras, W. S., Telch, C. F., Arnow, B., Eldridge, K., & Marnell, M. (1997). One-year follow-up of cognitive-behavioural therapy for obese individuals with binge eating disorder. *Journal of Consulting and Clinical Psychology, 65*, 343-347.

Apple, R. F., & Agras, W. S. (Eds.). (1997). *Over coming eating disorders: A cognitive-behavioral treatment for bulimia nervosa and binge-eating disorder*. San Francisco, CA: Graywind.

Beck, A. T. (1991a). Cognitive therapy: A 30-year retrospective. *American Psychologist, 46*, 368-375.

Beck, A. T. (1991b). Cognitive therapy as the integrative therapy. *Journal of Psychotherapy Integration, 1*, 191-198.

Beck, A. T. (1993). Cognitive therapy: Past, present and future. *The Journal of Consulting and Clinical Psychology, 61*, 194-198.

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*, 561-571.

Bennet, W., & Gurin, J. (1982). *The dieter's dilemma: Eating less and weighing more*. New York, NY:Basic Books.

Brownell, K. D. (1985). *The LEARN manual for weight control*. University of Pennsylvania, Philadelthia.

Brownwell, K. D., & Wadden, T. A. (1992). Etiology and treatment of obesity: Understanding a serious, prevalent, and refractory disorder. *Journal of Consulting and Clinical Psychology, 60*, 505-517.

Butters, J. W., & Cash, F. C. (1987). Cognitive treatment of women's body-image dissatisfaction. *Journal of Consulting Psychology, 55*, 889-897.

Carter, J. C., & Fairburn, C. G. (1998). Cognitive-behavioural Self-help for binge eating disorder: A controlled effectiveness study. *Journal of Consulting and Clinical Psychology, 66*, 616-623.

Cooper, Z., & 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.

Cooper, P. J., Taylor, M. J., Cooper, Z., & Fairburn, C. G. (1987). The development and validation of the body shape questionnaire. *International Journal of Eating disorders*, *6*, 485-494.

Dobson, K. S. (1989). A meta-analysis of the efficacy of cognitive therapy for depression. *Journal of Consulting and Clinical psychology*, *57*, 414-419.

Derogatis, L. R. (1977). SCL-90: *Administration, scoring and procedures manual for the revised version.* Baltimore, M.D.: John Hopkins University School of Medicine.

Dworkin, S. H., & Kerr, B. A. (1987). Comparison of interventions for women experiencing body image problems. *Journal of Counselling Psychology, 14, 136-140.*

Fairburn, C. G. (Ed.). (1995). *Overcoming binge eating.* New York, NY: Guilford Press.

Fairburn, C. G., Jones, R., Peveler, R. C., Carr, S.J., Solomon, R. A., O'Connor, M. E., Burton, J., & Hope, R. A. (1991). Three psychological treatments for bulimia nervosa. *Archives of General Psychiatry*, *48*, 463.

Flack, R., & Grayer, D. G. (1975). A consciousness-raising group for obese women. *Social Work*, *20*, 484-485, 487.

Franken, R. E. (Ed.). (1998). *Human motivation.* Pacific Grove, CA: Brooks/Cole.

Ganley, R. M. (1988). Emotional eating and how it relates to dietary restraint, disinhibition, and perceived hunger. *International Journal of Eating Disorders*,*7*, 635-647.

Garner, D. M. & Garfinkel, P. E. (1979). The eating attitudes test: An index of the symptoms of anorexia nervosa. *Psychological Medicine*, *9*, 273-279.

Gilbert, S. E. (1986). *Pathology of eating.* New York, NY:Routledge & Kegan Paul.

Gormally, J., Black, S., Daston, S., & Rardin, D. (1982). The assessment of binge eating severity among obese persons. *Addictive Behaviors*, *7*, 47-55.

Greeno, C. G., & Wing, R. R. (1994). Stress-induced eating. *Psychology Bulletin, 115*, 444-464.

Hawkins, R.C., Turell, S., & Jackson, L. J. (1983). Desirable and undesirable masculine and feminine traits in relation to students' dietary tendencies and body image dissatisfaction. *Sex Roles*, *9*, 705-724.

Helmreich, R., & Stapp, J. (1974). Short forms of the Texas social behavior inventory (TSBI), an objective measure of self-esteem. *Bulletin of the Pschonomic*

Society, 4, 473-475.

Helmreich, R., Stapp, J., & Ervin, C. (1974). The Texas social behavior inventory (TSBI): An objective measure of self-esteem or social competence. *Journal Supplement Abstract Service, 4*, 681- 701.

Kirk, R. E. (Ed.). (1990). *Statistics an introduction.* Toronto, ON: Dryden Press.

Krause, M.V., & Mahan, L. K. (Eds.). (1984). *Food nutrition and diet therapy.* Toronto, ON: W. B. Saunders.

Krenkel, J., & Sachiko, T. (1995). Obesity, concerns unique to women. *Topics in Clinical Nutritional, 11*, 46-57.

Marcus, D. M., Wing, R. R., & Hopkins, J. (1988). Obese binge eaters: Affect, cognitions, and response to behavioural weight control. *Journal of Consulting and Clinical Psychology, 56*, 433-439.

Marcus, M. D., Wing, R. R., & Lamparski, D. M. (1995). Binge eating and dietary restraint in obese patients. *Addictive Behaviors, 10*, 163-168.

Mussel, M. P., Mitchell, J. E., Weller, C. L., Raymon, Crow, S. J., & Crosby, R. D. (1995). Onset of binge eating, dieting, obesity, and mood disorders among subjects seeking treatment for binge eating disorder. *International Journal of Eating Disorders, 17*, 395-401.

Mussel, M. P., Mitchell, J. E., Weller, C. L., Raymon, Polivy, J., & Herman, C.P. (Eds.). (1983). *Breaking the diet habit.* New York, NY: Basic Books.

Patterson, C. H., & Watkins, C. E. (Eds.). (1996). *Theories of psychotherapy.* New York, NY: HarperCollins.

Petri, H. L. (Ed.). (1996). *Motivation theory, research, and applications.* Pacific Grove, CA: Brooks/Cole.

Polivy, J., & Herman, C. P. (Eds.). (1983). *Breaking the diet habit: the natural weight alternative.* New York, NY: Basic Books.

Polivy, J., & Herman, C. P. (Eds.) (1985). Dieting and bingeing. *American Psychologist, 40*, 193-201.

Polivy, J., Herman, C. P., Hackett, R., & Kuleshnyk. (1986). The effects of self-attention and public attention on eating restraint and unrestrained subjects. *Journal of Personality and Social Psychology, 50*, 1253-1260.

Reeve, J. M. (Ed.). (1997). *Understanding motivation and emotion..* Fort Worth, TX: Harcourt Brace.

Rosen, J. C., Saltzberg, E., & Srebnik, D. (1989). Cognitive behavior therapy for negative body image. *Behaviour Therapy, 20*, 393-404.

Rosenthal, M. S. (Ed.). (1998). *Managing your diabetes: The only complete guide to type 2 diabetes for Canadians*. Toronto, ONT:Macmillan Canada.

Secord, P. F., & Jourard, S. M. (1953). The appraisal of body cathexis and the self. *Journal of Consulting Psychology, 17*, 343-347.

Schwartz, M. B., & Brownell, K. D. (1995). Matching individuals with weight loss treatments: A survey of obesity experts. *Journal of Consulting and Clinical Psychology, 63*, 149-153.

Smith, E., Marcus, M. D., & Kaye, W. (1992). Cognitive-behavioral treatment of obese binge eaters. *International Journal of Eating Disorders, 12*, 257-262.

Stein, R.F. (1987). Comparison of self-concept of non-obese and obese university junior nursing students. *Adolescence, 22*, 77-90.

Stunkard, A. J., & Wadden, T. A. (1992). Psychological aspects of sever obesity. *American Journal of Clinical of Clinical Nutrition, 55*, 524-532.

Telch, C. F., Agras, W. S., Rossiter, E. M., Wilfley, D., & Kenardy, J. (1990). Group cognitive-behavioural treatment for the nonpurging bulimic: An initial evaluation. *Journal of Consulting and Clinical Psychology, 58*, 629-635.

Treasure, J., Todd, G., Brolly, M., Tiller, J., Nehmrd, A., & Denman, F. (1995). A pilot study of a randomized trial of cognitive analytical therapy vs. educational behavioural therapy for adult anorexia nervosa. *Behavioural Research Therapy, 33*, 363-367.

Wilfley, D. E., Agras, W. S., Telch, C. F., Rossiter, E. M., Schneider, J. A., Golomb Cole, A., Sifford, L., & Raeburn, S. D. (1993). Group cognitive-behavioural therapy and group interpersonal psychotherapy for the nonpurging bulimic individual: A controlled comparison. *Journal of Consulting and Clinical Psychology, 61*, 296-305.

Wilson, G. T., & Fairburn, C. G. (1993). Cognitive treatments for eating disorders. *Journal of Consulting and Clinical Psychology, 61*, 261-269.

Winstead, B. A., & Cash, T. F. (1984, March). *Reliability and validity of the body self-relations questionnaire: A new measure of body image*. Paper presented at the Southeastern Psychological Association Convention, New Orleans, LA.

Wooley, S. C., & Garner, D. M. (1991). Obesity treatment: The high cost of false hope. *The Journal of The American Dietetic Association, 91*, 1248-1251.

APPENDIX A: ADVERTISEMENTS

ADVERTISEMENTS

The advertisement for participants was placed in the community section of the following newspapers and radio station; The 100 Mile Free Press, The Williams Lake Tribune, The Quesnel Observer, and radio station CFFM.

The advertisement read, "If you're having problems controlling your eating and would like to try a new group program for women call Jill Shelley at 1-250-392-4110 evenings".

APPENDIX B: MEASURES COMPILATION

PARTICIPANT QUESTIONNAIRE

As a participant in this program you are asked to complete this questionnaire which has six sections. Please read all instructions carefully and complete all of the questions. If you have any concerns, at any time, please let us know and we will help you. It should take about twenty minutes. Write your identification number on the right hand corner of each sheet of this document.

SECTION ONE

For each question below please circle the one answer that best describes your self.

A.

I do not feel sad.

I feel blue or sad.

I am blue or sad all the time and I can't snap out of it.

I am so sad or unhappy that it is very painful.

I am so sad or unhappy that I can't stand it.

B..

I am not particularly pessimistic or discouraged about the future.

I feel discouraged about the future.

I feel I have nothing to look forward to.

I feel I won't ever get over my troubles.

I feel the future is hopeless and that things cannot improve.

C.

I do not feel like a failure.

I feel I have failed more than the average person.

I feel I have accomplished very little that is worth while or that means anything.

As I look back on my life all I can see is a lot of failures.

I feel I am a complete failure as a person (parent, husband, wife).

D.

I am not particularly dissatisfied.

I feel bored most of the time.

I don't enjoy things the way I used to.

I don't get satisfaction out of anything any more.

I am dissatisfied with everything.

E.

I don't feel particularly guilty.
I feel bad or unworthy a good part of the time.
I feel quite guilty.
I feel bad or unworthy practically all the time.
I feel as though I am very bad or worthless.

F.

I don't feel I am being punished.
I have a feeling that something bad may happen to me.
I feel I am being punished or will be punished.
I feel I deserve to be punished.
I want to be punished.

G.

I don't feel disappointed in myself.
I am disappointed in myself.
I don't like myself.
I am disgusted with myself.
I hate myself.

H.

I don't feel I am any worse than anybody else.
I am very critical of myself for my weaknesses or mistakes.
I blame myself for everything that goes wrong.
I feel I have many bad faults.

I.

I don't have any thoughts of harming myself.
I have thoughts of harming myself but I would not carry them out.
I feel I would be better off dead.
I have definite plans about committing suicide.
I feel my family would be better off if I were dead.
I would kill myself if I could.

J.

I don't cry any more than usual.
I cry more now than usual.
I cry all the time now. I can't stop it.
I used to be able to cry but now I can't cry at all even though I want to.

K.

I am no more irritated now than I ever am.

I get annoyed or irritated more easily than I used to.

I feel irritated all the time.

I don't get irritated at all at the things that used to irritate me.

L.

I have not lost interest in other people.

I am less interested in other people now than I used to be.

I have lost most of my interest in other people and have little feeling for them.

I have lost all my interest in other people and don't care about them at all.

M.

I make decisions about as well as ever.

I am less sure of myself now and try to put off making decisions.

I can't make decisions any more without help.

I can't make any decisions at all anymore.

N.

I don't feel I look any worse than I used to.

I am worried that I am looking old or unattractive.

I feel that there are permanent changes in my appearance and they make me look unattractive.

I feel that I am ugly or repulsive looking.

O.

I can work about as well as before.

It takes extra effort to get started at doing something.

I don't work as well as I used to.

I have to push myself very hard to do anything.

I can't do any work at all.

P.

I can sleep as well as usual.

I wake up more tired in the morning than I used to.

I wake up 1-2 hours earlier than usual and find i it hard to get back to sleep.

I wake up early every day and can't get more than 5 hours sleep.

Q.

I don't get any more tired than usual.

I get tired more easily than I used to.

I get tired from doing anything.

I get too tired to do anything.

R.

My appetite is no worse that usual.

My appetite is not as good as it used to be.

My appetite is much worse now.

I have no appetite at all any more.

S.

I haven't lost much weight, if any, lately.

I have lost more than 5 pounds.

I have lost more than 10 pounds.

I have lost more than 15 pounds.

T.

I am not more concerned about my health than usual.

I am concerned about aches and pains or upset stomach or constipation or other unpleasant feelings in my body.

I am so concerned with how I feel or what I feel that it's hard to think of much else.

I am completely absorbed in what I feel.

U.

I have not noticed any recent change in my interest in sex.

I am less interested in sex than I used to be.

I am much less interested in sex now.

I have lost interest in sex completely.

SECTION TWO

We should like to know how you have been feeling about your appearance over the PAST FOUR WEEKS. Please read each question and circle the appropriate number to the right. Remember to answer all the question.

OVER THE PAST FOUR WEEKS:

	Never	Rarely	Sometimes	Often	Very Often	Always
1. Has feeling bored made you brood about your shape?	1	2	3	4	5	6
2. Have you been so worried about your shape that you have been feeling that you ought to diet?	1	2	3	4	5	6
3. Have you thought that your thighs, hips or bottom are too large for the rest of you?	1	2	3	4	5	6
4. Have you been afraid that you might become larger?	1	2	3	4	5	6
5. Have you worried about your flesh not being firm enough?	1	2	3	4	5	6
6. Has feeling full (e.g., after eating a large meal) made you feel large?	1	2	3	4	5	6
7. Have you felt so bad about your shape that you have cried?	1	2	3	4	5	6
8. Have you avoided running because your flesh might wobble?	1	2	3	4	5	6
9. Has being with thin women made you feel self-conscious about your shape?	1	2	3	4	5	6
10. Have you worried about your thighs spreading out when sitting down?	1	2	3	4	5	6
11. Has eating even a small amount of food made you feel large?	1	2	3	4	5	6
12. Have you noticed the shape of other women and felt that your own shape compared unfavourably?	1	2	3	4	5	6
13. Has thinking about your shape interfered with your ability to concentrate (e.g. while watching television, reading, listening to a conversation)?	1	2	3	4	5	6
14. Has being naked, such as when taking a bath, made you feel large?	1	2	3	4	5	6
15. Have you avoided wearing clothes which make you particularly aware of the shape of your body?	1	2	3	4	5	6
16. Have you imagined cutting off fleshy areas of your body?	1	2	3	4	5	6
17. Has eating sweets, cakes, or other high calorie food made you feel large?	1	2	3	4	5	6
18. Have you not gone out to social occasions (e.g., parties) because you have felt bad about your shape?	1	2	3	4	5	6
19. Have you felt excessively large and rounded?	1	2	3	4	5	6
20. Have you felt ashamed of your body?	1	2	3	4	5	6
21. Has worry about your shape made you diet?	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Very Often	Always
22. Have you felt happiest about your shape when your stomach has been empty (e.g., in the morning)?	1	2	3	4	5	6
23. Have you thought that you are the shape you are because you lack self-control?	1	2	3	4	5	6
24. Have you worried about other people seeing rolls of flesh around your waist or stomach?	1	2	3	4	5	6
25. Have you felt that it is not fair that other women are thinner than you?	1	2	3	4	5	6
26. Have you vomited in order to feel thinner?	1	2	3	4	5	6
27. When in company have you worried about taking too much room (e.g., sitting on a sofa or a bus seat)?	1	2	3	4	5	6
28. Have you worried about your flesh being dimply?	1	2	3	4	5	6
29. Has seeing your reflection (e.g., in a mirror or shop window) made you feel bad about your shape?	1	2	3	4	5	6
30. Have you pinched areas of your body to see how much fat there is?	1	2	3	4	5	6
31. Have you avoided situations where people could see your body (e.g., communal changing rooms or swimming baths)?	1	2	3	4	5	6
32. Have you taken laxatives in order to Feel thinner?	1	2	3	4	5	6
33. Have you been particularly self-conscious about your shape when in the company of other people?	1	2	3	4	5	6
34. Has worry about your shape made you feel you ought to exercise?	1	2	3	4	5	6

SECTION THREE

Please read each question and circle the appropriate letter to the right. Please answer all the questions.

		Not at all characteristic of me	Not very	Slightly	Fairly	Very much characteristic of me
1.	I am not likely to speak to people until they speak to me.	a	b	c	d	e
2.	I would describe myself as self-confident.	a	b	c	d	e
3.	I feel confident of my appearance.	a	b	c	d	e
4.	I am a good mixer.	a	b	c	d	e
5.	When in a group of people, I have trouble thinking of the right things to say.	a	b	c	d	e
6.	When in a group of people, I usually do what the others want rather than make suggestions.	a	b	c	d	e
7.	When I am in a disagreement with other people, my opinion usually prevails.	a	b	c	d	e
8.	I would describe myself as one who attempts to master situations.	a	b	c	d	e
9.	Other people look up to me.	a	b	c	d	e
10.	I enjoy social gatherings just to be with people.	a	b	c	d	e
11.	I make a point of looking other people in the eye.	a	b	c	d	e
12.	I cannot seem to get others to notice me.	a	b	c	d	e
13.	I would rather not have much responsibility for other people.	a	b	c	d	e
14.	I feel comfortable being approached by someone in a position of authority.	a	b	c	d	e
15.	I would describe myself as indecisive.	a	b	c	d	e
16.	I have no doubts about my social competence.	a	b	c	d	e

SECTION FOUR

Below are groups of numbered statements. Read all the statements in each group and circle the number in each group that best describes the way you feel about the problems you have controlling your eating behaviour.

A

1. I don't feel self-conscious about my weight or body size when I'm with others.
2. I feel concerned about how I look to others, but it normally does not make me feel disappointed with myself.
3. I do get self-conscious about my appearance and weight which makes me feel disappointed in myself.
4. I feel very self-conscious about my weight and frequently, I feel intense shame and disgust for myself. I try to avoid social contacts because of my self-consciousness.

B

1. I don't have any difficulty eating slowly in the proper manner.
2. Although I seem to "gobble down" foods, I don't end up feeling stuffed because of eating too much.
3. At times, I tend to eat quickly and then, I feel uncomfortably full afterwards.
4. I have the habit of bolting down my food, without really chewing it. When this happens I usually feel uncomfortably stuffed because I've eaten too much.

C

1. I feel capable to control my eating urges when I want to.
2. I feel like I have failed to control my eating more than the average person.
3. I feel utterly helpless when it comes to feeling in control of my eating urges.
4. Because I feel so helpless about controlling my eating I have become very desperate about trying to get in control.

D

1. I don't have the habit of eating when I'm bored.
2. I sometime eat when I'm bored, but often I'm able to "get busy" and get my mind off it.
3. I have a regular habit of eating when I'm bored, but occasionally, I can use some other activity to get my mind off eating.
4. I have a strong habit of eating when I'm bored. Nothing seems to help me break the habit.

E

1. I'm usually physically hungry when I eat something.
2. Occasionally, I eat something on impulse even though I really am not hungry.
3. I have the regular habit of eating foods, that I might not really enjoy, to satisfy a hungry feeling even though physically, I don't need the food.
4. Even though I'm not physically hungry, I get a hungry feeling in my mouth that only seems to be satisfied when I eat a food, like a sandwich, that fills my mouth. Sometimes, when I eat the food to satisfy my mouth hunger, I then spit the food out so I won't gain weight.

F

1. I don't feel any guilt or self-hate after I overeat.
2. After I overeat, occasionally I feel guilt or self-hate.
3. Most all the time I experience strong guilt or self-hate after I overeat.

G

1. I don't lose total control of my eating when dieting even after periods when I overeat.
2. Sometimes when I eat a "forbidden food" on a diet, I feel like I "blew it" and eat even more.
3. Frequently, I have the habit of saying to myself, "I've blown it now, why not go all the way" when I overeat on a diet. When that happens I eat even more.
4. I have the regular habit of starting strict diets for myself, but I break the diets by going on an eating binge. My life seems to be either a "feast" or "famine".

H

1. I rarely eat so much food that I feel uncomfortably stuffed afterwards.
2. Usually about once a month, I eat such a quantity of food, I end up feeling very stuffed.
3. I have regular periods during the month when I eat large amounts of food, either at mealtime or at snacks.
4. I eat so much food that I regularly feel quite uncomfortable after eating and sometimes a bit nauseous.

I

1. My level of calorie intake does not go up very high or go down very low on a regualr basis.
2. Sometimes after I overeat, I will try to reduce my calorie intake to almost nothing to compensate for the excess calories I've eaten.
3. I have a regular habit of overeating during the night. It seems that my routine is not to be hungry in the morning but to overeat in the evening.
4. In my adult years, I have had week-long periods where I practically starve myself. This follows periods when I overeat. It seems I live a life of either "feast or famine."

J

1. I usually am able to stop eating when I want to. I know when "enough is enough".
2. Every so often, I experience a compulsion to eat which I can't seem to control.
3. Frequently, I experience strong urges to eat which I seem unable to control, but at times I can control my eating urges.
4. I feel incapable of controlling urges to eat, I have a fear of not being able to stop eating voluntarily,

K

1. I don't have any problem stopping eating when I feel full.
2. I usually can stop eating when I feel full but occasionally overeat leaving me feeling uncomfortably stuffed.
3. I have a problem stopping eating once I start and usually I feel uncomfortably stuffed after I eat a meal.
4. Because I have a problem not being able to stop eating when I want, I sometimes have to induce vomiting to relieve my stuffed feeling.

L

1. I seem to eat just as much when I'm with others (family, social gatherings) as when I'm by myself.
2. Sometimes, when I'm with other persons, I don't eat as much as I want to eat because I'm self-conscious about my eating.
3. Frequently, I eat only a small amount of food when others are present, because I'm embarrassed about my eating.
4. I feel so ashamed about overeating that I pick times to overeat when I know no one will see me. I feel like a "closet eater."

M

1. I eat three meals a day with only an occasional between meal snack.
2. I eat 3 meals a day, but I also normally snack between meals.
3. When I am snacking heavily, I get in the habit of skipping regular meals.
4. There are regular periods when I seem to be continually eating, with no planned meals.

N

1. I don't think much about trying to control unwanted eating urges.
2. At least some of the time, I feel my thoughts are pre-occupied with trying to control my eating urges.
3. I feel that frequently I spend much time thinking about how much I ate or about trying not to eat anymore.
4. It seems to me that most of my waking hours are pre-occupied by thoughts about eating or not eating. I feel like I'm constantly struggling not to eat.

O

1. I don't think about food a great deal.
2. I have strong cravings for food but they last only for brief periods of time.
3. I have days when I can't seem to think about anything else but food.
4. Most of my days seem to be pre-occupied with thoughts about food. I feel like I live to eat.

P

1. Usually know whether or not I'm physically hungry. I take the right portion of food to satisfy me.
2. Occasionally, I feel uncertain about knowing whether or not I'm physically hungry. At these times it's hard to know how much food I should take to satisfy me.
3. Even though I might know how many calories I should eat, I don't have any idea what is a "normal" amount of food for me.

SECTION FIVE

BINGE OR COMPULSIVE EATING RECORD

Please mark the days in the last seven days that you binge ate and the number of times you binged on those days.

DAY	1	2	3	4	5	6	7
BINGE DAY	____	____	____	____	____	____	____
BINGE #	____	____	____	____	____	____	____

SECTION SIX

I would appreciate any comments you have and thank you for participating.

APPENDIX C: RESEARCH TELEPHONE INTERVIEW FORM

RESEARCH TELEPHONE INTERVIEW

Date of Interview: _____ Name: _____

Telephone # _____ D.O.B. _____ Age: _____

Reported Weight: _____ Reported Height: _____ BMI: _____

Are You Pregnant: Yes [ ] No [ ]

Binge Frequency Per Week: _____

Comments:

_____

_____

_____

Do you have a medical disorder or are you presently receiving a treatment that is known to influence eating habits or weight? Yes [ ] No [ ]
Comments:

_____

_____

_____

Are you currently receiving counselling of any kind? Yes [ ] No [ ]
Comments:

_____

_____

Have you been treated in the previous month for a binge eating problem?
Yes [ ] No [ ]
Comments:

_____

_____

EXCLUDED [ ]
Those who do not meet the criteria for inclusion are told, " I am sorry, but this program will not meet your needs." Direct the caller to a program or counsellor who can meet their needs.

INCLUDED [ ]
Those who meet the criteria for inclusion are requested to attend a group meeting where their questions about the program will be addressed.

REPORTER: _____

APPENDIX D: OVERVIEW OF APPLE AND AGRAS' PROGRAM

OVERVIEW OF THE COGNITVE-BEHAVIOURAL PROGRAM

"In general, the research findings regarding the treatment of Bulimia Nervosa and binge-eating disorder suggest that although several types of therapy may be useful in the treatment of theses disorders, cognitive-behavioural therapy can be considered the treatment of choice at the present time. Cognitive-behavioural therapy has been found to be more effective than other forms of therapy such as non-directive therapy, focal psychotherapy, psychodynamic treatment, stress management, and antidepressant medication.

The treatment program is intended to be carried out in 18-20 sessions spread over a 6-month interval. Individual sessions are usually 50 minutes in length, and group sessions are usually 90 minutes long. In adapting the treatment to a group format it may be useful to assess progress by holding individual sessions with clients before treatment begins... at a point midway through therapy... and at the end of treatment. Although various timing patterns can be used, the most practical seems to be to hold more frequent sessions in the beginning (for example, four sessions in the first 2 weeks), followed by weekly sessions, with the last few sessions being held at 2-week intervals. Holding more frequent sessions in the first 2 weeks allows the therapist and client to come to grips with the problem more quickly and provides an opportunity for many clients to experience rapidly the benefits of changing their behaviour. The advantage of the longer intervals toward the end of treatment is that clients have more time to experience and practice overcoming residual problems.

Not all clients need the full 18-20 sessions of treatment. It is often the case that clients become binge-and purge-free during the first session of therapy, allowing the therapist and client to move into the later phases of treatment more quickly, hence

reducing the total therapeutic time. All clients should, however, be exposed to all the elements contained in each of the three phases of treatment .... This allows for a full evaluation of the client's problem areas and for adequate treatment of each of the problems, as well as preparing the client for maintenance of his or her improvements. Conversely, if a client demonstrates little or no improvement in the first 10 sessions, then the therapist should consider alternate approaches to treatment...."

APPENDIX E: AGENDAS FOR TREATMENT SESSIONS

FIRST FLIGHT

SESSION ONE
Understanding The Cycle

Introduction 10 Minutes

- introduction of group members
- overview of the program
- group guidelines

Interrupting the Binge Eating Cycle 25 Minutes

- the cycle
- dieting and deprivation
- loss of control over food
- regular eating enhances control over food

Group Reflection 30 Minutes

Provide Questions for Critical Refection

1. In what ways do people's lives change when an eating problem enters their life?
2. What things does an eating problem rob from a person's life?
3. How would breaking free from an eating disorder affect your life?

Homework Exercises 15 Minutes

- begin a journal and include the monitoring forms provided to use for the next week – mind over mood
- identify one strategy to help free yourself from your eating problems

Wrap-up 5 Minutes
Summarise and close session
Ensure participants have their materials.

FIRST FLIGHT

SESSION TWO
Thoughts Eating And The Diet Trap

INTRODUCTION 10 Minutes

Encourage group members to discuss the last session's homework.

- the experience of keeping a journal
- the relationship between overeating and moods
- the strategies identified to free the participant of her disorder

Introduce session two, which explores automatic thoughts and behaviour and dieting in our society.

Introduce the thought record exercise and relate it to eating behaviour. 20 Minutes

- step participants through an example

Group Reflection 40 Minutes

1. Provide Questions for Critical Reflection
2. Why do you think so many people are dieting?
3. What happens when you diet?
4. How has dieting contributed to your eating problem?
5. How has dieting invaded your thoughts?
6. Are thin people always happier than yourself?

Discuss "What really happens when we diet."

Homework Exercises 15 Minutes

- begin using the thought record forms in your journal
- identify some of the thoughts and beliefs you have about dieting
- perform one anti-dieting act before session three
- exercise this week

Wrap-up 5 Minutes
Summarize and close session
Ensure participants have their materials.

FIRST FLIGHT

SESSION THREE
Challenging The Food Thoughts

INTRODUCTION

Encourage group members to discuss the last session's homework. 10 Minutes

- the experience of using the thought record forms
- their thoughts and beliefs about dieting
- their anti-dieting act
- exercise

Introduce session three, which will continue with identifying problem thoughts and will introduce a method to challenge those thoughts and steps to achieve healthy eating habits will be addressed.

Steps in Challenging Problem Thoughts 20 Minutes

1. Identify the underlying problem thought.
2. Gather objective evidence or data support this thought.
3. Gather objective evidence to dispute this thought.
4. Based on your lists of evidence for both sides of the issue come up with a reasoned conclusion that counters the original problem thought.
5. Determine a course of action based on your logical conclusions.

Group Reflection 35 Minutes

Provide Questions for Critical Reflection

1. How do think recognizing your inner voice will affect your eating behaviour?
2. How are many people able to eat what they wish and still maintain their weight?
3. What does the term eating normally mean to you?
4. What is preventing you from eating normally?

Steps to Healthy Eating Habits 10 Minutes

Homework Exercises 10 Minutes

- make a list of the thoughts you experience prior, during or after binge eating.
- continue to use the thought record forms
- continue to exercise
- establish a normal eating pattern – eat three meals a day
- don't criticize yourself for a whole day, in thought or word

Wrap-up 5 Minutes
Summarize and close session
Ensure participants have their materials

FIRST FLIGHT

SESSION FOUR
Triggers and Emotions

Introduction 10 Minutes

Encourage group members to discuss the last session's homework.

- their experience of eating normally
- their thoughts that occur prior, during or after binge eating
- their success with not criticizing themselves for a whole day, in thought or word

Introduce session four, which will include an activity to help participants identify their binge triggers and a discussion on the emotional components of recovery from an eating problem.

Identification of External, Social, and Internal Binge Triggers 20 Minutes

Group Reflection 40 Minutes

1. How is it that food and emotions are related in a person's life?
2. How might preoccupation with food and weight affect how a person copes with their emotional difficulties?
3. How has your eating taken the place of experiencing uncomfortable feelings and thoughts tied to problems and issues in your life.
4. What are some strategies to address emotional issues that might work for you in unlinking your emotional issues from your eating problems.

Homework Exercises 15 Minutes

continue to eat normally
you have composed an inventory of important emotional
issues in your life—now identify one or two alternate activities that you may use to help cope with those issues
add entries regarding emotional issues and coping mechanisms in your journal

Wrap-up 5 Minutes
Summarize and close session
Ensure participants have their materials

FIRST FLIGHT

SESSION FIVE
The Valued Body

Introduction 20 Minutes

Encourage group members to discuss the last session's homework.

- the one or two alternate activities they identified to help cope with emotional issues
- adding entries concerning emotional issues and coping mechanisms in their journals

Introduce session five, which will include an activity to help participants recognize valued personal characteristics and physical attributes unrelated to weight or shape and a discussion on the sociocultural influences on body image perception and body satisfaction.

An inventory of valued personal characteristics and physical attributes 20 Minutes

Group Refection 40 Minutes

1. When was the last time you experienced a state of peace and harmony with your body?
2. What factors dictate how you feel about your body?
3. What are some strategies that are helpful for overcoming an obsession with weight?
4. What can you do to unlink your body image dissatisfaction with your emotional state?

Homework Exercises 5 Minutes

- add your inventory of valued personal characteristics and valued
- physical attributes to your journal
- post your inventory in a place where you can see it everyday
- practice one or two strategies for developing a more positive body image

Wrap-up 5 Minutes
Summarize and close session
Ensure participants have their materials

FIRST FLIGHT

SESSION SIX
The Valued Self

Introduction 10 Minutes

Encourage group members to discuss the last session's homework.

- reviewing their inventory of valued personal characteristics and valued physical attributes on a regular basis
- the one or two strategies they developed for developing a more positive body image

Introduce session six, which will include the problem-solving method and a discussion about examining and changing factors, which influence self-esteem.

The problem-solving method 20 Minutes

- identify the problem, be specific
- brainstorm all possible solutions, no screening
- evaluate the practicality and effectiveness of each solution
- choose one or more combination of solutions
- use the solutions to guide your behaviour
- after applying your solution, review the outcome and the entire problem-solving method

Group Refection 30 Minutes

1. How do your feelings about yourself as a person relate to your struggle to leave an eating problem behind?
2. How is it that an eating problem fills people with self-hate while making them deaf and blind to all their very best qualities?
3. In the future what areas of your life will you emphasize and how will they impact feelings about yourself?

Homework Exercises 5 Minutes

- develop a relapse prevention and maintenance plan

Participant's Questionnaire 20 Minutes
Participants are Weighed
Wrap-up 5 Minutes
Summarize and close session
Ensure participants have their materials and
thank them for participating in the group.

APPENDIX F: LETTER OF INFORMED CONSENT FOR PARTICIPANTS

Dear Participant,

Thank you, for agreeing to participate in my study which is a part of my graduate work in Counselling at the University of Northern British Columbia. My research involves using a unique group counselling approach to help women whom have problems controlling their eating. The study is to be completed by myself under the supervision of Dr. Peter MacMillan of the University of Northern British Columbia.

As a participant you will be asked to attend group therapy sessions, to fully complete a questionnaire before and after participating in the group program, and to be weighed, privately, before and after the group program.

To ensure confidentiality, all participants will be assigned a number for the duration of the study. A list of participants' names and their associated numbers will be kept in a bank security box to be accessed by me only if participants lose or forget their identification number. Records of weight and the completed measures forms will be stored in a locked filing cabinet in my home office. When my thesis research is completed all confidential materials will be shredded.

Please note that you have the right to refuse to participate and the right to opt out of the study and treatment at any time without any penalty, and we will return your treatment fee.

Sincerely,

_____

Jill Shelley-Ummenhofer, M. Ed (Cand.) B.Sc.
(250) 392-4110

Dr. Peter MacMillan, Ph.D.
Supervisor
(250) 960-5828

PARTICIPANT INFORMED CONSENT FORM

I,_____ have read the above information and I understand that my participation in this study is purely voluntary. My signature below certifies that I consent to participating in this study and I acknowledge receipt of a copy of this consent form.

Name of Participant_____

Signature of Participant_____

Date of Signature _____

APPENDIX G: STATEMENT OF CONFIDENTIALITY FORM

STATEMENT OF CONFIDENTIALITY

To ensure confidentiality, all participants will be assigned a number for the duration of the study. A list of participants' names and their associated numbers will be kept in a bank security box to be accessed by me only if a participant loses or forgets her identification number. Records of weight and the completed measures forms will be stored in a locked filing cabinet in my home office. When my research is completed all confidential materials will be shredded.

Jill Shelley-Ummenhofer , M. Ed (Cand.) B.Sc.
(250) 392-4110

Dr. Peter MacMillan, Ph.D.
Supervisor
(250) 960-5828