WELL-BEING AND MORBID OBESITY IN WOMEN

by

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Obesity is a prevalent disorder associated with myriad psychological and physiological problems. Dietary restraint alone is ineffective in treating obesity and can instead exacerbate the problem. Regular physical exercise is fundamental to successful management of weight problems as well as to generalized physical and psychological well-being. In Study 1, demographic and psychometric variables from obese women, referred over an eight year period to a hospital psychology department for weight management, were reviewed. Findings suggest that such obese women are mildly depressed, anxious, perceive themselves as lacking in self-control and have elevated levels of eating-related psychopathology. In addition to such psychological distress, morbidly obese women are also at risk physiologically. As morbidly obese individuals are unlikely to maintain weights at normative levels, goals and treatments aimed at alleviating these problems, independent of attempts at significant weight loss, seem appropriate. A group treatment programme (CT), based, in part, on the principals of cognitive therapy was developed. The programme incorporated a nondieting approach, encouraged nonchaotic eating and regular exercise, and promoted the use of alternative coping skills; weight loss per se was not a focus of the intervention. Study 2 presents pre- and post-treatment results from a group of 15 morbidly obese women completing this programme. Following treatment, these women were significantly less depressed and anxious and showed lower levels of eating-related psychopathology. By the end of treatment, significantly more of the women were exercising regularly. Given the promising nature of these results, a controlled, comparative treatment outcome study (Study 3) was embarked upon. Sixty-two women, each with a body mass index of at least 30 kg/m\(^2\), were randomly assigned to either the above-described CT programme, a behaviour therapy weight loss programme (BT) or a wait-list control group. Women in both active treatment groups lost significant amounts of weight, while members of the control group had a nonsignificant increase in weight. For CT participants, depression, anxiety, and eating-related psychopathology decreased significantly over the course of treatment while perceptions of self-control increased significantly. In contrast, BT and control subjects showed no significant changes in these psychological variables. Relative to control subjects, significantly greater
proportions of CT and BT subjects were exercising regularly by the end of treatment. At six month follow-up, data from approximately half the original CT and BT participants were obtained. Statistically, these subjects did not show significant changes across time in terms of weight or psychometric variables. Variables possibly mediating the differential effects of the two treatments are discussed, as are limitations to the current work and directions for future research.
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Dedication

This thesis is dedicated with appreciation and love to my parents:
To the Memory of my Mother, Elaine Tanco and to my Father, George Tanco, wonderful parents who taught me early to 'be comfortable in my own skin'.
Within western society a pervasive obsession with obtaining the body ideal exists. Women in particular are inundated with unrealistic and unrelenting social pressures to alter their appearances; for most, body shape and weight are special foci of concern (e.g. Brownell, 1991). Women not conforming to the aesthetic ideal are often penalized and, for seriously overweight women, the social and economic consequences are great (Gortmaker, Must, Perrin, Sobol & Dietz, 1993). Ironically, even the likelihood of being perceived as overweight by others is greater for females than males (e.g. White, Schliecker & Dayan, 1991).

Unfortunately, despite an estimated annual expenditure in excess of 29 billion dollars on weight-loss products and services in the USA alone (What's ahead?, 1989), obesity remains a prevalent and refractory disorder (Brownell & Wadden, 1992). Indeed, it is now estimated that 27% of the female population is obese (Kuczynski, 1992). There is increasing recognition that dietary restraint alone does not provide a satisfactory solution to the problems associated with obesity and may instead contribute causally to such problems (e.g. Brownell & Wadden, 1992; Garner & Wooley, 1991). This realization has promoted examination of the role of physical activity. Despite acceptance that regular exercise confers a myriad of beneficial psychological and physiological effects (e.g. Dubbert, 1992), assisting obese individuals to adopt and maintain regular exercise regimes remains a significant therapeutic challenge.

Associated with obesity are a host of psychosocial and physiological problems. According to Stunkard and Wadden (1992), persons seeking professional treatment for weight problems evidence increased rates of depression, binge eating, purgative behaviours, body image disparagement and social isolation. Western society actively discriminates against overweight individuals; for example, overweight persons are treated prejudicially with respect to employment and college admission (Stunkard & Wadden, 1992). Obese individuals have also been reported to be at increased risk for a variety of medical problems such as coronary heart disease (Anderson & Kannel, 1992),
hypertension (Eliahou, Shechter & Blau, 1992), respiratory impairment (Kopelman, 1992), diabetes (Bonadonna & Defronzo, 1992), and arthritis (Bollet, 1992).

The presumed causal nature of the relationship between obesity and health problems is increasingly being questioned. For example, during the past two decades, there has been growing acceptance that the psychopathology often observed in association with obesity is not etiological, but is instead due to "living in a society that derogates obesity and obese persons" (Stunkard & Wadden, 1992; p. 352). Furthermore, as obese individuals are less physically active than normal weight persons (e.g. Stern, 1983), and because many epidemiological studies fail to control for this, the reported relationship between obesity and physiological morbidity may be somewhat spurious: physical inactivity rather than obesity per se may be responsible for at least some of the increased risk to overweight individuals.

Effects of Dietary Restriction

Regardless of whether or not obesity is causally related to various psychological and physiological problems, the demand for treatment remains great. Indeed, a plethora of potentially dangerous weight-reduction ploys awaits individuals seeking solutions to the problems of obesity. As Lebow (1989; page 10) states, "The foolishness is there tantalizing the desperate - the vulnerable". Moreover, even traditional, relatively sensible, approaches to weight loss may not be without risk. Although dietary restriction has long been the treatment of choice, in recent years, the inadequacy of this approach has become all too apparent (for review see Garner & Wooley, 1991). Evidence is mounting that frequent fluctuations in body weight due to dieting may actually convey greater health risks than does obesity itself (Lissner, Odell, D'Agostino, Stokes, Kreger, Belanger & Brownell, 1991). In addition, considerable evidence demonstrating that manifold negative effects are associated with restrictive eating has emerged. Dieting has been found to be associated with depression, irritability and obsessive thoughts in both normal weight
individuals (Keys, Brozek, Henschel, Mickelsen, & Taylor, 1950) and in obese individuals (e.g. Stunkard, 1957). Although obese individuals may not eat more than their nonoverweight counterparts when in public (e.g. LeBow, Chipperfield & Magnusson, 1985), many obese persons report episodes of chaotic overeating while in private. It appears that dieting may contribute in a causal fashion to the development of binge eating, bulimia, and subsequent weight gain (Polivy & Herman, 1985). Indeed, for individuals attempting to restrict their dietary intake, the mere perception of transgression, which often follows the consumption of 'forbidden foods' can lead to subsequent over-eating (e.g. Knight & Boland, 1989).

In addition, dieting has significant metabolic consequences. The observed reduction in metabolic rate, which occurs in response to decreased caloric intake, is greater than that predicted by the accompanying weight loss alone (Stern, 1983). Similarly, both animal (Coscina & Dixon, 1983) and human (e.g. Stordy, Marks, Kalucy & Crisp, 1977) studies provide evidence that weight gain following termination of restricted intake is at a rate greater than that predicted by caloric consumption alone. Brownell and Wadden (1992) note that, for seriously obese persons, attempts to reduce body weight to within normative ranges may not be appropriate, as their adiposity is generally the function of both cellular hypertrophy and hyperplasia, the later of which is not reversible.

The Nondieting Approach

Recognizing the risks associated with dieting, the futility of the approach in terms of successful long-term weight loss, some clinicians (Hirschmann & Munter, 1988) and researchers (Polivy & Herman, 1992; Roughan, Seddon & Vernon-Roberts, 1990) have begun promoting "nondieting". Polivy and Herman (1992) report results from a 10-week nondieting treatment programme aimed at raising participants' awareness regarding the effects of dieting and substituting such eating behaviour with normal eating habits. The authors emphasize that their programme was not intended as a weight loss group or group
therapy. Participants showed significant improvement post-treatment in terms of reduction in dieting behaviour and eating-related psychopathology as well as in reduced feelings of ineffectiveness and depression and enhanced self-esteem. Weight showed a nonsignificant increase from 235 pounds pre-treatment to 243 pounds post-treatment. No control group was included in the study. Roughan and colleagues (1990) present findings from a similar 10 week programme implemented in Australia. Again, the treatment programme resulted in significant improvements in self-esteem, depression and eating-related psychopathology. Fifty-six of the 80 women completing the programme were reassessed two years following completion of the group. In addition to maintaining improvements in psychological function, these women also evidenced a significant mean decrease (3.1 kg) in body weight relative to their weight pre-treatment. Again however, no control group was included.

Whereas treatment goals for obese patients (e.g. weight loss per se, decreases in binge eating and weight fluctuations etc.) remain controversial, clearly, successful long-term management of obesity requires treatment modalities in addition to, or perhaps in place of, dietary restriction.

Effects of Physical Exercise

Physical exercise regimes can play an important role in the treatment of obese individuals. Independent of weight loss or fat reduction, exercise contributes to psychological and physiological well being (Dubbert, 1992). An eight year prospective study revealed that among a group of healthy individuals, physically inactive women were twice as likely as their active counterparts to become depressed (Farmer et al., 1988). Similarly, in the absence of weight reduction, regular physical exercise appears to protect against development of noninsulin-dependent diabetes mellitus (Helmrich, Ragland, Leung & Paffenbarger, 1991), coronary heart disease (Dubbert, 1992) and cancer (Blair et al., 1989). Indeed, it has been cogently argued that overweight women should be exposed to
the benefits of regular exercise in the absence of any attempts at weight loss (Packer, 1989).

As the above findings indicate, regular physical exercise is an important component of healthy living; moreover, it appears to play an important role with respect to weight management. In a review article on obesity and exercise, Thompson, Jarvie, Lahey and Cureton (1982) report that in five treatment outcome studies, exercise was found to produce weight losses equivalent (1 study) or superior (4 studies) to those obtained with dietary interventions. These authors also note a tendency for exercise to appear superior when longer term follow-up assessments are made. Since this time, several further studies have appeared in the literature. The congruity in findings is exceptional: physical exercise clearly contributes to weight reduction (Colvin & Olson, 1983; Craighead & Blum, 1989; Foreyt & Goodrick, 1991, Hill et al., 1989; Hoiberg, Bernard, Watten, & Caine, 1984; Kayman, Bruvold & Stern, 1990; Marston & Criss, 1984; Pavlou, Krey & Steffee, 1989; Perri, McAdoo, McAllister, Lauer, & Yancey, 1986; Sikand, Kondo, Koreyt, Jones & Gotto, 1988; Segal & Pi-Sunyer, 1989) and maintenance (Colvin & Olson, 1983; Epstein, Wing, Koeske & Valoski, 1984; Gormally, Rardin & Black, 1980; Hoiberg et al., 1984; Marston & Criss, 1984; Stern & Lowney, 1986). As Brownell and Wadden (1992; p.507) conclude, there is consistent agreement that regular physical exercise "plays a critical role in long-term weight management."

Physical exercise may promote and maintain weight loss via several different pathways. Although the energy expenditure associated with a single bout of exercise is not clinically important in and of itself, chronic exercise can help to create an overall negative energy balance (Calles-Escandón & Horton, 1992). Similarly, the enhanced thermic effect of food and increase in resting metabolism, which are observed in response to acute exercise, are of clinical significance, in terms of weight loss, only when exercise is undertaken on a chronic basis (Calles-Escandón & Horton, 1992). Exercise can also help to restore diet-attenuated metabolic rates (Donahoe, Lin, Kirschenbaum & Keesey, 1984).
In addition, it has been suggested that exercise may affect food consumption, although the nature of this effect awaits clarification as exercise has been reported to increase, decrease and, fail to, influence food intake (Stern, 1983). Finally, some data suggest that exercise is associated with enhanced attendance at behaviour modification sessions aimed at weight reduction (Hill et al., 1989; Sikand et al., 1988).

Despite the plethora of known benefits, only about 20% of people engage in physical exercise at a frequency and duration sufficient to procure the beneficial effects (Dubbert, 1992). This problem is accentuated amongst obese women, one of the populations most in need of the benefits conferred by regular exercise (Packer, 1989). A number of factors have been proposed to account for why overweight women fail to exercise: fear of physical harm and ridicule, unavailability of facilities such as appropriate classes and clothing (Packer, 1989). Unfortunately, data suggest that even when individuals do begin exercise programs they are unlikely to continue in the long term (Dubbert, 1992). Indeed, attrition rates within the first six months approximate 50% (Dishman, 1982). Understandably, there has been an increasing call for studies investigating factors promoting adoption and maintenance of regular physical exercise.

Self-Efficacy

Social Learning Theory, as put forth by Bandura (1977), attempts to explain a variety of behaviours. Self-efficacy, a construct fundamental to Social Learning Theory, appears to play a particularly important role with respect to health-related behaviours. Self-efficacy refers to the belief that one is capable of engaging in a particular set of required behaviours (Bandura, 1977). Contrasted with this are outcome expectancies which pertain to beliefs that particular behaviours will produce desired outcomes. Self-efficacy expectations are independent of actual skill level and instead refer to beliefs about capabilities in specific situations. Thus, contextual factors influence perceptions of self-efficacy (Bandura, 1977). While research suggests that ratings of self-efficacy can predict
various health-related behaviours (Strecher et al., 1986), it is necessary to note that such relationships are not unidirectional but instead are a function of reciprocal determinism (Bandura, 1977).

In keeping with Bandura's original theorizing, the vast majority of empirical self-efficacy studies have focused on domain-specific self-efficacy. Recently, however, it has been suggested that general self-efficacy is also an important construct (Shelton, 1990). General self-efficacy is posited to be a composite of all past successes and failures and to reflect one's belief about her or his ability to achieve goals and overcome obstacles in daily living. General self-efficacy is assumed to affect a person's mastery expectations (i.e. Bandurian self-efficacy) in new contexts; thus a correlation between measures of general and domain-specific self-efficacies is anticipated.

Self-Efficacy and Exercise

Amongst community samples, a small but consistent body of data indicates the existence of a relationship between ratings of self-efficacy and exercise behaviour (e.g. Desharnais, Bouillon & Godin, 1986; McAuley, 1992; McAuley & Courneya, 1992; McAuley & Jacobson, 1991; Sallis, Haskell, Fortmann, Vranizan, Taylor & Solomon, 1986). While these studies produced findings consistent with a reciprocal relationship between perceived self-efficacy and exercise, it must be noted that all involved nonclinical samples. Although there is empirical support for the importance of exercise self-efficacy in patients with chronic obstructive pulmonary disease (Kaplan, Atkins & Reinsch, 1984) and cardiac problems (Ewart, Taylor, Reese & Debusk, 1984), no published studies investigating the role of exercise self-efficacy in seriously obese patients appear to exist.

Self-Efficacy and Diet

Studies investigating eating/dieting self-efficacy in obese subjects support the contention that self-efficacy is an influential construct in obese persons. In a group of
people, at least 50 pounds overweight, Edell, Edington, Herd, O'Brien and Witkin, (1987) found that self-efficacy accounted for a significant amount of the variance in actual weight lost. Bernier and Avard (1986) found pre-treatment levels of eating-related self-efficacy were significantly correlated with weight loss during treatment and that efficacy was significantly related to weight loss six weeks post-treatment. Similarly, Bernier and Poser (1984) report that in overweight women, self-efficacy at termination of treatment predicts subsequent weight loss at six weeks and six months. Dropouts from a Weight Watchers programme were significantly more likely to report low self-efficacy at treatment onset than individuals remaining in the programme (Mitchell & Stuart, 1984; see also, Bernier & Avard, 1986). Taken together, these results indicate an important role for self-efficacy in mediating at least some behaviours in obese persons.

**Stages of Change**

The work of James Prochaska and colleagues provides evidence that individuals attempting to alter health-related behaviours progress through a series of readiness to change stages: precontemplation, contemplation, planning, action and maintenance (e.g. Prochaska, DiClemente & Norcross, 1992). These stages characterize attempts at behaviour changes such as smoking cessation (Prochaska & DiClemente, 1983), exercise adoption and adherence (Marcus & Owen, 1992) and weight loss (Prochaska, Norcross, Fowler, Follick & Abrams, 1992). Of importance, from a therapeutic perspective, is the finding from these studies that individuals at the action stage consistently show greater success than do persons at the contemplative or planning stages. Furthermore, whether embarking on a new exercise programme (e.g. Marcus & Owen, 1992; McAuley, 1992), or attending a weight loss programme (Prochaska, Norcross et al. 1992), individuals evidence increasing amounts of self-efficacy as they progress through the stages of readiness to change from precontemplation to maintenance.
Taken together, these findings indicate that successful alteration of dysfunctional eating and exercise behaviours requires high levels of self-efficacy and readiness to change. Despite a possible lack of conscious awareness and/or a refusal to acknowledge it, the physical and/or emotional correlates of obesity frequently come to serve positive functions for the individuals afflicted. For example, the physical distance created by obesity can form a safety barrier for some women (e.g., Orbach, 1978). Likewise, binge eating may help to diminish feelings of anxiety (e.g., Heatherton & Baumeister, 1991). That obesity and the behaviours associated with it may confer benefits for some people raises the possibility that, in such individuals, readiness to change may be compromised (DiClemente, 1991). Similarly, for many obese women, years of not exercising and/or eating chaotically, make it improbable that they perceive themselves as highly efficacious in terms of ability to exercise regularly and eat nonchaotically. Thus, the majority of obese women presenting for treatment are unlikely to possess high levels of self-efficacy and readiness for change, qualities seemingly essential for successful alteration of dysfunctional eating and exercise behaviours.

Cognitive Distortions and Eating Disorders

Cognitive theories posit that, as with depression, eating disorders are characterized by faulty cognitions. Although empirical studies of anorexic and bulimic women exist, investigations of cognitive processes in obese persons are limited. Throughout much of the treatment literature, obesity is distinguished from anorexia and bulimia and is treated as simply a weight-related disorder devoid of emotional or cognitive components. Nonetheless, King, Polivy and Herman (1991) have suggested that overweight people may differ in memory for food/weight related stimuli. King et al. found that subsequent to reading a paragraph concerning a fictitious woman, obese women remember more weight/food related variables than other items; in contrast, memory for nonfood/nonweight related items is superior to recall of food/weight related variables in
unrestrained, university women (King, Polivy, & Herman, 1991). These findings suggest that cognitive processes may differ between obese persons and nonobese, unrestrained women. (It should be noted that all the obese subjects in their sample evidenced elevated restraint scores, making a distinction between restraint and obesity impossible). In contrast however, other researchers have failed to find evidence of such alterations in memory processes in obese persons (e.g. Conforto & Gershman, 1985; Rodin & Slochower, 1974).

Although clinical experience suggests that obese persons also evidence higher than average rates of cognitive distortions not specifically related to eating and/or weight similar to the sort manifested by depressed and/or anxious individuals, this has yet to be empirically confirmed. No published studies investigating this issue appear to exist in the literature. Nonetheless, given the higher rates of depression seen in obese people presenting for treatment and the increase in cognitive distortions seen amongst depressed persons (Beck, Shaw, Rush & Emery, 1979), this hypothesis appears tenable. Furthermore, at least one study provides evidence that perceptual differences between obese and nonobese persons may exist. Specifically, under conditions of stress, obese individuals were found to perceive time as passing more slowly than did nonobese people (Faulkner & Duecker, 1989). Furthermore, they tended to maintain this perceptual distortion after the external stress had been removed. In turn, it is possible that such perceptual distortions may contribute to more widespread, integrated distortions in thinking. Depressive and anxiety disorders respond very favourably to cognitive treatments. Thus, if obese persons do exhibit dysfunctional cognitive distortions, either because of concomitant psychological problems or directly as a result of the obesity, it makes sense to directly target cognitive variables in treatment. Heatherton and Baumeister (1991) posit that binge eating, such as that which occurs in both bulimics and chronic dieters, reflects an attempt to reduce/avoid self-awareness. Moreover, they conclude that, "Treatment must therefore focus on the cognitive processes and causes that
set the escapist pattern in motion, rather than focusing on the binge behavior per se." (Heatherton & Baumeister, 1991; page 102).

Summary

Obesity is a prevalent disorder associated with myriad psychological and physiological problems. Dietary restraint alone is ineffective in treating obesity and is now firmly held to exacerbate the problem. Regular physical exercise appears fundamental to successful management of weight problems as well as to generalized physical and psychological well being. Relationships between self-efficacy and exercise and dieting behaviour have been found, although no specific findings regarding exercise-related self-efficacy in obese persons have been reported. That alterations in cognitive processing may contribute to the problems experienced by some obese individuals suggests that treatment aimed at ameliorating cognitive distortions may be beneficial. In addition to being at risk physiologically, morbidly obese women who seek psychological treatment for their weight problems are also distressed emotionally. For example, such individuals show elevated levels of depression, as well as body image disparagement (e.g. Stunkard & Wadden, 1992). As it is unlikely that morbidly obese individuals will maintain body weights within normal ranges, goals and treatments aimed directly at alleviating psychological problems and enhancing physical fitness, independent of attempts at significant weight loss, seem appropriate. The purpose of the current programme of research is to increase understanding of the psychological components of severe obesity in women in order that treatment may be refined and enhanced. Study 1 provides a description of the psychological characteristics of a group of women seeking psychological treatment for morbid obesity. Study 2 describes a pilot cognitive group treatment programme for obese women which was developed on the basis of the needs identified in Study 1, and presents pre- and post-treatment scores on several psychological indices. Finally, in Study 3, a controlled, randomized, clinical trial is used to assess the efficacy of the treatment
programme implemented in Study 2 and compare it with results obtained from two control groups: a standard behaviour therapy weight loss programme and a no-treatment wait-list control group.

Study 1

Rationale

Psychological profiles of women seeking treatment for morbid obesity may not be representative of obese women in general. Whereas population studies have failed to find evidence of increased levels of psychopathology in obese as compared with nonobese persons (Wadden & Stunkard, 1987), studies utilizing clinical samples suggest that, in comparison with normal control subjects, seriously obese persons presenting for treatment show elevated levels of psychopathology. Like their anorexic and bulimic counterparts, obese women display evidence of excessive body image disparagement (e.g. Stunkard & Wadden, 1992). Stunkard and Wadden (1992) also report that ten studies utilizing the Minnesota Multiphasic Personality Inventory found evidence of at least mild elevations in depression scores for obese individuals seeking treatment; also, elevations on scores for hysteria, hypochondriasis and impulsivity were often found. Of importance, when interpreting these findings, are studies showing that people with various other types of chronic medical problems such as arthritis, diabetes, chronic pain syndromes etc., also have elevated levels of psychopathology (Stunkard & Wadden, 1992). Thus, elevated psychopathology is not specific to the obese, but is instead characteristically associated with various forms of physiological pathology. The dissimilarity between clinical and nonclinical samples notwithstanding, accurate characterization of obese women who present for treatment remains important; greater understanding of their psychological profiles will help to facilitate the development of specifically tailored treatment programmes. Indeed, attention to the psychological needs of such individuals is particularly important given the unlikelihood that these women will ever achieve weights within normative ranges (e.g. Brownell & Wadden, 1992).
Method

Psychometric data from the files of 147 women referred by family physicians to the psychology department at University Hospital, Shaughnessy site from 1985 to 1993, inclusive, were examined. These represent the records of all the women referred, accepted to, and agreeing to participate in, behavioural group treatment programmes for obesity during this time. Upon presentation for treatment, patients were required to complete the following tests: The Beck Depression Inventory (BDI; Beck et al., 1961), The Rosenbaum Self-Control Schedule (SCS; Rosenbaum, 1980), The Eating Disorders Inventory (EDI; Garner, Olmstead & Polivy, 1983) and The State Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg & Jacobs, 1983). The BDI is a widely used instrument which assesses current affective status. The SCS assesses use of cognitive strategies to control emotions, use of problem-solving strategies, ability to delay gratification and perceived self-efficacy regarding self-control (Mizes, 1988). Scores on the SCS were linearly transformed to yield a non-negative metric; i.e. all SCS scores were transformed from an original possible range of -108 - +108, to a new range of 0 - 216. The EDI is comprised of eight subscales: Drive for Thinness (DT), Bulimia (B), Body Dissatisfaction (BD), Inefficacy (I), Perfectionism (P), Interpersonal Distrust (ID), Interoceptive Awareness (A) and Maturity Fears (MF). The Interoceptive Awareness subscale is perhaps more accurately labeled interoceptive unawareness, as higher scores correspond to less internal awareness. These subscales tap eating-specific behaviours as well as more generalized cognitions and behaviours. EDI profiles accurately distinguish noneating disordered individuals from subjects having eating disorders (Garner et al., 1983). The STAI is widely used for both research and clinical purposes. It assesses both characterologic (i.e. trait) anxiety and context-dependent (state) anxiety.
The purpose of this study was simply to provide a description of the psychological characteristics of women seeking treatment for obesity. No attempt was made to include an appropriate control group and thus no inferential statistical analyses were conducted.

**Results and Discussion**

Subjects had an average age of 40 years (SD=12) and had a mean body mass index (BMI) of 39 kg/m² (SD=6), indicating they were extremely obese and at risk for medical complications. BDI scores ranged from 0 to 45 with a mean score of 18 (SD=10). Thus, the average patient was mildly depressed. The average score on the SCS was 114 (SD=29), with a range of 49-175. Published norms (Rosenbaum, 1980) transformed as described above, indicate an average score for women to be approximately 135 (SD=25), thus suggesting that the average woman in the current group felt a relative lack of generalized, cognitive self-control.

Mean EDI scores are presented in Table 1. Not surprisingly, obese patients showed an extreme elevation on the Body Dissatisfaction subscale. In contrast, scores on the Maturity Fears and Interpersonal Distrust subscales were not elevated. This likely reflects, at least in part, a difference in the mean age of women presenting with obesity and those presenting with other eating disorders. In general, other EDI subscale scores were approximately midway between those observed in female college students and women with anorexia nervosa.

Scores on the state component of the STAI ranged from 21 to 94, with a mean of 44.6 (SD=14.3). On the trait component, scores ranged from 23 to 76 and the mean was 47.4 (SD=11.9). Mean scores for normal working adult women, according to previously published normative data (Spielberger et al., 1983), are 35.7 (SD=10.4) and 34.9 (SD=9.2) for state and trait anxiety respectively.

Together, the current findings indicate that these obese women presenting for treatment are somewhat depressed and anxious, and perceive themselves as lacking in
cognitive self-control. Furthermore, they are excessively dissatisfied with their bodies, preoccupied with becoming thin, feel inefficacious, engage in bulimic behaviour and have a lack of interoceptive awareness.

Table 1. Study 1: Eating Disorder Inventory subscale scores (mean ± standard deviation) for women referred by family physicians for psychological treatment of obesity from 1985-1993.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean ( ± Standard Deviation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive for Thinness</td>
<td>9.38 ± 5.74</td>
</tr>
<tr>
<td>Bulimia</td>
<td>6.66 ± 5.29</td>
</tr>
<tr>
<td>Body Dissatisfaction</td>
<td>22.14 ± 5.78</td>
</tr>
<tr>
<td>Inefficacy</td>
<td>7.35 ± 5.93</td>
</tr>
<tr>
<td>Perfectionism</td>
<td>7.02 ± 4.63</td>
</tr>
<tr>
<td>Interpersonal Distrust</td>
<td>3.56 ± 3.91</td>
</tr>
<tr>
<td>Interoceptive Awareness</td>
<td>6.61 ± 5.81</td>
</tr>
<tr>
<td>Maturity Fears</td>
<td>2.23 ± 2.81</td>
</tr>
</tbody>
</table>

Such findings were not unanticipated; as noted above, chronic medical patients typically show elevated levels of psychopathology on psychometric testing (Stunkard & Wadden, 1992). The mechanisms whereby different chronic illnesses lead to increased depression and anxiety etc. may differ. For example, the physical sensations associated with uncontrolable, chronic pain may directly lead to depression, whereas, heightened depression in obese individuals may be more a function of the social response to physical appearance. Conversely, factors such as decreased mobility and social interaction may contribute to the increase in depression experienced by both obese and nonobese individuals who have chronic medical problems. Irrespective of the specific mechanisms involved, the findings from Study 1 suggest that numerous variables in addition to body
weight require consideration when treating morbidly obese women. As noted above, attention to such problems is particularly germane since it is unlikely that most of these women will succeed at reducing and maintaining their weights at socially sanctioned levels.

Study 2

Rationale

The above findings indicate that, in addition to their physiological health problems, obese women presenting for treatment have a range of psychological problems. Whereas weight loss programmes may be associated with psychological improvements, these changes may not be long standing. For example, Wadden, Stunkard, and Liebschutz (1988) report that whereas decrements in depression and improvements in body image and self-confidence, etc. occurred in conjunction with weight loss, three years post-treatment, in the face of subsequent weight gain, these improvements were not maintained. In contrast, a nondieting programme which promoted nonchaotic eating and enhancement of body image and self-esteem was associated with significant improvements in terms of psychological functioning and weight loss, two years post-treatment (Roughan et al., 1990). Taken together, these findings suggest that, irrespective of attempts at weight loss, treatments aimed directly at enhancing psychological well-being may be beneficial for obese persons.

Recent data indicate that decrements in weight as small as 10% confer significant health benefits (Goldstein, 1992) and that, independent of weight loss, exercise enhances both physical and mental health (Dubbert, 1992). Therefore, even if weight were to remain essentially unchanged, improvements in psychological status and physical fitness are worthy therapeutic goals, in and of themselves.

With the above considerations in mind, a treatment programme was designed which emphasized emotional health (e.g. by decreasing anxiety and dysfunctional
cognitions) and long-term healthful life style practices, (e.g. engaging in regular exercise and eating nonchaotically). The programme was eclectic in nature and contained elements of feminist, dynamic, cognitive-behavioural and systemic theories. A nondieting approach was adopted; weight loss per se was not a focus of the intervention. The initial implementation and evaluation of the programme, herein presented, was undertaken as a pilot study upon which to base a subsequent randomized clinical trial.

Method

Patients, referred by their family physicians for psychological treatment of obesity, were assessed individually pre- and post-treatment, at which times they were interviewed, completed the above psychometric tests and were weighed. The programme was 10 weeks in duration and was comprised of the following topics:

- **Week 1** Introduction, the effects of dieting on metabolism, cognitions
- **Week 2** The importance of exercise, how to begin exercising, choosing an activity
- **Week 3** The concept of nondieting, awareness of physical hunger
- **Week 4** Nutrition, decreasing fat intake and increasing intake of complex carbohydrates
- **Week 5** Nonhunger reasons for eating
- **Week 6** Relaxation: Progressive muscle relaxation, deep breathing
- **Week 7** Depression, anxiety and faulty cognitions
- **Week 8** Self-esteem, efficacy and assertiveness
- **Week 9** Developing a healthy relationship with one's body
- **Week 10** Review of Weeks 1 - 9, Reasons to Recover, Barriers to Recovery, Relapse Prevention
Weekly meetings were 1.5 hours in duration. At each session, homework was reviewed and the women discussed events which occurred in their lives during the previous week. Didactic material was presented and homework assigned. Homework included readings such as *The New Fit or Fat* by Covert Bailey (1991) and *Overcoming Over Eating* by Jane Hirschmann and Carol Munter (1988). The women were encouraged to discuss experiences and feelings regarding obesity and other problems in their lives. Social influences were discussed in terms of power, inappropriate body ideals etc. to help them externalize part of the source of their problems and encourage them to take control when possible. A revised version of the treatment manual, comprised of handouts for participants, is provided in Appendix I.

**Results and Discussion**

Two consecutive treatment groups were conducted with eleven women in the first and six in the second. Two women dropped out of the first group. One had unstable diabetes mellitus which necessitated her hospitalization after the second week of the group. A second woman, with a long history of manic depressive illness, ceased attending sessions and did not respond to repeated telephone messages. There were no drop-outs from the second group.

Fifteen women thus completed the programme. One subject presented in a very distraught state for the final assessment as her mother had unexpectedly died a few days previously and was unable to provide reliable psychometric data. Two other subjects failed to complete all psychometric data and could not be contacted. Thus, findings for the EDI subscales are based on data from 14 subjects, while means for the remaining psychometric variables are based on n's of 13. Pre- and post-treatment data are presented in Table 2.
Table 2. Study 2: Pre- and post-treatment scores (mean ± standard deviation) for women completing a 10 week cognitive treatment programme.

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Post-treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion exercising ≥ 3 Xs/wk</td>
<td>.13</td>
<td>.87</td>
</tr>
<tr>
<td>Body Mass Index (kg/m²)</td>
<td>40.3 ± 4.6</td>
<td>39.6 ± 5.0</td>
</tr>
<tr>
<td>Beck Depression Inventory</td>
<td>19.9 ± 11.1</td>
<td>10.4 ± 10.7</td>
</tr>
<tr>
<td>State Anxiety Inventory</td>
<td>46.1 ± 16.1</td>
<td>37.4 ± 16.7</td>
</tr>
<tr>
<td>Trait Anxiety Inventory</td>
<td>50.0 ± 15.5</td>
<td>40.6 ± 15.1</td>
</tr>
<tr>
<td>Self Control Schedule</td>
<td>90.5 ± 34.3</td>
<td>106.7 ± 33.8</td>
</tr>
<tr>
<td>Eating Disorder Inventory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive for Thinness</td>
<td>10.3 ± 5.6</td>
<td>2.7 ± 2.6</td>
</tr>
<tr>
<td>Bulimia</td>
<td>7.8 ± 5.7</td>
<td>1.7 ± 2.4</td>
</tr>
<tr>
<td>Body Dissatisfaction</td>
<td>23.3 ± 6.0</td>
<td>17.3 ± 6.9</td>
</tr>
<tr>
<td>Inefficacy</td>
<td>9.9 ± 7.2</td>
<td>5.4 ± 4.8</td>
</tr>
<tr>
<td>Perfectionism</td>
<td>6.9 ± 4.8</td>
<td>5.2 ± 4.5</td>
</tr>
<tr>
<td>Interpersonal Distrust</td>
<td>2.7 ± 4.2</td>
<td>2.1 ± 2.5</td>
</tr>
<tr>
<td>Interoceptive Awareness</td>
<td>8.8 ± 7.9</td>
<td>3.0 ± 4.3</td>
</tr>
<tr>
<td>Maturity Fears</td>
<td>2.7 ± 3.0</td>
<td>1.8 ± 2.8</td>
</tr>
</tbody>
</table>

The proportion of individuals exercising regularly was significantly increased following treatment (sign test; p<.001). Statistical constraints dictated that data from the eight EDI subtests be analyzed in two separate analyses so that the number of dependent variables (i.e. pre and post scores for each subscale) did not surpass the number of
Subjects (n=14). Multivariate analysis of variance (MANOVA) revealed significant overall
effects for the first four subscales (F(8,6)=35.97; p<.001) and the last four subscales
(F(8,6)=4.66; p=.038). Univariate tests indicated that scores on the Drive for Thinness
(t=4.10; p=.001), Bulimia (t=4.22; p=.001), Body Dissatisfaction (t=2.99; p=.01),
Inefficacy (t=2.34; p=.04), Perfectionism (t=3.12; p=.001) and Interoceptive Awareness
(t=4.07; p=.001) subscales were significantly reduced following treatment. Scores on the
Interpersonal Distrust and Maturity Fears subscales were not significantly different pre-
and post-treatment. Scores on the Beck Depression Inventory, State Trait Anxiety
Inventory and Self-Control Schedule were also subjected to a MANOVA which revealed a
significant overall effect (F(8,4)=23.7; p=.004). This analysis was based on data from the
12 subjects who completed all four of these tests pre- and post-treatment. Univariate
testing indicated that Beck Depression Inventory (t=3.73; p=.003), State Anxiety
Inventory (t=2.16; p=.05) and Trait Anxiety Inventory (t=2.55; p=.02) scores were
significantly reduced post-treatment. Although movement in the desired direction
occurred, scores on the Self-Control Schedule were not significantly reduced post
treatment. A t-test for related samples indicated that Body Mass Index was significantly
decreased post-treatment (t=3.01; p=.02). It should be noted, however, that this is based
on a sample size of only nine, as several patients declined to be weighed, a request
considered commensurate with the philosophy of the programme.

Post-treatment the majority of women were exercising regularly. Depression and
anxiety scores were significantly reduced, as were scores on six of the eight Eating
Disorder Inventory subscales. These findings indicate that the women in the programme
were less depressed and anxious and exhibited less eating/weight-related psychopathology following treatment. These pre/post changes suggest that the treatment was influential and, as such, are consistent with recent reports indicating that women who are not necessarily morbidly obese benefit from programmes aimed at decreasing dieting behaviour and preoccupation with weight and food (e.g. Polivy & Herman, 1992; Roughan et al., 1990). It should be noted, however, that whereas the women in these two previous studies were self-selected in terms of feeling preoccupied with their weight and wanting to stop dieting, the current sample consisted of a group of women who presented with the intent of embarking on a weight loss programme. Nonetheless, they appeared to derive both psychological and physiological benefits from the programme.

Clearly, however, in the absence of an appropriate control group, the effects observed, subsequent to treatment, may have been due to placebo effects or any of a host of contributing factors. Nonetheless, given the promising nature of the data from this pilot study, further investigation of a more rigorous nature appeared warranted.

Study 3

Rationale

While the data from Study 2 suggest that obese women receive multiple benefits from treatment not directly aimed at weight loss, it has yet to be determined whether this type of treatment is any more effective than standard behavioural treatments which focus directly on, and are generally effective in, promoting weight loss (e.g. Wing, 1993). As weight loss can be very reinforcing for obese individuals, it can be hypothesized that weight loss per se may enhance psychological well-being by reducing depression, anxiety,
inefficacy etc. Conversely, it can be argued that small amounts of weight loss alone do little to alter many of the life conditions which obese people report as aversive, e.g., social stigmatization and isolation, and thus should not be anticipated to improve psychological health. The results from Study 2 suggest that the nondieting programme produces modest weight loss. However, this finding is difficult to interpret since subjects agreeing to be weighed were self-selected and their number was limited. Interpretation is further hindered by the fact that obese individuals not undergoing treatment often gain weight and an appropriate comparison group was lacking.

In addition to examining comparative treatment outcome, Study 3 was designed to address a number of questions regarding perceived self-efficacy in obesity. It was designed to (1) assess whether exercise self-efficacy cognitions are associated with exercise adoption and initial adherence in this population. This study was also intended to investigate whether (2) post-treatment changes in physical exercise and exercise self-efficacy are associated with alterations in generalized self-efficacy/self-control. Previous work suggests that alterations in health-related behaviours progress through stages characterized by changes in self-efficacy; therefore, the current research was also designed to examine (3) whether similar changes in self-efficacy occur in the processes of affect enhancement and exercise adoption in obese women.

Thus, Study 3 investigates the efficacy of the treatment programme described in Study 2 in a controlled manner. It was designed to permit evaluation of the programme's efficacy with respect to exercise adoption, weight loss, nonchaotic eating and general psychological well-being. Behavioural treatment programmes aimed at changing eating behaviour, reducing caloric intake and increasing exercise are currently the gold standard for psychological weight management programmes. Thus, to facilitate evaluation of the relative efficacy of the above-described programme, in Study 3 a standard behavioral weight loss treatment programme was included, in addition to a no-treatment wait list control group. The principle differences between the two treatments are highlighted in
Table 3. Study 3 was also designed to investigate the constructs of general and domain-specific (i.e. exercise and eating) self-efficacy in obese women undergoing treatment.

Table 3. Principal differences between the Cognitive Therapy (CT) programme and the Behavioural Therapy (BT) programme.

<table>
<thead>
<tr>
<th></th>
<th>CT</th>
<th>BT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theoretical</td>
<td>Cognitive, Feminist, Systemic, Dynamic, some Behavioural;</td>
<td>Primarily Behavioural, some Cognitive;</td>
</tr>
<tr>
<td>Foundations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focus</td>
<td>Alteration in psychological distress; increased awareness of body, the purposes served by overeating, the role of early experiences; promotion of regular exercise &amp; nonchaotic eating;</td>
<td>Weight loss via increased exercise &amp; decreased food (especially fat) intake;</td>
</tr>
<tr>
<td>Format</td>
<td>Therapeutic; Group discussions, personal disclosures, didactic presentations;</td>
<td>Psychoeducational; Didactic presentations; group problem solving re: overeating, underexercising; Weekly weigh-ins;</td>
</tr>
</tbody>
</table>

It was hypothesized that members of the BT group would lose significantly more weight than CT members since intake restriction is generally efficacious in promoting weight loss in the short term. Also, subjects in the CT group were not anticipated to lose as much weight since they were going to be 'given permission' to eat previously forbidden foods and instructed not to attempt active restriction. In contrast, we expected that CT members would show enhanced self-efficacy and self-control post-treatment relative to the BT individuals as they learned to rely on signals of hunger and satiety from their own bodies rather than forcing themselves to use cognitive mechanisms to refrain from eating.
It was also anticipated that depression would be significantly reduced in both groups. In the BT group, reduction in depression was predicted to be positively correlated with the amount of weight lost as weight loss is typically reinforcing for overweight individuals. In contrast, no such relationship was anticipated in CT group members, since minimal weight loss was expected and since they were involved in treatment directly aimed at reducing depression independent of attempts at weight loss.

Method

Subjects

Subjects were recruited via radio announcements, newspaper articles and referrals from the Eating Disorders Resource Centre of British Columbia. Subjects were screened over the telephone to ensure they met the following criteria: female, legal age, i.e., 19 years of age or older, no medical condition precluding participation in an exercise programme, BMI of at least 30 kg/m², a minimum 10 year history of obesity, and, at least, three prior unsuccessful attempts at weight loss/maintenance. These criteria were employed in an attempt to recruit a sample of women resembling those who had been referred for treatment in Studies 1 and 2. In addition, subjects were required to obtain referral letters from their family physicians.

Subjects meeting the above criteria were sent a questionnaire package in the mail and were scheduled for an individual assessment appointment. Subjects were interviewed to check for other psychopathology (e.g., psychosis) which would have precluded participation. Each subject had her weight and height measured and was assessed for the
following: depression (BDI), anxiety (STAI), eating-related psychopathology (EDI) and self-control (SCS). Each participant indicated her sense of exercise self-efficacy (I believe I can exercise for at least 20 minutes five times per week) and nonchaotic eating self-efficacy (I believe I can eat when I am hungry and not engage in binge eating) on two separate visual analogue scales. In addition, participants were required to indicate the number of times they exercised and the number of binges in which they engaged, during the preceding week. Assessments were repeated at Weeks 4 and 8, resulting in a 3 (type of treatment) X 3 (time) between-within design. Follow-up data were obtained 6 months following treatment and will be collected again in a further six months (i.e. 12 months post-treatment) and annually thereafter.

Subsequent to giving informed consent, subjects meeting the above criteria were randomly assigned to one of three groups: 1) a standard behavioural weight management programme (BT), directly aimed at weight reduction; 2) a cognitive treatment programme (CT) aimed at enhancing emotional well-being and promoting regular physical exercise and nondisordered eating in the absence of any attempt at weight reduction; 3) a wait-list control group. The CT and BT groups were comprised of eight, 2 hour weekly meetings conducted by experienced clinical psychology graduate students.

Sixty-two women were originally accepted for, and agreed to participate in, the study. Initially, twenty-one subjects were assigned to both the CT and BT groups and twenty to the control group. However one control subject and one CT subject failed to complete all required psychometric measures. When contacted, they indicated they no longer wished to participate in the study. As group treatments had begun these subjects
were not replaced, thus resulting in n's of 20, 21 and 19 for the CT, BT and control groups respectively. Two groups of the CT programme, each initially having 10 participants, and two BT groups, one with 10 and one with 11 participants, were conducted simultaneously over an eight week period.

Procedures

Members of the BT group were weighed weekly and were required to chart their weight. They were also required to keep daily records of their food intake and exercise, which were reviewed weekly. They were given a standard diabetic exchange diet providing 1200-1500 kcal/day (British Columbia Dietitians' & Nutritionists' Association, 1992) to follow. A psychoeducational format was employed: group meetings were didactic and personal disclosures were not encouraged. A standardized treatment manual for each week was developed (see Appendix II). Weekly topics were as follows:

1. Introduction, Contracts, Goal Setting
2. The Exchange Diet
3. Exercise
4. Stimulus Control
5. Shaping and rewards
6. Nutrition
7. Relapse prevention
8. Review

CT group members were weighed at Weeks 1, 4 and 8. Individuals were informed of their weight only if they so desired. Social and political influences regarding bodily ideals and appearance were discussed and participants were always encouraged to share their personal experiences and feelings. Readings concerning the nondieting approach and exercise were assigned. Subjects were encouraged to allow themselves previously forbidden foods and to consciously recognize psychological and physiological hunger and
satiety cues. The standardized manual for the CT programme is presented in Appendix I. Weekly topics for the CT group were as follows:

1. Introduction, Exercise and Exercise Self-Efficacy
2. The Nondieting Approach and Nutrition
3. Nonhunger Reasons for Eating and Problem Solving Techniques
4. Depression/Cognitive Distortions
5. Assertiveness and Relaxation Training
6. Developing a Healthy Relationship with One's Body
7. Relapse Prevention
8. Review

Analytic Strategies

Data were analyzed via separate 3 (treatment group) X 3 (time) X J (outcome measure) repeated measures multivariate analyses of variance (MANOVAs). Body Mass Index scores constituted one MANOVA. Data from the Eating Disorder Inventory comprised another and scores on the Beck Depression Inventory, State Trait Anxiety Inventory, and Self-Control Schedule constituted a third. Eating and exercise behaviours (i.e. the number of binges and exercise episodes during the preceding week) and ratings of eating and exercise self-efficacy made up a fourth MANOVA. Where appropriate, multivariate tests were followed up with univariate tests and Tukey's tests for pairwise comparisons. Pre, post, and follow-up data for those subjects providing data six months subsequent to treatment were similarly analyzed via multivariate methods.

As multivariate procedures may not be robust to violations of the assumption of homogeneity of variance when cell sizes are unequal, Box's M test was used to test all MANOVA data for homogeneity of variance. In all cases, the hypothesis that the data were homogeneous remained tenable. As repeated measures analyses may not be robust to violations of sphericity, Mauchly's test was used to assess repeated measures data for
sphericity. For nonspherical data, the Huynh-Feldt Epsilon was used to adjust degrees of freedom for critical F's used to establish significance levels. When using Tukey's tests for pairwise comparisons on nonspherical data, residual mean squares based on individual scores (rather than the overall mean square within from the ANOVA) were used.

To gain further understanding of the construct of self-efficacy in obese women, Pearson product-moment correlation coefficients were calculated to examine the relation of nonchaotic eating self-efficacy, number of binges, ratings of exercise self-efficacy and exercise frequency. In addition, correlations between measures of general self-efficacy (i.e. SCS and I scores) and measures of domain-specific self-efficacy were also examined.

Results

Pre-treatment

Mean pre-treatment scores and standard deviations for the original 60 subjects are presented in Table 4. MANOVA indicated that whereas, prior to treatment, no significant differences existed between the three groups in terms of age and BMI (F(4,112)=.37; p=.83); depression, anxiety and self-control (F(8,108)=.53; p=.83); or EDI scores (F(16,100)=.49; p=.95); eating and exercise frequencies and efficacies (F(8,108)=2.49; p=.02) did differ. Specifically, eating (F(2,57)=3.30; p=.04) and exercise (F(2,57)=5.52; p=.01) self-efficacies differed, with CT subjects reporting significantly higher pre-treatment levels of eating and exercise self-efficacy than BT subjects. Similarly, prior to treatment, exercise self-efficacy was significantly higher for control than for BT subjects.

Drop-outs

Ten subjects, two CT and BT members and six control subjects dropped out of treatment, resulting in final n's of 18, 19 and 13 for the CT, BT and control groups,
**Table 4.** Study 3: Subject variables (mean ± standard deviation) prior to treatment.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean ± Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>46.3 ± 9.4</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>108.8 ± 19.9</td>
</tr>
<tr>
<td>Body Mass Index (kg/m²)</td>
<td>39.4 ± 6.2</td>
</tr>
<tr>
<td>Beck Depression Inventory</td>
<td>17.4 ± 8.8</td>
</tr>
<tr>
<td>State Anxiety Inventory</td>
<td>42.0 ± 13.2</td>
</tr>
<tr>
<td>Trait Anxiety Inventory</td>
<td>46.3 ± 11.8</td>
</tr>
<tr>
<td>Self-Control Schedule</td>
<td>121.6 ± 27.5</td>
</tr>
<tr>
<td>Eating Disorder Inventory</td>
<td></td>
</tr>
<tr>
<td>Drive for Thinness</td>
<td>6.8 ± 4.9</td>
</tr>
<tr>
<td>Bulimia</td>
<td>5.3 ± 4.4</td>
</tr>
<tr>
<td>Body Dissatisfaction</td>
<td>21.0 ± 6.0</td>
</tr>
<tr>
<td>Inefficacy</td>
<td>6.4 ± 5.4</td>
</tr>
<tr>
<td>Perfectionism</td>
<td>6.2 ± 4.4</td>
</tr>
<tr>
<td>Interpersonal Distrust</td>
<td>3.5 ± 3.5</td>
</tr>
<tr>
<td>Interoceptive Awareness</td>
<td>5.7 ± 5.1</td>
</tr>
<tr>
<td>Maturity Fears</td>
<td>2.7 ± 2.7</td>
</tr>
<tr>
<td>Binges / past week</td>
<td>1.2 ± 1.7</td>
</tr>
<tr>
<td>Eating Efficacy</td>
<td>91.2 ± 37.6</td>
</tr>
<tr>
<td>Exercise / past week</td>
<td>2.6 ± 2.5</td>
</tr>
<tr>
<td>Exercise Efficacy</td>
<td>101.4 ± 26.6</td>
</tr>
</tbody>
</table>

29
respectively. MANOVA failed to reveal any significant differences between subjects who dropped out of and those who completed the programme (F(18,41)=1.65; p=.093).

**Treatment Findings**

Over the course of treatment, CT group members showed improvement in depression, anxiety and self-control scores while individuals in the BT and control groups did not. Similarly, CT subjects evidenced a reduction in eating-related psychopathology whereas individuals in the BT and control groups did not. Over the eight weeks of the study there was an increase in the proportion of CT and BT participants who reported exercising regularly (i.e., at least three times per week); in contrast, during this same period, there was an nonsignificant decrease in the proportion of control group members who reported exercising regularly. Likewise, subjects in both the CT and BT groups showed modest, but significant, weight losses while members of the control group showed a nonsignificant increase in mean weight.

**Depression, Anxiety and Self-Control**

Mean Beck Depression Inventory, State and Trait Anxiety Inventories and Self-Control Schedule scores for the three groups at pre-treatment, mid-treatment and post-treatment are presented in Table 5. These data were subjected to MANOVA which revealed a significant group by time interaction (F(16,279)=2.12; p<.05). No main effects were found. Simple effects analysis revealed that whereas scores for the CT group changed across time (F(8,182)=4.21; p<.01), those for the BT and Control groups did not. Univariate analysis indicated that within the CT group, depression scores improved significantly over time (F(2,34)=6.04; p<.025), as did state anxiety scores (F(2,34)=5.12; p=.011), trait anxiety scores (F(2,34)=5.18; p=.011), and self-control scores (F(2,34)=8.42; p=.001). Whereas scores on the Self-Control Schedule were significantly
improved by mid-treatment, depression and anxiety scores did not show statistically significant improvement (relative to pre-treatment) until post-treatment.

Table 5. Study 3: Psychometric scores (mean ± standard deviation) for cognitive therapy (CT), behaviour therapy (BT) and control subjects.

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Mid-treatment</th>
<th>Post-treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beck Depression Inventory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>17.9 ± 10.5</td>
<td>12.7 ± 6.0</td>
<td>10.0 ± 5.8</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>15.8 ± 8.4</td>
<td>11.7 ± 8.2</td>
<td>11.0 ± 8.5</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>19.6 ± 7.8</td>
<td>19.9 ± 11.3</td>
<td>14.5 ± 7.5</td>
</tr>
<tr>
<td>State Anxiety Inventory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>45.2 ± 12.8</td>
<td>43.9 ± 13.1</td>
<td>36.3 ± 12.2</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>36.8 ± 12.9</td>
<td>37.1 ± 11.9</td>
<td>37.8 ± 13.3</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>45.2 ± 13.8</td>
<td>44.2 ± 12.9</td>
<td>41.8 ± 9.8</td>
</tr>
<tr>
<td>Trait Anxiety Inventory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>49.9 ± 11.5</td>
<td>46.0 ± 10.5</td>
<td>42.6 ± 10.9</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>43.0 ± 11.6</td>
<td>41.7 ± 12.0</td>
<td>41.6 ± 13.2</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>48.3 ± 10.5</td>
<td>48.9 ± 11.8</td>
<td>45.9 ± 11.5</td>
</tr>
<tr>
<td>Self-Control Schedule</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>109.2 ± 21.3</td>
<td>124.1 ± 20.4</td>
<td>129.1 ± 24.0</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>128.2 ± 33.5</td>
<td>123.6 ± 37.7</td>
<td>135.2 ± 35.1</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>122.8 ± 26.2</td>
<td>117.2 ± 27.4</td>
<td>117.6 ± 26.7</td>
</tr>
</tbody>
</table>

Pre-/post-treatment change scores for depression, anxiety and self-control are presented in Figure 1. A consistent pattern is present with the CT group showing the greatest amount of change, always in the desired direction.
Psychometric Change Scores

![Psychometric Change Scores Chart]

**Figure 1.** The cognitive therapy (CT) group improved significantly over the course of treatment on Beck Depression Inventory (BDI), State Anxiety Inventory (SAI), Trait Anxiety Inventory (TAI) and Self-Control Schedule (SCS) scores. Scores for the behaviour therapy (BT) and Control groups did not change significantly over time.

Change scores for individuals showing psychological deterioration are presented in Table 6. Examination of these scores reveals an interesting pattern. Although the difference is not statistically significant, due, at least in part, to the very small n's, the BT group consistently shows the greatest deterioration.

**Eating Disorder Inventory**

Mean EDI subscale scores are presented in Table 7. Consistent with previous results, scores for Maturity Fears and Interpersonal Distrust were not elevated prior to treatment and thus were not included in the subsequent analyses. The remaining six subscale scores were subjected to MANOVA which revealed a significant effect of time (F(12,178)=3.05; p<.025) but not group. A marginally significant group by time interaction F(24,311)=1.58; p=.10) was found. (Statistical significance for the group by
Table 6. Study 3: Change scores (mean ± standard deviation) for cognitive therapy (CT), behaviour therapy (BT) and control subjects who show deterioration on either Beck Depression Inventory, State Trait Anxiety Inventory or Self-Control Schedule scores. On the Self-Control Schedule, positive change scores reflect clinical worsening; on all other measures, negative change scores correspond to clinical deterioration.

<table>
<thead>
<tr>
<th>Measure</th>
<th>CT (n=4)</th>
<th>BT (n=3)</th>
<th>Control (n=4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beck Depression Inventory</td>
<td>-2.8 ± 1.0</td>
<td>-4.3 ± 3.2</td>
<td>-1.3 ± 0.5</td>
</tr>
<tr>
<td>State Anxiety Inventory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trait Anxiety Inventory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Control Schedule</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Simple effects analysis indicated that while scores for the CT group improved significantly across
time (F(12,178)=4.96; \( p<.001 \)) those for the BT and Control groups did not. Further analyses for CT scores showed significant reductions (i.e. improvement) across time for the following subscale scores: Drive for Thinness (F(2,34)=8.00; \( p=.001 \)); Bulimia (F(2,34)=11.12; \( p<.01 \)); Body Dissatisfaction (F(2,34)=6.28; \( p<.025 \)); Inefficacy (F(2,34)=5.59; \( p<.05 \)); and Interoceptive Awareness (F(2,34)=6.50; \( p<.025 \)). Perfectionism did not change significantly. Interoceptive Awareness scores showed significant improvement by mid-treatment; other EDI subscale scores did not show significant improvement until post-treatment. Pre-/post-treatment change scores for the Eating Disorder Inventory subscales are presented in Figure 2. Again, a consistent pattern is present with the CT group showing the greatest improvement.

**Eating Disorder Inventory Change Scores**

![Figure 2](image)

*Figure 2.* Study 3: Cognitive therapy (CT) subjects improved significantly over the course of treatment on the following Eating Disorder Inventory subscale scores: Drive for Thinness, Bulimia, Body Dissatisfaction, Inefficacy and Interoceptive Awareness. They did not show significant changes in Perfectionism. Behaviour therapy (BT) and control subjects did not change significantly over time on any of the subscales.
Table 7. Study 3: Scores (mean ± standard deviation) on subscales of the Eating Disorder Inventory for cognitive therapy (CT), behaviour therapy (BT) and control subjects pre-, mid- and post-treatment.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Pre</th>
<th>Mid</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive for Thinness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>7.9 ± 6.2</td>
<td>6.9 ± 6.0</td>
<td>3.8 ± 4.4</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>6.1 ± 3.9</td>
<td>6.5 ± 5.1</td>
<td>5.3 ± 4.6</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>7.2 ± 4.7</td>
<td>6.0 ± 4.5</td>
<td>6.5 ± 4.6</td>
</tr>
<tr>
<td>Bulimia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>5.9 ± 5.4</td>
<td>2.2 ± 2.7</td>
<td>1.3 ± 1.8</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>5.0 ± 3.7</td>
<td>3.5 ± 3.4</td>
<td>3.5 ± 4.1</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>5.0 ± 4.5</td>
<td>4.5 ± 5.8</td>
<td>4.1 ± 5.0</td>
</tr>
<tr>
<td>Body Dissatisfaction</td>
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<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>22.2 ± 5.4</td>
<td>20.3 ± 7.3</td>
<td>16.5 ± 8.9</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>18.6 ± 6.7</td>
<td>18.4 ± 7.1</td>
<td>18.1 ± 7.8</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>21.2 ± 6.3</td>
<td>19.4 ± 6.9</td>
<td>20.3 ± 6.0</td>
</tr>
<tr>
<td>Inefficacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>7.9 ± 6.4</td>
<td>5.7 ± 4.3</td>
<td>3.9 ± 5.1</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>5.2 ± 4.2</td>
<td>3.6 ± 4.3</td>
<td>4.2 ± 4.6</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>7.9 ± 5.1</td>
<td>6.5 ± 5.8</td>
<td>6.0 ± 5.6</td>
</tr>
</tbody>
</table>
Table 7. Continued...

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Mid</th>
<th>Post</th>
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<tbody>
<tr>
<td>Perfectionism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>6.8 ± 4.1</td>
<td>6.3 ± 4.1</td>
<td>6.3 ± 3.8</td>
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<tr>
<td>BT (n=19)</td>
<td>6.0 ± 3.8</td>
<td>5.3 ± 4.2</td>
<td>5.2 ± 4.7</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>5.2 ± 4.5</td>
<td>4.5 ± 4.1</td>
<td>4.8 ± 4.5</td>
</tr>
<tr>
<td>Interpersonal Distrust</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>3.4 ± 3.9</td>
<td>3.3 ± 3.8</td>
<td>3.1 ± 4.4</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>3.6 ± 3.3</td>
<td>1.6 ± 2.0</td>
<td>2.1 ± 2.7</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>2.9 ± 2.9</td>
<td>3.4 ± 3.3</td>
<td>2.5 ± 3.3</td>
</tr>
<tr>
<td>Interoceptive Awareness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>7.6 ± 6.9</td>
<td>4.6 ± 4.9</td>
<td>3.6 ± 3.7</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>4.8 ± 4.3</td>
<td>3.3 ± 3.4</td>
<td>4.4 ± 4.5</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>5.6 ± 3.8</td>
<td>5.4 ± 5.3</td>
<td>4.2 ± 4.8</td>
</tr>
<tr>
<td>Maturity Fears</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>2.3 ± 2.3</td>
<td>1.8 ± 1.9</td>
<td>1.9 ± 2.0</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>2.1 ± 2.6</td>
<td>1.6 ± 1.8</td>
<td>1.9 ± 1.8</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>2.9 ± 3.1</td>
<td>3.0 ± 2.9</td>
<td>2.2 ± 2.8</td>
</tr>
</tbody>
</table>
Exercise, Eating and Self-Efficacy

Prior to treatment, 33%, 50% and 31% of CT, BT and control subjects, respectively, reported exercising regularly (i.e. at least three times per week). Post-treatment, 83% of CT, 79% of BT and 23% of control subjects were exercising regularly. Kruskal-Wallis ANOVA revealed that prior to treatment no differences between the three groups existed with respect to these proportions ($\chi^2 = .76, p = .684$); following treatment however, significant differences between the groups emerged ($\chi^2 = 12.88, p = .002$). Pairwise comparisons (Mann-Whitney U Tests) revealed that the proportions of regular exercisers were greater in the CT (U = 46.5; $p = .004$) and BT (U = 61.0; $p = .016$) groups than in the control group and that the proportion of regular exercisers did not differ significantly between the two active treatment groups. Sign tests revealed that the proportion of individuals in the CT group exercising regularly increased significantly over the course of treatment ($p = .004$); the increase for BT subjects was marginally significant ($p = .065$). During this same time there was a nonsignificant decrease in the proportion of individuals in the control group who reported exercising regularly.

Mean number of binges and exercise bouts, together with ratings of eating- and exercise- self-efficacy are presented in Table 8. MANOVA of these data revealed a significant group effect ($F(4,44) = 372.70; p < .001$). However, no time, or group by time effects were found and thus follow-up analyses were not conducted.

Although there were no statistically significant differences between subjects who reported exercising regularly (n=33) and those who did not (n=17), certain patterns did emerge as can be seen in Figures 3.1 and 3.2. Subjects who reported exercising regularly by the end of treatment showed greater improvement in depression, anxiety, self-control and eating-related psychopathology. Subjects exercising regularly lost an average of 2.4 kg while subjects not exercising regularly gained an average of .25 kg.
Table 8. Study 3: Scores (mean ± standard deviation) for eating and exercise behaviours and ratings of self-efficacy for cognitive therapy (CT), behaviour therapy (BT) and control subjects.

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Mid-treatment</th>
<th>Post-treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BINGES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>1.2 ± 2.0</td>
<td>0.6 ± 0.8</td>
<td>0.4 ± 0.6</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>1.5 ± 1.6</td>
<td>1.3 ± 2.2</td>
<td>1.0 ± 1.3</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>0.9 ± 1.5</td>
<td>1.0 ± 1.5</td>
<td>0.5 ± 0.7</td>
</tr>
<tr>
<td><strong>EATING EFFICACY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>102.1 ± 29.8</td>
<td>108.1 ± 20.5</td>
<td>106.7 ± 30.2</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>77.0 ± 40.2</td>
<td>78.8 ± 37.8</td>
<td>91.7 ± 30.6</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>101.7 ± 24.8</td>
<td>92.7 ± 25.6</td>
<td>99.9 ± 29.3</td>
</tr>
<tr>
<td><strong>EXERCISE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>2.1 ± 2.1</td>
<td>4.3 ± 2.3</td>
<td>3.7 ± 1.7</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>3.1 ± 3.1</td>
<td>5.3 ± 3.7</td>
<td>4.6 ± 3.2</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>2.5 ± 1.9</td>
<td>1.5 ± 2.1</td>
<td>1.6 ± 2.0</td>
</tr>
<tr>
<td><strong>EXERCISE EFFICACY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>110.1 ± 20.2</td>
<td>109.4 ± 26.0</td>
<td>112.4 ± 24.9</td>
</tr>
<tr>
<td>BT (n=19)</td>
<td>89.5 ± 34.5</td>
<td>89.2 ± 40.3</td>
<td>94.3 ± 39.2</td>
</tr>
<tr>
<td>Control (n=13)</td>
<td>108.9 ± 17.7</td>
<td>111.4 ± 12.3</td>
<td>111.8 ± 13.4</td>
</tr>
</tbody>
</table>
Changes in Psychometric Scores for Exercisers and Nonexercisers

**Figure 3.1** Changes in Beck Depression Inventory, State Anxiety Inventory, Trait Anxiety Inventory and Self-Control Schedule scores for individuals exercising regularly (EX) and for nonexercisers (NONEX) across all three treatment groups.

Changes in EDI Subscales for Exercisers and Nonexercisers

**Figure 3.2** Changes in Eating Disorder Inventory (EDI) subscales for regular exercisers (EX) and for nonexercisers (NONEX) across all three treatment groups.
Body Mass

Mean Body Mass Index scores and weights from subjects completing all three assessments are presented in Table 9.

Table 9. Study 3: Weight and body mass index (BMI; mean ± standard deviation) for cognitive therapy (CT), behavior therapy (BT) and control subjects in Study 3.

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Mid-treatment</th>
<th>Post-treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WEIGHT (kg)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT (n=18)</td>
<td>112.9 ± 19.0</td>
<td>112.1 ± 18.9</td>
<td>111.1 ± 18.4</td>
</tr>
<tr>
<td>BT (n=18)</td>
<td>104.4 ± 15.6</td>
<td>102.6 ± 14.9</td>
<td>101.8 ± 14.8</td>
</tr>
<tr>
<td>Control (n=12)</td>
<td>111.7 ± 20.2</td>
<td>111.8 ± 19.9</td>
<td>112.5 ± 20.1</td>
</tr>
</tbody>
</table>

| **BMI (kg/m²)** |                |               |                |
| CT (n=18)       | 39.4 ± 5.2     | 39.2 ± 5.2    | 38.8 ± 5.1     |
| BT (n=18)       | 38.7 ± 5.8     | 38.1 ± 5.8    | 37.8 ± 5.9     |
| Control (n=12)  | 40.7 ± 5.5     | 40.8 ± 5.5    | 41.0 ± 5.5     |

Two subjects, one BT member and one control group member failed to attend final sessions in person and were not weighed; however, they did submit questionnaire data by mail. Thus, weight-related data for these groups are based on n's of 18 and 12, respectively. Mean losses in weight were 1.76 ± 2.29 kg and 2.60 ± 4.15 kg for the CT and BT groups respectively; members of the Control group gained an average of .75 ± 2.20 kg. MANOVA of body weight data revealed a significant group by time interaction (F(4,90)=4.12; p<.05), such that CT (F(2,90)=5.34; p<.05) and BT (F(2,90)=11.95; p<.01) but not control (F(2,90)=.83; p>.44) subjects lost significant amounts of weight during the course of treatment.

Body mass data, which are presented in Figure 4, were subjected to MANOVA. This revealed a significant main effect of time F(2,90)=6.00; p<.025) but not group. A
significant group by time interaction (F(4,90=4.11; p<.025) was also found. Simple effects analysis revealed that body mass decreased with time in both the CT (F(2,90)=4.70; p<.025) and BT (F(2,90)=11.57; p<.01) groups. Relative to pre-treatment Body Mass Indices, mean Body Mass Indices at mid- and post-treatment were significantly reduced in both BT and CT subjects. In contrast to both active treatment groups, the control group showed a nonsignificant increase in body mass (F(2,90)= .91 p>.41).

**Body Mass Index**

![Body Mass Index graph]

**Figure 4.** Study 3: Body Mass Index (BMI; kg/m^2) decreased significantly over the course of treatment for both cognitive therapy (CT) and behaviour therapy (BT) participants. Control subjects showed a nonsignificant increase in BMI during the eight weeks of the study.

**Correlations with Weight Loss**

Contrary to expectations, no significant correlations between weight loss and post-treatment depression scores or change scores were found for either subjects as a whole (i.e., n=50) or for BT subjects alone. In contrast, for CT subjects, a negative correlation between weight loss and depression post-treatment (r=-.63; p<.01), but not between
weight loss and change in depression, was found. The correlation coefficients are presented in Table 10.

Table 10. Pearson product-moment correlation coefficients between weight change and Beck Depression Inventory scores post-treatment and depression change scores for all subjects (n=50) and for cognitive therapy (CT) and behaviour therapy (BT) subjects.

<table>
<thead>
<tr>
<th></th>
<th>ALL SUBJECTS</th>
<th>CT SUBJECTS</th>
<th>BT SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wt Change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck Depression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-treatment</td>
<td>-.29</td>
<td>-.63</td>
<td>-.04</td>
</tr>
<tr>
<td>Beck Depression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Score</td>
<td>.03</td>
<td>-.13</td>
<td>.10</td>
</tr>
</tbody>
</table>

Self-Efficacy Correlations

Correlation coefficients for self-efficacy ratings and exercise and eating behaviours prior to treatment and following treatment are presented in Tables 11.1 and 11.2, respectively. No consistent and significant correlations between number of exercise bouts and exercise self-efficacy or number of binges and eating self-efficacy were found. Likewise, eating self-efficacy was not related to changes in weight. Furthermore, at no time were Inefficacy or Self-Control Schedule scores significantly related to either eating or exercise self-efficacy.
Table 11.1  Pearson product-moment correlation coefficients for all subjects prior to treatment, for the number of binges during the preceding week (Binge Freq), rating of nonchaotic eating self-efficacy (Eating Efficacy), number of exercise bouts during preceding week (Ex Freq), rating of exercise self-efficacy (Ex Efficacy), Self-Control Schedule score (Self-Control) and score on the Inefficacy subscale of the Eating Disorder Inventory.

<table>
<thead>
<tr>
<th></th>
<th>Binge Freq</th>
<th>Eating Efficacy</th>
<th>Ex Freq</th>
<th>Ex Efficacy</th>
<th>Self-Control</th>
<th>Inefficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binge Freq</td>
<td>1.00</td>
<td>-.26</td>
<td>.09</td>
<td>-.24</td>
<td>.11</td>
<td>.25</td>
</tr>
<tr>
<td>Eating Efficacy</td>
<td>1.00</td>
<td>.03</td>
<td>.48</td>
<td>.02</td>
<td>-.11</td>
<td>-.05</td>
</tr>
<tr>
<td>Ex Freq</td>
<td>1.00</td>
<td>.44</td>
<td>.07</td>
<td>.01</td>
<td>-.09</td>
<td>.36</td>
</tr>
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<td>Ex Efficacy</td>
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<td>-.01</td>
<td>.01</td>
<td>.03</td>
<td>.14</td>
<td>.10</td>
</tr>
<tr>
<td>Self-Control</td>
<td>1.00</td>
<td>.36</td>
<td>.41</td>
<td>.38</td>
<td>.45</td>
<td>.01</td>
</tr>
<tr>
<td>Inefficacy</td>
<td>1.00</td>
<td></td>
<td>.32</td>
<td>.01</td>
<td>.45</td>
<td>.01</td>
</tr>
</tbody>
</table>

Table 11.2  Pearson product-moment correlation coefficients for all subjects post-treatment, for the number of binges during the preceding week (Binge Freq), rating of nonchaotic eating self-efficacy (Eating Efficacy), number of exercise bouts during preceding week (Ex Freq), rating of exercise self-efficacy (Ex Efficacy), Self-Control Schedule score (Self Control) and score on the Inefficacy subscale of the Eating Disorder Inventory.

<table>
<thead>
<tr>
<th></th>
<th>Binges Freq</th>
<th>Eating Efficacy</th>
<th>Ex Freq</th>
<th>Ex Efficacy</th>
<th>Self-Control</th>
<th>Inefficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binge Freq</td>
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<td>-.46</td>
<td>-.08</td>
<td>-.31</td>
<td>-.03</td>
<td>.14</td>
</tr>
<tr>
<td>Eating Efficacy</td>
<td>1.00</td>
<td>.09</td>
<td>.41</td>
<td>.28</td>
<td>-.10</td>
<td>.13</td>
</tr>
<tr>
<td>Ex Freq</td>
<td>1.00</td>
<td>.27</td>
<td>.38</td>
<td>.38</td>
<td>-.13</td>
<td>.01</td>
</tr>
<tr>
<td>Ex Efficacy</td>
<td>1.00</td>
<td>.32</td>
<td>.32</td>
<td>.10</td>
<td>-.45</td>
<td>.01</td>
</tr>
<tr>
<td>Self-Control</td>
<td>1.00</td>
<td></td>
<td>.45</td>
<td>.45</td>
<td>.45</td>
<td>.01</td>
</tr>
<tr>
<td>Inefficacy</td>
<td>1.00</td>
<td></td>
<td>.45</td>
<td>.45</td>
<td>.45</td>
<td>.45</td>
</tr>
</tbody>
</table>
Depression by Treatment Interactions

To examine a possible differential impact of treatment on depressed and nondepressed subjects, participants were divided according to whether or not they had evidence of serious depression (operationalized as pre-treatment BDI scores of greater and less than 30 respectively). Three individuals in the CT group, two in the BT and two in the Control group had BDI scores greater than 30, while 15, 17 and 11 subjects in the CT, BT and Control groups respectively had BDI scores less than 30. These data are presented in Figures 5.1, 5.2, 5.3 and 5.4. MANOVA of depression, anxiety and self-control change scores revealed a significant treatment group by depression effect (F(8,82)=7.2; p<.001). Univariate tests revealed significant effects for change in depression (F(5,44)=12.1; p<.0001); state anxiety (F(5,44)=7.2; p<.0001); trait anxiety (F(5,44)=11.9; p<.0001) and self-control (F(5,44)=8.5; p<.0001). Whereas the CT and BT treatments produced similar effects for the group of individuals who were not highly depressed, the group of severely depressed CT subjects showed greater benefits from treatment than did severely depressed BT subjects. Tukey pairwise comparisons revealed that severely depressed CT, but not BT, subjects showed statistically greater improvement in depression than depressed control subject. Depressed CT subjects also showed greater improvements in state anxiety, trait anxiety and self-control than either depressed BT or control subjects. A similar group by depression interaction was also found for EDI scores (t(6,39)=5.05; p=.001).
Figure 5.1. Changes in Beck Depression Inventory (BDI) scores for severely depressed (pre-treatment BDI ≥30) Cognitive Therapy (CT; n=3), Behaviour Therapy (BT; n=2) and Control (n=2) subjects.

Figure 5.2. Changes in State Anxiety Inventory (SAI) scores for severely depressed (pre-treatment BDI ≥30) Cognitive Therapy (CT; n=3), Behaviour Therapy (BT; n=2) and Control (n=2) subjects. Depressed CT subjects show greater improvement than depressed BT or control subjects.
Changes in Trait Anxiety Inventory Scores
For Depressed Subjects

![Changes in Trait Anxiety Inventory Scores](image)

**Figure 5.3** Changes in Trait Anxiety Inventory (TAI) scores for severely depressed (pre-treatment BDI $\geq 30$) Cognitive Therapy (CT; n=3), Behaviour Therapy (BT; n=2) and Control (n=2) subjects. Depressed CT subjects show greater improvement than depressed BT or control subjects.

Changes in Self-Control Schedule Scores
For Depressed Subjects

![Changes in Self-Control Schedule Scores](image)

**Figure 5.4** Changes in Self-Control Schedule (SCS) scores for severely depressed (pre-treatment BDI $\geq 30$) Cognitive Therapy (CT; n=3), Behaviour Therapy (BT; n=2) and Control (n=2) subjects. Depressed CT subjects show greater improvement than depressed BT or control subjects.
Post-treatment follow-up

Given the improvement in psychological well-being evidenced by CT subjects following the initial eight weeks of treatment, BT subjects were offered an additional four weeks of treatment, during which time, topics covered previously in the CT, but not the BT group, were presented. To maintain consistency in the number of sessions received, CT subjects were also offered an additional four weeks of treatment at this time. For CT subjects, these sessions involved discussions of previously presented materials. Following the initial eight weeks of the study, the wait-list control subjects received a combination of the CT and BT programmes. These groups were led by two therapists, i.e. both the original CT and BT therapist. Thus, these groups differed in terms of both delivery and content from the original treatment protocols. Therefore, treatment outcome data from the wait-list control subjects are not presented here.

Follow-up data were collected six months post-treatment. Although all subjects had agreed to provide post-treatment data, and its importance to the study had been repeatedly stressed, only 12 of the original 18 CT and 9 of the original 19 BT subjects provided follow-up information when contacted. As detailed above, the original wait-list control subjects received treatment which differed in content, delivery and time of administration; they are therefore being followed-up independent of the current study. Statistically, subjects who completed the six month follow-up did not differ from those who failed to, in terms of pre-treatment depression, anxiety and self-control (F(4,32)=.89; p=.479); binge and exercise frequencies and self-efficacies (F(4,32)=1.22; p=.321) or age and body mass (F(2,34)=1.14; p=.331). Subjects who completed the six month
follow-up did differ from individuals who failed to, in terms of pre-treatment EDI scores (F(8,28)=3.05; p=.014). These data are presented in Table 12. Specifically, the mean Maturity Fears subscale score was greater for noncompleters than for completers (F(1,35)= 4.30; p=.046). In addition, there was a trend for noncompleters to score higher on the Drive for Thinness (F(1,35)=3.04; p=.090) and Bulimia (F(1,35)=4.04; p=.052) subscales.

Table 12. Pre-treatment Eating Disorder Inventory scores (mean ± standard deviation) for CT and BT subjects who provided 6 month follow-up data (Completers; n=21) and for those who did not (Noncompleters; n=16). Only scores on the Maturity Fears subscale are significantly different between the two groups (p=.046).

<table>
<thead>
<tr>
<th></th>
<th>Noncompleters</th>
<th>Completers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive for Thinness</td>
<td>8.6 ± 5.1</td>
<td>5.7 ± 5.0</td>
</tr>
<tr>
<td>Bulimia</td>
<td>7.1 ± 4.6</td>
<td>4.2 ± 4.3</td>
</tr>
<tr>
<td>Body Dissatisfaction</td>
<td>20.1 ± 7.1</td>
<td>20.6 ± 5.8</td>
</tr>
<tr>
<td>Inefficacy</td>
<td>6.7 ± 4.3</td>
<td>6.4 ± 6.3</td>
</tr>
<tr>
<td>Perfectionism</td>
<td>6.1 ± 3.8</td>
<td>6.6 ± 4.1</td>
</tr>
<tr>
<td>Interpersonal Distrust</td>
<td>3.8 ± 3.6</td>
<td>3.3 ± 3.5</td>
</tr>
<tr>
<td>Interoceptive Awareness</td>
<td>7.9 ± 4.8</td>
<td>4.9 ± 6.2</td>
</tr>
<tr>
<td>Maturity Fears</td>
<td>3.1 ± 3.1</td>
<td>1.5 ± 1.5</td>
</tr>
</tbody>
</table>

Follow-up data obtained from the CT and BT subjects six months subsequent to treatment are presented in Tables 13.1 and 13.2, together with the corresponding pre- and
post-treatment data for these subjects. Nonparametric analyses failed to reveal any significant differences in the proportion of individuals exercising regularly (i.e. three or more times per week) either between the two groups or across time. MANOVA of BDI, STAI and SCS data failed to reveal any statistically significant effect of group (F(4,16)=.157; p=.957), time (F(8,72)= 1.064; p>.398) or group by time interaction (F(8,72)=1.624; p>.133). Likewise, no significant group (F(8,12)=.910; p=.539), time (F(16, 64)=.903; p>.569) or group by time (F(16, 64)=.903; p>.569) effects for EDI data were found. MANOVA of eating and exercise behaviours and self-efficacies failed to reveal a significant effect of group (F(4,16)=1.69; p=.202) or group by time interaction (F(8,72)=.584; p>.788). A significant main effect of time was found (F(8,72)= 3.15; p<.05); however, simple effects analyses failed to reveal significant changes across time for CT (F(8,72)=1.917; p>.07) or BT (F(8,72)=0.518; p>.114) subjects. A main effect of time (F(2,38)=4.91; p<.05) was also present for BMI data although no group (F(1,19)=0; p=.976) or group by time (F(2,38)=.60; p=.557) effects were found. Again, simple effects analyses failed to reveal significant changes in BMI across time for BT (F(2,38)=3.89; p>.05) or CT (F(2,38)=1.24; p>.301) subjects.

Discussion of Findings from Studies 1-3

Consistent with findings from Studies 1 and 2, the results from Study 3 suggest that women seeking psychological treatment for obesity are somewhat depressed and anxious and have higher than average levels of eating-related psychopathology, especially with respect to body dissatisfaction. In addition, it appears that these women feel a relative
Table 13.1. Study 3: Pre-treatment, post-treatment and follow-up scores (mean ± standard deviation) for those cognitive therapy (CT; n=12) and behaviour therapy (BT; n=9) subjects who completed 6 month follow-up data.

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Post-treatment</th>
<th>6 Month Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion</td>
<td>CT .42</td>
<td>.83</td>
<td>.58</td>
</tr>
<tr>
<td></td>
<td>BT .44</td>
<td>.67</td>
<td>.44</td>
</tr>
<tr>
<td>Exercising Reg.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>CT 244.7 ± 34.6</td>
<td>239.9 ± 32.7</td>
<td>233.9 ± 29.8</td>
</tr>
<tr>
<td></td>
<td>BT 234.2 ± 43.9</td>
<td>226.9 ± 40.2</td>
<td>214.8 ± 39.9</td>
</tr>
<tr>
<td>Body Mass Index</td>
<td>CT 39.2 ± 5.2</td>
<td>38.4 ± 5.1</td>
<td>37.5 ± 4.9</td>
</tr>
<tr>
<td></td>
<td>BT 39.9 ± 6.8</td>
<td>38.7 ± 6.7</td>
<td>36.6 ± 6.4</td>
</tr>
<tr>
<td>Beck Depression</td>
<td>CT 15.2 ± 10.6</td>
<td>10.4 ± 6.4</td>
<td>8.0 ± 6.8</td>
</tr>
<tr>
<td></td>
<td>BT 13.9 ± 9.3</td>
<td>9.8 ± 9.4</td>
<td>11.3 ± 11.1</td>
</tr>
<tr>
<td>State Anxiety</td>
<td>CT 41.8 ± 14.2</td>
<td>35.4 ± 13.0</td>
<td>34.8 ± 11.9</td>
</tr>
<tr>
<td></td>
<td>BT 36.3 ± 16.7</td>
<td>34.7 ± 14.3</td>
<td>35.4 ± 9.3</td>
</tr>
<tr>
<td>Trait Anxiety</td>
<td>CT 47.0 ± 11.9</td>
<td>42.9 ± 11.8</td>
<td>36.5 ± 11.4</td>
</tr>
<tr>
<td></td>
<td>BT 40.4 ± 14.1</td>
<td>38.9 ± 16.0</td>
<td>41.8 ± 16.2</td>
</tr>
<tr>
<td>Self-Control Schedule</td>
<td>CT 109.1 ± 23.3</td>
<td>122.2 ± 29.8</td>
<td>130.3 ± 26.3</td>
</tr>
<tr>
<td></td>
<td>BT 128.0 ± 46.1</td>
<td>132.1 ± 46.0</td>
<td>124.7 ± 48.9</td>
</tr>
<tr>
<td>Binges</td>
<td>CT 1.0 ± 2.2</td>
<td>0.4 ± 0.7</td>
<td>0.1 ± 0.3</td>
</tr>
<tr>
<td></td>
<td>BT 0.7 ± 1.0</td>
<td>0.1 ± 0.3</td>
<td>0.5 ± 0.7</td>
</tr>
<tr>
<td>Eating Efficacy</td>
<td>CT 104.8 ± 23.2</td>
<td>101.0 ± 35.4</td>
<td>85.0 ± 37.3</td>
</tr>
<tr>
<td></td>
<td>BT 87.9 ± 36.7</td>
<td>102.4 ± 24.3</td>
<td>74.4 ± 38.7</td>
</tr>
<tr>
<td>Exercise Freq.</td>
<td>CT 2.7 ± 2.1</td>
<td>3.6 ± 1.8</td>
<td>2.7 ± 2.1</td>
</tr>
<tr>
<td></td>
<td>BT 2.8 ± 3.0</td>
<td>4.9 ± 3.0</td>
<td>3.4 ± 3.2</td>
</tr>
<tr>
<td>Exercise Efficacy</td>
<td>CT 112.5 ± 19.2</td>
<td>108.3 ± 29.7</td>
<td>104.2 ± 31.8</td>
</tr>
<tr>
<td></td>
<td>BT 99.1 ± 20.7</td>
<td>104.3 ± 34.3</td>
<td>83.7 ± 41.3</td>
</tr>
</tbody>
</table>

50
Table 13.2. Study 3: Pre-treatment, post-treatment and follow-up Eating Disorder Inventory scores (mean ± standard deviation) for those cognitive therapy (CT; n=12) and behaviour therapy (BT; n=9) subjects who completed 6 month follow-up data.

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Post-treatment</th>
<th>6 Month Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive for</td>
<td>CT</td>
<td>5.8 ± 5.9</td>
<td>3.4 ± 3.9</td>
</tr>
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<td>Thinness</td>
<td>BT</td>
<td>5.7 ± 3.7</td>
<td>5.7 ± 5.5</td>
</tr>
<tr>
<td>Bulimia</td>
<td>CT</td>
<td>4.9 ± 5.4</td>
<td>1.0 ± 1.5</td>
</tr>
<tr>
<td></td>
<td>BT</td>
<td>3.2 ± 1.7</td>
<td>1.9 ± 2.3</td>
</tr>
<tr>
<td>Body D Dissatisfaction</td>
<td>CT</td>
<td>20.6 ± 6.0</td>
<td>16.3 ± 8.5</td>
</tr>
<tr>
<td></td>
<td>BT</td>
<td>20.6 ± 5.9</td>
<td>19.1 ± 7.4</td>
</tr>
<tr>
<td>Inefficacy</td>
<td>CT</td>
<td>7.3 ± 7.4</td>
<td>4.5 ± 6.0</td>
</tr>
<tr>
<td></td>
<td>BT</td>
<td>5.2 ± 4.8</td>
<td>5.0 ± 5.9</td>
</tr>
<tr>
<td>Perfectionism</td>
<td>CT</td>
<td>7.9 ± 4.3</td>
<td>7.6 ± 3.5</td>
</tr>
<tr>
<td></td>
<td>BT</td>
<td>4.8 ± 3.1</td>
<td>5.6 ± 5.1</td>
</tr>
<tr>
<td>Interpersonal Distrust</td>
<td>CT</td>
<td>3.9 ± 4.0</td>
<td>4.1 ± 5.0</td>
</tr>
<tr>
<td></td>
<td>BT</td>
<td>2.4 ± 2.8</td>
<td>1.6 ± 1.8</td>
</tr>
<tr>
<td>Interoceptive Awareness</td>
<td>CT</td>
<td>6.1 ± 7.4</td>
<td>2.9 ± 3.6</td>
</tr>
<tr>
<td></td>
<td>BT</td>
<td>3.2 ± 4.1</td>
<td>2.9 ± 3.1</td>
</tr>
<tr>
<td>Maturity</td>
<td>CT</td>
<td>1.4 ± 1.7</td>
<td>1.8 ± 1.8</td>
</tr>
<tr>
<td>Fears</td>
<td>BT</td>
<td>1.6 ± 1.3</td>
<td>2.0 ± 1.4</td>
</tr>
</tbody>
</table>

lack of cognitive self-control. These findings are in keeping with previous reports suggesting that people seeking treatment for obesity have elevated levels of psychopathology (e.g. Stunkard & Wadden, 1992).
The results also suggest that women receiving a broad-based treatment approach (CT) benefit considerably in terms of reduced psychopathology and enhanced cognitive self-control. In contrast, women participating in a standard BT group focusing on diet and exercise did not show significant changes in these psychological variables. These findings support the idea that treatment tailored to the psychological needs of obese women provides specific benefits in terms of enhanced emotional well-being. In contrast to control subjects who received no form of treatment and who showed a slight increase in weight, women in both forms of active treatment experienced significant decreases in weight.

The potential importance of these findings notwithstanding, cognizance of the distinction between clinically significant changes and statistically significant changes remains necessary. For treatment effects to be of true clinical significance, they must not only be of sufficient magnitude, but must also be maintained over some meaningful period of time. In terms of magnitude, not all of the current treatment effects, found to be statistically significant, can also be considered clinically significant. For example, although body weight was statistically reduced post-treatment, the mean changes were not of immediate clinical relevance. It is possible however that, over time, continued modest reductions in weight may eventually result in levels of weight change which are of clinical significance. In contrast to such observed changes in weight, many of the post-treatment changes in psychopathology were of clinical, as well as statistical, significance. For example, the reduction in BDI score for the average CT subject reflected movement from a moderate level of depression to a non-depressed state, a change which is certainly of clinical importance. Nonetheless, determination of the extent to which such effects are of
true clinical significance, in terms of both their magnitude and maintenance over time, awaits longer term follow-up.

The current findings extend the research literature in several important ways. First, they confirm previous reports that women can benefit psychologically and physiologically from a nondieting programme (Polivy & Herman, 1992; Roughan et al., 1990). Secondly, in contrast to these previous studies wherein no control groups were employed, the current study included two control groups, additions which greatly facilitate the interpretation of results. Finally, whereas the prior studies had recruited subjects based on their desire to stop dieting, the current study used a sample of women who sought treatment for obesity and expressed a desire to lose weight. Thus, this work extends the known utility and generalizability of nondieting programmes to include seriously obese women presenting for treatment.

Surprisingly, eating self-efficacy was not consistently related to eating behaviour (i.e., number of binges in the preceding week) or amount of weight lost. This contrasts with previous studies reporting a strong relation between ratings of eating efficacy and amount of weight lost during treatment (e.g. Bernier & Avar, 1986; Edell et al., 1987). Likewise, exercise self-efficacy was not related to the number of bouts of exercise engaged in during the preceding week. This differs from findings with other populations wherein significant correlations between exercise behaviour and self-efficacy ratings exist (e.g. Desharnais et al., 1986; McAuley, 1992; McAuley & Courneya, 1992; McAuley & Jacobson, 1991; Sallis et al., 1986). In addition, no correlations between measures of general self-efficacy (Inefficacy subscale of the EDI or the SCS) and specific eating or
exercise self-efficacy were found. The method of assessment likely contributed to these findings. The visual analogue scale used to assess eating and exercise efficacy appeared confusing to many individuals. For example, people often circled the end anchor points rather than placing a cross on the scale. The fact that scores on the inefficacy scale of the EDI and the SCS did not correlate with either eating or exercise efficacy supports Bandura's original contention that self-efficacy is domain specific and may not be measurable as a generalized construct.

Psychological Variables

CT subjects showed improvement over the course of treatment in terms of scores for depression, anxiety, self-control and specific eating-related pathology; BT and control subjects did not. Given the similarity between the CT and BT groups in terms of mean weight loss, this difference in treatment outcome is potentially important as it suggests that improvement in overall psychological well-being need not be at the expense of weight loss. The results obtained provide evidence for treatment specificity: the BT programme is effective in helping individuals reduce body weight but is not particularly useful as a means of enhancing psychological health. In contrast, the CT programme produces decrements in both weight and psychopathology. The differential effects of the CT and BT treatments may be mediated by psychological constructs such as readiness to change, depression, and use of eating as a means of affect regulation.

The pattern of results is entirely consistent with Prochaska's theorizing and research regarding readiness to change (e.g., Prochaska, DiClemente et al., 1992). Perhaps people who have not yet reached the action stage do better in the CT programme and women with repeated dieting failures are predictably ambivalent about the usefulness of action strategies. The CT programme may help to prepare individuals for change, e.g. by
talking about advantages to remaining fat, disadvantages to being thin, ways their lives will change in terms of relationships with others and with food. Perhaps such work can be conceptualized along the Motivational Interviewing method (DiClemente, 1991) and helps to move people into readiness for action. If so, then individuals in the contemplation and preparation stages could be anticipated to specifically benefit from the programme. Such a contention is consistent with research showing that treatments mismatched to an individual’s stage of readiness to change do not produce favourable results. For individuals at the precontemplative and contemplative stages of change, action-oriented treatments may be ineffective or detrimental (Prochaska, DiClemente et al., 1992). As an example, Prochaska and colleagues discuss findings from a special self-help smoking cessation programme for pregnant women (Ershoff, Mullen & Quin, 1987, cited in Prochaska, DiClemente et al., 1992). For women prepared for action, the special care programme produced significantly greater success (38% not smoking by the end of pregnancy) than did the regular care programme of advice and fact sheets (12% success rate). However, for women at the precontemplative and contemplative stages, the two treatments failed to produce differential effects. By the end of pregnancy, only six percent of the women in the special care programme, as well as six percent of women in the regular care programme, were not smoking. Such findings are consistent with the idea that individuals not yet prepared for action regarding weight loss may have obtained greater benefits from the CT programme than from the action-oriented BT programme.

While the CT programme may be particularly beneficial for individuals at pre-action stages, it also contains therapeutic elements which are clearly action-oriented. Although the rationale given is for reasons of well-being, rather than for reasons of weight loss per se, exercise and nonchaotic, low fat eating are discussed and encouraged in the CT group (albeit, to a lesser extent than in the BT group). Therefore, at least theoretically, individuals already at the action stage can be anticipated to benefit from the CT programme as well. In contrast to the wide applicability of the CT programme, the BT
programme, with its exclusive focus on weight-related behaviours, i.e., diet and exercise, would be beneficial only for individuals already at the action stage. If people present for treatment at various stages of readiness for change, from contemplation through to action, the BT programme would be expected to be of benefit for fewer morbidly obese individuals seeking treatment than would the CT programme. That the BT group had less consistent effects, even in terms of weight loss alone, is suggested by the higher standard deviations observed for this group (4.15 kg) than for the CT group (2.29 kg). However, for persons truly at the action stage with respect to weight loss, the BT programme with its directed focus may offer greater benefits.

The presence of a significant treatment group by depression interaction, in terms of improvement in depression, anxiety, self-control and eating-related psychopathology, suggests that depression is also contributing to the differential effects of the CT and BT programmes. Whereas the CT and BT treatments produced similar effects for individuals who were not highly depressed, severely depressed CT subjects showed greater benefit from treatment than did severely depressed BT subjects (see Figures 5.1-5.4). Indeed, for severely depressed BT subjects, state anxiety and self-control scores worsened during the course of treatment. While part of the effect observed in the depressed CT subjects may reflect the regression of extreme scores towards their means, the data also suggest that the CT and BT treatments have a differential impact on depressed individuals.

Consistent with the observed difference in treatment impact are affect regulation models which posit that eating disorder symptomatology can reflect an attempt to cope with or regulate negative affect (Grilo, Levy, Becker, Edell & McGlashan, 1994; Heatherton & Baumeister, 1991). Normal weight children show a preference for nonfood rewards and activities (as opposed to food-related items and activities) whereas overweight children show no such preference (Bonato & Boland, 1983). Moreover, these same authors report that when an edible reward is offered, relative to normal weight individuals, obese subjects show an inability to delay gratification. Considered together,
these findings are consistent with the idea that food may have greater significance for people with eating/weight-related problems and that such individuals may preferentially use food to modulate mood. For individuals who are using food as a means of affect regulation, removing this method of coping (i.e., by limiting intake) may result in a paradoxical effect and exacerbate feelings of depression and anxiety, and diminish perceptions of self-control. It is possible that this occurred for some individuals in the BT group as these participants were strongly encouraged to restrict intake (i.e., their current means of affect regulation may have been eliminated) and no replacement coping strategies were provided. In contrast, no emphasis to reduce intake was placed on CT group members. Moreover, replacement affect regulation skills such as muscle relaxation, alteration of depressogenic cognitions, assertiveness skills etc. were taught to CT participants. Researchers such as Heatherton and Baumeister (1991), who posit affect-regulation motives to persons who overeat, assert that individuals who use food to avoid self-awareness do so because they evaluate themselves negatively. Focus on a negatively evaluated self is assumed to produce an aversive internal state. In contrast, focus on a self who is positively evaluated does not produce an aversive state and thus does not need to be avoided. Therefore, it is reasonable to assume that the increase in self-liking experienced by CT subjects (e.g., as evidenced by decreased body dissatisfaction scores) makes self-awareness less aversive. And, if the underlying motive for escape, and thus for bingeing behaviour, is removed, it logically follows that overeating may decline without accompanying increments in anxiety, depression or perceptions that one is lacking in self-control. Although the present data do not permit identification and analysis of scores belonging to individuals using food as a means of affect regulation, the pattern of negative outcomes is consistent with this idea. Although not statistically different (most likely due to the small n), mean BDI, STAI and SCS scores of individuals showing deterioration over the course of treatment (see Table 6) support this idea. Within this group of subjects, deterioration in each of the above scores is greater for BT than for CT or Control.
subjects. In terms of the numbers of subjects for whom treatment produced negative
effects, no differences appear to exist between the groups. Also consistent with the idea
that some BT subjects may have perceived themselves as losing an important means of
affect regulation, is the deterioration during treatment in state anxiety and self-control for
BT subjects who were seriously depressed at treatment onset (and thus, presumably, in
need of affect regulation).

Thus, for a plethora of possible reasons, treatment impacts differentially across
subjects. Neither the clients who seek help for problems of obesity, nor the treatment
methods available, are homogeneous. Treatment is most apt to be successful when it
addresses the particular needs of the individual. It appears that the CT and BT treatments
produce differential effects as a function of depression and possibly also as a function of
readiness to change. Accurate identification of those variables which predict positive
response to specific treatment programmes will facilitate the matching of client to
treatment and enhance therapeutic outcomes. For example, DiClemente (1991) notes that
people seeking treatment are often not aware of the positive functions which their
addictive behaviours serve. As such, they may lack conscious awareness regarding their
own ambiguity towards change. In such cases, individuals are most likely to benefit from
treatment when they can be specifically assigned to programmes which commensurate
with their degree of readiness to change. Indeed, White and White (1988) state that the
relatively disappointing results of behavioural weight-reducing programmes is, in part, due
to the inability to identify individuals for whom behaviour therapy is the treatment of
choice.

Exercise

The proportion of CT subjects exercising regularly (i.e., at least three times per
week) increased significantly over the eight weeks of the study, an important behaviour
change, given the benefits (emotional and physical) conferred by regular exercise. There
was a marginally significant increase in the proportion of BT subjects exercising (p=.063). An interesting comment was volunteered by one of the CT participants who had embarked upon regular exercise for the first time in her life. She noted that when she began exercising at the beginning of the programme, she did so only because she had been told to and she found it most unpleasant. By the end of the eight weeks, she reported that, much to her surprise, exercise was now an important and enjoyable part of her life. Moreover, she noted that nowhere amongst the forms which she had completed, had there been a question which addressed this issue. This was indeed true and something which definitely needs investigating as such a perceptual change may be an important marker for long-term adherence to exercise in these women.

Previous reports indicate that regular exercise confers many benefits, both psychological and physiological (e.g. Dubbert, 1992). The current findings show a consistent, but statistically nonsignificant, pattern wherein women who reported exercising regularly tended to show greater psychological improvement and weight loss. Of particular interest is the improvement in body satisfaction for women who were exercising regularly. This is consistent with spontaneously offered reports from some women that whereas in the past they had evaluated their bodies in terms of comparison with a particular aesthetic ideal, they had now begun to evaluate their bodies in terms of its ability to perform for them (e.g. enable them to walk, swim etc.).

*Body Mass*

CT and BT subjects lost a significant amount of weight from pre- to post-treatment. Such findings are consistent with reports from the literature indicating that behavioural treatments are effective in promoting weight loss (e.g., Wing, 1993).

Although the average amount of weight lost by CT and BT subjects was not statistically different, there did appear to be a different pattern of weight loss between the two groups. BT subjects lost an average of 2.6 kg. However, the range of weight change

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was substantial: from a gain of 3.4 kg to a loss of 10.0 kg. In contrast, while the mean weight loss was similar overall for the CT group (1.8 kg), the range did not show such great variation. The greatest gain for a CT member was 2.3 kg and the greatest loss, 5.0 kg. The variation in weight loss in the BT group is consistent with the therapist's report of substantial individual difference in initial subjective response to the type of treatment. Some individuals refused to be "put on" a diet ("that's die with a t"). Interestingly, while they continued to attend the group, their compliance with homework exercises was very poor. It appeared that their initial displeasure with the treatment regime resulted in overall apathy/antipathy for the treatment. It is possible that this type of resistance to treatment reflects a lack of readiness to change. BT participants not yet at the action stage of change, may have refused to engage in behaviours apt to bring about decrements in weight until they were sufficiently prepared for such changes.

While exercise may have contributed to weight loss in both CT and BT subjects, other mechanisms may also be responsible for bringing about changes in weight. Moreover, these mechanisms may differ between the two groups. It is interesting that the CT programme, which was not directly aimed at weight loss, nonetheless produced decrements in weight. This is likely due, at least in part, to increased interoceptive awareness, i.e., people in the CT group learned to identify appetitive and satiety cues. Consistent with this hypothesis is a post-treatment improvement on the interoceptive awareness scale of the EDI. Likewise, a decrease on the bulimia subscale of the EDI for CT subjects suggests diminished bingeing. If subjects were overeating in response to other problems such as depression and anxiety, then reductions in psychological distress can be hypothesized to contribute to weight loss, via reductions in overeating. Such a contention is consistent with the idea that pathological eating may act as a form of affect regulation for some people (e.g. Heatherton & Baumeister, 1991). Thus, it is reasonable to expect decrements in eating pathology and weight when distressed individuals receive
psychological treatment aimed at reduction of depression and anxiety, since some of the underlying reasons why they are overeating are being removed.

BT subjects lost significantly more weight than control subjects. Clearly, as with CT subjects, exercise may have contributed to the weight loss observed in BT subjects. Enhanced Interoceptive Awareness scores for CT subjects suggests the possibility that these subjects may be recognizing the difference between physiological and emotional hunger and may simply be choosing not to eat when they do not feel physically hungry. In contrast, it does not appear that such a change contributed to the weight loss observed in BT subjects, as they did not show significant improvement in Interoceptive Awareness. Likewise, although BT subjects did show a nonsignificant trend toward lower depression, overall, they evidenced very little in the way of enhanced psychological well-being. Thus, while generalized psychological improvement may, in part, be responsible for a decrement in overeating and subsequent weight loss in CT subjects, it is unlikely to be making a major contribution to the weight loss evidenced by BT subjects. By post-hoc process of elimination, one is left with the interpretation that BT subjects may have achieved the majority of their weight loss by active intake restriction. It is reasonable to contend that hypervigilence regarding food, especially in conjunction with perceptions of low self-control, may account for the increase in state-anxiety observed in BT subjects.

As noted previously, no relation between amount of weight lost and depression were found for either the group of subjects as a whole or for BT subjects alone. For BT subjects, whose treatment focused on weight loss, the lack of correlation between weight loss and depression is somewhat surprising as weight loss is reportedly very rewarding for most overweight individuals. Perhaps individuals did not consider their relatively small losses in weight as rewarding since (1) in their previous experiences these losses were often of short duration and (2) a five pound weight loss does not translate into visually salient change. A significant correlation between weight loss and post-treatment depression score, but not between weight loss and change in depression, was found for CT
subjects. This suggests that it is not the actual decrease in weight which brings about the change in depression. It may be that in the context of the CT programme, a third variable (e.g., exercise or enhanced self-control) contributes to both the level of depression post-treatment and to weight loss.

**Limitations**

Finally, limitations to the current work must be considered. Internal validity in Study 3 is limited by the fact that treatment type was confounded with therapist. That is, one therapist conducted the BT groups while another conducted the CT groups. The influence of individual therapist styles was, in part, controlled for by the fact that the therapist for the BT programme followed a prewritten agenda and used a psychoeducational format which did not encourage self-disclosure and group discussion. While this situation was unavoidable in the current study, i.e., there was a lack of funds to pay independent therapists, and the writer was not impartial enough to deliver the BT programme, the confounding of therapist with treatment is a concern. Future research with other therapists will be necessary to ensure that the differential results obtained were not attributable solely to therapist variables.

External validity or generalizability is also subject to certain constraints. This study was conducted in a university research setting which may have enhanced the participants' belief in treatment efficacy in a manner which might not have occurred had the programme been conducted in a private setting. This argument is mitigated somewhat by findings from Study 2. Although Study 2 was conducted in a hospital setting as a clinical (vis a vis a research) programme, participants showed substantial improvements post-treatment, which were similar to those observed for participants in Study 3. That results from Study 2, as well as the results of both CT and BT groups in Study 3, are based on data from two separate therapy groups helps to increase the generalizability.
The lack of long-term follow-up data represents another limitation of the current study. Obesity is clearly a chronic condition and as such requires long-term monitoring. While data from the subjects in this study will continue to be collected, the available follow-up data, i.e., those obtained six months post-treatment, are difficult to interpret. Only just over half of the subjects completing treatment provided follow-up data. Overall, analyses of the pre, post and follow-up data, from subjects who completed the six month follow-up, revealed very few statistically significant changes. However, these subjects represent a self-selected subgroup; they differ from the group as a whole in terms of pre-treatment eating-related psychopathology and possibly in other ways as well. Thus, extrapolation of the findings from this subgroup to subjects in general is not justified. Furthermore, reduction in statistical power, due to the fewer number of subjects, may also have contributed to the lack of statistically significant findings.

While follow-up with clinical populations is generally problematic, the particular factors accounting for the current low response are not known. It is impossible to know to what extent a systematic bias is operating in terms of which subjects are complying with requests for follow-up data. One possible difference between individuals who did and did not provide follow-up data concerns continued group support. Nine of the CT and three of the BT subjects providing follow-up data reported continuing to meet with their original group members. Whether or not individuals not complying with follow-up are also a part of these groups is unknown. While it can be hypothesized that subjects who perceive themselves as doing well are more likely to respond to follow-up, since thinking about, and reporting on, eating/weight-related issues is presumably less distressing for such individuals, it can also be argued that subjects who perceive themselves as doing less well, may be more apt to comply in hopes of reestablishing a therapeutic connection.

Subjects in Studies 2 and 3 did not pay for the therapy they received and thus may differ from individuals paying for treatment. While individuals paying for therapy are more likely to feel invested in their treatment and thus, perhaps, to work harder, it is also
conceivable that some clients would not have continued with a treatment, for which they were paying, which was not producing the desired effect (i.e., weight loss). However, anonymous treatment evaluation forms completed by BT and CT participants indicated a high degree of satisfaction with both types of treatment and thus lessens this possibility.

The other limitation to generalizability concerns the client population. This study selected women with a minimum 10 year history of obesity who had engaged in at least three prior, serious attempts at weight loss. It is conceivable that similar results would not have been obtained had the clients not had such histories. For example, a woman who has lost and regained weight multiple times may not respond to an initial weight loss with a diminution in depression. For a woman who is only 10 kgs overweight and who has never before managed to lose weight, an initial drop in weight might well enhance her affective status. Similarly, women who have struggled with their body images and deteriorations in physical health for many years are apt to be more motivated, ready to give up the diet myth and perhaps, prepared to work harder. On the other hand, they may also be even more resistant to treatment.

The subjects in this programme of research have been exclusively female. How men would respond to such a programme is not known. The issues facing men who are overweight differ from those facing women. White and colleagues (1991) report that, amongst a sample of adolescents having high relative weights, 90% of females, but only 49% of males, were rated by judges as being overweight based on visual inspection. Such perceptual discrepancy may in turn influence whether an individual is treated prejudicially and thus may result in excess weight having a differential impact on men and women. Indeed, the social and economic consequences of excess adiposity are greater for women than for men (Gortmaker et al., 1992). Conversely, as obese men are typically at greater risk for cardiovascular diseases than are obese women (Björntrop, 1992) their obesity may result in increased anxiety regarding physical health or death. Regardless of the specifics,
given the differential effects of excess weight on men and women, extrapolation of the current findings to men is not justified.

Clinical Observations, Implications and Future Directions

To protect against threats to internal validity, subjects in Study 3 were randomly assigned to treatment condition. While random assignment is perhaps a necessary first step in a programme of research, it is not without its price, for the cost of such control comes at the expense of external validity. In clinical settings, individuals seek out therapists and treatments which are compatible with their beliefs, previous experiences etc. In this area of research, many individuals have spent lifetimes dieting and the mere suggestion of this strategy can create a resistance so strong that it makes further work or progress very difficult. For other individuals, the nondieting approach lacks structure. They feel deeply uncomfortable without a framework to guide their eating. The success of any type of psychotherapy is highly dependent upon client characteristics; the recipient of psychotherapy is not a passive player in the process (Bradley, 1993). Thus, an important future step will be to investigate the influence of client preference and treatment selection. One way to examine this would be to allow one group of subjects to self-select either the BT or CT type of treatment programme. A second group of subjects could be randomly assigned to the two groups. Comparisons between assigned and self-selected subjects on outcome variables such as depression, amount of weight lost, treatment satisfaction, number of drop outs etc. could prove enlightening, and help to identify the types of clients who respond most favourably to each type of treatment. It is quite possible that a randomized, controlled trial such as that employed in Study 3 systematically underestimates potential benefits. That is, appropriate matching of client to treatment may enhance apparent treatment efficacy. The question needs to be what treatment for what client under what circumstances? It is foolhardy to think that an unqualified statement such as Treatment X is superior to Treatment Y is any longer sufficient in the realm of
psychotherapy. Psychotherapy differs in too many important ways from the double blind, placebo controlled drug trials upon which we have largely modeled our earlier outcome studies. It is simply not possible, nor particularly desirable, to have therapists and clients unaware of the treatments they are implementing and receiving.

Specific client variables suggested by the current work as predictive of differential response to the BT and CT programmes should be empirically assessed in future studies. As noted above, the presence of significant depression may predict a poor response to a BT type programme. In contrast, depressed individuals appear to do better in the CT programme. Despite presenting themselves for treatment aimed at weight loss, many obese women actually manifest ambiguous feelings regarding weight. For example, issues surrounding sexual abuse, incest as a child, stranger rape as an adult, and physical abuse within a marriage were repeatedly brought up for discussion in the CT programme. The women for whom these were issues, felt them to be a significant part of their weight problem. While the current data certainly do not speak adequately to such issues, it is interesting to note that many of these women felt it "unsafe" to lose weight as this would, in some ways, increase their vulnerability. Yet, they recognized that a part of them wanted to lose the weight, usually for both health and appearance reasons. It seems likely that for individuals still grappling with such indecision, a CT type programme which addresses them directly would be more beneficial. This is but one of the many client characteristics whose influence awaits empirical examination.

Although the current programme of research focussed on the psychosocial factors involved in obesity, there is great need for research which integrates psychosocial factors and biological variables. One such area of particular interest involves interactions between pharmacological and psychological treatment modalities. Selective serotonin (5-HT) reuptake inhibitors (SSRI's) such as fluoxetine (Prozac), which increase synaptic serotonin are effective in alleviating depression (e.g. Pande & Sayler, 1993) and decreasing overeating and promoting weight loss (Nathan, 1992). Furthermore, such drugs are also
purported to enhance social interactions and decrease interpersonal timidity and rejection sensitivity (Kramer, 1993). In monkeys, changes in behaviour, such as increased assertiveness, are associated with increases in 5-HT (e.g. Raleigh & McGuire, 1991). Perhaps certain behavioural changes encouraged in the CT group (e.g. increased activity and assertiveness) altered serotonergic transmission which in turn had an impact on eating and mood. That monkeys given 5-HT-enhancing drugs and 5-HT-depleting drugs show increased dominance and submissive behaviours, respectively (Raleigh & McGuire, 1991), suggests that alterations in 5-HT transmission, (perhaps due to factors such as increased acceptance and the interpersonal interactions experienced in the treatment group), acted to moderate eating and assertiveness behaviours. But, irrespective of the direction of causality (and most realistically, it appears to be bidirectional [e.g. McGuire & Raleigh, 1986]), investigations of interactions between the effects of SSRI's and psychological modes of treatment are needed. Do persons stabilized on drugs such as Prozac show superior response to treatments such as the CT programme or are the effects of such programmes washed out by drug effects? Are gains made by persons completing a psychological programme while on SSRI's lost when medication is terminated? SSRI's, unlike their tricyclic predecessors, are not associated with weight gain. Consequently, the availability of these compounds has made pharmacological management of depression in obese women a feasible, and frequently elected, treatment option. Thus, questions concerning interactions between SSRI's and psychological treatment modalities are particularly germane.

Summary and Conclusions

The above three studies indicate that women seeking psychological treatment for morbid obesity tend to manifest problems such as depression, anxiety, perceptions of deficits in self-control and elevated levels of eating-related psychopathology. Results from Studies 2 and 3 indicate that a nondieting programme aimed at improving emotional well-
being and adopting healthful lifestyle behaviours such as exercising regularly and eating nonchaotically is effective in promoting exercise adoption and significantly reducing psychological distress as well as body weight. Unfortunately, the available data do not permit conclusions to be drawn regarding long-term outcome.

Given the myriad difficulties which face seriously overweight women and research findings which suggest that the majority of morbidly obese women will not maintain normative weights, it is important that such women learn to live healthily in the present, enjoying their lives in the here and now, rather than waiting indefinitely for the thin future of their dreams. As Freedman (1988) so aptly states in her book Bodylove, "You have a right-and a responsibility-to judge yourself according to realistic standards, a right to feel comfortable in your own skin". Even if these women are never to lose substantial amounts of weight, there is simply no reason why they must also remain unhappy and physically unfit for the remainder of their lives.
Appendix I

Cognitive Therapy Treatment Manual
Participant Handouts
WEEK ONE

Welcome, tonight we will be discussing the following:

The goals and structure of the programme;
The importance of group support and how best to obtain it;
The need for homework;
Required readings:
The New Fit or Fat by Covert Bailey
Breaking Free from Compulsive Eating by Geneen Roth.
Overcoming Overeating by Jane Hirschmann & Carol Munter.
Optional reading:
Your Perfect Right: A Guide to Assertive Behavior by Robert Alberti & Michael Emmons
When Food is Love by Geneen Roth
Exercise.

Exercise

Why? To burn calories and alter metabolism; for overall health and a generalized sense of well-being.

What? Decide on two forms of aerobic exercise, preferably, one of which can be done indoors; e.g. walking, running, rowing, biking, aquasize, stairclimbing, swimming etc.

When? Ideally you should engage in at least 20 minutes of aerobic exercise daily.
As a minimum, you should be doing some aerobic exercise at least five times a week.

How? Slowly, gradually. Be gentle with yourself, think positively and work hard.
Suggest some ways to increase the likelihood of your success. For example, making arrangements to exercise with someone else who is at about your fitness level.

Exercise Self-Efficacy

Many people, especially those who are overweight, believe in their heart of hearts that they can not be "exercisers". Nothing could be further from the truth. Unfortunately, that attitude alone can be detrimental. Studies have shown that among people who are equal in terms of weight, physical fitness etc. those that "believe" they can successfully exercise, are much more likely to be successful in adopting a new physical activity regime, than those who are very uncertain that they can do this. What I want you to know, is that many other women, equally overweight, equally fit or unfit have successfully begun exercising. It takes planning, dedication and
perseverance. Start trying to think of yourself as someone who is physically active, imagine yourself walking around the block, riding a bike etc. Have frequent conversations with yourself. Tell yourself that you can exercise regularly. Try to be specific e.g. I can walk briskly around the block for 10 minutes every day this week at 3 o'clock.

To begin: First of all warm up your muscles with slow to moderate walking, biking etc. Then stretch - no bouncing - for about 5 minutes. Your goal is to engage in 20 minutes of aerobic exercise, i.e. activity during which your heart rate is in its target zone (65 to 85% of its maximum). Its best to stay at the low end, at least initially. When you have completed your aerobic workout, spend a few minutes cooling down. Do some light exercise, e.g. slow walking etc. and stretching.

Target heart rate per minute:

\[0.65 \times (220 - \text{your age}) \text{ to } 0.85 \times (220 - \text{your age}).\]

Target heart rate per 10 seconds (the above two numbers divided by 6)

The level at which you begin will depend upon your current level of fitness. The most important thing is to begin doing some physical activity. The "no pain, no gain" school of exercise is masochistic and perpetuated by jocks; it results in injuries and abandonment of planned exercise. If you can do only 2 minutes of walking at a time, that's fine. Do it 4 times a day and add 30 seconds to each session every day. A little sweat is fine, but no agony or crutches please!

Perseverance is the key. According to most people, it takes between two and six months to become "hooked" on exercise. The idea is that regular exercise will become a way of life for you. If this is to happen, it is important that the activities you choose are enjoyable, or at least potentially enjoyable for you. Try to think of ways you can increase the enjoyment associated with exercising. For example, working out with a friend, buying a new pair of running shoes etc. It will require hard work and dedication to get yourself "over the hump" to the point where exercise is intrinsically rewarding, but it does happen.

Insensible Exercise - This refers to small amounts of physical exercise which are obtained during the course of the day but are not primarily intended as such, e.g. taking the stairs instead of the elevator, parking further from your destination and walking, standing instead of sitting etc. This type of exercise burns calories, but does not significantly improve cardiovascular fitness.
HOMEWORK

1. Record all food intake during the coming week and include a brief description of the situation, whether you are alone or with others, any associated emotions and thoughts. Towards the end of the week examine your record and try to discern whether particular patterns to your eating exist: e.g. overeating following fights with your partner or always snacking from 2:00 to 3:00 before the children get home from school. Bring your record with you to next week's meeting.

2. Read Fit or Fat.

3. Think about an exercise programme for you. Choose 2 aerobic activities that you think you could do and enjoy, e.g. bike riding, walking, swimming. In choosing your activities, consider whether you would prefer to exercise alone or with someone. Think about your daily routine carefully and decide on a time or times when you can exercise. Write these down. Next spend some time thinking about things which are likely to hinder your exercise success, e.g., sleeping in late if you planned to exercise in the morning before work. Write these down on the left hand half of a piece of paper. Next to these, on the right hand side write down ways of overcoming each potential obstacle you identified. For example, if you slept in, perhaps you could plan to exercise on your lunch hour or after work. Bring your list with you next week.

4. Purchase any equipment necessary for your chosen activities, e.g. a swimming suit or running shoes.

5. Exercise at least once during the week.
WEEK TWO

Review Homework:

Questions, problems with Fit or Fat
Exercise: successes, problems, comments...
Food diaries - what patterns of eating emerged?

Nondieting Approach

Tonight we'll talk about the rationale for this approach and some ideas about how to implement it. We'll also talk a bit about actual nutritional requirements, food preparation etc.

Dieting does not work!
The current success rate for weight loss maintenance after five years is approximately 5%. There is clearly little in the diet industry for people needing to lose weight. There is however a lot of money for those involved in the industry. They have a vested interested in making sure we use their services over and over...

The Minnesota Study
In the 1940's a classic study of the effects of food deprivation was conducted at The University of Minnesota. Healthy men ate half their usual intake for six months. These men became preoccupied with food. They began reading cookbooks, collecting recipes. Some entered into food-related occupations. This deprivation also resulted in bingeing, impaired concentration and memory, loss of interest and motivation to engage in previously engaged activities, depression, mood swings, irritability, anxiety, apathy, sleep disturbance. The metabolic rates of these men decreased by an average of 40%. Their metabolic rates improved when they were refed. The biggest increases in metabolism were observed in those eating the most.

Nondieters regulate their food intake differently than dieters. When given the opportunity to eat whatever amount she wants, a nondieter will eat less if she has just had a carbohydrate load (e.g. a milkshake) than if she has had nothing to eat before. In contrast, a dieter will eat more when given the opportunity if she has just had a carbohydrate load than if she has had nothing. Furthermore, depression, anxiety, and alcohol intake all increase eating in dieters.

Bingeing is precipitated by physical (i.e. nutritional) and emotional deprivation. The way to avoid nutritional deprivation is to feed yourself regularly. Emotional deprivation is avoided by not forcing yourself to give up foods you love. Instead, choose to eat anything in moderation. Nutritional deprivation can be habit forming. It is the process (dieting) not the substance (food) that is addictive. You tend to lose control because you are deprived and not because you are addicted to a particular food.

I hope I've convinced you that in the long run dieting doesn't work. You're here because your past attempts to lower your weight have not been successful. Be a risk taker. This time try something different. Look at this as an experiment. If it doesn't work out after a reasonable period, you can always go back to your previous methods.
The nondieting approach takes time (months, years). Your weight problem didn't develop overnight. Unfortunately, the solution will also take time. Be patient with yourself. Try to remember that what you are doing is implementing lifestyle changes that will hopefully stay with you for the next twenty, fifty years.

We eat for so many reasons other than physical hunger, that it is often very difficult for us to determine when we are truly hungry and require food. Part of nondieting is relearning how to identify when you are physically hungry and how to eat appropriately. Because this takes time, it is best to begin eating in a mechanical fashion. Have breakfast no later than an hour after you awaken. Eat lunch 3-4 hours after your first meal and dinner in the early evening. Meals should be treated like medicine and given the highest priority in your day. Do not skip meals: this sets you up for bingeing. Would you fail to give your best friend, child or partner the medicine they needed three times a day if it meant their recovery from a "disorder" that made them unhealthy and unhappy. If not, why should you treat yourself any less well? Plan snacks for in between meals.

Sometimes those we love the most and who love us the most contribute significantly to our problems. This often happens because they recognize there is a problem but do not know how to help. Thus, they resort to doing things that are anything but helpful. Be frank with people in your life. Tell them that you are trying a "scientifically based" approach and that the most helpful thing they can do is to "butt out". This includes not making comments about what foods you are eating, your weight etc. If there are concrete ways in which they can help you, e.g. watching the children while you are exercising, joining you in an exercise programme etc. tell them.

Rebelliousness arises when we perceive our choices as being limited, i.e. we start to feel backed into a corner. This can happen when we have rules imposed upon us, either by ourselves or by others. Therefore, it is imperative that you and others quit dictating rules. Setting up strict rules simply makes us want to break them.

As you learn to listen to your body you can eat in response to cues of physical hunger. For now, control overeating by using the following techniques:

1. Eat regularly.

2. Do not forbid yourself any foods.

3. Have a prescribed eating place. Keep and eat food only in this area. Try not to do other things in this area. This is known as stimulus control. Frequently we "learn" to eat when confronted with situations in which we have eaten in the past, e.g. in front of the T.V. Therefore try to break these associations or habits, but limiting the cues associated with eating. Eat only in this area, not in the car, bedroom etc.

4. When eating in your prescribed eating place, set a place, put your fork down between each bite and pause for a few seconds, enjoy your food, take a 3 minute break in the middle of your meal.
5. Remove serving bowls from the table.

6. Leave the eating area when finished meal.

7. Distract yourself after a meal, e.g. call a friend, take a walk.

8. Give yourself other pleasures. What things are pleasurable for you? A long bath, a movie, writing in a journal, listening to music? Make up a list of activities that you enjoy.

9. Treat each meal as an independent event. You choose to "start fresh" at the beginning of a new week or a new day. You can just as easily choose to start fresh each time you eat. Don't let how you eat now be influenced by how you ate earlier in the day.

10. Use coping phrases such as the following to talk to yourself*:

"The urge to eat is strong now, but I know it will decrease to a tolerable level in a little while so I can just ride it out."

"One reason I want to keep eating is because my stomach is not yet signalling to me that I am full. In an hour or so I will feel full and satisfied; so, I don't have to continue eating now."

"I know I get confused between real emotions and urges to binge eat. The urge I feel now is not physical because I have nourished myself with regular nondietering meals.

*Taken from The Road to Recovery: A Manual for Participants in the Psychoeducation Group for Bulimia Nervosa by Ron Davis et al.
Nutrition

There are three basic "chemical" components which make up our diets:

1) Carbohydrates - These include simple sugars such as glucose and complex carbohydrates such as apples and breads. Carbohydrates are used as fuel by the body. Under normal circumstances, glucose is the brain's only source of energy.

2) Proteins - are comprised of amino acids. These are the body's building blocks. We require protein for hair growth, muscle development, tissue repair etc.

3) Fats - or lipids. These are used by the body for making cell membranes and insulation. Each gram of fat contains 9 calories, approximately double the amount contained in proteins or carbohydrates.

We frequently talk about the food groups from which we derive the above nutrients. The four food groups include:

1) Fruits and vegetables
2) Dairy products
3) Meats, fish, poultry
4) Breads and grains

We need products from each of the above groups to be healthy. I have attached recommendations from the Canada food guide to give you some idea of nutritional requirements. Even when one is attempting to lose weight, nutritional requirements should be met. This is important because when the body is nutritionally deprived, one begins to experience cravings for the missing substances. Also one risks breaking down protein (i.e. muscles) to supply the needed nutrients.

CARBOHYDRATES

It is important to eat an adequate amount of complex carbohydrates. Complex carbohydrates, as opposed to simple sugars, take longer to digest and do not result in such extreme swings in blood glucose levels. In addition, the guide recommends increasing your intake of fibre.

PROTEIN REQUIREMENTS AND VEGETARIANISM

We require approximately 60 grams (2 ounces) of protein a day. Most North Americans consume an excessive amount of protein. It is however important to eat an adequate amount of protein to permit muscle development. Proteins are made up of amino acids. There are 9 "essential amino acids". These are amino acids which the body is unable to make and which must therefore be obtained in the diet. Dietary amino acids are necessary for protein synthesis and subsequent muscle growth. Meats, poultry, fish, eggs and dairy products contain all 9 essential amino acids. In contrast, plant products (legumes; cereals - rice, wheat, corn; and roots) are missing one or more of the essential amino acids. People who choose not to eat animal products need to ensure that they obtain sufficient protein from these other sources. Because the body can not store large quantities of amino acids, the different essential amino acids need to be
consumed together to enable the body to synthesize proteins. A combination of cereals and legumes will ensure that you are obtaining the essential amino acids. For example, lentils and rice or baked beans on toast.

**DIETARY FAT**

The one specific dietary recommendation I would make is to decrease your intake of fats. This is for a number of reasons. First of all excessive dietary fat can increase your cholesterol. Increases in blood cholesterol levels increase your risk of heart attack and stroke. Secondly, fats contain double the amount of calories as do carbohydrates and proteins. Thirdly, dietary fats are converted to bodily fat with 25% greater efficiency than carbohydrates. Therefore, you will gain more weight when you eat an equal number of calories from fats than when you consume the same number of calories from carbohydrates. Furthermore, people who decrease fat intake tend not to compensate completely in their caloric intake and thus lose weight.

At present the average Canadian obtains 40% of her calories from fat. The National Academy of Sciences recommends that calories derived from fats constitute only 20 - 30% of our total caloric intake. There are 4 main types of dietary fat:

1. **Saturated fats** - are obtained mainly from animal products such as meat, milk, butter and cheese. Coconut and palm oils are also high in saturated fats. Saturated fats increase blood cholesterol. Therefore you want to limit your intake of these fats.

2. **Polyunsaturated fats** - these fats come primarily from fish; nuts like almonds, pecans and walnuts; vegetable oils like safflower, sunflower and corn oil. Polyunsaturated fats help to decrease blood cholesterol.

3. **Omega-3 fats** - these help to lower triglycerides, a type of blood fat involved in the development of heart disease. Omega-3 fats are a type of polyunsaturated fat and are found in fish oil and canola oil. Therefore increasing your intake of fish can be very healthy.

4. **Monounsaturated fats** - help to lower blood cholesterol. These fats are found in olive, canola, peanut and soya oils.

The first step to decreasing fat intake is being aware of where/how you consume fats. Fats can be found in almost all types of prepared food. If eating high fat content foods is normal for you it will take time, planning and effort to change this. As always, it is easy to slip back to old habits unless alternatives are readily available. Therefore, it is important that you examine your use and intake of fats and make arrangements to adopt new ways. This involves making a conscious choice, buying alternatives and learning to cook in new ways etc.
The following are a few ways to decrease fat use:

1. Buy a low fat cookbook. Books recommended by the Heart and Stroke Foundation include: The Light-hearted Cookbook by Anne Lindsay (Toronto: Key Porter Books, 1988) and Light-hearted Everyday Cooking by Anne Lindsay (MacMillan Canada, 1991).
2. Prepare foods in ways other than frying: steaming, microwave, broiling. For every teaspoon of butter, oil or margarine you eliminate you save 4 grams of fat.
3. Buy a nonstick frying pan, so you don't need to add extra oil or butter.
4. Consider using a wok and cooking oriental style foods.
5. Use spices or condiments such as soya sauce to flavour foods instead of gravies and rich sauces.
6. Use a small amount of jam instead of butter on toast.
7. Skip the mayonnaise or butter on sandwiches; you may not even notice it is missing.
8. Whip butter or margarine so that it spreads further.
9. Use skim or 2% milk instead of whole milk or cream.
10. Use yogurt instead of sour cream.
11. Choose "light" products with less oil e.g. mayonnaise, salad dressings etc.
12. Watch your use of cheese which can be very high in fat. Use skim milk cheese whenever possible.
13. Choose tomato sauces instead of cream sauces on pasta.
14. If you eat meat, choose lean cuts. Consider decreasing the amount of meat you use.
15. Remove skin from chicken.
16. Choose sherbet or frozen yogurt instead of ice cream.
17. Have a whole wheat bun instead of a croissant.
18. Try alternate foods. For example, if potatoes seem unpalatable without 3 Tbsp of butter try eating rice.
19. Try some new foods: Do you eat lentils or dal? What new vegetables would you like to try? Plant protein is generally lower in fat than protein from animal products. Try decreasing the amount of meat you eat. Be adventurous! Talk to friends who are healthy and eat well. Ask for their ideas, recipes etc.
20. Keep low fat foods readily available. For example, keep cut vegetable sticks in the fridge so that when you're hungry it is as easy to eat them as it is to eat a bag of potato chips.
21. Prepare your own foods. Decrease oil called for in recipes and replace with other moisture e.g. yogurt or apple sauce in muffins.
22. If you are eating out, choose menu items with the smart heart symbol.

Other ideas for decreasing fat intake

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
What obstacles stand in your way to consuming less fat? Does your partner refuse to eat anything that is not deep fried? Will it be difficult for you to find the time necessary to prepare new foods in different ways? Do you eat out frequently? Consider the things that may foible your attempts to decrease fat intake. Plan how you can overcome these. Once you have a plan of action, implement it. For example, make sure you have appropriate foods in your home. Delegate tasks so that you have the extra time necessary to cook in a new way.

**HOMEWORK**

1. Finishing reading The New Fit or Fat
2. Read Overcoming Overeating
3. Make a list of how you know when you are physically hungry. Make another list of how you know when you are "emotionally hungry" and likely to eat - eg. bored, lonely, after fight with partner or children. Bring it next week.
4. Plan your meals/snacks in advance. Eat the equivalent of at least three meals per day. Use the techniques discussed above. Enjoy your food.
5. Make a list of how you obtain your fats e.g. butter on toast, deep frying and try to cut down on your fat intake. Try the strategies we discussed this week. Which ones work for you? Why? Bring your list with you next week.
6. Exercise and record your activity. Try to exercise a minimum of five times per week. Feel free to exercise more frequently! Remember long periods at lower intensity levels (e.g. 70% of your maximum heart rate) will be of greater benefit than short bursts at very high intensities.
WEEK THREE

Review Homework:

Please hand in your exercise chart. How is exercising?

Has everyone finished Overcoming Overeating? Any thoughts, questions?

Have people been managing to eat regularly? Anybody having problems with overeating, that they feel they can't get a handle on?

Did anyone come up with sources of fat that we missed last week or any new ideas on how to decrease fat intake?

Reasons (Besides Physical Hunger) for Eating

How do you know when you are physically hungry? Possible cues:

Length of time since you last ate.
Sensations in your stomach, aching, growling
Mental fuzziness, clouding
Headache, Dizziness, blurred vision

Others

For what reasons other than physical hunger do you eat? For example:

Boredom
Loneliness
As a reward
When you are feeling sad, anxious etc.
As a diversion, to help you not to feel
Does eating permit you to procrastinate about doing an unpleasant task a little longer?
As a form of relaxation
Habit (I'm walking by the fridge...)
Do you eat when you think about particular things, e.g. an unhappy relationship, past abuse etc.

Others

How can you identify when you are eating for the above type of reasons? For example:

Do you eat in an uncontrolled fashion,
Are you less aware than usual of what you are eating
Certain foods which you don't normally consume

Others
Problem Solving

Effective problem solving involves several steps. These steps are applicable to all sorts of problems. These are the type of techniques taught in management courses, time management courses etc. There are two main reasons for you to try diligently to become proficient with this. One, you can use the steps to directly change your eating or exercise behaviours. Two, if you regularly use the steps so that you effectively solve problems not related to eating or weight in your day to day life, you will decrease the chances that you binge because of stress, unmanageable problems etc.

1. Identify the Problem(s)

It is imperative that you become aware of why you are overeating (or not exercising etc.). It is one of the initial steps in changing your eating behaviours. Write these down on separate pieces of paper. Remember, the real problem is not always what it first appears to be. For example, excessive eating may more accurately be described in terms of anxiety or procrastination about work, changing relationships etc. Look carefully for what the real problem is.

2. Generate as many solutions as possible.

Below the identified problem, write down all the solutions to the particular problem you can think of. Do NOT be concerned about the feasibility of your possible solutions. Include those likely to be successful and those less likely to result in the desired outcome. The important thing is to generate lots of ideas. Be creative, take a break, new ideas may come to mind. Look at how other people have solved similar problems. Don't stick exclusively to old solutions. If they'd been completely successful, you wouldn't have to be solving the problem at present. Look for new and different ways of thinking about the problem.

3. Order and choose the solutions which you are going to implement.

First of all decide which solutions you are going to use. You may eliminate some because they are simply to difficult to implement, other solutions may have a very low probability of success. Once you've decided what solutions you are going to try, rank them. Consider how difficult in terms of time, cost, energy etc. they will be to implement and also how effective you think they are going to be.

4. Plan and implement

Plan how you can implement your chosen solutions. Do you need to make any purchases? set aside time? talk to other people? Whatever you need to do, PLAN, PLAN, PLAN. I know this sounds like a broken record, but this drastically increases the likelihood of success when you are trying to change behaviours. We all have a tendency to slip back to the path of least resistance (i.e. to engage in old behaviours and old, ineffective solutions like over eating) when our attempts to make changes are thwarted. The best guard against this is to have a solid plan in place. A plan and proper preparation tends to make difference in difficulty between the old and new solutions not seem as great. Thus, you will be more likely to persist with the new and
hopefully more effective solution. Do everything you can to enhance the possibility you will succeed with the new plan.

5. Evaluate

After you have implemented your new strategy, sit down and consider the results. Was it efficacious, did you get the results you wanted? If so, what will these new results change in your life, will you need a plan for dealing with these changes. For example, someone who was using food as friend, decided to try the human variety instead. She planned ways in which she could meet some new people and was quite successful in this regard. She was then faced with the problem that her new social activities required more time. She therefore tried to reorganize some of her duties (e.g. doing household chores in the morning before work) so that she had time in the evenings to spend with her new friends. When you have achieved success, its easy not to bother with the evaluative phase of problem solving. To ensure your continued success, its important that you take the time to do this. Also, spend some time deciding why you were successful. What factors contributed? This will help you to problem solve effectively in other areas.

If your attempt was not successful, try to determine the reasons for this. Was it because the identified problem was not the "real" problem? Was it because the strategy was not appropriate? Because the plan and/or preparations were not successful? When you have some idea of why you were not as successful as you had hoped, make some modifications and try again. Be sure to reevaluate. Use these opportunities to learn about yourself. Your new self knowledge will be invaluable in helping you to create new strategies and plans in the future.

Try not to evaluate your success in "all or none" terms. Perhaps you were a bit successful, moderately successful etc. Try to talk to yourself as you would to a friend. Imagine a friend told you that she started knitting so that she would not be as tempted to eat out of boredom. If she showed you the sweater she had made, replete with holes, dropped stitches etc. what would you say? You could frame the experience as a failure because the sweater was less than perfect and was not likely to be worn. Or, you could frame it as a success because she learned a new skill (albeit imperfectly), was able to decrease her eating and now knows that she prefers sewing over knitting. Whatever the results of your efforts, try to evaluate them fairly and realistically. Look at things from more than one angle...

As you become proficient with this method of problem solving, your sense of overall control should increase. Believing that you can do something is often as important as learning the actual technique. Talk to your self, reinforce yourself for your success.
Possible Solutions for Binge Eating

The particular reasons why you overeat will determine which strategies you choose. Here are some common ones.

Alternative methods to "zone out" or procrastinate:

Watch TV
Listen (and/or dance) to a favourite album
Play video games on the computer

Alternatives to eating when you are bored (remember to pick ones you are likely to use, even if they seem less desirable than other solutions):

Make a telephone call
Go out with a friend
Read a book, (always have a couple readily available books in your home, a "no mind" one, for when you are bored but really just want to zone out, and a more involved one for when you need a little more stimulation).
Subscribing to a magazine can ensure that you have a constant source of new reading material
Go for a walk, exercise
Work in the garden, organize your sock drawer
Do a simple task. Not only do you occupy yourself and hopeful prevent yourself from eating out of boredom, but you also accomplish something which needs doing and thus get to feel good about your accomplishment. Make a list of simple tasks which frequently need doing. E.g. paying the bills, balancing your cheque book, dusting, painting your nails...

Alternatives to using food as a reward:

Identify other ways you could reward yourself: buy yourself flowers, a new piece of clothing, have a long soak in the bathtub with your favourite bath oil; try rewarding yourself with time alone, taking up a new hobby such as painting or writing which has always interested you. Remember a new hobby need only be enjoyable, you do not have to be a Rembrandt; learn to enjoy the process not just the end goal or product.

HOMEWORK

1. Record (and bring) the ways you know when you are eating for reasons other than hunger.

2. Develop a list of personal "rewards" or reinforcers.

3. Continue with the eating strategies you have been using (eating regularly, in a set area, sitting down etc.). How does it feel not to have forbidden foods? Are you eating more, less? Have you been able to decrease your fat intake. BE AWARE of your eating.
4. Continue exercising five times per week. If you are having difficulty with this, if it still feels like a complete chore, continue to keep an exercise diary and talk to me. It's very important that exercise become something enjoyable for you, so you will WANT to continue with it...

5. Finish reading Fit or Fat and Overcoming Overeating.
WEEK FOUR

Review Homework

Did you discover nonhunger reasons why you are eating? How do you know when you are eating for reasons other than hunger? What personal "rewards" or reinforcers could you use instead of eating?

Eating - Are you able to eat at your prescribed area? Any problems with bingeing? Are you eating regularly? Are you able to tell when you are physically hungry? Are you able to use reinforcers other than food to reward yourself?

Exercise - Are you exercising at least five times per week? Are you able to get back on track if for some reason you miss a session? Is exercise becoming enjoyable? Do you notice any changes in how you feel about your body or how it is responding?

Readings - Has everyone finished reading Fit or Fat and Overcoming Overeating?

DISORDERED EATING, COGNITIVE ERRORS & DEPRESSION

People with disordered eating often have depressed moods; this frequently involves self-deprecating thoughts and actions. Depression negatively affects areas of personality and interpersonal functioning, influencing the way we feel, think and act.

Common signs of depression are:
- overwhelming feelings of sadness or being blue, down in the dumps;
- loss of interest in most things previously considered pleasurable;
- feelings of guilt, helplessness and hopelessness about the future;
- social withdrawal;
- thoughts of self-harm;
- diminished level of energy;
- inability to concentrate;
- sleep difficulties.

Typically, when dieters are feeling depressed or anxious, they tend to overeat. In contrast, when nondieters are depressed, they often lose weight. A number of factors may contribute to this. Dieters and depressed people tend to be less aware of and/or ignore internal cues. Also, some people report that they are able to "stuff down" emotions by eating.

Depression

A variety of factors, including heredity, biochemistry, behaviour, thoughts and social circumstances contribute to the development of depression. Drugs (antidepressants) are sometimes used to combat depression biochemically. It is also possible to alter feelings of depression by changing one's behaviours and thoughts. As some of you have attested, exercise
is often beneficial in lifting one's mood. Engaging in enjoyable activities (i.e. rewarding oneself) can also help. It is important to know what activities are enjoyable for you. And, it is equally important that you permit yourself access to such activities. While people often complain that they haven't the time to engage in such activities, it should be noted that when a person is depressed, her or his ability to concentrate and function effectively is impaired. If you take the time to take care of yourself, eat well, exercise regularly and do enjoyable things, you are apt to be more productive and accomplish more work in less time. This in turn tends to help elevate one's mood.

Friends and Socializing

People who are depressed and/or overweight often feel very isolated socially. Although different people prefer different amounts of social contact, interpersonal relationships are important for everyone. Many individuals feel they are using food as a friend. If you are not socializing or spending as much time with friends as you would like, why not? As you are no doubt aware, this behaviour like all others can be changed. It is not easy and initially will require hard work.

Try using the problem solving template we talked about last week. Why aren't you socializing enough? Is it because of time constraints, lack of opportunities, social discomfort, inhibition because of appearance? What possible solutions can you come up with? Improving your time management and organizational skills can increase time for socializing. Changing priorities can also help, as can delegating tasks. Could you join a club, community centre, take a course? Think about ways you can gain exposure to people with whom you would be able to develop friendships. Does your physical appearance hinder you from socializing? WHY?? Remember, you are far more concerned about your appearance than are other people. Is it really your physical appearance that is stopping you or are there other factors involved? Be honest with yourself. Consider using some of the cognitive methods discussed below. (We will talk about assertive behaviour next week and hopefully come up with methods for dealing with obnoxious people whose comments etc. make you uncomfortable). Would you tell an overweight friend she should not be seen in public because of how she looks? What about someone who had lost her hair because of chemotherapy... Why are you so hard on yourself?

Faulty Cognitions and Dysfunctional Thoughts

People, especially those who are depressed, often have "dysfunctional thoughts". People who are emotionally healthy tend to have a favourable bias about themselves. Distressed individuals on the other hand, tend to see and remember negative things about themselves and the world around them. Researchers have identified a number of types of cognitions or thoughts which plagued depressed and anxious people. Often we are not aware of these types of thoughts. It is important that when you are feeling upset you take the time to look inwards and try to understand why you are upset. Try to ascertain whether you engage in the types of thoughts illustrated on the attached page. These thoughts are often so automatic that we aren't aware of their presence. When you feel upset, take the time to look inwards and see if any such thoughts are there. This will take time, effort and practice.
Once you learn to identify faulty cognitions you can set about changing them. Initially it will be helpful to write down the dysfunctional thought and construct rational, accurate responses. Once you have written the best response possible, beginning saying it to yourself either silently or aloud. Look for similar situations and assess whether similar faulty cognitions are involved. As you become more experienced in talking back to yourself, you will be able to directly counter your dysfunctional thoughts.

Dieters and overweight people often become involved in vicious cycles. They break a self-imposed rule such as no bread, no chocolate, or only 1200 calories a day and then berate themselves for doing this. As a result they feel bad; then in an attempt to feel better, they again eat. People frequently translate problems which are very hard to deal with into the language of food, eating, weight etc. Thus instead of admitting to oneself (and/or others) that she is in an unhappy relationship, would like to work outside the home, is lonely, or has yet to deal with past abuse etc., a person will often talk about her weight problem. This is very much accepted by society: everyone is allowed to complain about their body, their diet etc. regardless of whether or not they are overweight. Unfortunately, translating nonfood, nonweight problems into the language of food and weight tends to prevent one from dealing with the real problem, whatever it is. Berating oneself about one's appearance, breaking rules etc. serves to make one more unhappy, more likely to overeat and less likely to work on and eventually solve the real problem. When you begin to yell at yourself, quietly ask yourself what it is you are really unhappy about. Regardless of the answer, remember: berating yourself will not help.

Our society promises that thinness will bring with it many rewards: romance, happiness, wealth etc. This is a fairy tale. Thin people still have unhappy marriages, careers which fail etc. Although we all say that we know rationally that being thin is not the answer to all our problems, there is a very strong tendency to think in terms of "When I am thin: he will love me, I won't feel insecure..".

People who are overweight and/or depressed often have low self esteem. As we have discussed previously, people who are overweight are often subject to negative biases. Accepting your present self as you are is a prerequisite for change. This does not mean that you can't work towards change and growth. Rather, it implies valuing and respecting yourself right now. When you accept yourself as you are, other people are more likely to also accept you. When you act in ways which suggest you are not happy with yourself, others often sense this and respond similarly.

Some therapists suggest that when you are overly critical of yourself and put yourself down, the healthy part of you, who loves yourself will tend to rebel by telling you that you are fine just as you are and sabotaging any attempt on your part to change. If you learn to accept yourself as you are, identify your problems accurately, and deal with them to the best of your ability without denigrating yourself, you will feel better and be more likely to make successful changes (weight and otherwise) in the future.

The Feeling Good Handbook by Dr. David Burns is an excellent book which deals with the subject of how thoughts can effect our moods and behaviours. It contains many "exercises" designed to increase your awareness of self berating and faulty cognitions and help you replace these with more useful thoughts. It is available in paperback. Cognitive therapy as described by
Burns is widely used in the clinical treatment of depression and anxiety disorders. It can be very powerful and developing some facility with the techniques involved is highly recommended.

**HOMEWORK**

1. Read Breaking Free from Compulsive Eating.

2. Continue with regular exercise and eating. Note any problems you are having so we can discuss them next week.

3. Think about your mood. Do you feel up or down most of the time? Why? What behaviours are contributing to your moods e.g. lack of sleep, lack of socializing, overworking? What faulty cognitions are involved? Write down situations in which you have faulty cognitions. Identify the type of thought and write a more accurate, rational response. Practice using this type of self talk when you experience dysfunctional thoughts.

4. When you feel upset and think it is because you are overweight or because you have just overeaten or have failed to exercise etc., check in with yourself to see if this is really what the problem is about. Try hard to accurately identify the things which upset you without always "blaming" your eating, appearance etc.

5. Complete the questionnaire package and BRING IT WITH YOU NEXT WEEK!!
WEEK FIVE

Review Homework

Turn in questionnaires

How are people finding their exercise programmes? Problems? Suggestions?

Eating Behaviours? Are people able to eat regularly all the time? Have you been able to feed yourself when you are hungry? What problems are you having? Can you make adequate time to prepare and appropriate foods?

Identifying dysfunctional thoughts and creating rational responses:
Have you been able to identify problems which you have been attributing to weight, appearance etc. Have you been able to establish ways of dealing with the real problems?

Assertions

Self Esteem

Self esteem is determined by how closely one's actual self approximates one's ideal self. If the two are very similar self esteem is high; if the two are quite disparate, then self esteem is low.

As we have discussed previously, there is a societal prejudice against overweight persons in North American. Being the recipient of negative biases can contribute to the low self esteem frequently seen in overweight people. There is an erroneous belief that if one is overweight it is because she or he is lazy, weak or out of control. Indeed, health practitioners such as physicians often fall prey to telling their chronically overweight patients that they are not trying hard enough or must not truly want to change. More importantly, people with weight problems may end up internalizing such negative beliefs. That is, they may come to believe they are lazy, out of control etc. It is important that you develop and maintain a sense of self efficacy.

You may feel guilty and confused about your weight, embarrassed or ashamed of chaotic eating habits. You may feel that the "you" the rest of the world sees is simply a front, portraying someone who is confident and in control. You may temporarily feel elated when you are successful at restricting your intake. However, breaking any of your rules around food and weight may upset you, cause you to diet more strenuously and, as we discussed earlier, this is often the beginning of a vicious cycle of overeating and feeling badly.

Indeed, women often describe a sense of shame and failure from cycles of losing and regaining weight. In fact, it has been suggested that this may account for the higher rates of depression seen in women as compared to men. In support of this idea, are findings that, in countries not having an inappropriately thin ideal for women, eating disorders are not a problem and rates of depression are not higher in women. In contrast, in countries where there is an unrealistically thin ideal, eating disorders are also prevalent and depression rates are higher in women than men.
It is essential to understand that in the long term, weight control will not solve all life's problems and that thinness is not a prerequisite for a sense of self worth and happiness. Focusing on food and weight issues as a way of dealing with unhappiness will only perpetuate your weight problem and distract you from addressing the underlying issues. Ultimately, we all need to learn to anchor self esteem in self awareness and acceptance and not on weight control. Inherent in permanently raising self esteem, is learning to live in the here and now (and not in the "thin future" of your dreams) and accepting yourself as you are, right now.

Assertiveness

Women frequently find it difficult to be assertive. When one is unable to be assertive, she places herself in the likely position of feeling abused and not having her needs met. Furthermore, when self esteem is low, people often feel they do not deserve to have their needs met. In turn, when one's needs not met, self esteem becomes lower, creating yet another vicious cycle. By being appropriately assertive and having needs met, this cycle can be broken.

Assertiveness consists of being aware of one's own needs and expressing these appropriately without impinging on the rights of others. (Remember there is a difference between other people's rights and their desires). Fundamental to being assertive is learning to ask directly for things and being able to refuse the requests of others when they are inconvenient or inappropriate. First of all, it is imperative that what you want is clear in your own mind. This does not mean you can not remain flexible and negotiate with someone, but you do need to be aware of what it is you are needing or wanting. Certain behaviours help to ensure that one's needs will be met:

- Consider in advance in what situations difficulties tend to arise, so that you can be prepared.
- Speak in a firm tone of voice, at a volume clearly audible (careful not to raise the pitch of your voice at the end of a statement thus giving it a question-like quality).
- Maintain eye contact.
- State your desires in a clear and unambiguous fashion;
- Suggest alternatives which would be acceptable to you (this enables others to feel that they also have some control and choice in the situation).
- Remember: you are not obligated to justify your decisions or wishes to others. In fact, this may prompt them to question your decisions.
- Try practising with an audio or video tape; better yet do some role playing with someone else: this can be invaluable.

While everyone has particular situations she finds difficult, people who are overweight typically report having difficulty in situations involving food. People with weight problems often feel guilty and ashamed if they eat in front of others, or if they eat anything other than the 'good' foods. No one else has the right to tell you what to eat or not to eat. Learning to eat previously forbidden foods such as deserts in front of others helps to eliminate the secretive aspect of eating. When it feels acceptable for you to eat what you want, in front of whomever, your urge to binge when alone will likely decrease.
When eating in restaurants, remember you are paying for a service. Do not hesitate to make requests, if they are unable to comply you are still no worse off. With friends and family, learn to express appreciation and love via means other than food. For example, tell your friend you would love to get together, but would prefer that this no longer entail having lunch together at your favourite French Restaurant. When a host or hostess is insisting that you eat food which you would rather not, be firm and clear. Do not offer unnecessary explanations. Remember, food has come to serve many other purposes than simply providing fuel for a physically hungry body and it is quite possible that you will strike a chord of insecurity in your host when you refuse a second helping or desert etc. Rather than entering into an arguing match about whether or not you truly want something, try complimenting your host and assuring him or her that you are having a good time and simply restating that you do not wish the "whatever". When possible, it often helps to have a chat with your host beforehand. If she is aware of your attempt to alter your eating habits, she is more apt to respect your stated wishes and may even be relieved to learn that preparing an elaborate meal will not be necessary.

While being assertive in eating-related situations is certainly important, learning to be assertive in nonfood-related situations can be equally as important. Being assertive in situations not directly involving food can help to ensure that you do not end up eating as a means of compensating for feeling overwhelmed, deprived, that life is unfair, that you are being used etc.

RELAXATION STRATEGIES

There are many different ways to relieve tension. Eating may be one of the coping strategies you are presently using. By exploring and learning some alternative methods, you will have coping strategies (other than eating) from which to choose when you are under stress. Hopefully having more choices will help you not to overeat; ideally, you will discover new techniques which are superior methods for reducing tension.

Deep Breathing

When concentrating mentally or straining physically, humans have a tendency to hold their breath. This is detrimental for several reasons. It can increase the pressure in your abdomen, chest and head. It prevents you from acquiring needed oxygen to nourish your brain and muscles. Holding your breath also prevents you from blowing off carbon dioxide (CO2). This in turn results in a change in your pH. Another possibility when you are under tension is that you begin to breathe very rapidly and shallowly. This causes you to blow off excessive amounts of CO2 and your pH rises. This in turns leads to symptoms such as tingling (pins & needles), dizziness and sometimes panic.

Learning to control your breathing is perhaps the most simple and effective way a person can reduce her sense of tension or anxiety. This initially requires effort and practice. However, like driving a car it can become second nature and be implemented whenever you find yourself in a stressful situation. Ideally, you can sit in a reclining chair or lay with your head slightly elevated. Place one hand on your chest, one on your abdomen. Breathe in normally; notice your hand on chest move. Now breathe in slowly and very deeply; notice the hand on your abdomen rise. Count in to four (or 3 or 5) as you breathe in. Make sure you breathe all the way in to your
stomach. Hold it for just a second and then blow out to the same count of four (or 3 or 5). Concentrate on all the sensations associated with breathing.

Progressive Muscle Relaxation

This is a technique which is very popular. It is used "prophylactically" as well as prescriptively for problems such as chronic pain and insomnia. The method involves tensing and then relaxing various groups of muscles and concentrating on the differences in sensations when the muscles are tensed versus relaxed. In this way you can learn to become aware of when there is excessive tension in your muscles and how to release it. Pick a quiet place and time when you will not be disturbed. Sit in a comfortable recliner or lie on your bed. You may want to play some relaxing music (new age music, sounds of nature etc. can be quite helpful).

The following are the major groups of muscles and the ways in which they can be tensed.

1. Hands - make a fist
2. Lower arms - press your arms downwards (e.g. onto the arms of a chair or onto a bed).
3. Upper arms - flex your biceps
4. Forehead - raise your eyebrows
5. Mid face - wrinkle your nose and squint your eyes
6. Lower face/jaw - bite together with your teeth and pull the edges of your lips back
7. Neck - press your chin towards your chest but use the muscles in the back of your neck to prevent it from actually reaching your chest
8. Upper back, shoulders - press your shoulder blades together
9. Abdomen - harden your stomach as though you were protecting yourself from being punched
10. Thighs - press downwards with the large muscles on the top of your thighs; use the muscles on the back of your legs to counterpoise
11. Calves - point your toes upwards
12. Feet - turn your feet inwards and gently curl your toes under

**HOMEWORK**

1. Finish reading Breaking Free from Compulsive Eating

2. Continue exercising and using the eating strategies as discussed previously. Be aware of when you are physically hungry and be sure to feed yourself.

3. Identify at least two situations in which you need to be more assertive. Remember the importance of delegation. Devise and write a plan of action. If possible implement this and evaluate its efficacy. Examine what happened to see what aspects were helpful and what aspects will require modification for next time.
4. Set aside 20 minutes per day. Ideally, this should be the same time each day to help you incorporate this into your routine. Practice deep breathing and progressive muscle relaxation every day. It is important that you practice it frequently at first to ensure that you acquire the skill to relax at will. Afterwards such frequency may not be necessary for you.

5. Be aware of times when you a) feel stressed; b) breathe rapidly and/or shallowly and c) hold your breathe. Note the types of situations under which these behaviours tend to reoccur. When you are aware that you are engaging in these behaviours, begin deep breathing. Notice any changes you feel, either physically or mentally.

6. Use these techniques when you find yourself in stressful situations. When you want to eat and know that you are not physically hungry, try to take a few minutes out. Do some relaxation exercises. Remind yourself that after the exercises if you still want to eat, you can. You may, however, find that the urge for food will have passed by the time you have completed the relaxation exercises.
WEEK SIX

Review Homework

Finished reading Breaking Free from Compulsive Eating?

Any problems re: eating or exercising?

Are you able to identify dysfunctional thoughts and create rational responses.

Have you been able to identify problems which you have been attributing to weight, appearance etc. Have you been able to establish ways of dealing with the real problems?

Have you practiced/used progressive muscle relaxation and deep breathing?

Have you been able to identify and act assertively in a problematic situation during the past week?

DEVELOPING A HEALTHY RELATIONSHIP WITH YOUR BODY

Accepting your body is an important part of self acceptance. It is difficult for people in our society to feel good about their bodies because the body which is considered to be the ideal and the only one acceptable, is not a healthy, adult body. Images portrayed in the media have resulted in body image dissatisfaction on an epidemic scale.

While you may actually feel uncomfortable with your body, it is also true that body dissatisfaction is often a clue to deeper feelings of personal distress. As we discussed earlier, there is frequently a tendency to use displacement as a means of coping. Instead of dealing with the real problem and working towards its resolution, one works at changing her body. However, because it is not really her body alone about which she is unhappy, fixing it only provides a temporary sense of relief.

For example, a person who feels dejected, unwanted, unloveable because of a failed relationship, may project their feelings onto their body. Instead of feeling that you, as a person, are not loveable, your displacement enables you to feel that it is your body that is not desirable. People often try to change their body in an attempt to make themselves feel more loveable. The problem is that altering your body won't make you feel that you are truly loveable or valuable etc. and there will always be something else that you believe requires "fixing" on your body.

Displacement as a means of coping provides certain benefits, at least initially. It allows you to localize the problem (e.g. its not all of me, its just my body and this can be changed). This in turn may diminish the intensity of the painful feelings. Displacement may allow you to avoid a problem which you feel is too painful to confront. Also, displacement of one's problems onto their body allows them to believe that they know how to deal with their problems.
Because fatness is (erroneously) associated with being inadequate and out of control, it is easy for people to displace their other problems onto their fatness. You may try to feel more efficacious and in control by attempting to change your body. Since this is dealing with, at most, only one aspect of the problem, it is doomed to fail and may result in you entering into a detrimental cycle of:

- disliking your body,
- losing some weight,
- feeling a bit better for a while
- then feeling badly because you again gain weight and feel out of control etc.,
- feeling badly means you are more likely to abuse your body by overeating and failing to exercise...
- then attempting to feel better again, but using drastic measures to try to lose weight

To help escape from this cycle:

1. Get to know yourself - what things do you like / dislike about yourself as a person? Make a list of the things you dislike and examine it carefully. What things on this list are reasonable? What things would other people think are ridiculous? Would you laugh at some items were they on another's list? When you have a list of the significant aspects of yourself which you find distressing, take the time to plan how to deal with these problems. It is very important that you deal with such problems directly and not try to solve them via changes to your body, as this will increase the likelihood of overeating, not exercising etc. Not to mention the fact that the true problem will remain unresolved.

2. Get to know and appreciate your body - we often have a tendency to dissect and compare our bodies with those of others. Instead of appreciating all our bodies do for us, enabling us to walk, pick flowers, hug our friends, our children etc., we feel disappointed that our bodies do not resemble the airbrushed photographs of anorexic, prepubescent girls in magazines. One's body should be the place from which she acts as a whole and integrated person.
   a) Make up a sentence which describes how you would like to move through the world, (e.g. I move confidently, easily and calmly); say it over to yourself.
   b) Look at your body in a full length mirror. Notice the usual judgements you make. Acknowledge each of these judgements until no more criticisms arise. Then just look at your body as a whole, just being there. See if you can just look at yourself with nothing good or bad to say. Try describing your body to yourself without prejudice, i.e. just how it looks without any value judgements.
3. Break the connection between how you feel regarding your body and how you act. When you imagine yourself as being very large, is the way you envision yourself acting, different from the way you see yourself act when you imagine yourself as small. Why? Your size does not have to determine how you act. You can choose to act in whatever manner you wish. This includes acting confidently, eating in front of others, wearing bright clothes, flirting, engaging in desired activities and anticipating (yes, even insisting upon) an acceptable level of respect from others.

HOMEWORK

1. Continue with regular exercise and eating. Continue practising progressive muscle relaxation and deep breathing. Use these techniques when you find yourself in stressful situations.

2. Be aware of when you are berating yourself, using faulty cognitions etc. Create and use rational responses.

3. Be on the look out for situations in your everyday life in which acting more assertively would be beneficially. Learn to regularly develop plans for how to act more assertively and try these out. Assertiveness is like any other skill: it takes time and practice to become proficient.

4. Do the body self-awareness exercises described above.

5. Towards the end of the week, take some time to review your current eating and exercising behaviours. I would like each of you to write and turn in a written paragraph or two about how you are managing with your eating and exercising, how you are feeling etc. In particular, I'd like to know about areas which you are finding problematic. Try to be as specific as possible so that we can try to come up with some answers. Also, please mention any topics which we have not covered which you would like to have addressed.
WEEK SEVEN

Review Homework

Able to eat and exercise regularly?

Can you do the muscle relaxation exercises and deep breathing? Is this useful?

Are you identifying faulty cognitions and replacing them with rational responses?

Have you tried acting assertively? What happens?

How did you find the body self-awareness exercises?

Could you identify aspects of yourself with which you are dissatisfied? Did you learn anything about yourself?

Please turn in your paragraphs and I'll read them during the week.

RELAPSE PREVENTION

Making lifestyle changes, including loosing weight is difficult work. Regardless of the degree of your initial success, it is natural to expect that you will have periods of difficulty. This does not mean that your accomplishments to date have been for naught. In the same vein, if you have not achieved what you initially hoped for, remember you have been exposed to ideas which you can choose to implement now and in the future. Because slips are to be expected, it is important to consider them in advance and plan for their occurrence. Remember, most people can manage to lose weight, it is the maintenance phase in which most people fail.

1. Making Changes Takes Time. Try to view your new behaviours as simply an ongoing process and anticipate slips along the way. If you start thinking in black and white terms (i.e. all or none thinking) and applying unrealistic standards you will interpret any deviation in your behaviour as failure. In turn this will increase the possibility that you will eat to compensate for feeling like a failure.

In contrast, you can view slips as isolated events which are to be expected and thus are not out of the ordinary. This type of perception allows you to view the situation as a learning experience and part of the natural path of the journey. Try not to overgeneralize. A binge now says nothing about this evening, nor does it say anything about tomorrow. When you do have a lapse with eating or you fail to exercise, don't try to compensate for it by restricting your subsequent food intake or over exercising. This will only increase the chances that you will again binge. Instead, take time to learn from the situation, what factors contributed to the binge or to not exercising? How can these be overcome in the future?
2. Plan. Plan. Plan. What situations or factors have been problematic for you to date? When do you fail to exercise? Under what circumstances do you tend to overeat? Take the time to write down the situations in which you anticipating having difficulty in the future. Then try to generate methods for avoiding these pitfalls. Do not expect all of your attempts to avoid slips to be successful.

If lapses are to be expected it makes sense to plan for them in advance. Use the things you have learned about yourself over the past ten weeks to help you generate a plan to ensure that a lapse does not turn into a relapse. For example, you may decide that if you miss two scheduled exercise sessions, you will make plans to exercise with someone else for the next couple sessions as a means of encouragement and ensuring that you get back on track. If you overeat, perhaps you can plan to treat yourself to a movie to get yourself away from the food or source of stress etc.

3. When a lapse seems to be becoming a relapse. If you recognize that your exercise and eating behaviours are returning to their old patterns (e.g. bingeing frequently, not exercising), then return to the methods suggested early on. Schedule and eat regular meals. Start monitoring your eating again. Write down when and what you eat. Schedule exercise times. Chart or graph your exercise. Make arrangements with someone, perhaps someone in the group to call regularly and check up.

4. Positive Reinforcement. We all know the value in rewarding children and pets when we are trying to teach them something new. The same thing applies for you. Evaluate your progress on a regular basis. Pick a time and each week examine how you have done. Measure your success in terms of your own progress: are your binges down from five times per week to once a week? Are you going to functions you once would have avoided because you felt fat? Are you walking regularly now where as six months ago you were not? These are all indicators of progress. Evaluate yourself over a reasonable period of time. If you have just binged, don't evaluate/berate yourself on your behaviours of the past few hours. Instead view these behaviours in context. How have you done over the past two weeks? Remember where you were two months ago. Change is a slow business. Take credit for your accomplishments.

Ongoing Contact

One of the things which has been shown to help people make changes is contact with other supportive people. I will be leaving Vancouver, so continuing with the group is not possible. What I would like to encourage you to do, is to meet amongst yourselves. Running a support group can be difficult, onerous, fun, or exciting; it really is up to you. If this seems like something you would like to pursue, I would suggest deciding upon two people to be in charge for the first month. Think about this during the coming week, and if you want we can talk about setting up/running such a group next week. If this is not possible, two or three of you might still want to meet regularly on a more informal basis.
1. Decide on a time for your weekly self evaluation.

2. Decide exactly what it is you will be evaluating each week (e.g. if you've exercised five times, if you have decreased the frequency of self berating comments etc.)

3. Look back over your diary, itemize the places/situations which seem to be risky for you. They may be risky b/c they increase the likelihood of a binge or decrease the likelihood of exercising; they may be risky b/c they make you feel badly about yourself.

4. Develop very specific game plans for either avoiding the risky situations you've identified or for coping successfully with them.

5. Decide exactly what will constitute a relapse (rather than just a lapse) for you. Is it 7 days without exercising; two days of staying home alone crying? Have a game plan prepared in advance for a relapse. Try to make this plan a comprehensive one (i.e. it should be specific and detailed and should involve many different aspects of your behaviour: exercise, emotional well being, socializing, nonchaotic eating etc.). BRING THIS WITH YOU NEXT WEEK.
WEEK EIGHT

Review Homework

How are you managing with eating, exercise and relaxation behaviours?

Are you able to routinely identify cognitive distortions and identify the "real" problems in your life?

Did you identify a regular self evaluation time?

Did you identify risky situations and how to cope with them?

Turn in your paragraph about coping with a relapse. I'll read them and we can discuss them at your individual session.

Do you want to continue getting together?

SUMMARY

Over the past weeks you have been given many suggestions for overcoming your weight problem and making lifestyle changes. Hopefully, you have acquired some new skills and insights which you will find useful. The basic areas we covered were:

-Eating: taking a nondieting approach, learning not to deprive yourself and instead recognizing when you are hungry and feeding yourself appropriately will help to prevent binges. Identifying nonhunger reasons for eating and learning to cope by means other than food will help to reduce your caloric intake without feelings of deprivation.

-Exercise: regular aerobic exercise is an important component of a healthy lifestyle. In addition to enhancing your sense of mental well being, exercise is a necessary component for weight loss. Remember, exercise needs to be enjoyable if you are going to continue with it for the rest of your life. Persevere over the difficult initial phases till you reach the point where exercise is just a part of your life, like brushing your teeth.

-Depression, low self esteem: remember to be on the look out for dysfunctional thoughts. Replace these with more useful and accurate statements. Strive towards identifying areas of your life with which you are not satisfied instead of assuming that all your unhappiness is the result of your weight problem. Live in the here and now.

-Assertiveness: you have rights: the right to the healthiest body you can achieve, self respect, the right to feel comfortable in your own skin. Being assertive can help you to meet needs in a healthy manner. Others in your life may also feel relieved when you act straightforward and direct. They know where they stand and what is expected of them. It may however, take time for them to adjust to your changes. Be patient and consistent.
- A Healthy Relationship with Your Body: take the time to get to know your body. Appreciate what it does for you. Try to stay in touch with your body and take good care of it. This means exercising regularly, providing it with nutritious food and not berating it unnecessarily.

These are lifestyle changes. They won't happen overnight, but they will happen. It is so important for you not to become overly discouraged. There will be days when it is very difficult, but remind yourself that you have the rest of your life and you can take it one day at a time. Adopt and maintain a long term perspective. The short term outlook will only result in short term solutions, e.g. quickly regained weight losses. The hardest part is at the beginning. Take heart, you won't always have to work this hard. Be kind to yourself and encourage yourself as you would a friend. Base evaluation on your own progress and not on comparisons with other people.

We all need measures of success, goalposts etc. Unfortunately, we often use measures of weight as indicators about personal success. How ridiculous! Perhaps it is to someone's advantage to keep us using such measures but it is surely not to ours. Is a 100 lb. body really the answer to life's problems? Be aware of society's strong arm in our beliefs about what constitutes a healthy and attractive body. An inappropriately thin ideal is so widely accepted in western culture that you will often find yourself having to accept and/or present what will seem like counter revolutionary ideas. Be brave in your thoughts and actions. Adopt new standards, ones that are beneficial for you. Self knowledge is the key to change. Be a risk-taker, try new things, work hard, take credit for accomplishments. Accept and respect yourself, all of yourself, including your body, today. Allow yourself to feel contentment and happiness. Remember real lasting control comes from making choices.

**BARRIERS AND REASONS TO RECOVER**

As a group, we will generate lists of the barriers to and the reasons for recovery. I would like you each to make a copy of the lists and keep it somewhere handy for future reference.

**FINAL ASSESSMENTS**

Please complete the questionnaire package as you have done previously and we'll schedule individual times.

NOTE: Many of the ideas and sections in the handouts of the last eight weeks have been taken from "The Road to Recovery", a Manual for Participants in the Bulimia Treatment Program by Ron Davis et al.
Appendix II

Behaviour Therapy Treatment Manual
Participant Handouts
Welcome. Tonight we will be covering the following:

Format of the programme;
Introductions;
Contracts;
Weigh-ins.

Homework

1. Keep a food diary during the coming week.

2. The evening before group, review your diary carefully to discover any patterns to your eating. Eg. always eating when stressed, overeating if alone, consistently having a snack with the 11 o'clock news even though you are not hungry, etc. Write your discoveries down, bring these together with your food diary to group next week.
WEEK TWO

Goal Setting

The process of goal setting is an important one. One needs to consider both long-term and short-term goals. When goals are unrealistic, one is apt to become discouraged and cease to try as hard to obtain the goal. Thus, setting goals which are too high may contribute to failure. Of course, if one never sets high goals, then one is unlikely to strive and realize one's potential. The point is that a mixture of goals is needed.

One, one and a half pounds of weight loss per week is a realistic expectation, although of course this will vary with the individual. It is likely that weight loss will fluctuate somewhat; this is to be anticipated and should not be a cause for alarm. Generally, weight loss is more rapid when initially embarking on a weight loss programme. It is clear now that periods of starvation, excessive dieting etc. can wreak havoc with one's metabolism. Therefore, it is essential to set a goal which can be achieved while still maintaining a healthy intake. If one drastically reduces one's food consumption, weight will certainly be lost, but at a slower and slower pace until it is almost impossible not to gain weight.

Achieving a goal is, in many ways, like receiving a reward: it makes us feel good and spurs us on to reach our next goal. Failing to reach a goal can feel like punishment, it can erode our self-esteem and make us feel like giving up. During the coming week, I want you to think carefully about what your goals are. Try to come up with some short-term and some long-term goals. I expect for many of you these goals will be weight related, e.g. to lose one pound per week, or to weigh X pounds by next Christmas. Try to be realistic and specific in the goals you set. Better to aim a little low; remember, your goal can always be adjusted. I would encourage each of you to also set some goals which are not directly related to weight, but to the behaviours which influence weight. For example, a goal for the next week, might be "I will eat a piece of fruit rather than a chocolate bar when I crave something sweet". Perhaps you can try to create goals based around patterns you discovered about your eating habits. For example, if you found that every time you had a fight with your partner you ate a bag of chips, a goal might be something like "If Fred and I have a fight, rather than devouring a bag of chips, I will instead spend half an hour reading a book". (Remember to be successful with such goals, planning is necessary: it's hard to avoid the chips and read a book, when you do not have anything you are interested in reading in the house...) Try to be creative, specific and realistic in setting and planning how to reach these goals.
Exchange Diet

The exchange diet is fairly well explained in the handout. This diet is based on food groups and does not involve calorie counting. The food groups are dairy products, meat and meat substitutes, bread products, fruits and vegetables, and fats.

What is important to remember is to follow the plan and eat regularly. Evidence very consistently shows that when people over-restrict their eating, they are much more likely to binge. Therefore, even though one feels as though she can forgo a particular meal (and thus save calories), she is apt to pay more for it in the long run.

One consistent recommendation from doctors, Nutrition Canada etc. is to decrease fats in your diet. This is important both for weight loss and for health reasons such as decreasing your risk of heart disease. It is recommended that you limit yourself to between 20 and 30 grams of fat per day. One of the hardest parts of decreasing fats is knowing where your fats are coming from. Frequently, prepared foods are very high in fats, so start reading labels very carefully. Remember, ounce for ounce, fats have twice as many calories as do other kinds of foods (i.e. proteins and carbohydrates). Be creative with cooking, avoid frying foods. Oils can add flavour to foods, so remember to make your foods that are steamed, broiled etc. flavourful by using spices. Remember, it takes time to change old habits. Giving up high fat "fast foods", usually requires one to spend some extra time preparing food. Be prepared for this, give yourself enough time to prepare interesting, enjoyable low fat foods. Rushing yourself will only set you up for failure. Remember to keep low fat "fast foods" e.g. fruits, veggie sticks etc. in ready supply. Keeping such food in stock requires advanced planning. Think about it before you're famished and are reaching for the bag of chips in your cupboard. We'll be talking more about fat reduction in a couple weeks. For now, I hope you'll be able to get started on the exchange diet.

HOMEWORK

1. Write your long-term and short-term goals down. Try to come up with goals which are directly-related to weight and with goals which relate to behaviours rather than to weight per se. Keep these in your folders, read through them each day. Bring them to group next week.

2. Begin the Exchange Diet. Take time to plan, to shop so that you have appropriate food in your house. Be aware of what you are eating, especially fats. Any problems? Write them down and bring them to group. Remember don't skip any meals.

3. Continue to keep a daily food diary; don't cheat yourself by failing to do this. I know it is onerous, but it is also very useful. Again, review it at the end of the week. See what you can learn. Bring it with you next week.
WEEK THREE

Exercise

Why? To burn calories and alter metabolism; for overall health and a generalized sense of well being.

What? Decide on two forms of aerobic exercise, preferably, one of which can be accomplished indoors; e.g. walking, running, rowing, biking, aquasize, swimming etc.

When? Ideally you should engage in at least 20 minutes of aerobic exercise daily. As a minimum, you should be doing some aerobic exercise at least five times a week.

How? Slowly, gradually. Think positively and work hard. Suggest some ways to increase the likelihood of your success. For example, making arrangements to exercise with someone else who is at about your fitness level.

To begin: First of all warm up your muscles with slow to moderate walking, biking etc. Then stretch - no bouncing - for about 5 minutes. Your goal is to engage in 20 minutes of aerobic exercise, i.e. activity during which your heart rate is in its target zone (65 to 80% of its maximum). It's best to stay at the low end, at least initially. When you have completed your aerobic workout, spend a few minutes cooling down. Do some light exercise, e.g. slow walking etc. and stretching.

Target heart rate per minute:
.60 X (220 - your age) to .85 X (220-your age).

Target heart rate per 10 seconds (the above two numbers divided by 6)
The level at which you begin will depend upon your current level of fitness. The most important thing is to begin doing some physical activity. If you can do only 2 minutes of walking at a time, that's fine. Do it 4 times a day and add 1 minute to each session every day. A little sweat is fine, but no agony or crutches please!

Perseverance is the key. According to most people, it takes between two and six months to become "hooked" on exercise. The idea is that regular exercise will become a way of life for you. If this is to happen, it is important that the activities you choose are enjoyable, or at least potentially enjoyable for you. Try to think of ways you can increase the enjoyment associated with exercising. For example, working out with a friend, buying a new pair of running shoes etc. It will require hard work and dedication to get yourself "over the hump" to the point where exercise is intrinsically rewarding, but it does happen.

It is imperative that you plan how, when, where and at what you will exercise. Initially, when exercise feels like a burden, you will frequently be tempted not to bother or to just skip, just for today... It is so important that you stack the deck in favour of overcoming this type of temptation. Set a regular time when the kids are cared for etc. and you can have some time to yourself.

Insensible Exercise - This type of exercise won't improve cardiovascular status a great deal but it will help to burn calories. Insensible exercise includes: taking the stairs instead of the elevator, parking further away from your destination and walking part of the distance. Try to look for opportunities to increase your activity level. View them as good fortune instead of as annoyances.

**HOMEWORK**

1. Read *Fit or Fat* by Covert Baily; *Fit or Fat for Women* is also a good book. (It's available at most libraries and at the Book Warehouse).

2. Decide on at least two types of exercise. Purchase any necessary equipment, e.g. running shoes, community centre membership etc.

3. By mid week, you should be exercising regularly. Keep track of your exercise on the chart. Remember to take your pulse.

4. Continue with the exchange diet and continue recording what you are eating.
WEEK FOUR

Stimulus Control

1. Have a prescribed eating place. Keep and eat food only in this area. Try not to do other things in this area. This is known as stimulus control. Frequently we "learn" to eat when confronted with situations in which we have eaten in the past, e.g. in front of the T.V. Therefore try to break these associations or habits, by limiting the cues associated with eating. Eat only in this area, not in the car, bedroom etc.

2. When eating in your prescribed eating place, set a place, put your fork down between each bite and pause for a few seconds, enjoy your food, take a 3 minute break in the middle of your meal.

3. Remove serving bowls from the table.

4. Leave the eating area when finished meal.

5. Distract yourself after a meal, e.g. call a friend, take a walk.

6. Use coping phrases such as the following to talk to yourself*:

"The urge to eat is strong now, but I know it will decrease to a tolerable level in a little while so I can just ride it out."

"One reason I want to keep eating is because my stomach is not yet signalling to me that I am full. In an hour or so I will feel full and satisfied; so, I don't have to continue eating now."

"I know I get confused between real emotions and urges to binge eat. The urge I feel now is not physical because I have nourished myself with regular nondieting meals.

HOMEWORK

1. Continue with the exchange diet.

2. Exercise at least 5 times per week.

3. Use your past food diaries to help you make a list of situations which stimulate you to eat.

4. For each of the situations you identified above, write at least two ways you can decrease the likelihood that you will over eat.

5. Eat all your meals and snacks in one place, sit when you eat, take time, put your fork down between bites, pause for five minutes when you are midway through your meal.

*Taken from The Road to Recovery: A Manual for Participants in the Psychoeducation Group for Bulimia Nervosa by Ron Davis et al.
WEEK FIVE

Shaping and Rewards

Shaping is a term used for purposeful, gradual change in a behaviour. For example, teaching a child to swim can be thought of as a shaping procedure. Now your ideal for the child might be to swim 200 laps of the pool, however, you probably start out by getting the child into the pool and playing. (This tends to produce an association between something fun and the pool, helping the child to like the pool). You might then progress to having the child submerge her/his face and blow bubbles. If the child finds this difficult, it might take several attempts and require the promise of some type of reward, e.g. going to a friend's house. You might then try having the child float on her/his back. Following this you might demonstrate the front crawl, have the child practice this on land and then in the pool. Next you might have the child swim the width of the pool in the shallow end, then the deep end and finally you will have him/her try to swim the length of the pool. To get to this point, you have probably offered all kinds of verbal praise and encouragement (which is often very reinforcing for a child). If the child is not paying attention or putting in any effort, you might have resorted to punishment, e.g. not being allowed to go to a friend's house. Following the time when the child can swim a length of the pool, i.e. now has the technical ability, it will still take months of practice to build up sufficient endurance to swim 200 laps. During this time remaining motivated maybe difficult. Progress doesn't seem as quick. It is reinforcing when a child can say to herself, half an hour ago, I couldn't swim across the pool, now I can swim a width by myself. In contrast being able to swim 150 laps instead of 145 may not seem like such a great accomplishment. Whereas intrinsic rewards (e.g. recognizing her own progress, enjoying being in the water) may have been sufficient to keep the child motivated most of the time. There will no doubt be times when more external rewards, e.g. visiting a friend, a trip to the local video store etc. are required for inducement. If however, the child appeared to have no internal motivation and it took constant "bribery" of this form to get the child to swim 200 laps, you might decide that swimming was not the sport for this child or that 200 laps was not a reasonable goal etc.

Now I have gone on at some length about shaping and rewards in teaching a child to swim because they have, what I hope are some obvious parallels, in attempting to lose weight. The first week we talked about goals. Goals are an important part of the process of shaping. If the goals you set are appropriately spaced they will facilitate weight loss if not, they will tend to impede it. Imagine putting a four year old child in one end of a pool and saying, O.K. swim a couple hundred laps and walking away. The child simply has no idea how to get from one end to the other (let alone how to do it 200 times); furthermore, s/he has seen their sister do it, so s/he feels foolish for not being able to accomplish the same thing.

Now, when you are losing weight, this, and things directly associated with it such as looser clothes etc., are probably sufficient rewards to induce you to keep trying. However, when weight loss slows or you gain weight, keeping your motivation up can be very difficult. What you need is an arsenal of tools to use when this occurs, as it no doubt will somewhere along the road. What one uses as rewards is extremely individual. You also have to be clear about when you will get these rewards (remember the behavioural goals that were not directly related to weight loss??). So decide now what your rewards will be: a night at the movies, some flowers.
You also need to determine other methods for helping you to stay or get back on track during times when you are not successful in losing weight. For example, one woman told me she arranged a daily call in with her sister who quizzed her about her eating and exercise behaviours during the day. Others have said planning exercise times in advance with a friend helped to ensure that they continued exercising.

HOMEWORK

1. Work on a list of rewards for the goals you identified earlier. Remember, there's no sense planning a week in Hawaii, if there's no money in the bank, i.e. make the rewards feasible.

2. Decide on at least six different ways of ensuring that you continue to exercise and modify your eating even though you might not be losing weight. Bring this list with you next week.

3. Continue with the exchange diet; be aware of when your problem times are. Try to come up with plans for overcoming these. If you are having difficulty, bring a list of problem times/situations with you next week.

4. Continue with exercising at least five times per week. Remember, this is a slow process. Any problems let me know.

5. Finish reading Fit or Fat.
WEEK SIX

There are three basic "chemical" components which make up our diets:

1) Carbohydrates - These include simple sugars such as glucose and complex carbohydrates such as apples and breads. Carbohydrates are used as fuel by the body. Under normal circumstances, glucose is the brain's only source of energy.

2) Proteins - are comprised of amino acids. These are the body's building blocks. We require protein for hair growth, muscle development, tissue repair etc.

3) Fats - or lipids. These are used by the body for making cell membranes and insulation. Each gram of fat contains 9 calories, approximately double the amount contained in proteins or carbohydrates.

We frequently talk about the four food groups from which we derive the above nutrients. The four food groups include:

1) Fruits and vegetables
2) Dairy products
3) Meats, fish, poultry
4) Breads and grains

We need products from each of the above groups to be healthy. I have attached recommendations from the Canada food guide to give you some idea of nutritional requirements. Even when one is attempting to lose weight, nutritional requirements should be met. This is important because when the body is nutritionally deprived, one begins to experience cravings for the missing substances. Also one risks breaking down protein (i.e. muscles) to supply the needed nutrients.

CARBOHYDRATES

It is important to eat an adequate amount of complex carbohydrates. Complex carbohydrates, as opposed to simple sugars, take longer to digest and do not result in such extreme swings in blood glucose levels. In addition, the guide recommends increasing your intake of fibre.

PROTEIN REQUIREMENTS AND VEGETARIANISM

We require approximately 60 grams (2 ounces) of protein a day. Most North Americans consume an excessive amount of protein. It is however important to eat an adequate amount of protein to permit muscle development. Proteins are made up of amino acids. There are 9 "essential amino acids". These are amino acids which the body is unable to make and which must therefore be obtained in the diet. Dietary amino acids are necessary for protein synthesis and subsequent muscle growth. Meats, poultry, fish, eggs and dairy products contain all 9 essential amino acids. In contrast, plant products (legumes; cereals - rice, wheat, corn; and roots) are missing one or more of the essential amino acids. People who choose not to eat animal products need to ensure that they obtain sufficient protein from other these other sources. Because the body cannot store large quantities of amino acids, the different essential amino acids need to be
consumed together to enable the body to synthesize proteins. A combination of cereals and legumes will ensure that you are obtaining the essential amino acids. For example, lentils and rice or baked beans on toast.

DIETARY FAT

One specific dietary recommendation which is now being consistently made is to decrease your intake of fats. This is for a number of reasons. First of all excessive dietary fat can increase your cholesterol. Increases in blood cholesterol levels increase your risk of heart attack and stroke. Secondly, fats contain double the amount of calories as do carbohydrates and proteins. Thirdly, dietary fats are converted to bodily fat with 25% greater efficiency than carbohydrates. Therefore, you will gain more weight when you eat an equal number of calories from fats than when you consume the same number of calories from carbohydrates. Furthermore, people who decrease fat intake tend not to compensate completely in their caloric intake and thus lose weight.

At present the average Canadian obtains 40% of her calories from fat. The National Academy of Sciences recommends that calories derived from fats constitute only 20 - 30% of our total caloric intake. There are 4 main types of dietary fat:

1. Saturated fats - are obtained mainly from animal products such as meat, milk, butter and cheese. Coconut and palm oils are also high in saturated fats. Saturated fats increase blood cholesterol. Therefore you want to limit your intake of these fats.

2. Polyunsaturated fats - these fats come primarily from fish; nuts like almonds, pecans and walnuts; vegetable oils like safflower, sunflower and corn oil. Polyunsaturated fats help to decrease blood cholesterol.

3. Omega-3 fats - these help to lower triglycerides, a type of blood fat involved in the development of heart disease. Omega-3 fats are a type of polyunsaturated fat and are found in fish oil and canola oil. Therefore increasing your intake of fish can be very healthy.

4. Monounsaturated fats - help to lower blood cholesterol. These fats are found in olive, canola, peanut and soya oils.

The first step to decreasing fat intake is being aware of where/how you consume fats. Fats can be found in almost all types of prepared food. If eating high fat content foods is normal for you it will take time, planning and effort to change this. As always, it is easy to slip back to old habits unless alternatives are readily available. Therefore, it is important that you examine your use and intake of fats and make arrangements to adopt new ways. This involves making a conscious choice, buying alternatives and learning to cook in new ways etc.
The following are a few ways to decrease fat use:

1. Buy a low fat cookbook. Books recommended by the Heart and Stroke Foundation include: The Light-hearted Cookbook by Anne Lindsay (Toronto: Key Porter Books, 1988) and Light-hearted Everyday Cooking by Anne Lindsay (MacMillan Canada, 1991).

2. Prepare foods in ways other than frying: steaming, microwave, broiling. For every teaspoon of butter, oil or margarine you eliminate you save 4 grams of fat.

3. Buy a nonstick frying pan, so you don't need to add extra oil or butter.

4. Consider using a wok and cooking oriental style foods.

5. Use spices or condiments such as soya sauce to flavour foods instead of gravies and rich sauces.

6. Use a small amount of jam instead of butter on toast.

7. Skip the mayonnaise or butter on sandwiches; you may not even notice it is missing.

8. Whip butter or margarine so that it spreads further.

9. Use skim or 2% milk instead of whole milk or cream.

10. Use yogurt instead of sour cream.

11. Choose "light" products with less oil e.g. mayonnaise, salad dressings etc.

12. Watch your use of cheese which can be very high in fat. Use skim milk cheese whenever possible.

13. Choose tomato sauces instead of cream sauces on pasta.

14. If you eat meat, choose lean cuts. Consider decreasing the amount of meat you use.

15. Remove skin from chicken.

16. Choose sherbet or frozen yogurt instead of ice cream.

17. Have a whole wheat bun instead of a croissant.

18. Try alternate foods. For example, if potatoes seem unpalatable without 3 Tbsp of butter try eating rice.

19. Try some new foods: Do you eat lentils or dahl? What new vegetables would you like to try? Plant protein is generally lower in fat than protein from animal products. Try decreasing the amount of meat you eat. Be adventurous! Talk to friends who are healthy and eat well. Ask for their ideas, recipes etc.

20. Keep low fat foods readily available. For example, keep cut vegetable sticks in the fridge so that when you're hungry it is as easy to eat them as it is to eat a bag of potato chips.

21. Prepare your own foods. Decrease oil called for in recipes and replace with other moisture e.g. yogurt or apple sauce in muffins.

22. If you are eating out, choose menu items with the smart heart symbol.
HOMEWORK

1. Continue exercising a minimum of five times per week. Feel free to exercise more frequently! Remember long periods at lower intensity levels (e.g. 70% of your maximum heart rate) will be of greater benefit than short bursts at very high intensities.

2. Keep following the exchange diet. Continue using the eating strategies we discussed previously: keep a specific eating area, eat slowly, pause frequently, use self-talk coping strategies.

3. If you are having difficulty following the exchange diet, or find you are not losing weight, make a list of how you obtain your fats e.g. butter on toast, deep frying and try to cut down on your fat intake. Try the strategies in the handout.

4. If you have not yet finished FIT OR FAT, be sure to finish it this week.
WEEK SEVEN

RELAPSE PREVENTION

Losing weight is difficult work and must be viewed as part of an ongoing process. Regardless of the degree of your initial success, it is natural to expect that you will have periods of difficulty. This does not mean that your accomplishments to date have been for naught. In the same vein, if you have not achieved what you initially hoped for, remember you have been exposed to ideas which you can choose to implement now and in the future. Because slips are to be expected, it is important to consider them in advance and plan for their occurrence. Remember, most people can manage to loose weight, it is the maintenance phase in which most people fail.

1. The changes you have implemented in terms of eating and exercise are part of an ongoing, long-term process. As such you can anticipate slips along the way. If you can, view slips as isolated events which are to be expected and thus are not out of the ordinary. This type of perception allows you to use the situation as a learning experience. A binge now says nothing about this evening, nor does it say anything about tomorrow. When you do have a lapse with eating or you fail to exercise, don’t try to compensate for it by restricting your subsequent food intake or over exercising. This will only increase the chances that you will again binge. Instead, take time to learn from the situation, what factors contributed to the binge or to not exercising? How can these be overcome in the future? Try to write down what you learn as this will help you to remember and be successful in the long term.

2. Plan. Plan. Plan. Make sure you have appropriate food in the house, "equipment" to exercise etc. What situations or factors have been problematic for you to date? When do you fail to exercise? Under what circumstances do you tend to over eat? Take the time to write down the situations in which you anticipate having difficulty in the future. Then try to generate methods for avoiding these pitfalls. Do not expect all of your attempts to avoid slips to be successful. By planning in advance for situations which are likely to be difficult or risky for you, you the likelihood of long-term success.

3. When a lapse seems to be becoming a relapse. If you recognize that your weight is steadily increasing, your exercise and eating behaviours are returning to their old patterns (e.g. bingeing frequently, consistently not exercising) etc., use what you have learned during the past couple months. Attempt more rigorous planning and scheduling. Keep track of your weight and/or body measurements. Write down when and what you eat. Schedule exercise times and chart or graph your exercise. One thing which is important for most everyone, is being able to identify a relapse early on. This way you avoid redeveloping old habits, gaining large amounts of weight etc. Thus, you need to be able to identify clearly when you have begun to relapse. This is something which you will have to figure out for you. What is most helpful in terms of actually overcoming a relapse varies from person to person. What we do know is that having an advance plan is beneficial. Therefore, it is important that you come up with an individualized game plan that will work for you.
4. Evaluation and Positive Reinforcement. We all know the value in rewarding children and pets when we are trying to teach them something new. The same thing applies for you. Evaluate your progress on a regular basis. Pick a time and each week examine how you have done. Measure your success in terms of your own progress. Are you progressing towards your goals: has your weight decreased since you started the programme, are your binges down from five times per week to once a week, are you walking regularly now where as six months ago you were not? Evaluate yourself over a reasonable period of time. If you have just binged, don’t evaluate/berate yourself on your behaviours of the past few hours. Instead view these behaviours in context. How have you done over the past two weeks? Remember where you were two months ago. Remember to reward yourself.

HOMEWORK

Continue exercising and following the exchange diet.

For each of the risky situations you identified in group, generate specific methods of coping.

Write down very specific ways of knowing when you have "relapsed", e.g. have not exercised for X number of days; have had X episodes of overeating alone in bedroom.

Construct a game plan which will be ready to put into action if you recognize a relapse is occurring. Back to square one: planning, scheduling, monitoring etc. Write out how you are going to reinstitute appropriate behaviours, (include exactly what those appropriate behaviours are), how you will evaluate your success with getting back on track, and what you will do if you feel as though you are not getting back on track. Try to be as specific as possible. Bring this with you next week.
WEEK EIGHT

REVIEW HOMEWORK

Over the past eight weeks you have been given a lot of information regarding ways of overcoming your weight problem. Hopefully, you have acquired some new skills and information which you will find useful. The basic areas we covered were:

-Eating: Eating regularly and healthfully is necessary if you are to be successful in losing weight. By now most of you should be feeling comfortable with the exchange diet and should be able to eat enough not to be feeling hungry. At the same time, your caloric intake, especially in the form of fats should now be low enough to permit you to be regularly losing weight.

-Exercise: Regular aerobic exercise is an important component of a healthy lifestyle and a necessary component for weight loss. Remember, exercise needs to be enjoyable if you are going to continue with it for the rest of your life. Persevere over the difficult initial phases till you reach the point where exercise is just a part of your life, like brushing your teeth.

-Methods for changing eating and exercise behaviours: We discussed the ideas of stimulus control (e.g. keeping food out of sight, limiting eating to the kitchen table etc.) and shaping (working gradually towards goals which more and more closely approximate your ultimate goal). We talked about the importance of rewarding yourself when trying to change your behaviour.

-Relapse Prevention: Last week we talked about relapse prevention. Because you will have to continue with the changes in your eating and exercise behaviours for the rest of your life, relapse prevention is incredibly important for success. Remember to plan regular time for self-evaluation, determine how you are making out, what you can do to improve progress etc.

These are lifestyle changes. They won't happen overnight, but they will happen. It is so important for you not to become overly discouraged. There will be days when it is very difficult, but remind yourself that you have the rest of your life and you can take it one day at a time. Adopt and maintain a long term perspective. The short term outlook will only result in short term solutions, e.g. quickly regained weight losses. The hardest part is at the beginning. Take heart, you won't always have to work this hard. Be kind to yourself and encourage yourself as you would a friend. Base evaluation on your own progress and not on comparisons with other people.

We all need measures of success, goalposts etc. Unfortunately, we often use measures of weight as indicators about personal success. How ridiculous! Perhaps it is to someone's advantage to keep us using such measures but it is surely not to ours. Is a 100 lb. body really the answer to life's problems? Be aware of society's strong arm in our beliefs about what constitutes a healthy
and attractive body. An inappropriately thin ideal is so widely accepted in western culture that you will often find yourself having to accept and/or present what will seem like counter revolutionary ideas. Be brave in your thoughts and actions. Adopt new standards, ones that are beneficial for you. Self knowledge is the key to change. Be a risk-taker, try new things, work hard, take credit for accomplishments. Accept and respect yourself, all of yourself, including your body, today. Allow yourself to feel contentment and happiness. Remember real lasting control comes from making choices.

NOTE: Many of the ideas and sections in the handouts of the last 8 weeks have been taken from "The Road to Recovery", a Manual for Participants in the Bulimia Treatment Program by Ron Davis et al.
References


Colvin, R.H. & Olson, S.B. (1983). A descriptive analysis of men and women who have lost significant weight and are highly successful at maintaining the loss. *Addictive Behaviors, 8*, 287-295.


