Evaluation of the Mindful Moderate Eating Group program: A mindfulness-based group therapy program for women with binge eating difficulties

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ABSTRACT

Binge eating is one of the most common forms of eating difficulties, and is associated with a range of psycho-social problems. While Cognitive-Behavioural Therapy (CBT) is the most commonly used treatment for binge eating problems, mindfulness-based treatments have emerged in recent times as a promising alternative approach. The current study aimed to investigate the effectiveness of a mindfulness-based group therapy program for women with binge eating difficulties. Of interest were changes to eating psychopathology, and associated general psychopathology, and the subjective experience of group participants and facilitators. The study employed a repeated-measures, mixed-methods design to evaluate the Mindful Moderate Eating Group (MEG) program, a therapy program run through a University Psychology Clinic in Melbourne, Australia. Quantitative data was collected via questionnaires at pre-program, post-program, three-month follow-up and six-month follow-up. Following the program, all participants were invited to take part in a face-to-face interview to explore their experiences in more depth. A total of 30 women completed a pre- and post-questionnaire, 28 completed a 3-month follow-up questionnaire and 24 completed a 6-month follow-up questionnaire. The age of the sample ranged from 18 years to 52 years ($M = 32.2$ years, $SD = 7.9$). Following participation in the program, there was a significant reduction to binge eating severity, dieting behaviours, negative body image, and negative affect. There was also a significant increase to self-esteem. All of these reductions were maintained at three-month follow-up. The findings in the current study support the effectiveness of mindfulness-based group therapy programs for women with binge eating difficulties. Participation in the Mindful MEG program led to significant reductions in both eating psychopathology and general psychopathology and these changes were maintained at three month follow-up. Implications from the qualitative
component of the study include the value of concurrent individual counselling for group members, and the importance of quality formal supervision for group facilitators.
Acknowledgements

I would like to acknowledge and thank all of the women who took part in the Mindful MEG research evaluation. At a time when they were often experiencing considerable distress, they were brave to be open and honest about their innermost thoughts and feelings. A particular thanks to the women who agreed to take part in the in-depth interview, volunteering several hours of their time for the future benefit of other women who were struggling with eating problems.

The facilitators of the Mindful MEG program during the time of the research evaluation project provided substantial personal and professional support. Much of the knowledge about group therapy, mindfulness practice, and research methods was gained through both formal and informal conversations with these women. To maintain their confidentiality, I will not list their names, but their generosity of mind and spirit is greatly appreciated.

All of the staff involved in supervising the current study were invaluable in the process of completing this thesis. Dr. Naomi Crafti acted as primary supervisor for the first three years of the project, and was a calming and supportive influence at all times. Her vast and commonsensical wisdom about disordered eating provided an invaluable foundation for the study. Associate Professor Ann Knowles took on primary supervising duties at short notice for the remainder of the project. She provided helpful feedback at every stage of the writing up process, and was at all times knowledgeable, available and supportive. Secondary supervisor role was completed by Associate Professor Greg Murray who provided invaluable feedback at the final stages of drafting.

Finally, many thanks must go to my parents, and my husband, who have provided emotional, practical and financial support to ensure the completion of this thesis. Love you!
Declaration

I, Hannah Woolhouse, declare that this thesis, completed as part of a Professional Doctorate of Counselling Psychology at Swinburne University of Technology, contains no material which has been submitted or accepted for any other degree or diploma. To the best of my knowledge, this thesis contains no material which has been written by another person, or been published previously, except where direct reference is made in the text of the thesis.

Yours sincerely

Signature     Date
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CHAPTER 1: INTRODUCTION AND BACKGROUND

This thesis provides an evaluation of a mindfulness-based group therapy program for women with binge eating difficulties. Mindfulness approaches have recently emerged as a promising therapeutic orientation in many areas, including in the treatment of binge eating. Such holistic therapies may provide new possibilities for people who do not respond to the more conventional Cognitive Behavioural Therapy (CBT) approaches which are generally used with binge eating. A university-based group therapy program running in Melbourne Australia was evaluated using mixed-methods research. As a naturalistic study, no manipulations to the program were made; it continued to be run by postgraduate psychology students, using a flexible program manual, including participants with Bulimia Nervosa, Binge Eating Disorder and women with other disordered eating patterns. This introductory chapter will provide a description of binge eating, and the associated DSM-IV-TR eating disorders. The social and psychological impacts for women experiencing problems with binge eating will then be outlined. Finally, the theoretical understandings of the aetiology of problems with binge eating will be explored.

The Nature of Eating Disorders

Eating disorders are one of the most common psychological disorders experienced by women, and are characterised by chronic outlooks and high rates of relapse (Fairburn, Cooper, Doll, Norman, & O'Connor, 2000; Lewinsohn, Striegel-Moore, & Seeley, 2000), making it an important area for research. Eating disorders occur against a socio-cultural backdrop of pressure on women to conform to an idealised version of beauty. The Australian Longitudinal Study of Women’s Health surveyed 14,686 women aged 18-23 years and found that 67% had a healthy BMI. However, only 22% of these women were happy with their weight (Kenardy, Brown, &
Vogt, 2001). Another recent survey of 29,000 young Australians found that body image was the most concerning issue for young people (Mission Australia, 2007). Dieting to promote weight loss is the greatest risk factor for the development of an eating disorder (Kenardy et al.), and is extremely common in the Australian population, especially in young women. Some research suggests that close to 70% of adolescent females are currently on a diet, which leaves them significantly more likely to develop an eating disorder (Patton, Selzer, Coffey, Carlin, & Wolfe, 1999). Despite this, research has regularly shown that the traditional dieting approach is unsuccessful in achieving long-term weight-loss and may in fact promote weight gain (Field et al., 2003).

Eating disorders are a serious concern in modern Australian society, and they appear to be on the rise (Hay, Mond, Buttner, & Darby, 2008). A recent Victorian adolescent cohort study found that 8.8% of female adolescents had an eating disorder of some kind (Patton, Coffey, & Sawyer, 2003). Women are significantly more likely to suffer from an eating disorder than men. In adolescence the male to female ratio for eating disorders is approximately 1:10, and in young adulthood it rises to 1:20 (Kohn & Golden, 2001). It has been argued that the higher prevalence of eating disorders amongst women can largely be explained by the higher rates of dieting in this population (Patton et al., 1999). However the prevalence of eating disorders amongst men appears to be on the rise (Carlat, Camango, & Herzog, 1997; O’Dea & Abrahom, 2002, (2002)), perhaps as social pressure regarding appearance and dieting also increases for men. For both sexes, eating disorders are appearing at increasingly younger ages, in some cases as young as five years old (Madden, Morris, Zurynski, Kohn, & Elliot, 2009). The increase in eating disorders such as binge eating disorder are also contributing to the current increases in rates of obesity (Yanovski, 2003). The strain on health care services caused by eating disorders, and the significant impact on physical and emotional health
for the individuals who suffer from them makes the successful treatment of disordered eating an important area for research.

The Nature of Binge Eating

Perhaps the most well known of the eating disorders is Anorexia Nervosa (AN), which is characterised by extreme food restriction which can lead to starvation, malnutrition and dangerously low body-weight which may cause death. More common than this is the phenomenon of binge eating, which is the focus of the current thesis. Approximately 16-19% of female college students and 6-7% of male college students report regularly engaging in binge eating (Heatherton, Nichols, Mahamedi, & Keel, 1995), but the prevalence of diagnosable eating disorders is lower than this. Adolescents and young adults are the most likely age group to suffer from an eating disorder, with 16-35 year olds representing the highest eating disorder prevalence group (Fairburn, 1998).

Binge eating is characterised by:

- Eating large amounts of food in a relatively short period of time
- Feeling a loss of control over what or how much one is eating
- Altered consciousness, or entering a trance-like state
- Initial feelings of pleasure quickly followed by feelings of guilt, shame and embarrassment
- Secretiveness around food and eating (Fairburn, 1995)

Some common triggers for binge eating include (Fairburn, 1995; Greeno, Wing, & Shiffman, 2000):

- Unpleasant emotions such as depression, anxiety, boredom, anger or loneliness
- Food restriction leading to intense hunger
- Breaking of a dietary rule, leading to ‘giving up’

The physical and emotional consequences for women suffering from an eating disorder are significant. While the physical consequences of binge
eating may not be as immediately life-threatening as the starvation associated with anorexia nervosa, there are still serious physical impacts. Self-induced vomiting can lead to irreversible damage to the teeth, damage to the oesophagus, and electrolyte imbalance (Fairburn, 1995). Laxative and diuretic use can cause serious electrolyte imbalances, and long-term dieting and weight fluctuations can impair fertility (Fairburn, 1995). For those women who binge without the use of compensatory behaviours, obesity becomes a serious concern, with increased risks for diabetes, heart disease, and other chronic illnesses (Yanovski, 2003).

Perhaps even more significant are the emotional and social impacts of binge eating. Feelings of shame and self-loathing often accompany both binging and purging behaviour. Women who have problems with binge eating, as part of Bulimia Nervosa, Binge Eating Disorder or an Eating Disorder Not Otherwise Specified, are significantly more like to suffer from low self-esteem (Isnard et al., 2003; Sanftner & Crowther, 1998), poor body image (Isnard et al.) and interpersonal problems (Eldredge, Locke, & Horowitz, 1998). They also report higher rates of depression and anxiety (Isnard et al.; Sanftner & Crowther). The dysfunctional relationship which develops with food often means that women with binge eating difficulties become isolated in order to hide their shameful eating behaviours, and are unable to take part in many of the social activities which involve food (Fairburn, 1995). Excessive exercising as a means of compensation for binge eating episodes is also isolating, because of the time commitment involved (i.e., exercising for 90 minutes daily). The social and psychological impacts of binge eating will be explored in more detail later in the chapter.

Recent rises in eating disorders generally, and binge eating in particular, along with the significant impacts on quality of life for those who are affected, plus the burden of obesity on the individual and the community, make it an important area for research.
Binge Eating in the DSM-IV-TR

The American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) outlines three eating disorder diagnoses (Diagnostic and Statistical Manual of Mental Disorders, 2000). Anorexia Nervosa (AN) involves a refusal to maintain a healthy body weight, and Bulimia Nervosa (BN) involves repeated episodes of binging followed by inappropriate compensatory behaviours. Body image concerns or disturbances are a key feature of both disorders. An Eating Disorder Not Otherwise Specified (EDNOS) is also provided as a diagnosis for disorders which do not meet the full criteria for AN or BN. Binge Eating Disorder (BED) appears in the Appendices for Further Study section of the DSM-IV-TR, and involves repeated episodes of binge eating without inappropriate compensatory behaviours such as self-induced vomiting or use of laxatives. Body image concerns or disturbances are not a specific criteria for this disorder, but the binge eating episodes are associated with significant distress. Binge eating behaviour can occur as part of BN or BED, or within an EDNOS which may be considered less serious than BN or BED, but which can still cause significant distress and impaired functioning.

Bulimia Nervosa

Bulimia Nervosa (BN) is characterised by recurrent episodes of binge eating followed by extreme attempts to compensate for the binges, either through self-induced vomiting, the use of laxatives or diuretics, or excessive exercise. The DSM-IV-TR criteria for BN are as follows (Diagnostic and Statistical Manual of Mental Disorders, 2000, p. 594):

A. Recurrent episodes of binge eating. An episode of binge eating is characterised by both of the following:

1. eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most
people would eat during a similar period of time and under similar circumstances

2. a sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating)

B. Recurrent inappropriate compensatory behaviour in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas or other medications; fasting; or excessive exercise.

C. The binge eating and inappropriate compensatory behaviours both occur, on average, at least twice a week for 3 months.

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

E. The disturbance does not occur exclusively during episodes of Anorexia Nervosa.

The DSM-IV-TR reports the lifetime prevalence of BN at approximately 1-3%. Other studies have found slightly higher prevalence rates of BN in the general community, of generally around 2-5% (Lewinsohn et al., 2000; Wade, Bergin, Tiggermann, Bulik, & Fairburn, 2006a). BN has been found to occur in similar frequencies in most industrialised nations such as Australia, the UK, and the United States (Diagnostic and Statistical Manual of Mental Disorders, 2000). Individuals presenting with BN are primarily Caucasian, but the disorder has also been reported in other ethnic groups (Chui, Safer, Bryson, Agras, & Wilson, 2007). Clinic and population samples suggest that around 90% of individuals with BN are female (Diagnostic and Statistical Manual of Mental Disorders, 2000; Reichborn-Kjennerud et al., 2003).
Eating Disorders Not Otherwise Specified

The DSM-IV-TR category of an Eating Disorder Not Otherwise Specified (EDNOS) is used for disorders which do not meet the criteria for AN or BN. Some examples of EDNOS include:

1. For females, all of the criteria for Anorexia Nervosa are met except that the individual has regular menses.
2. All of the criteria for Anorexia Nervosa are met except that, despite significant weight loss, the individual’s current weight is in the normal range.
3. All of the criteria for Bulimia Nervosa are met except that the binge eating and inappropriate compensatory mechanisms occur at a frequency of less than twice a week or for a duration of less than three months.
4. The regular use of inappropriate compensatory behaviour by an individual of normal body weight after eating small amounts of food (e.g., self-induced vomiting after the consumption of two cookies).
5. Repeatedly chewing and spitting out, but not swallowing, large amounts of food.
6. Binge-eating disorder: recurrent episodes of binge eating in the absence of the regular use of inappropriate compensatory behaviours, characteristic of Bulimia Nervosa (Diagnostic and Statistical Manual of Mental Disorders, 2000, p. 594)
7. A diagnosis of EDNOS has been said to represent the most common eating disorder diagnosis made in outpatient settings (Wade, 2007), and prevalence rates of EDNOS in the general community are estimated to be approximately 4% (Fairburn & Bohn, 2005; Hay, 1998). EDNOS is often considered a disorder less severe than BN or AN, however these ‘sub-clinical’ cases of disordered eating are associated with significant levels of distress and impairment. In fact, Striegel-Moore et al. (2000) found that a sample of women with sub-
threshold BED did not differ from those meeting full criteria on measures of over-concern with weight and shape, dietary restraint, or psychiatric distress.

Despite the fact that EDNOS is the most common diagnosis given in outpatient settings, it is also the diagnosis most ignored by researchers because of its status as a “residual diagnosis” in the DSM-IV (Wade, 2007). Randomised controlled trials, with their focus on strict inclusion and exclusion criteria often determine that only women who meet the full criteria for a DSM-IV-TR diagnosis are included in research trials. Previous researchers have emphasised the importance of EDNOS being considered in future research (Fairburn & Bohn, 2005; Wade, 2007). In the current study it was deemed of high importance that women who presented with an EDNOS were included in the research, as they form a significant proportion of women with disordered eating patterns.

**Binge Eating Disorder**

Binge Eating Disorder (BED) was introduced in the Fourth edition of the DSM (*Diagnostic and Statistical Manual of Mental Disorders*, 1994) as a disorder warranting further research. BED is characterised by recurrent episodes of binge eating without the use of compensatory behaviours to counteract the binge. The suggested research criteria for BED are (*Diagnostic and Statistical Manual of Mental Disorders*, 1994, p. 787):

A. Recurrent episodes of binge eating characterised by both the following:
   1. eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat in a similar period of time under similar circumstances
2. a sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating)

3. The binge eating episodes are associated with three (or more) of the following:

4. eating much more rapidly than normal

5. eating until feeling uncomfortably full

6. eating large amounts of food when not feeling physically hungry

7. eating alone because of being embarrassed by how much one is eating

8. feeling disgusted with oneself, depressed or very guilty afterwards

B. Marked distress regarding binge eating is present

C. The binge eating occurs, on average, at least 2 days a week for 6 months

D. The binge eating is not associated with the regular use of inappropriate compensatory behaviours (e.g., purging, fasting, excessive exercise) and does not occur exclusively during the course of anorexia nervosa or bulimia nervosa

Research studies have estimated the prevalence of BED in the general community to be between 2% and 5% (Striegel-Moore & Franko, 2003). BED is considered more common in older than younger women (Diagnostic and Statistical Manual of Mental Disorders, 2000), and the onset of the disorder often occurs after a period of intense dieting (Wilfley, Wilson, & Agras, 2003)

Comparison of BN, BED and EDNOS

Individuals with BN, BED, and EDNOS are distinct in some ways but also share important similarities. BN primarily affects women, however
the male:female ratio is more equal in BED, with approximately three female sufferers to every two males (Brody, Walsh, & Devlin, 1994; Wilfley et al., 2003). And while BN occurs more commonly in Caucasians, BED occurs across ethnically diverse populations (Smith, Marcus, Lewis, Fitzgibbon, & Schreiner, 1998). Dietary restriction is more prominent and more intense in those with BN, and forms the background against which binge eating occurs (Brody et al., 1994; Wilfley et al., 2000). For women with BED, binging occurs against a backdrop of general overeating (Wilfley et al., 2000). Obesity is common in women with BED, but not in women with BN because of the compensatory behaviours employed (Bruce & Agras, 1992; Fairburn et al., 2000). There is some evidence to suggest that women with BN experience more general psychopathology than women with BED (Hilbert & Tuschen-Caffier, 2005). Katzman and Wolchik (1984) found that bulimics showed more depressive symptoms than binge eaters. However other studies dispute this, finding that BN and BED are associated with similar levels of distress and mood disorders (Mitchell et al., 1999a).

Research has found some important similarities between BN and BED. Women with BED and BN report similar triggers to binge episodes (Mitchell et al., 1999a). Wilfley et al. (2003) found that women with BN and BED share similar body image concerns, even though body image concerns are not a diagnostic criterion of BED. BED is associated with significant impairment of quality of life, low self-esteem, and poor physical health, and those with BED show similar levels of Axis I and II DSM-IV-TR disorders as women with BN. There is very little evidence regarding the emotional, social and physical impairment of women with EDNOS, and this is concerning as they represent the most common eating disorder presentation (Wade, 2007).
The Natural Course of BN, BED and EDNOS

Bulimia Nervosa tends to be a chronic disorder with a low rate of recovery, with women often reporting decades of symptoms and impaired functioning (Fairburn et al., 1995; Fairburn et al., 2003; Fichter & Quadflieg, 1997; Keel, Mitchell, Miller, Davis, & Crow, 1999). Several studies have explored the natural course of binge eating over time. In a study of the natural course of BN over 7.5 years, Herzog and colleagues (1999) found no predictors for the natural recovery of BN. Fairburn et al. (2000) conducted a 5-year naturalistic and community-based study of individuals with BN and BED. They found that BN shows a “marked tendency to persist, suggesting that powerful maintaining mechanisms operate” (p. 103). In the only study of the long-term course of bulimia nervosa in a sample not seeking treatment, at all follow-up points over 15 months, around 70% of the sample still met strict criteria for an eating disorder.

In their 5-year naturalistic study, Fairburn et al. (2000) looked at the natural course of BED, and found higher rates of recovery in BED than BN. Cachelin et al. (1999) examined the 6-month natural course of 31 women with BED in a community setting. High drop-out rates in the study resulted in a very small sample size \((n = 10)\) and preclude firm conclusions. However the findings suggest a negative natural course for BED, with 52% of the remaining participants still meeting full diagnosis for BED at 6-month follow-up, and the remaining 48% showing only partial remission. Grilo et al. (2003) examined the natural course of 69 women with EDNOS over 24 months, and found a 59% probability of remission. This compares favourably to the 40% probability of remission found for BN.
Psychological Problems Associated with Binge Eating

The psychological and social impacts for women experiencing significant problems with binge eating are profound. For many of these factors (such as depression, anxiety, and decreased quality of life) it can be difficult to determine whether a particular impact is a cause or a consequence of the disordered eating. In this way, today’s consequence becomes tomorrow’s cause. The psychological and social problems associated with binge eating explored in this chapter have informed the choice of measures used in the quantitative section of the thesis.

Depression and Anxiety

Women with an eating disorder are significantly more likely to report experiencing a range of emotional problems than women without an eating disorder (54% vs. 28%, Doll, Petersen, & Stewart-Brown, 2005). The most commonly researched emotional problems associated with binge eating problems are depression and anxiety.

Depression involves a combination of symptoms including feelings of sadness or despair, markedly diminished interest or pleasure in activities, sleep disturbances, fatigue or loss of energy, feelings of worthlessness and recurrent thoughts about death or suicide (Diagnostic and Statistical Manual of Mental Disorders, 2000). Depression has a significant impact on the functioning of the individual, and in turn impacts considerably on the larger community. Relapse rates for depression are also very high, ranging from 40% to 80% (Segal, Williams, & Teasdale, 2002), meaning that long-term management may be required. Psychological distress and mood disorders may also contribute to poor treatment outcomes.

Women with eating disorders generally (Wheeler, Greiner, & Boulton, 2005) and with BN (Doll et al., 2005; Katzman & Wolchik, 1984) and BED specifically (Grissett & Fitzgibbon, 1996; Wilfley et al., 2000),
experience higher rates of depression than are found in the general population. Binge eating behaviours and depression frequently occur together (Isnard et al., 2003; Wheeler et al., 2005). The relationship between depression and binge eating is so strong that it has been theorised that binge eating is a variant of an affective disorder. While the link between binge eating and depression is clear, it is not clear whether the depression is a result of the disordered eating, or a cause.

Anxiety disorders are the most common mental disorder in Australia with 1 in 10 people suffering an anxiety disorder during their lifetime (Andrews, Hall, Teesson, & Henderson, 1999). Anxiety can include physiological symptoms such as heart palpitations, muscle tension, and shortness of breath; cognitive symptoms such as worry, flashbacks and nightmares; and behavioural actions such as compulsions and the avoidance of particular situations. The DSM-IV-TR includes numerous diagnoses of anxiety disorders including Generalized Anxiety Disorder, Panic Disorder, Obsessive-Compulsive Disorder and Specific Phobias (Diagnostic and Statistical Manual of Mental Disorders, 2000). Anxiety disorders and subclinical symptoms of anxiety are highly prevalent and have significant impacts for those who are affected (Somers, Goldner, & Waraich, 2006).

Research has shown that eating disorders are positively associated with specific anxiety diagnoses such as Social Phobia and Obsessive-Compulsive Disorder (Cassin & von Ranson, 2005; Gendall, Joyce, Sullivan, & Bulik, 1998) and binge eating symptoms generally are related to high levels of anxiety (Isnard et al., 2003). Anxiety is found more commonly in women with BED and BN than in the general community (Kensinger, Murtaugh, Reichmann, & Tangney, 1998; Pinaquy, Chabrol, Simon, Louvet, & Barbe, 2003). Some research suggests that women with BN experience more anxiety related to binge eating than women with BED, and this may in part explain the compensatory behaviours which are employed by women with BN (Mitchell et al., 1999a). Anxiety is also a
common emotional trigger for a binge eating episode (Fairburn, 1995). As with depressive symptoms, anxiety is likely to play both a role in the onset and maintenance of binge eating symptoms.

**Body image concerns**

Body image concerns include a fear of being fat, excessive concern with body shape and weight, and the association of one’s body with self-worth. Body dissatisfaction involves a general negative evaluation of various aspects of one’s physical body, such as weight, shape, and specific body parts. An over-emphasis on weight and shape in determining self-worth is a major concern for women with both AN and BN, and involves using the size and shape of one’s body to determine one’s own inherent value as a person. Women consistently report significantly higher levels of body image disturbance than men (Carano et al., 2006; Grilo, Masheb, Brody, Burke-Martindale, & Rothschild, 2005). Body image dissatisfaction and concerns are thought to arise from both low self-esteem and the socio-cultural pressures on women to be thin which are so prevalent in Western cultures (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999; Wertheim, Paxton, Schutz, & Muir, 1997). For women who have had difficult upbringings which have left them with an internalised sense of shame, body dissatisfaction can become a socially acceptable means of explaining this sense of inadequacy to themselves.

Extreme concerns about weight and shape are very common amongst women with eating disorders. For both AN and BN (but not BED) they are criteria necessary for a diagnosis. However research has revealed that body image concerns and body dissatisfaction are also issues for women with BED. Some research has found that poor body image is more common amongst women with BN, than for women with BED (Katzman & Wolchik, 1984), but some research has found that women with BED experience just as many body image concerns as those with BN (Wilfley et
Hilbert & Tuschen-Caffier (2005) compared body-related cognitions amongst women with BN, BED and non-eating disordered women. Compared with the control group, both eating disordered groups reported more negative body-related cognitions. These negative cognitions occurred more frequently than neutral or positive body-related cognitions. The authors concluded that there are similar cognitive body image disturbances in women with BN and women with BED.

**Low Self-Esteem**

Self-esteem involves a positive or negative orientation towards oneself, or an evaluation of one’s worth or value. Rosenberg described it as the totality of an individual’s thoughts and feelings with reference to him or herself (Rosenberg, 1965). Low self-esteem, or the negative evaluation of one’s own value or worth, has been associated with a wide range of psychopathology including depression, anxiety disorders, personality disorders, and addiction.

Research has found a clear association between low self-esteem and eating disorders generally (Kugu, Akyuz, Dogan, Ersan, & Izgic, 2006), with binge eating behaviour (Isnard et al., 2003) as well as specifically with BN (Katzman & Wolchik, 1984) and BED (Wilfley et al., 2003). In fact, low self-esteem is one of the most frequently cited predisposing characteristics for an eating disorder (Dunkley & Grilo, 2006). Women who binge report significantly greater fluctuations in state self-esteem, suggesting that their sense of self can be more easily shaken by circumstances (Sanftner & Crowther, 1998). Research has also shown a clear link between low self-esteem and body image disturbance (Grilo et al., 2005; Masheb & Grilo, 2003).

Also of importance is the finding that low self-esteem at pre-treatment is a significant predictor of poor treatment outcome (Fairburn,
1995). As such, Fairburn, Marcus and Wilson (1993a) recommend that treatment for binge eating problems should also address low self-esteem.

\textit{Decreased Quality of Life}

Quality of life is a subjective concept which extends traditional measures of life quality such as health, wealth, and social relationships because it contains subjective measures of satisfaction, thereby respecting the personal values of individuals. It can include such factors as physical health, mental health, financial stability, interpersonal relationships and career satisfaction. It is a global measurement of how satisfied a person is with the conditions of their life.

Eating disorder patients show marked impairment in both health related and subjective quality of life (Mond, Rodgers, Owen, & Beumont, 2005). BED patients specifically have also been found to experience impaired quality of life and social functioning (Wilfley et al., 2003). Given the impact on the social and psychological functioning of individuals with eating disorders, Mond et al. (2005) recommended that the assessment of quality of life would be a useful addition to the literature on eating disorders.

Theoretical Understandings of Binge Eating

Eating disorders can arise from a variety of causes. While they are obviously associated with unhealthy attitudes and behaviour towards food, they are often about more than food. There are various theories outlining the aetiology of binge eating problems, which each emphasise different origins, such as eating behaviours, early childhood family dynamics, emotional coping styles, and the influences of cultural pressures. Some of the main theories of binge eating are presented in Table 1.1, and explored in further detail below.
Each theoretical understanding is associated with various risk factors. Many of the theories interrelate and are consistent with each other. For example, the Interpersonal theory emphasises the role of abuse or neglect in childhood leading to feelings of inadequacy. Or in other words, an unwanted sense of self as emphasised in Escape Theory. These negative emotional experiences may be the ones which individuals attempt to avoid, as outlined in Mindfulness and Affect Regulation Theories. While mindfulness-based theories of binge eating are not as well developed as some others, mindfulness theories of psychopathology have been included here because of the mindfulness-focus of the Mindful Moderate Eating Group (MEG) program and the current thesis. Being a holistic program, the Mindful MEG program took each of the theories in Table 1.1 into account to various degrees, with the Cognitive-Behavioural and Mindfulness theories forming the basis of the program.
<table>
<thead>
<tr>
<th>Theory</th>
<th>Risk Factors</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive-Behavioural</td>
<td>Dieting.</td>
<td>(Fairburn et al., 1993a)</td>
</tr>
<tr>
<td></td>
<td>Over-concern with weight.</td>
<td></td>
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<tr>
<td></td>
<td>Low self-esteem.</td>
<td></td>
</tr>
<tr>
<td>Interpersonal Theory</td>
<td>Childhood abuse/neglect, leading to feelings of inadequacy</td>
<td>(Fairburn, 1993; Reindle, 2000)</td>
</tr>
<tr>
<td>Affect Regulation Theory</td>
<td>Low tolerance of emotional experiences.</td>
<td>(Lynch, Everingham, Dubitzky, Hartman, &amp; Kasser, 2000; Spoor, Bekker, Van Strien, &amp; van Heck, 2007; Telch, 1997; Whiteside et al., 2007)</td>
</tr>
<tr>
<td></td>
<td>Experiential avoidance.</td>
<td></td>
</tr>
<tr>
<td>Escape Theory</td>
<td>Poorly developed or unwanted sense of self.</td>
<td>(Heatherton &amp; Baumeister, 1991; Paxton &amp; Diggens, 1997; Wheeler, Adams, &amp; Keating, 2001)</td>
</tr>
<tr>
<td>Socio-Cultural Theory</td>
<td>Social pressures for thinness.</td>
<td>(Orbach, 1978; Wolf, 1991)</td>
</tr>
<tr>
<td>Mindfulness Theory</td>
<td>Lack of awareness/acceptance of experiences.</td>
<td>(Baer, Fischer, &amp; Huss, 2005a; Kristeller &amp; Hallett, 1999)</td>
</tr>
</tbody>
</table>
Cognitive Behavioural Theories of Binge Eating

Cognitive Behavioural Therapy (CBT) is probably the most commonly used form of psychological therapy in the Western world, and is based on the premise that psychopathology is caused by dysfunctional thinking and unhelpful behaviour patterns (Beck, 1995). Cognitive-behavioural understandings of binge eating hold that distorted beliefs about the value and importance of thinness lead to strict dieting behaviours. Strict dieting leads to hunger, which in turn leads to binge eating. Dieting is the most well substantiated cause of binge eating, and is central to the cognitive-behavioural understanding of binge eating (Fairburn et al., 1993a; Kenardy et al., 2001). There is considerable evidence to suggest that dieting is prompted by cognitive over-concern with weight and shape (Mcmanus & Waller, 1995) and that binge eating is the body’s natural response to dietary restriction (Grilo, Shiffman, & Carter-Campbell, 1994).

Dieting can take on three forms (Fairburn, 1995). Avoiding eating involves not eating at all for long periods of time, sometimes for several days. More commonly, individuals avoid eating during the day and then binge in the evening. Restricting the overall amount eaten involves trying to limit one’s daily intake of calories. Avoiding certain types of food involves deciding that particular types of food (e.g., chocolate or ice-cream) are forbidden and avoided because of their potential to cause weight gain. Binge eating can be caused by any of these types of dieting. Once binge eating begins, a range of cognitions and behaviours serve to maintain the problems, as outlined in Figure 1.1 below.
Extreme Concerns about Weight and Shape

Strict Dieting

Binge Eating

Compensatory Behaviours

Each level of this diagram interacts with the other levels, becoming both a cause and a consequence. For example, binge eating leads to compensatory behaviour such as purging, laxative use or excessive exercise, as a means of controlling the potential weight gain associated with the binge. In turn, compensatory behaviour also leads to binge eating, because it provides a kind of permission to binge, as there is a way to limit its consequences. Strict dieting is one of the most common causes of binge eating, and is often preceded by extreme concerns about weight and shape (Stice, 1999). Binge eating can feed into and increase extreme concerns about weight and shape, therefore increasing dieting behaviours, and subsequently increasing binge eating, and so the cycle continues.

Research has strongly supported the theory that dieting plays a central role in the development of binge eating problems (Howard & Porzelius, 1999). Additionally, women with binge eating problems show
significantly more cognitions associated with body image disturbance than the general population (Cash & Deagle III, 1997; Masheb & Grilo, 2003).

**Interpersonal Theories of Binge Eating**

Interpersonal theories hold that psychology and psychiatry should involve the study of people and their interactions with others, rather than the exclusive study of the mind. Appropriate and satisfying interpersonal interactions are considered a critical component of psychological health, where interpersonal patterns serve to foster confidence and well-being, or alternatively contribute to low self-esteem and psychopathology (Sullivan, 1953). Bowlby (1982) extended interpersonal theories by suggesting that interpersonal interactions in infancy and childhood are particularly influential in the development of emotional and behavioural patterns. Interpersonal theories of binge eating hold that binge eating occurs in response to difficult interpersonal interactions which lead to negative emotions such as loneliness, disappointment or resentment (Wilfley, Pike, & Striegel-Moore, 1997).

In her book *Sensing the Self*, about women’s recovery from Bulimia, Reindle (2000) outlines the familial environment through which an individual may develop an eating disorder. Reindle hypothesises that women with eating disorders were raised in families where caregivers were not attuned or responsive to the emotional experiences of the child. Without this attuned responsiveness, the child fails to learn how to identify and tolerate their own emotional experiences. This leads to feeling that her emotions and reactions do not matter, and are inadequate in some way. “If that which is derived from the core of her is deemed unworthy of attention or unacceptably bad by the parent, she experiences her very self as unworthy and unacceptably bad” (p. 17). This emotional invalidation by parents is considered key to the development of bulimia. If women are not emotionally validated in childhood, some will develop a sense of themselves
as shameful and inadequate in some way. Dieting becomes a socially encouraged solution to deal with feelings of pain and inadequacy.

In families where abuse is present, the emotional invalidation is extreme. Childhood abuse and neglect is common amongst women with eating disorders (Favaro, Ferrara, & Santonastaso, 2003; Kugu et al., 2006), and sexual abuse in childhood is a risk for the development of BN (Wonderlich, Brewerton, Jocic, Dansky, & Abbott, 1997). Rates of sexual abuse among women with BN are higher than rates found in the general community. For example, in a survey of 63 patients with eating disorders, Treur, Koperdak, Rozsa, and Furedi (2005) found that 29% had been sexually abused, and 57% had been physically abused. Body image disturbance was significantly more severe in those who had been physically abused.

Empirical research has found support for interpersonal theories, with individuals who binge eat reporting social and interpersonal deficits (Steiger, Gauvin, Jabalpurwala, Seguin, & Stotland, 1999). Some research suggests that interpersonal problems are significantly correlated with the severity of binge eating problems (Ganley, 1989).

### Affect Regulation Theories of Binge Eating

It is widely accepted that changing emotional states lead to changes in eating behaviour (Arnow, Kenardy, & Agras, 1995; Wiser & Telch, 1999). Affect regulation theories suggest that binge eating episodes are triggered by aversive emotional states, and the binge eating behaviour becomes a short-term coping mechanism for dealing with the aversive emotional state (Telch, 1997). The binge eating provides a short-term decrease in the negative affect, by temporarily reducing or numbing negative emotions, or providing a distraction from the negative emotions. Affect regulation models suggest that individuals who overeat as a means of coping with negative affect have poorly developed emotion regulation.
skills, and have learned over time that overeating provides some relief from negative emotional states (Spoor et al., 2007).

There is a body of research which supports the affect regulation theories of binge eating. Firstly, trait neuroticism, or the tendency to experience negative affect is a risk factor for the development of an eating disorder (Stice, 2002). Women with BN believe that eating does serve to alleviate distress (Jackson, Cooper, Mintz, & Albino, 2003). Binge eating individuals report that at least 50% of their binges are driven by affect (Greeno et al., 2000), and another study found that 87% of binge episodes were preceded by negative moods (Grilo et al., 1994). Obese women (van Strien & Ouwens, 2003), women with eating disorders (Agras & Telch, 1999), and normal-weight dieters (Polivy, Herman, & McFarlane, 1994) report that negative emotions often result in overeating. Those with limited emotion regulation strategies were more likely to engage in binge eating behaviour (Whiteside et al., 2007) and difficulties regulating emotions have been found to account for a significant amount of variance in binge eating behaviour, over and above gender, food restriction, and over-evaluation of weight and shape (Whiteside et al.).

*Escape Theory of binge eating*

Escape Theory argues that binge eating is motivated by a desire to escape from aversive self-awareness (Heatherton & Baumeister, 1991). Individuals who binge tend to have unrealistically high standards of themselves, and also be acutely sensitive to the perceived demands of others. When they inevitably fail to meet these high standards, or sense they have let others down in some way, they experience intense levels of shame and self-disparagement. Because of their high levels of self-awareness, their sense of self becomes a source of strong emotional distress (Heatherton & Baumeister, 1991).
Binge eating is conceptualised as a motivated shift to lower levels of self-awareness, or as an ‘escape’ from aversive self-awareness. The process involves focusing attention on the immediate stimulus environment (i.e., the binge food), therefore avoiding any meaningful thoughts about the self or identity issues – a process known as ‘cognitive narrowing’.

In many ways the escape theory is consistent with affect regulation theories of binge eating (Spoor et al., 2007), but it goes further in explaining the common source of negative affect amongst binge eaters.

Most research that supports the Escape Theory of binge eating has focused on individual components of the theory. For example, there is a strong relationship between binge eating and perfectionism (Forbush, Heaterton, & Keel, 2007; Pearson & Gleaves, 2006; Pratt, Telch, Labouvie, Wilson, & Agras, 2001), binge eating and low self-esteem (Dunkley & Grilo, 2006; Griffiths et al., 1999; Sanftner & Crowther, 1998), and binge eating and negative affect (Spoor et al., 2007; Telch, 1997). Blackburn, Johnston, Blampied, Popp, and Kallen (2006) provided support for the Escape Theory in its entirety, finding that perfectionism strongly predicted aversive self-awareness, which in turn predicted negative affect, which then predicted avoidant coping, which strongly predicted levels of binge eating.

Socio-Cultural Theories of binge eating

Social and cultural contexts have been identified as a significant contributor to the development and maintenance of eating disorders. Prevalence rates of eating disorders vary between different countries, and also across time as cultures themselves change.

Historically speaking, eating disorders have been reported since ancient times, but their prevalence has been observed to change over time with varying cultural contexts. For example, during the Dark Ages, at a time when hunger and starvation were common, it appears that wilful self-starvation was practically non-existent (Bemporad, 1997). At other times in
history, particularly in the context of Eastern religions, spiritually-motivated self-starvation became more common (Bemporad, 1997). However, eating disorders as we know them in modern times have increased dramatically in the second part of the 20th Century. During this time, increases in body dissatisfaction and dieting behaviours have also been observed, particularly in Western countries (Miller & Pumariega, 2001).

Globally, the rates of eating disorders are highest in developed Western countries such as the USA, the UK, and Australia. Western societies, more than any others, idealize a thin-body type, and such idealization is implicated in the development of eating disorders (Stice & Shaw, 2002). In many non-Western countries, a different ideal of beauty exists, which considers plumpness and roundness more attractive, with heavier figures being associated with wealth, success and fertility (Nasser, 1988). In continents which do not endorse the western ideal of thinness, such as Africa and Asia, eating disorders occur much less frequently (Miller & Pumariega, 2001). Unfortunately, as Western values are more widely adopted in developing countries, the rates of eating disorders rise also (Miller & Pumariega).

Without doubt there are strong social pressures on women in Western societies to look a certain way. Socio-cultural pressures for women to be thin come from a wide variety of sources including the media, the fashion industry, parents, siblings, female peers and the opposite sex. In particular, the media and fashion industries constantly bombard women with idealised visions of thinness. The impact of this is that women are often left with strong feelings of inadequacy and dissatisfaction with their own weight and shape. The internalisation of the “thin-ideal” means that women believe achieving a certain body type will make them happy, successful, popular and loved (Stice, 2002). These circumstances interact to drive the multi-billion dollar dieting industry. Studies of young women both in Australia and internationally have found a disturbingly high prevalence of dieting.
Patton et al. (1999) found that 68% of 15 year old females in Victoria were currently on a diet. In another Victorian study, O’Dea and Abraham (1996) found that 38% of females aged 12-17 years were ‘intermediate’ or ‘extreme’ dieters. Despite the high numbers of dieting individuals, rates of obesity in Western cultures have never been higher, and research continually shows that traditional dieting is not successful in achieving long-term weight loss and may in fact promote weight gain. The socio-cultural pressures on women to be thin are thought to increase the risk factors for developing an eating disorder in two ways – through increased negative affect brought about by body dissatisfaction, and through the encouragement to diet (van Strien, Engels, Van Leeuwe, & Snoek, 2005). Both of these factors increase the risk of subsequently developing an eating disorder.

Feminist writers have written at length about the social structures and ideologies which have led to the current levels of body dissatisfaction women feel. In *Fat is a Feminist Issue*, Susie Orbach (1978) argued that our natural instincts to eat appropriately and healthily have been usurped by external influences such as the mainstream media, as well as the food, fashion and dieting industries. In this context of social pressure, women do not even realise how consumed their lives have become by concerns about body image and the desire to achieve a perfect weight and shape. Orbach argues that the inevitable consequence of dieting has led to increasingly worse problems with food, with emotional eating at epidemic levels.

In *The Beauty Myth*, Naomi Wolf (Wolf, 1991) traces the connections between the feminist movement and beauty ideals presented in the media through history. She argues that there is a relationship between female liberation and concepts of female beauty, and that as women’s freedom has increased through the 20th Century, social pressures on women to look a certain way have increased. This increase of social pressure has served in some ways to maintain the status quo in terms of keeping women
oppressed. Wolf states “The more legal and material hindrances women have broken through, the more strictly and heavily and cruelly images of female beauty have come to weigh upon us….More women have more money and power and scope and legal recognition than we have ever had before; but in terms of how we feel about ourselves physically, we may actually be worse off than our unliberated grandmothers” (Wolf, 1991`, p. 10).

Research supports socio-cultural theories of binge eating. Several studies have found that increased perceived pressure to be thin results in increased levels of body dissatisfaction (Stice, 1999). Internalisation of societal pressures to be thin (described as thin-ideal internalisation) causes an increase in symptoms of bulimia (Stice, 2002). Women who have been diagnosed with bulimia are more likely than those not diagnosed to endorse this thin ideal (Thompson, ven den Berg, Roehrig, Guarda, & Hienberg, 2004). Laboratory studies have shown that exposing women to media images of thin models leads to increased body-related anxiety (Halliwell & Dittmar, 2004).

Mindfulness theories of binge eating

Mindfulness-based theories revolve around the concepts of awareness and acceptance of one’s experiences in the present moment and have become increasingly popular in recent years (Baer, 2003). Mindfulness theory holds that psychopathology is caused by a lack of awareness, or a purposeful avoidance of various experiences, including thoughts, emotions, physical sensations and behaviours. When one feels that one cannot cope with a particular experience, turning away from it becomes the only option. In this turning away from experience, we lose the ability to act and react consciously, and may unwittingly exacerbate the experience we were originally trying to avoid. Connectedness with our own experience is
considered crucial to health and well-being within a mindfulness paradigm (Kabat-Zinn, 1990).

A mindfulness-based understanding of binge eating suggests that binge eating problems develop in several ways. Firstly, strong judgements of oneself as shameful or somehow unacceptable lead to feelings of depression and anxiety. An intolerance of unpleasant emotions or thoughts leads to individuals using unhealthy or unhelpful coping strategies (such as binge eating) as a means of turning away from their experience. The lack of awareness which mindfulness associates with psychopathology can also mean that individuals are less in contact with physical feelings of hunger and satiety, and more likely to confuse these physical sensations with emotions, or to confuse emotions with feelings of hunger. The auto-pilot or trance-like state which individuals often enter during a binge episode is in direct opposition to a mindful state, and disallows the ability to make conscious choices about behaviour. Again, the mindfulness understanding of binge eating is highly consistent with the affect regulation theories, and the escape theory.

Mindfulness theories of binge eating are supported by research which finds that binge eating is associated with an avoidance coping style (Spoor et al., 2007) and high levels of general experiential avoidance (Sassaroli et al., 2005; Wheeler et al., 2001). Individuals who binge have a decreased awareness of their own feelings of satiety (Hadigan, Walsh, Devlin, LaChaussee, & Kristeller, 1992). Perfectionism is also significantly higher in women with binge eating difficulties (Bardone-Cone, Abramson, Vohs, Heatherton, & Joiner, 2006; Forbush et al., 2007) suggesting high degrees of judgement, as well as an intolerance of circumstances as they are in their inevitable imperfection. The high levels of low self-esteem found in women who binge eat also suggests a lack of self-acceptance (Dunkley & Grilo, 2006; Grilo et al., 2005; Sanftner & Crowther, 1998).
Overall, the theoretical understandings of binge eating presented in this chapter are essentially compatible with one another. Rather than suggesting different aetiologies for the development of binge eating problems, they focus on different aspects of the process. When viewed together they provide a more comprehensive understanding of binge eating, and hence each theoretical stance was influential in the Mindful MEG program to some degree. The treatment of binge eating problems, as guided by some of these theories will be explored in the next chapter.

Chapter Summary

This thesis provides an evaluation of a mindfulness-based group therapy program for women with binge eating difficulties. Eating disorders are one of the most common psychological disorders experienced by women, are characterised by chronic outlooks and high rates of relapse, and appear to be on the rise. The effective treatment of disordered eating is an important area for research.

Binge eating behaviours are relatively common in the population, and can occur as part of Bulimia Nervosa, Binge Eating Disorder, or an Eating Disorder Not Otherwise Specified. Individuals with these disorders are distinct in some ways but also share important similarities. All eating disorders are associated with a range of social and psychological problems, including higher rates of depression and anxiety, body image concerns, low self-esteem and decreased quality of life.

Numerous theories on the aetiology of binge eating problems have developed including CBT, Interpersonal theory, Escape theory, Affect Regulation theory, Socio-cultural theory and Mindfulness theory. These theories are compatible with one another, and focus on different aspects of aetiology. Each of these theories have informed the development of the Mindful MEG program to varying degrees, with Cognitive-Behavioural and Mindfulness theories forming the basis of the program.
CHAPTER 2: THE TREATMENT OF BINGE EATING

The current chapter will explore issues relevant to the treatment of binge eating, occurring either within Bulimia Nervosa (BN), Binge Eating Disorder (BED) or an Eating Disorder Not Otherwise Specified (EDNOS). While each of the theoretical approaches to binge eating presented in Chapter 1 played a part in the development of the Mindful MEG program, it is beyond the scope of this thesis to address all of the associated treatment options. The focus of this chapter will be to outline the background and research findings for the two main theoretical foundations of the Mindful MEG program: Cognitive Behavioural Therapy (CBT) for binge eating and Mindfulness-Based Cognitive Therapy. To begin, the group format of the program will be explored.

Group therapy for binge eating

While CBT for binge eating was originally designed as an individual treatment, the delivery of treatment for eating disorders in group format is common. This is in part due to the cost-effectiveness of the method, but also because of the inherent advantages of group therapy. One of the most valuable benefits of group therapy is the impact of ‘universality’. Many clients enter therapy “with the disquieting thought that they are unique in their wretchedness, that they alone have certain frightening or unacceptable problems, thoughts, impulses and fantasies” (Yalom, 1995, p. 5). This is particularly true for women who have difficulties with binge eating, who are often prone to feelings of shame, embarrassment and guilt (Sanftner & Crowther, 1998). Many women hide their binge eating, feeling that the behaviours are too shameful to reveal, resulting in both psychological and physical isolation (Eldredge et al., 1998). In his seminal text *The Theory and Practice of Group Psychotherapy*, Yalom (1995) identifies bulimic patients as a specific client group for whom secrecy is an especially salient factor.
As such, universality – or the sense of connection and understanding with other human beings that group experiences can provide – is central to women with binge eating difficulties.

Through connecting with other individuals experiencing similar problems, “patients express great relief at discovering that they are not alone, that others share the same dilemmas and life experiences” (Yalom, 1995, p. 7). This serves to counteract the shame, embarrassment, and isolation which often becomes part of their life. In a qualitative study of the experiences of bulimic women in a mindfulness-based group therapy program, connecting with other group members was identified as crucial (Proulx, 2008). One participant commented “It broke the isolation and the secrecy. The time spent with the other group members was the most valuable thing for me” (Proulx, p. 62). Another observed that “I could look at the other women and see them as individuals and that helped me to see that I must be an individual too” (Proulx, p. 62).

Research suggests that both group and individual CBT is effective for binge eating difficulties. In a meta-analysis comparing individual and group CBT for BN, no significant difference between effect sizes for group and individual treatment was found (Hartmann, Herzog, & Drinkmann, 1992). A more recent Australian randomised controlled trial found that binging and purging abstinence was slightly higher for individual CBT than for group CBT (Chen et al., 2003). However this difference was not maintained at follow-up. The authors of this study recommended group therapy should be considered as the first line of treatment, due to its superior cost-effectiveness. The cost of group CBT has been estimated at approximately one fifth to one third of the cost of individual CBT (Mitchell, Peterson, & Agras, 1999b).

The MEG program was designed specifically as a group therapy program. While there are currently valuable efforts being made to develop an individual treatment program based on the Mindful MEG program.
(Whickam, in press), there were several reasons why the original program was designed in group format. As outlined earlier, the connections with other group members, and the resulting impact on feelings of isolation, shame and embarrassment are a crucial part of the healing process for many women with binge eating problems. Additionally, in the setting of a university clinic, issues of cost-effectiveness were paramount. In terms of financial and human resources, the group format was considered more suitable. The MEG program also provided post-graduate psychology students with a valuable opportunity to gain experience as a group facilitator during professional placements.

Student Psychologist Facilitation

Group programs run through university clinics are often facilitated by student or trainee psychologists – in Australia referred to as probationary psychologists. During their formal training, psychologists undertake a range of activities as part of their post-graduate studies to develop their academic and practical knowledge of psychological treatment. These activities include educational classes, research and practical placements. The use of student psychologists as individual counsellors and group facilitators has two-fold benefits: decreasing the cost of psychological treatment for the community (as the student facilitators do not receive monetary payment for their work), and providing valuable on-the-job learning for the students themselves. All probationary psychologists are required to work under the supervision of a fully registered psychologist who provides information, support and advice. While all psychologists are recommended to obtain regular supervision, trainee psychologists have an increased need for supervision as they navigate the learning process, and come face-to-face with certain challenges for the first time. Interestingly, research suggests that there is no significant effect of psychologist level of experience on outcome for clients when
appropriate supervision is in place (Buckley, Newman, Kellet, & Beail, 2006; Lambert & Bergin, 1994).

Cognitive Behavioural Therapy for binge eating

Cognitive Behavioural Therapy (CBT) is the most widely researched treatment for both BN and BED. CBT for binge eating was originally created by Christopher Fairburn in the 1980s, and is based on the premise that cultural attitudes towards the ideal shape of women’s bodies shifted towards thinness in the latter half of the twentieth century (Fairburn et al., 1993a). Concurrently, dieting became the favoured behavioural method to achieve this thin ideal (Fairburn, 1995). For some women, dieting can become associated with rigid thoughts about food and strict dieting behaviours. The cognitive-behavioural model of the development and maintenance of binge eating (presented in Figure 1.1, p.31) theorises that extreme cognitive concern about weight and shape leads to strict dieting behaviours, which in turn leads to cycles of binge eating (with or without compensatory behaviours). The binge eating episodes then feed back into concerns about weight and shape and strict dieting behaviours, thus strengthening the cycle (Fairburn, 1995). CBT for binge eating is directly aimed at changing the abnormal eating patterns through exercises such as food monitoring, meal planning, implementing regular eating patterns, and the introduction of avoided foods into the regular diet. Distorted thought patterns are also targeted through thought monitoring and identification of thought distortions. (See Appendix 2.A for a description of the main treatment components of CBT for binge eating).

Research on CBT for binge eating

Cognitive-behavioural approaches are by far the most commonly researched treatment for binge eating problems. Despite the fact that sub-threshold binge eating disorders (such as EDNOS) form the most common
eating disorder presentation and are associated with significant distress and impairment (Striegel-Moore et al., 2000; Wade, 2007), the vast majority of research trials focus on participants with BN or BED. These are explored separately below.

Research on CBT for BN

Numerous randomised controlled trials have found that CBT for BN is an effective treatment which provides fast acting results which can be maintained over time. In a meta-analysis, Ghaderi and Anderson (1999) provided support for the efficacy of CBT for BN. The meta-analysis included seven randomized controlled trials which included only clients who fit the DSM-IV criteria for BN. The authors calculated treatment versus control effect-sizes for bingeing ($d = 0.47$) and purging ($d = 0.58$), and the combined pre- versus post-treatment effect sizes for binging ($d = 1.32$) and purging ($d = 1.54$). The authors concluded that there was a large effect-size for CBT for BN when comparing pre- and post- symptoms, and a moderate between-group effect-size when comparing post-treatment symptoms to a control group. The authors also noted that there were not enough studies which provided data on the maintenance of change at follow-up to provide effect-sizes for this.

In a more recent systematic review of randomised controlled trials, Shapiro et al. (2007) found that CBT reduced the core behavioural and psychological features of BN in both the short and long term. This review looked at the results of 19 behavioural intervention studies, 11 of which were CBT group treatment programs. When compared to wait-list control groups, CBT treatment led to significantly greater decreases in objective and subjective binges, dietary restraint, vomiting, and body dissatisfaction. CBT was found to have similar efficacy to interpersonal therapy, but was more effective than supportive counselling, nutritional counselling, and exercise therapy. For those studies which reported follow-up, participation in a CBT
group program resulted in significantly more improvement over time than wait-list control groups. Overall, the dropout rates for CBT group treatment programs ranged from 6% to 37%, with the average drop-out rate being around 25%.

Other research suggests that CBT results in binge and purge abstinence for approximately 50% of participants with BN, and reduces binging, purging, maladaptive dieting and disturbed body image in the majority of clients (Wilson, 2004).

Research on CBT for BED

While CBT for binge eating was originally created for use with BN, there is also strong empirical support for the utility of CBT for BED (Fairburn et al., 1993a; Levine & Marcus, 2003). In a recent systematic review of randomised controlled trials, Brownley et al. (2007) identified and discussed three CBT intervention trials involving BED patients. Gorin, Le Grange and Stone (2003) compared a 12-week individual CBT program with wait-list controls in 94 individuals, and found that the CBT group had significant reductions in binge frequency, depression, self-esteem, and were more likely to be abstinent from binge eating. The impact of CBT on weight loss was found to be minimal in this trial. Hilbert and Tuschen-Caffier (2004) studied women with both clinical and sub-clinical BED who took part in a five-month group CBT program. At the completion of treatment, CBT participants had significantly reduced binge eating, depression and psychological features of binge eating, however weight loss was not significant. Wifley et al. (2002) compared group CBT with group interpersonal therapy in 162 overweight or obese individuals with BED. Both treatments led to significant decreases in binge frequency at completion of treatment and 12-month follow-up. Restraint eating and depression scores were significantly reduced at 12-month follow up, but
neither treatment led to significant weight loss. The drop-out rates in the 3 trials above ranged from 14% to 34% with an average drop-out rate of 23%.

There is indication that CBT is effective in reducing binge behaviours, and the psychological features associated with binge eating, but not in producing weight-loss, which can be a significant concern for women with BED.

**Limitations of CBT for binge eating**

While research has clearly supported CBT as an effective treatment for binge eating difficulties, it has also revealed some limitations. Many participants do not achieve full abstinence from binge eating behaviours. Consistently, studies show that around 50% of CBT participants are still symptomatic at the end of treatment and at 5 years follow-up (Wilson, 1996). Average drop-out rates of around 25% (Shapiro et al., 2007) are relatively high and suggest that a significant proportion of individuals do not find benefit in the approach or cannot manage the demands of the treatment.

There is room for improvement in regards to drop out rates, and the significant number of participants who do not benefit from CBT programs. Multi-faceted, or eclectic treatment approaches are one way of potentially helping more clients. Mindfulness approaches are a relatively new approach to the treatment of binge eating difficulties and will be explored in detail next. For individuals who do not respond to the traditional CBT methods, mindfulness-based approaches may prove a beneficial addition.

**Mindfulness treatments of binge eating**

*Background*

The concept of mindfulness originated in Buddhist philosophy and can essentially be described as an accepting awareness of one’s experience in the present moment. Other authors have given various definitions of mindfulness, including:
Paying attention in a particular way; on purpose, in the present moment, and non-judgementally (Kabat-Zinn, 1994, p. 4)

Keeping one’s consciousness alive to the present reality (Hahn, 1976, p. 11)

Intentionally bringing one’s attention to the internal and external experiences occurring in the present moment (Baer, 2003, p. 125).

Bringing one’s complete attention to the present experience on a moment-to-moment basis (Marlatt & Kristeller, 1999, p. 68)

A kind of nonelaborative, nonjudgmental, present-centered awareness in which each thought, feeling, or sensation that arises in the attentional field is acknowledged and accepted as it is (Bishop et al., 2004, p. 232).

In attempting to cultivate mindfulness, one is aiming to generate a state of awareness or wakefulness, and to observe all facets of experience without judgement. In a mindful state, an individual aims not to label their experiences as good or bad, but to simply observe them. Mindfulness does not aim to change experience, and is not an exercise in relaxation as other meditation practices may be. Mindfulness is a practiced state of consciousness which is cultivated through both formal and informal meditation practices which help to improve an individual’s ability to stay present and aware of the present moment. Mindful attention includes a sense of compassion, friendliness and open-heartedness to the present moment (Kabat-Zinn, 2003).

In many ways the concept of mindfulness is radical to Western society. It can be argued that the common functioning state of many in our society is directly opposite to the concept of mindfulness, and is in fact ‘mindless’. Many can relate to the experience of being on automatic pilot, of arriving at a destination without any clear memories of the experience of the journey. We often fail to notice what is happening in the present
moment, being caught up in worries about the future, or memories of the past. Acceptance is another radical concept for Western society, where judgement is a major part of our life. We are relentlessly assessing whether experiences, people or objects are good or bad, and if we desire them or find them aversive. The aim of mindfulness practice is therefore to cultivate a state of mind which is thoroughly different to our normal state of being. It can allow us to become more present, more in control, self-aware, calmer and it can add a richness to our daily experiences (Kabat-Zinn, 1990).

The mechanisms of change through which mindfulness operates have been explored by several authors. In an excellent review of mindfulness concepts and research, Baer (2003) identified five factors through which mindfulness skills can lead to symptom reductions and behaviour change: exposure, cognitive change, self-management, relaxation and acceptance. Through mindfulness meditation, participants are encouraged to turn towards negative experiences which may have previously been avoided, thus providing an experience of exposure. The seated meditation posture itself may lead to physical, emotional and cognitive discomfort, and this is considered a vital part of the meditation practice. Sustained exposure to these discomforts can improve the ability to tolerate negative states. Mindfulness practice may also lead to cognitive change in the form of changes to thought patterns, or changes in the way one relates to thoughts (Segal et al., 2002). By bringing awareness to our cognitive experiences, understanding can develop of the transient and sometimes inaccurate nature of our thoughts (Linehan, 1993). Consequently thoughts are stripped of some their emotional and behavioural power. Mindfulness training may also contribute to improved self-management. Increased awareness of physical and psychological experiences may allow individuals to utilise a range of coping strategies to deal with these states (Kabat-Zinn, 1990). Without the awareness of these states, the ability to respond to or manage them is reduced. While relaxation is not an explicit
aim of mindfulness practice, it is a common result of meditation practice, and may play a part in the improvement of stress-related symptoms and physical disorders (Goldenberg et al., 1994; Kabat-Zinn, 1998). Acceptance is a central concept in the practice of mindfulness. During mindfulness meditation, individuals are encouraged to accept all aspects of their experiencing, including thoughts, emotions, and physical sensations. The act of acceptance is considered valuable in that it removes the need for maladaptive avoidance strategies which can occur when experiences are considered unacceptable.

The mechanisms of change for mindfulness share elements with the mechanisms of change for CBT (Baer, 2003). Exposure to thoughts, emotions and sensations, leading to desensitisation and a reduction in avoidance behaviour is common to both. Meta-cognition (thinking about one’s thoughts as mental events rather than irrefutable reflections of reality) results in cognitive change in both modalities. However, mindfulness training does differ from CBT in some ways (Baer, 2003). The process of evaluating thoughts is not a part of mindfulness practice, which instead encourages an objective observation of thoughts. The concept of acceptance is prominent in mindfulness training, while CBT is explicit in its aim to change certain thinking and behavioural patterns.

**Empirical Support for Mindfulness**

Preliminary research into the effects of mindfulness have shown promising results for psychological problems such as depression relapse (Ramel, Goldin, Carmona, & McQuaid, 2004; Segal et al., 2002), anxiety (Kabat-Zinn, 1992; Miller, Fletcher, & Kabat-Zinn, 1995), binge eating (Baer, Fischer, & Huss, 2006a) and addiction (Marlatt, 2002); physical ailments such as psoriasis (Kabat-Zinn, 1998), chronic pain (Kabat-Zinn, Lipworth, Burney, & Sellers, 1986), immune system functioning (Davidson et al., 2003) and fibromyalgia (Kaplan, Goldenberg, & Galvin-Nadeau,
and social health factors such as quality of life (Reibel, Greeson, Brainard, & Rosenzweig, 2001; Roth, 2004), interpersonal relationships (Carson, Carson, Gil, & Baucom, 2004), and stress (Carlson, Ursuliak, Goodey, Angen, & Speca, 2001).

Mindfulness-based Cognitive Therapy (MBCT; Segal et al., 2002) is based on the Mindfulness-Based Stress Reduction program created by Jon Kabat-Zinn (Kabat-Zinn, 1982, 1990), and was originally developed for the prevention of relapse of major depressive disorder. The creators of MBCT (Segal et al.) wanted to bring mindfulness concepts and practices into the psychological community by combining them with the more commonly used CBT. MBCT is a group therapy program, which is usually composed of eight weekly two-hour classes. Mindfulness techniques such as The Body Scan, The Sitting Meditation, the 3-minute Breathing Space and Walking meditation form the mindfulness base of the program, and are combined with cognitive-behavioural exercises such as an explanation of the connection between thoughts, feelings and behaviours, discussion of automatic thoughts, pleasure and mastery activity planning and relapse prevention plans (Segal et al.). A more comprehensive description of the mindfulness exercises included in the Mindful MEG program is provided in Appendix 2.B.

Two randomised clinical trials have provided support for the efficacy of MBCT in reducing relapse of major depressive disorder. Teasdale et al. (2000) conducted a randomised clinical trial involving 145 participants who had experienced two or more episodes of depression but were currently in remission. Patients were randomly assigned to receive either Treatment as Usual (TAU) or participation in the MBCT program. Rates of relapse in each group were recorded over the next 12 months. The trial found that for participants who had previously experienced three or more episodes of depression (77% of the sample) the risk of relapse was significantly reduced following participation in the MBCT program. While
66% of participants who received TAU ended up experiencing a relapse, only 37% of participants who received MBCT experienced a relapse. However, for participants who had experienced only two previous episodes of depression, the risk of relapse was not significantly reduced. The results of this clinical trial were replicated by Ma and Teasdale (2004) in a study of 74 formerly depressed participants, with very similar results. In this study, MBCT participants who had experienced three or more previous episodes of depression had a significantly reduced risk of relapsing (78% of the TAU group versus 36% of the MBCT group experienced a relapse). Again, participants who had only experienced two previous episodes did not have a reduced risk of relapse.

The MBCT program was used as the basis for the updated Mindful MEG program for several reasons. MBCT follows a similar structure and program length as the original MEG program, and provided a good practical fit. In terms of therapeutic orientation, the inclusion of CBT principles and exercises in MBCT was consistent with the original MEG program.

**Mindfulness and binge eating**

Research has shown that mindfulness has the ability to impact positively on many issues which are associated with the development and maintenance of eating disorders, such as emotion regulation (Dalai Lama & Goleman, 2003), depression (Segal et al., 2002), anxiety (Kabat-Zinn, 1992; Miller et al., 1995), self-esteem (Roth & Creaser, 1997), quality of life (Carlson, 2003; Reibel et al., 2001; Roth, 2004), and self-awareness (Mason & Hargreaves, 2001).

One of the first studies to explore the use of mindfulness in the treatment of binge eating (Kristeller & Hallett, 1999) examined the efficacy of a 6-week meditation-based group treatment program for 21 obese women who met the criteria for BED. The treatment program included both standard and eating-specific meditation exercises. Three women dropped
out of the program, leaving 18 women who completed measures pre- and post-program, and at 1, 3 and 6 weeks follow-up. The study found that after participation in the treatment program, binging frequency decreased from 4.02/week to 1.57/week ($p < 0.001$). Participants also showed significant improvement in scores on the Binge Eating Scale, and the Beck Depression and Anxiety Inventories. The authors concluded that mindfulness meditation may be an effective component of treatment for BED, through its ability to improve emotion regulation, and enhance self-awareness. In particular, the authors felt that the addition of mindfulness meditation to the traditional methods of treating BED would improve efforts to achieve awareness of bodily cues of hunger and satiety.

This study was an important beginning in the exploration of mindfulness treatments for binge eating difficulties, however there were several limitations to the study. The sample included only women who met the criteria for BED, and no women with sub-clinical symptoms. The authors also advise caution in interpreting the results because of the exploratory nature of the study design, and the short length of follow-up. However, even with a small sample size, substantial changes to binge eating and depression and anxiety were observed.

Baer, Fischer and Huss (2005a) adapted MBCT for the treatment of BED. The authors made only minimal changes to the original MBCT program, extending the length from 8 to 10 weeks, and introducing some eating-specific exercises. Preliminary support for this approach is promising. A case-study reported abstinence from binge eating, reduced body image concerns and increases in mindfulness (Baer et al., 2005a). In an uncontrolled trial including both women with the full DSM-IV criteria for BED and sub-clinical symptoms, 10 women took part in an MBCT program with minimal adaptations specific to binge eating (Baer, Fischer, & Huss, 2005b). Only six of the women completed both pre- and post-treatment assessments, leaving a small sample size. However, substantial
improvements in the frequency of objective binges, and binge-related concerns were observed along with increased levels of self-reported mindfulness. Interestingly, the authors also noted an increase in the frequency of subjective binges, which the authors attribute to an increased awareness of eating patterns through food monitoring exercises. The authors of this study provide an interesting discussion about the types of outcome changes one can expect from mindfulness-based treatments. Unlike more traditional approaches, MBCT does not aim to change negative thoughts or emotional experiences. Instead it is hoped that the participant’s relationship to negative thoughts or emotional experiences would change, such that the behaviour of binge eating would no longer occur. The findings of the study suggest that patients were indeed more able to abstain from binge eating despite having continued negative thoughts and emotions.

Attrition, adherence and the long-term maintenance of practice is particularly important in regards to mindfulness-based treatment approaches which are so dependent on practice and which make significant demands of participants. In Baer’s (2003) review, 13 studies reported the percentage of participants who completed the mindfulness programs, and drop-out rates ranged from 3% to 37% with an average drop-out rate of 15%. This is slightly lower than the average drop-out rate of 25% reported in a review of CBT for BN (Shapiro et al., 2007), however the mindfulness review includes a variety of populations rather than just those with BN.

In their study of a mindfulness-based treatment program for women with binge eating difficulties, Kristeller and Hallett (1999) provided data on engagement with mindfulness practices. Participants reported engaging in a mean 15.82 hours of meditation during the 6-week program. The reported amount of time spent in mindfulness practice was significantly correlated with improvements in Binge Eating Scale Scores and scores on the Beck Depression Inventory. In a non-clinical sample of college students, Astin (1997) found that participants reported practicing an average of 30 minutes
per day, 3.5 times a week. In this study the reported practice time and improvement on symptoms of stress were not significantly correlated. Reibel et al. (2001) found that 90% of their clinical sample practiced 3 times a week or more, and 57% practiced nearly everyday. In a more recent study, Finucane and Mercer (2006) found a wide variety of levels of engagement with mindfulness practices, ranging from a few informal practices per week up to 30 minutes of formal meditation per day. Difficulty finding the time to practice, and struggling with focusing on the practices themselves proved to be major obstacles.

Numerous follow-up studies of mindfulness-based programs have found that many participants continue to practice mindfulness after the completion of treatment. In a nonclinical sample of “stressed” individuals, (Williams, Kolar, Reger, & Pearson, 2001) found that three months after the completion of treatment, 81% of participants were still practicing some form of mindfulness. At a three-month follow-up of patients with anxiety disorders, Kabat-Zinn et al. (1992) found that 84% of the sample continued to practice mindfulness three or more times a week. Mindfulness of breathing in daily life was reported by 95% of participants. Three years later, the maintenance of mindfulness practice in this sample was found to have continued, with 56% of participants still practicing formal meditation and 89% still practicing mindfulness of the breath (Miller et al., 1995). At a three-month follow-up of their qualitative study, Finucane and Mercer (2006) found that the majority of participants were still practicing mindfulness techniques, however several participants spoke of difficulty motivating themselves after the program finished.

While empirical research into the use of mindfulness-based treatments for binge eating behaviours is no doubt in its infancy, the results of the descriptive studies conducted thus far suggest that mindfulness training may produce reductions in the intensity and frequency of binge
eating, improve self-awareness and emotion-regulation, decrease body image concerns and improve feelings of depression and anxiety.

Qualitative Research into Participant Experiences of Mindfulness

Relatively speaking, there is considerable qualitative research into the participant experience of mindfulness programs. Mindfulness practice lends itself particularly well to qualitative research, because it is an experiential therapy, associated more with a way of being than with the doing of a particular behaviour. The strength of qualitative research lies in its ability to capture the nuance of personal experience (Mason & Hargreaves, 2001).

Proulx (2008) conducted a qualitative study on the experiences of six women with BN who participated in an 8-week mindfulness-based treatment program. Proulx used a phenomenological research design given its congruence with mindfulness practice (Depraz, Varela, & Vermersch, 2003). In interviews, participants described experiences of “transformation from emotional and behavioural extremes, disembodiment, and self-loathing, to the cultivation of an inner connection with themselves resulting in greater self-awareness, acceptance and compassion” (p. 52). A strong theme which emerged in these interviews was that mindfulness meditation provided the participants with a means to become more self-aware. Through self-observation during both formal and informal meditations, the women began to notice their extreme behaviours, and gain some control – “The meditation helped me to really slow down, stop and think, and re-evaluate who I was and what I wanted out of life” (p. 64). The increased self-awareness led to shifts in both coping strategies and participants’ sense of self. One participant commented that mindfulness practice was helping her to become a “calmer and more inwardly compassionate person” (p. 64). Proulx concluded that structured mindfulness-based group treatment programs hold great potential for helping women recover from BN through
the development of self-awareness, interpersonal connection and positive coping skills.

Two qualitative studies exploring the participant experience of Mindfulness-Based Cognitive Therapy for depression add to the knowledge base. Mason and Hargreaves (2001) interviewed seven participants in two phases following the completion if an MBCT program for depression. Grounded theory techniques were used to identify categories to describe participant experiences of MBCT, with the aim of exploring the therapeutic processes involved in mindfulness-based treatments. The authors encapsulated the participants’ stories through the following statement – “The main story concerns the way participants develop understandings of their mental and physical selves over time, and the role that mindfulness practice has in helping them manage their difficulties better” (p. 201).

Several participants reported a period early on in the program which was quite difficult, in that they found the mindfulness practice hard, could not control their mind, could not get it right. The majority of participants reported that relaxation was one of the benefits of listening to the mindfulness tapes. Although not an explicit aim, many achieved a sense of calmness. A change in attitude towards acceptance and flexibility, and living in the moment were other themes to emerge from the interviews. One participant commented “through the mindfulness and acknowledging what is going on in the moment, be it birds singing, or walking along…you can start to enjoy life as it is happening rather than looking to the past or the future” (p. 206). Mason and Hargreaves noted that a clear message from the interviews was that initial expectations played an important role in program experience, with open and flexible expectations yielding more positive experiences than rigid and highly optimistic ones. Notably, one of the participants involved in the study did not report any therapeutic gains, and found it difficult to engage in the mindfulness exercises. The authors of the study felt that this participant’s high expectations of the program as being ‘a
cure’, coupled with her inability to complete the homework practices, played a significant part in her lack of therapeutic gain from the MBCT program. The authors of this study emphasised the importance of continued mindfulness practice to build on therapeutic gains.

In another qualitative study of MBCT, Finucance and Mercer (2006) used a framework approach to explore the experiences of 13 patients with recurrent depression or recurrent depression and anxiety. The authors found that mindfulness training was an acceptable and beneficial treatment approach for the majority of participants. The main benefits reported by the study participants were an increased ability to relax, a decreased tendency to jump to negative conclusions, learning to take time out, learning new ways of dealing with negative emotions, and greater self-acceptance. One participant commented that “I am more able to deal with my emotions…I am not scared of things anymore…I don’t want to turn and walk away from things…I’ll take the time out to sit down and face up to it” (p. 8).

Overall, the main themes which emerge from qualitative studies of mindfulness programs include: mindfulness practice resulting in less anxiety, or providing feelings of calmness; and mindfulness practice leading to increased self-awareness, which in turn provides an increased sense of self control (Mason & Hargreaves, 2001; Proulx, 2008).

Limitations of mindfulness for binge eating

The use of mindfulness-based treatments for binge eating difficulties presents some particular challenges for both clients and practitioners. For clients, understanding the theoretical link between meditation and binge eating can be difficult. Additionally, finding the motivation to regularly practice a new task (which can be difficult and cumbersome) is a real challenge for most clients. The time commitment required to participate in a mindfulness-based treatment is relatively high.
For facilitators of mindfulness-based programs, the challenge lies in helping clients overcome the above barriers. Initially, explaining the potential benefit of mindfulness for dealing with binge eating behaviours in a way which is easily understandable is very important. In addition to this, clients might be encouraged to take a ‘leap of faith’ or a wait and see approach to the practices. Continuing to provide motivation to clients to maintain a regular practice is also important. There is some controversy in the literature about the importance of a personal mindfulness practice for group facilitators. Most authors recommend that mindfulness-based group facilitators have a personal practice over a period of at least three months, and which is maintained during the facilitation of the program (Kristeller, Baer, & Quillian-Wolever, 2006).

Empirical research in the field of mindfulness has suffered from a range of methodological limitations, including a lack of control groups, and small sample sizes. When a research area is in its infancy, it is not unusual for the initial research in an area to be descriptive in nature, rather than providing clear evidence of efficacy (Kabat-Zinn, 2003). Indeed, as the evidence supporting the use of mindfulness in the treatment of binge eating problems grows, more methodologically rigorous studies are likely to follow (Baer, 2003).

Chapter Summary

CBT has been the treatment of choice for BN and BED, and has been found to be an effective treatment for these disorders. However, high drop-out rates and significant percentages of clients who remain symptomatic suggest that there is room for improvement in the treatment of binge eating problems. Mindfulness treatments fit well with many of the theoretical models of binge eating and have recently emerged as a promising addition to the traditional CBT methods. Research investigating the effectiveness of mindfulness in the treatment of binge eating is still in its
early stages and is generally descriptive in nature. The Mindful MEG program incorporated both CBT and mindfulness theories and exercises to provide an eclectic and holistic treatment program.

The provision of eating disorder treatments in a group format is common and advantageous because of the secrecy and isolation associated with various eating difficulties. The therapeutic benefit of universality, of meeting others who are facing similar challenges is central to the group format of the Mindful MEG program.
CHAPTER 3: THE CURRENT STUDY

The current study aimed to explore the effectiveness of a mindfulness-based group therapy program for women with binge eating difficulties using a repeated measures, mixed-method design. This study has taken a narrative approach to research design and analysis, an approach which takes an interest in people’s lived experience, has a desire to empower research participants, and has an awareness of the researcher’s own impact on the research (Elliot, 2005).

Researcher Reflexivity

Researcher reflexivity is a concept rarely explored in research. It refers to “the tendency critically to examine and analytically to reflect upon the nature of research and the role of the researcher in carrying out and writing up empirical work” (Elliot, 2005, p. 153). It means having an awareness of the identity of the researcher, and the potential impact this may have on all stages of the research. It is considered more salient in qualitative research, where researchers often have direct and personal contact with research participants, but it no doubt plays a significant role in quantitative research as well. Richardson (1990, p. 10) described the ways in which researchers impact on their work:

In our work as researchers we weigh and sift experiences, make choices regarding what is significant, what is trivial, what to include, what to exclude. We do not simply chronicle what happened next, but place the next in a meaningful context. By doing so we create narrative; we write lives.

Many authors have suggested that a researcher should start any piece of work by acknowledging his or her own history and perspective in relation
to the evidence collected and the topic being researched (Elliot, 2005; Richardson, 1990; Stanley, 1993), which I will attempt to do briefly now.

Since my teenage years I have held a personal interest in meditation and other alternative forms of healing. I was delighted when mindfulness meditation started gaining popularity in my chosen field of study, psychology. For me it combined the professionalism of psychological therapy, with the heart and spirit of eastern traditions. I have practiced various forms of meditation, mainly mindfulness, for the last 15 years, and have experienced profound personal benefits from it. In considering how my role as researcher may have impacted on the research project, I have tried to keep in mind my personal bias towards mindfulness meditation, and to keep an open mind about its effectiveness and attractiveness to group members, remembering that it may not be appropriate for all people. I have attempted to be objective and even-handed in my analysis of the quantitative data, and include comments on both the benefits and challenges of mindfulness in the qualitative section.

To reduce the impact of researcher reflexivity, the qualitative interviews with participants were carried out by someone other than the program facilitator. Therefore in cases where I had been the group facilitator, I employed the assistance of another Mindful MEG facilitator to complete the interview. In the case of facilitator interviews, I had personal and/or professional relationships with each of the four facilitators interviewed. This no doubt had an impact on the interviews, however I feel it was a positive influence rather than a negative one. As a program facilitator myself, I was directly aware of many of the issues faced by facilitators and could relate to the experiences they raised.
Research Design

The current study is a repeated-measures evaluation of the Mindful Moderate Eating Group (MEG) program – a mindfulness-based group therapy program for women with binge eating difficulties. The study was designed as an effectiveness study, which aimed to evaluate the program in a naturalistic setting. In the case of the Mindful MEG program, this involved both participants with BN, BED and EDNOS. The program was intended to help any woman who was experiencing significant distress because of binge eating behaviours. No strict, systematic exclusion criteria related to severity or frequency of binge eating episodes were employed. In the wider population, women who present with EDNOS are frequently excluded from research studies because they are considered ‘sub-clinical’. However, as discussed in Chapter 1, EDNOS is associated with significant distress and impairment, and is also the most common eating disorder presentation in the community (Wade, 2007). It was considered important to include EDNOS participants in both the therapy program and the research study. Facilitation of the Mindful MEG program was by postgraduate psychology students (from both clinical and counselling streams) with varied levels of experience, via a flexible treatment manual. The study utilised a mixed-methods approach, with quantitative data used to evaluate program outcomes, and qualitative data used to explore process and the lived experience of the program (for both participants and facilitators). Some key elements of the research design are explored in more detail below.

Naturalistic Research: The Value of the Effectiveness Study

In recent decades, there has been increased economic and political pressures to provide empirical proof of the effectiveness of psychological treatments (Parloff & Elkin, 1992; Seligman, 1995). Two broad types of research method have emerged to address this issue: the efficacy study and
the effectiveness study. The efficacy study involves research conducted under highly controlled conditions in order to best determine issues of cause and effect. It is currently the more popular of the two research methods, with efficacy studies far outnumbering effectiveness studies (McNight, Sechrest, & McNight, 2005). This in part reflects recent trends towards the adoption of the medical model to understand psychological disorders – an approach which emphasises examination, diagnosis and treatment of illnesses. The current ‘gold standard’ of efficacy research, the Randomised Controlled Trial (RCT), generally involves the following characteristics (Barker, 2001; Leichsenring, 2004):

- Random assignment of participants to a treatment group or a control group
- Strict adherence to highly detailed treatment manuals
- Experienced or specifically trained therapists who are proficient in the treatment being assessed
- Strict inclusion criteria requiring that participants meet the criteria for a specific DSM-IV-R disorder
- Exclusion criteria which means that participants with multiple diagnoses, or subclinical disorders are not included
- Well-operationalised treatment goals focused on relieving the symptoms of the DSM-IV disorder

The strict criteria of RCTs aim to control confounding variables which may otherwise have an impact on outcome variables of interest. Such control provides an increase in internal validity (the degree to which accurate statements about cause and effect can be made). As internal validity increases, however, external validity (the degree to which results can be generalised to other populations) tends to decrease.
The realities of psychotherapy as it is practiced in the real world are significantly different to the conditions of an RCT. The real world of psychotherapy is flexible, messy, and often unpredictable (Barker, 2001; Seligman, 1995). In general, psychological practice in the real world is characterised by:

- Therapists who practice a range of interventions and modalities. Most therapists describe themselves as ‘eclectic’ (Nuttal, 2008)
- Therapists who work flexibly to provide individual clients with the type of therapy most suited to them. Detailed treatment manuals are rarely adhered to completely (Addis & Carpenter, 1997)
- Clients who often do not fit clearly into single diagnostic categories. Many clients present for therapy experiencing multiple disorders or difficulties, and many others will be experiencing sub-clinical levels of distress
- The absence of strict inclusion/exclusion criteria for individuals seeking help
- Therapists who have varied levels of expertise and experience

Given the realities of psychotherapy as it is practiced in real-world settings, there are serious concerns about whether efficacy studies, such as the RCT, with its rigid control of conditions, can accurately establish that psychotherapy works in the real world (Barker, 2001; Bottomley, 1997; Leichsenring, 2004; Seligman, 1995). Seligman, previously a devotee of the RCT, came to this same conclusion some years ago:

I came to see that deciding whether one treatment, under highly controlled conditions, works better than another treatment or a control group is a different question from deciding what works in the field (Munoz, Hollon, McGrath, Rehm, & VandenBos,
1994). I no longer believe that efficacy studies are the only, or even the best way of finding out what treatments actually work in the field. I have come to believe that the “effectiveness” study of how patients fare under the actual conditions of treatment in the field can yield useful and credible “empirical validation” of psychotherapy and medication…The efficacy study is the wrong method for empirically validating psychotherapy because it omits too many crucial elements of what is done in the field (Seligman, 1995, p. 966).

Given the current popularity of efficacy studies, Hunsley and Lee (2007) identified a pressing need for more effectiveness studies of psychotherapy. The effectiveness study is a way of bridging the gap between psychotherapy as it is practiced in the real world, and the rigorous methodologies of scientific research. An effectiveness study aims to explore how effective a particular type of treatment is in the real world. It takes into account the flexible and unpredictable nature of psychotherapy, and aims to incorporate these elements into the research methodology. The effectiveness study fits into a holistic approach to pathology, which emphasises that all aspects of a person’s experience (psychological, physical and social) should be taken into account and respected.

As an effectiveness study, the current study aimed to change as little as possible about the way the Mindful MEG program was being carried out at the University Psychology Clinic. As such, the evaluation contained many elements which established it as an effectiveness study:

- There was no randomisation of clients to treatment and control groups (see below for further exploration of this)
• Strict inclusion/exclusion criteria were not used. The study participants included women who fit diagnoses of BN, BED and EDNOS, women who had co-morbid DSM-IV-R disorders

• A treatment manual existed, but facilitators were encouraged to adapt and change the manual to fit their personal style, and the specific needs of their particular group

• Facilitators of the group had varied levels of experience, and were professional doctorate postgraduate students with at least provisional registration as a psychologist.

Repeated-measures design

The current study used a repeated-measures, pre-post design. A within-subjects design aimed to minimise error variance due to individual variation by having each participant serve as their own control. While a control group of some kind would have enabled different treatment effects to be examined, it was not possible in this study because of the limited resources available. There was neither enough money, nor enough student counsellors to facilitate having another type of treatment group running for comparison. The use of a waitlist control group in a research project was carefully considered from an ethical standpoint (Bottomley, 1997; Heppner, Kivlighan Jr, & Wampold, 1992). In the current study, it was deemed to be unethical to withhold treatment from highly distressed women who were often anxious to begin the group program as soon as possible.

Mixed-Methods Research: The Whole Picture

The scientific field of psychology has traditionally emphasised the value of quantitative research methods. Quantitative data stems from the philosophical approach of logical positivism, which holds that there is one objective ‘truth’, and that knowledge of this truth is obtained through
observation of events in the world (Rudestam & Newton, 2007). Quantitative research utilises precise research questions, and the disciplined application of established rules for survey design, experimentation and statistical analyses in order to generalise research findings to wider populations (Holliday, 2002).

Qualitative research is based on the post-modernist position which holds that there is no one objective truth to be found in the world, as well as constructivism, which holds that the meanings of things are not in-built, but rather are created by individuals (Rudestam & Newton, 2007). As such, qualitative research is interested in the individual and unique experiences of people (Denzin & Lincoln, 2008). Emphasis is placed on individual interpretations and the meaning attributed to things by people. Qualitative research is particularly appropriate for an effectiveness study, because it is naturalistic in its approach, enables investigation of people in their natural settings, and values the experience of individuals.

Traditionally, quantitative and qualitative methods have been seen as diametrically opposed, however recent times have seen a shift towards mixed-methods research, incorporating both methods. Mixed-methods are increasingly popular because they combine the rigour of experimental work with the in-depth understanding of qualitative work, providing richer, more sensitive data (Johnstone, 2004; Rudestam & Newton, 2007). In the current study, quantitative data were used to examine changes in treatment outcomes such as binge eating, compensatory behaviour, body image disturbance, emotional overeating, eating self-efficacy, self-esteem, depression and anxiety. Qualitative data, based on focused one-on-one interviews, were used to examine process outcomes, mechanisms of change, and the lived experience of the Mindful MEG program, for both participants and facilitators.
Research Problem

Research has shown that the numbers of women experiencing BN, BED and EDNOS, and subclinical difficulties with binge eating is rising (Hay et al., 2008). Precise diagnosis amongst individuals with eating disorder behaviours is often difficult, with changes in symptoms over time, and significant “diagnostic flux” within the current DSM-IV-TR diagnoses (Milos, Spindler, Schnyder, & Fairburn, 2005).

BN, BED and EDNOS are all associated with a range of co-morbid disorders, such as depression, anxiety, low self-esteem, and poor body image, and women who are experiencing eating difficulties often suffer significantly. CBT is the current gold standard treatment for binge eating difficulties, and has been found to be an effective treatment for BN (Fairburn et al., 1993a; Ghaderi & Anderson, 1999; Wilson, Fairburn, & Agras, 1997) and BED (Eldredge et al., 1998; Wilson, 1995). Interpersonal Therapy (IPT) has also been found to be an effective treatment for BN and BED (Fairburn, 1993; Levine & Marcus, 2003; Tanofsky-Kraff et al., 2007). However, for a significant percentage of people, both CBT and IPT are not effective (Wilfley et al., 2003; Wilson, 1995). The number of clients who receive full abstinence from binge eating behaviours following treatment is variable, and consistently around half of clients remain symptomatic at the end of treatment, and at 5 years follow-up (Wilson, 1995).

Mindfulness treatments have shown promising results for women who are experiencing eating difficulties (Baer et al., 2005a; Kristeller & Hallett, 1999). It is possible that a program which includes both CBT and mindfulness elements may help a larger number of women, or be useful for women for whom CBT alone has not helped. Mindfulness has the benefit of being a holistic treatment approach, which can impact on both disordered eating patterns, and the associated co-morbidities. Mindfulness also has links with the positive psychology movement, in terms of encouraging
positive, resilient qualities in people, rather than simply removing psychopathology.

Study Aim
Randomised controlled trials are not capable of validly assessing the effectiveness of psychotherapy programs as they are run in the community. The Mindful MEG program has been running at a University Psychology Clinic since 1999, and the aim of this study was to evaluate its effectiveness in its current state: with student facilitators, without a strict manual, and including participants with BN, BED and EDNOS. The current study aimed to evaluate the effectiveness of the Mindful MEG program using a mixed-methods, repeated measures design. Of interest were changes to eating behaviours, and any associated co-morbidities, as well as the subjective experience of both group participants and group facilitators.

Quantitative Hypotheses

Hypothesis 1. Participation in the Mindful MEG program would significantly reduce the frequency and severity of binge eating episodes and compensatory behaviours such as vomiting, laxative use and excessive exercise.

Hypothesis 2. Participation in the Mindful MEG program would significantly reduce self-reported overeating.

Hypothesis 3. Participation in the Mindful MEG program would significantly reduce self-reported dieting behaviour.

Hypothesis 4. Participation in the Mindful MEG program would significantly improve self-reported levels of body image.

Hypothesis 5. Participation in the Mindful MEG program would significantly reduce self-reported levels of negative affect.
Hypothesis 6. Participation in the Mindful MEG program would significantly increase self-reported self-esteem.

Hypothesis 7. Participation in the Mindful MEG program would significantly increase self-reported quality of life.

Hypothesis 8. Participation in the Mindful MEG program would significantly increase self-reported levels of mindfulness.

Qualitative Research Questions

Research Question 1. What do participants report as the most and least effective aspects of the program?

Research Question 2. What is the subjective participant experience of the Mindful MEG program?

Research Question 3. What changes (emotional, behavioural, cognitive) do participants experience as a result of participation in the Mindful MEG program?

Research Question 4. What do participants identify as mechanisms of change in the Mindful MEG program?

Research Question 5. What was the experience of the facilitators of the Mindful MEG program?

Chapter Summary

The current study aimed to explore the effectiveness of a mindfulness-based group therapy program for women with binge eating difficulties, using a repeated measures, mixed-method design. The study was designed as an effectiveness study, which aimed to evaluate the program in a naturalistic setting. In the case of the Mindful MEG program, this involved participants with BN, BED and EDNOS, and facilitation by postgraduate students, using a flexible program manual.
The current study utilised a mixed-methods approach. Quantitative data were used to examine changes in treatment outcomes such as binge eating, compensatory behaviour, body image disturbance, dieting, negative affect, self-esteem and quality of life. Qualitative data, based on focused one-on-one interviews, were used to examine process outcomes, mechanisms of change, and the lived experience of the Mindful MEG program, for both participants and facilitators.
CHAPTER 4: METHOD

Sample

Recruitment and Assessment

The Mindful Moderate Eating Group (MEG) Program was advertised on the University Psychology Clinic website. Referrals to the program were also received from individual counsellors working at the Psychology Clinic, as well as the Eating Disorders Foundation of Victoria, GPs in the community, and previous MEG participants. Contact details of those who expressed interest were collected until there were sufficient numbers to create a group (generally about 15 individuals on the waiting list would generate a group of 8, as individuals frequently dropped out before the beginning of the program). A group size of eight was considered ideal (Yalom, 1995), but group size ranged from six to nine participants. Contact details of interested individuals were passed on to the facilitators of the next group who made contact to organise an assessment interview to determine the suitability of the program for the individual. The assessment interview addressed the following issues:

- Discussion of the individual’s chief concerns and binge eating behaviours
- A history of binge eating and/or weight management problems
- History of prior treatments for both binge eating problems and other major psychological problems
- A brief explanation of the Mindful MEG program, its basic assumptions, and the requirements of group participants (particular emphasis was placed on the need for 30 minutes of homework per day). Further information about the program was provided via an Information Sheet (see Appendix 4.A)
The value of either concurrent or subsequent individual counselling to discuss any personal issues raised by participation in the Mindful MEG program

A description of the administrative details of the course (dates, length of sessions).

The cost of the program, which was $AUS 400.00 including a set of 4 meditation CDs (Kabat-Zinn, 2004)

Explanation of the research project, consent forms, and the questionnaire package which participants were invited to complete should they agree to take part

Inclusion and Exclusion criteria

Minimal exclusion criteria were employed in the current study. Evidence of current anorexia nervosa was an exclusion criterion, as the Mindful MEG program focused on binge eating behaviours rather than restrictive eating, and individual counselling was recommended and taken up by one woman exhibiting current anorexia nervosa. Extreme drug or alcohol use was another exclusion criterion, as significant substance use would make productive participation in the group unlikely. One woman who was regularly using marijuana was offered individual counselling, and recommended to re-apply for the Mindful MEG program at a future time. If during the assessment interview the facilitator felt that there were significant personality issues which would preclude productive group work, individual counselling was suggested as an alternative. This exclusion criterion was employed on one occasion with an individual who presented with strong histrionic tendencies. In this case, individual counselling was taken up. Severe suicidal ideation, age under 18 years, and male gender were also exclusion criteria.
In keeping with the naturalistic study methodology, strict inclusion criteria were not used, but women needed to be experiencing some difficulties with binge eating or overeating in order to benefit from the program. A diagnosis of BED or BN was not a necessary inclusion criterion, and the group therefore included both clinical and sub-clinical participants, with varied symptoms. The group was only open to female participants, as this constituted the vast majority of people enquiring about the program. It was considered that to have a single male group member would not be beneficial either to him or the larger group. Given the male:female ratio of 1:20 when it comes to eating disorders, the Mindful MEG program was purposefully designed for women and focused on the specific issues women face in regards to body image and food. With the rise of eating disorders in the male population, in the future it may be necessary to design programs which take into account the specific psychological and behavioural issues which are relevant for men who are experiencing disordered eating.

Outline of Participation

Figure 4.1 provides a flow-chart representation of participation in the Mindful MEG program and the research evaluation project. Seventy-four women contacted the University Psychology Clinic between June 2006 and June 2008. Of these, 54 completed an assessment interview and 43 chose to take part in the program (through 6 separate groups). For the nine women who chose not to take part in the program following the assessment interview, reasons included participants who could not make the necessary time commitment (three women), the group running at an inconvenient time for them (two women), women who felt the program was not suitable for them (two women) or they could not afford it at the current time (two women). Two women were deemed inappropriate for the program by the interviewer (one because of current anorexia, and one because of significant
personality issues which may have hindered effective group work), and both of these women were offered individual counselling at the University Psychology Clinic. Of the 43 women who started the Mindful MEG program, 38 agreed to take part in the research project. Five women withdrew at some stage during the program, for a variety of reasons (one to receive in-patient treatment for BN, one because of increased family commitments, one because she no longer felt the program was suitable for her, and two women left the program with no reason given). This left 33 eligible women taking part in the research project. Of these, 30 completed a pre- and post-questionnaire, 28 completed a follow-up questionnaire three months after completion of the program and 24 completed a follow-up questionnaire six months after completion of the program. The age of the sample ranged from 18 years to 52 years ($M = 32.2$ years, $SD = 7.9$). Further demographics of the sample are presented in Table 4.1.
Figure 4.1. Flowchart of participation in the Mindful MEG research project

74 women contact Clinic enquiring about the Mindful MEG program

- 20 are uncontactable/do not attend assessment
- 2 deemed inappropriate to participate
- 43 take part in the Mindful MEG program
- 9 choose not to participate in the Mindful MEG program

38 agree to take part in the research evaluation project

- 30 participants complete pre- and post-program questionnaires
- 16 participants complete a qualitative interview
- 4 facilitators complete a qualitative interview

- 28 participants completed a 3 months follow-up questionnaire
- 24 participants completed a 6 month follow-up questionnaire
- 22 participants completed a questionnaire at all 4 time points
- 5 withdraw part-way through the Mindful MEG program
Table 4.1  
*Demographics of the Mindful MEG Evaluation Sample (N = 35).*

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<tr>
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<td>5</td>
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</table>
Procedure

The Mindful Moderate Eating Group Program

The Moderate Eating Group was originally created in 1994 (Crafti, 1994), through the combination of two empirically validated treatments for bulimia (CBT and IPT; Fairburn, 1993; Fairburn, Marcus, & Wilson, 1993b) into a 10-week group treatment program. The program has been running at a University Psychology Clinic for the past 10 years, and is facilitated by Masters and Doctorate level psychology students (from both counselling and clinical streams). It provides both the opportunity for postgraduate students to gain experience in group facilitation, and a low-cost group therapy program for members of the community.

In 2005, in response to the growing interest in, and support for, mindfulness interventions (Baer, 2003; Kristeller & Hallett, 1999), Crafti and Peyton (2005) rewrote the MEG program to incorporate a mindfulness basis. Mindfulness was considered relevant to the treatment of eating disorders because it encourages awareness and acceptance of many of the factors which cause and maintain binge eating, such as emotional distress, negative thoughts, and uncomfortable bodily sensations. Mindfulness has shown promising preliminary results in the treatment of disordered eating, as outlined in more detail in Chapter 2 (Baer et al., 2005a, 2006a; Engstrom, 2007; Kristeller & Hallett, 1999; Palmer et al., 2003; Proulx, 2008; Safer, Telch, & Agras, 2001; Smith, Shelley, Leahigh, & Vanleit, 2006; Telch, Agras, & Linehan, 2001).

The resulting Mindful MEG program is a group therapy program for women with binge eating difficulties incorporating both mindfulness and CBT components. Mindfulness practices are introduced to encourage awareness of the factors surrounding binge eating such as emotional distress, perfectionism, negative thought patterns, hunger and satiety cues and body image disturbance. Acceptance of the self, and unavoidable life challenges is also emphasised. CBT techniques, such as regular eating,
planned meals and food monitoring are introduced to explore internal and external triggers for binge eating episodes, and help restore order to eating patterns.

Each Mindful MEG program is facilitated by two female postgraduate psychology students (a lead facilitator and a co-facilitator). The lead facilitator is required to be either a fully registered psychologist or a registered provisional psychologist who has co-facilitated at least two Mindful MEG programs. The lead facilitator of the program was expected to have significant experience in the practice of mindfulness (i.e., to have their own personal practice, and to have undergone a period of meditation as extensive as that expected of group participants), although this was difficult to determine objectively. The necessity of a personal mindfulness practice for practitioners is a contentious topic, with some considering it vital (Kabat-Zinn, 1990; Segal et al., 2002), and others holding that it is a personal spiritual choice which cannot be mandated (Linehan, 1993).

Program sessions ran for 3 hours for 10 consecutive weeks, with follow-up sessions at 3 and 6 months after the 10th session. Each session followed a fairly uniform structure:

- Check in
- Mindfulness practice (10-25 minutes)
- Review of initial mindfulness practice, and discussion of homework from the previous session
- Coffee/Tea break (with food)
- Weekly topic presented
- Discussion of topic
- Homework
- 3-minute breathing space (brief mindfulness practice)
Participants used the sessions to acquire, practice and feedback achievements and concerns to group members and then take the lessons learnt and incorporate them into their daily lives. Considerable time was spent each session clarifying the mindfulness technique, helping participants to explore the obstacles to practicing, and generally motivating them to persevere despite disappointments and resistance. New mindfulness practices, and topics for discussion were introduced each week. A brief summary of each session is given below.

**Week 1**
- Raisin meditation (to introduce mindfulness)*
- Body Scan meditation*
- Getting to know each other and telling your story
- Introduction to CBT
- Introduction to Mindfulness
- Introduction to food monitoring

**Week 2**
- Body Scan meditation
- Cognitive model of binge eating
- Importance of regular eating, and the impact of dieting
- Meal planning
- 3-minute breathing space*

**Week 3**
- Sitting meditation*
- Perfectionism
- Thought defusion
- Mindful daily activities*
- 3-minute breathing space
Week 4
- Sitting meditation
- The function of emotions
- Distress tolerance skills (such as grounding, self-soothing)
- 3-minute breathing space

Week 5
- Sitting meditation
- Identifying and understanding emotions
- ‘Forbidden’ foods
- 3-minute breathing space

Week 6
- Loving-kindness meditation*
- Self-esteem
- 3-minute breathing space

Week 7
- Walking meditation*
- Anger and Assertiveness
- 3-minute breathing space

Week 8
- Mountain/Lake meditation*
- Body image, the media, and the socio-cultural context of women’s bodies
- Film for discussion (optional)
- 3-minute breathing space

Week 9
- Sitting meditation
- Staying on track and relapse prevention
- 3-minute breathing space

Week 10
- Sitting meditation
- Personalised maintenance plans
- Finishing up rituals
- 3-minute breathing space

* See Appendix 2.B for a more detailed description of the specific mindfulness practices.

Each week, participants were asked to complete various homework tasks for an average of 30 minutes per day. This involved a daily formal mindfulness practice of 10-20 minutes (completed via a CD (Kabat-Zinn, 2004)) informal mindfulness practices, food monitoring and meal planning.

While the program manual was quite detailed, it was modified by different facilitators who were encouraged to change, remove, or add activities as they deemed appropriate. This applied to the weekly topics of discussion, rather than the main program elements (i.e., mindfulness practices, food monitoring, meal planning).

**Research Evaluation Procedure**

At the assessment interview, all potential group participants were invited to take part in the research project evaluating the Mindful MEG program. Participation in the research was voluntary, and did not in any way affect participation in the therapy group. Willing participants were asked to complete a Research Project consent form outlining the entailments of participation (Appendix 4.B). Ethics approval for the research evaluation project was provided by the Swinburne University Human Research Ethics Committee, and a copy of the ethics approval is provided in Appendix 4.C.

**Materials**

Participants completed a 17-page questionnaire booklet at 4 separate time points – prior to the first session (pre-program questionnaire),
following completion of the 10th session (post-program questionnaire), at
the 3 month follow-up meeting (3 month follow-up questionnaire), and at
the 6 month follow-up meeting (6 month follow-up questionnaire).
Anderson (2004) provided recommendations for clinical practice in the
assessment of eating disorders and suggested the following domains of
interest should be addressed: binge eating and compensatory behaviour,
over-concern with shape and weight, intention for dietary restraint, body
image disturbance, affective disturbance (including depression, anxiety and
self-esteem). These recommendations were considered when choosing
measures.

Demographic features of participants were obtained in the pre-
program questionnaire and included age, highest level of education
achieved, employment status, current occupation, marital status, number of
children and country of birth.

The questionnaires administered after group participation (the post-
program questionnaire and the two follow-up questionnaires) included three
questions on the amount of time spent meditating in the last three months.
Participants were asked to record the average amount of daily time spent in
formal mindfulness practices on a 5-point scale ranging from 0 - 5 (0
minutes, 1-10 minutes, 11-20 minutes, 21 - 30 minutes, 31 - 40 minutes, 41
- 60 minutes). They were also asked about their frequency of practicing
informal mindfulness practices (3-minute breathing space, mindfulness of
the breath) on a 5-point scale ranging from 0 - 5 (Never, Less than once a
week, Once a week, Several times a week, Once a day, Several times a day).

In the post-program questionnaire, participants were asked to
provide a quantitative and qualitative evaluation of the program.
Participants were asked to respond on a scale of 1-10 to the question “How
satisfied were you with the Mindful MEG Program?” and to comment on
what they found most and least helpful in the program. There was further
space for any additional comments they would like to make.
Frequency of binge eating and compensatory behaviours was measured using a table from the *Eating Disorders Inventory-3 Symptom Checklist* (EDI3-SC; Garner, Olmsted, & Polivy, 1983), an independent and easy to complete self-report table which asks about the frequency of binge eating, purging, laxative use and excessive exercise over the last three months. Scores are marked on a 6-point Likert scale (Never, Once a month or less, 2-3 times per month, Once a week, 2-6 times per week, Once a day or more).

The standardised measures included in each of the questionnaires are explored in more detail below.

The *Dutch Eating Behaviour Questionnaire* (DEBQ; van Strien, Frijters, Bergers, & Defares, 1986) contains 33 items and is commonly used in research on binge eating. The three subscales of the questionnaire (Restrained Eating, Emotional Eating and External Eating) relate to three different types of overeating. Restrained Eating is overeating caused by dieting and is associated with the idea of a natural set point for weight. This implies that individuals each have a weight range which they are genetically predisposed to maintain, and this range varies from person to person. Individuals with a naturally higher set point may be encouraged to restrain their eating in order to meet social pressures to be thin. An individual’s natural weight is homeostatically maintained by the body, leading to intense hunger and binge eating. The Emotional Eating subscale measures overeating as a way of avoiding or regulating emotions. The External Eating subscale measures overeating in response to external stimuli such as seeing or smelling food, rather than in response to hunger cues.

The items of the DEBQ are scored on a 6-point Likert scale ranging from 0 - 5 (Never, Rarely, Sometimes, Often, Very Often, Always). Total and subscale scores are obtained by adding the scores for each item and dividing by the number of items. No predefined cut-offs are provided by the scale designers. In psychometric studies, The DEBQ has shown excellent
factorial validity, high internal consistency, satisfactory-good reliability, and satisfactory concurrent and discriminant validity. Norms for this measures for both clinical and non-clinical samples are available (van Strien et al., 2005)

The Ben-Tovim Walker Body Attitudes Questionnaire (BAQ; Ben-Tovim & Walker, 1991) was developed specifically to measure the broad range of attitudes women hold towards their bodies. The scale designers undertook a detailed exploration of the body-related attitudes considered important to ‘normal’ women, in order to make comparisons between clinical and non-clinical samples. The 44 item scale has six subscales: Feelings of Fatness; Self-disparagement; Feelings of Physical Strength; Salience of Weight, Feelings of Attractiveness, and Consciousness of Lower Body Fat. Items are scored on a 5-point Likert scale ranging from 1-5 (Strongly disagree, Disagree, Neutral, Agree, Strongly Agree). Items from each subscale are added and then divided by the number of items. Higher scores represent greater agreement with particular body attitudes (i.e., higher scores do not always represent higher levels of dysfunction, as in the case of the Attractiveness subscale, where higher scores represent more feelings of physical attractiveness). Norms for the BAQ are available for both clinical and non-clinical samples (Ben-Tovim & Walker, 1991). It has good convergent validity with the Body Dissatisfaction subscale of the Eating Disorders Inventory, the Body Esteem Scale, and the Body Shape Questionnaire, as well as satisfactory reliability (split-half reliability Kuder-Richardson correlation coefficient $= .92$; test-retest reliability $r = .83$). The six subscales of the BAQ significantly discriminate between clinical and subclinical samples (Ben-Tovim & Walker, 1991).

The Eating Self-Efficacy Scale (ESES; Glynn & Ruderman, 1986) contains 25 items and is conceptually based on Bandura’s (1977) model of self-efficacy which sees a person’s perceived ability to perform on a task as a mediator of their future performance on such tasks. The ESES measures
an individual’s perceived ability to control their eating behaviour in a range of situations (i.e., after work, when preparing food, when depressed). Perceived self-efficacy is rated on a scale of 1 - 7, where 1 = No difficulty controlling eating and 7 = Most difficulty controlling eating. A total Eating Self-efficacy score is obtained by summing all items and dividing by 25. The scale designers reported high internal consistency coefficients for a sample of female undergraduates (coefficient alpha of .92 for the whole scale), and acceptable test-retest reliability was also reported ($r = .70$). Construct validity was established, and changes in self-efficacy were correlated with weight changes.

The Multifactorial Assessment of Eating Disorders Scale (MAEDS) contains 56 items and was designed to evaluate treatment outcome for anorexia and bulimia (Anderson, Williamson, Duchmann, Gleaves, & Barbin, 1999). It is based on the theory that the psychopathology of eating disorders is complex, and individuals often vacillate between different disorders. After reviewing DSM-IV criteria, treatment outcome studies, and factor analytic studies of eating disorders, the creators of the MAEDS designed the scale to measure six symptom clusters which have been found to be central to eating disorders – Depression, Binge Eating, Purgative Behaviour, Fear of Fatness, Restrictive Eating, and Avoidance of Forbidden Foods. These six symptom clusters form the six subscales of the MAEDS. Items are scored on a 7 point Likert scale ranging from 0 - 6 (Never, Rarely, Sometimes, Often, Very Often, Usually, Always). Reliability studies have found that all six subscales have strong internal consistency, ranging from $\alpha = .80$ (for Purgative Behaviour) to $\alpha = .92$ (for Binge Eating). Test retest reliability scores ranged from $r = .89$ to $r = .99$. In validity studies, the MAEDS showed adequate levels of concurrent validity with the BDI, the BULIT-R, the EAT, and the GFFS (Anderson et al., 1999). The criterion validity of the MAEDS has also been supported (Martin, Williamson, & Thaw, 2000).
The Emotional Overeating Questionnaire (EOQ; Masheb & Grilo, 2006) measures the frequency of overeating in response to six emotions (anxiety, sadness, loneliness, tiredness, anger, happiness). Eating in response to emotions is considered one of the strongest triggers for binge eating (Fairburn, 1995; Heatherton & Baumeister, 1991; van Strien et al., 1986). The EOQ contains six items (one for each emotion) and individuals are asked to estimate on how many days in the past 28 days they have overeaten in response to that emotion. Responses are placed on a 6-point Likert scale ranging from 0 - 5 (No days, 1 - 5 days, 6 - 12 days, 13 - 15 days, 16 - 22 days, 23 - 27 days). A total EOQ score is used rather than six separate scores. Higher scores reflect more emotional overeating. The EOQ shows adequate test-retest reliability with correlation coefficients of $r = .62$ to $r = .73$, and internal consistency of $\alpha = .85$. The uni-dimensional structure of the measure was supported by exploratory principle components factor analysis (Masheb & Grilo, 2006).

The Depression, Anxiety and Stress Scale-21 (DASS-21; Lovibond & Lovibond, 1995b) contains 21 items and measures 3 separate but associated dimensions of negative emotional symptoms. The DASS was designed to aid in the process of further defining these three forms of emotional distress and clarifying the source of emotional disturbance. The Depression subscale measures dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia, and inertia. The Anxiety subscale measures autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The Stress subscale measures difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient. Participants are asked to rate the extent to which they have experienced certain states over the past week on a 4-point Likert scale ranging from 0 - 3 (Did not apply to me at all, Applied to me to some degree or some of the time, Applied to me to a considerable degree or a good part of the time, and Applied to me very...
much or most of the time). The DASS-21 is based on a dimensional, rather than categorical conception of psychopathology. As such, the authors recommend using the DASS-21 scores rather than attempting to divide the responses into discrete categories such as ‘normal’ and ‘clinical’. However, categorical descriptions are also provided. The DASS and DASS-21 have shown excellent psychometric properties in both clinical and non-clinical samples. In non-clinical samples, Lovibond and Lovibond (1995b) found strong support for internal consistency and convergent and discriminant validity of the three scales. In a clinical sample Brown, Chorpita, Korotitsch (1997) found excellent reliability and adequate convergent and discriminant validity. In a study comparing the longer version of the DASS (42 items) with the DASS-21, Antony, Bieling, Cox and Swinson (1998) found that the DASS-21 showed good internal consistency (α = .94 for Depression, α = .87 for Anxiety, and α = .91 for Stress), an excellent factor structure and good concurrent validity. The authors recommended the use of the short version over the DASS-42.

The Cognitive and Affective Mindfulness Scale-Revised (CAMS-R; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007b) contains 12 items and assesses 4 separate dimensions of mindfulness: Awareness, Attention, Present-Focus, and Acceptance. These four dimensions were based on a consensus panel meeting to determine a common operational definition of mindfulness for researchers (Bishop et al., 2004). The construct of mindfulness is a difficult one to measure quantitatively. It is an experiential concept, which may not necessarily be reflected in behavioural actions or even cognitive/emotional characteristics. Mindfulness often changes the relationship to one’s experiences, rather than the experiences themselves. In the CAMS-R, participants are asked to rate a range of statements on a 4-point Likert Scale ranging from 1 - 4 (Rarely/not at all, Sometimes, Often, Almost always). The CAMS-R shows strong correlations with other measures of mindfulness. Further construct validity was found through
correlations between higher scores on the CAMS-R with decreased levels of
distress, and increased levels of wellbeing, life satisfaction, emotional
awareness and emotion regulation. Acceptable levels of internal consistency
\(\alpha = .74\) to \(\alpha = .81\) were found for the overall CAMS-R score, but not the 4
separate subscales, and as such just the total score is used in the study’s
analyses (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006b; Feldman et
al., 2007b).

The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) is a
frequently used measure that assesses an individual’s level of self-esteem,
which can be seen as the orientation one has towards oneself, or the
evaluation one makes about their own worth or value. The RSES is
comprised of 10 items which are scored on a 4-point Likert scale ranging
from 0 - 3 (Strongly Disagree, Disagree, Agree, Strongly Agree). There are
no discrete cut-off points to determine high or low self-esteem, but higher
scores reflect higher levels of self-esteem. The RSES has received
significant support as a psychometrically sound measure. The measure was
extensively assessed in the 1960s using a sample of more than 5000
students. The alpha coefficient was reported as \(\alpha = .77\) to \(\alpha = .88\). Test-retest
correlations are generally in the range of \(r = .82\) to \(r = .88\) (Rosenberg,
1989). In a study to find the most appropriate measure of self esteem for
individuals with an eating disorder, Griffiths et al. (1999) recommended the
RSES as the most appropriate choice, given its good construct and
convergent validity.

The Satisfaction With Life Scale (SWLS; Pavot & Diener, 1993a) is
a brief five item scale used to assess a respondent’s satisfaction with their
life as a whole. It does not assess specific domains (such as health or
finances) but instead allows the respondent to measure their life satisfaction
based on what is important to them individually. Items such as “In most
ways my life is close to my ideal” are scored on a 7 point Likert scale
ranging from 1 – 7 (Strongly disagree, Disagree, Slightly disagree, Neither
agree nor disagree, Slightly agree, Agree, Strongly agree). Diener, Emmons, Larsen and Griffin (1985) found strong internal reliability ($\alpha = .87$) and test-retest reliability coefficient of $r = .82$. When viewed over longer time periods, significant life events were found to predict SWLS scores, and the SWLS is also adequately sensitive to detect changes in life satisfaction as a result of clinical intervention (Pavot & Diener, 1993a).

A summary of the standardised measures related to eating psychopathology is provided in Table 4.2, and a summary of the standardised measures related to emotional and cognitive factors is provided in Table 4.3. The two tables provide details of score ranges, scoring notes, and the internal consistency of the scale and subscales for this particular sample. Cronbach’s coefficient alpha was calculated for all pre-program scales and subscales. Only scales with a Cronbach’s alpha of .80 or above were used in subsequent data analyses. This meant that four subscales from the Body Attitudes Questionnaire were not included in data analysis: Strength and Fitness, Salience of Weight, Feelings of Attractiveness, Consciousness of Lower Body Fat. The measures are explained in greater detail below the tables.
<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscales (number of items)</th>
<th>Score Range</th>
<th>Cronbach’s alpha</th>
<th>Scoring notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating Disorders Inventory</td>
<td>Binge Eating (1 item)</td>
<td>0 – 5</td>
<td>NA</td>
<td>Categorical</td>
</tr>
<tr>
<td></td>
<td>Vomiting (1 item)</td>
<td>0 – 5</td>
<td>NA</td>
<td>variable</td>
</tr>
<tr>
<td></td>
<td>Laxative Use (1 item)</td>
<td>0 – 5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Table (EDI)</td>
<td>Excessive Exercise (1 item)</td>
<td>0 – 5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Dutch Eating Behaviour</td>
<td>Total score (33 items)</td>
<td>0 –</td>
<td>.88</td>
<td>Higher scores</td>
</tr>
<tr>
<td></td>
<td></td>
<td>165</td>
<td></td>
<td>indicate higher</td>
</tr>
<tr>
<td>Questionnaire (DEBQ)</td>
<td>Restrained Eating (10 items)</td>
<td>0 – 5</td>
<td>.93</td>
<td>levels of</td>
</tr>
<tr>
<td></td>
<td>Emotional Eating (13 items)</td>
<td>0 – 5</td>
<td>.85</td>
<td>dysfunctional</td>
</tr>
<tr>
<td></td>
<td>External Eating (10 items)</td>
<td>0 – 5</td>
<td>.92</td>
<td>overeating</td>
</tr>
<tr>
<td>Eating Self-Efficacy Scale</td>
<td>Total Score (25 items)</td>
<td>1 - 7</td>
<td>.92</td>
<td>Higher scores</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>indicate lower eating self-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>efficacy</td>
</tr>
<tr>
<td>Multifactorial Assessment of</td>
<td>Total (56 items)</td>
<td>0 - 6</td>
<td>.94</td>
<td>Higher scores</td>
</tr>
<tr>
<td>Eating Disorders Scale</td>
<td>Depression (11 items)</td>
<td>0 - 6</td>
<td>.85</td>
<td>reflect higher</td>
</tr>
<tr>
<td></td>
<td>Binge eating (8 items)</td>
<td>0 - 6</td>
<td>.81</td>
<td>levels of</td>
</tr>
<tr>
<td></td>
<td>Purgative behaviour (7 items)</td>
<td>0 - 6</td>
<td>.85</td>
<td>dysfunction</td>
</tr>
<tr>
<td>Scale (MAEDS)</td>
<td>Fear of fatness (11 items)</td>
<td>0 - 6</td>
<td>.84</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Restrictive eating (9 items)</td>
<td>0 - 6</td>
<td>.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Avoidance of forbidden foods (9 items)</td>
<td>0 - 6</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td>Emotional Overeating Questionnaire (EOQ)</td>
<td>Total score (6 items)</td>
<td>0 - 5</td>
<td>.80</td>
<td>Higher scores reflect more emotional overeating</td>
</tr>
</tbody>
</table>
Table 4.3

**Summary of Standardised Measures: Cognitive and Emotional Associations**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscales (number of items)</th>
<th>Score Range</th>
<th>Cronbach’s alpha</th>
<th>Scoring notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Attitudes Questionnaire (BAQ)</td>
<td>Feelings of fatness (13 items)</td>
<td>1 – 5</td>
<td>.86</td>
<td>Higher scores</td>
</tr>
<tr>
<td></td>
<td>Body disparagement (8 items)</td>
<td>1 – 5</td>
<td>.83</td>
<td>represent higher attitudes on each</td>
</tr>
<tr>
<td></td>
<td>Strength and Fitness (6 items)</td>
<td>1 – 5</td>
<td>.74</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Salience of weight (8 items)</td>
<td>1 – 5</td>
<td>.34</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feelings of attractiveness (5 items)</td>
<td>1 – 5</td>
<td>.73</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consciousness of lower body fat (4 items)</td>
<td>1 – 5</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>Depression, Anxiety and Stress Scale (DASS)</td>
<td>DASS Total score (21 items)</td>
<td>0 – 126</td>
<td>.93</td>
<td>Higher scores</td>
</tr>
<tr>
<td></td>
<td>Depression (7 items)</td>
<td>0 – 42</td>
<td>.91</td>
<td>reflect higher levels of</td>
</tr>
<tr>
<td></td>
<td>Anxiety (7 items)</td>
<td>0 – 42</td>
<td>.82</td>
<td>depression, anxiety, and</td>
</tr>
<tr>
<td></td>
<td>Stress (7 items)</td>
<td>0 – 42</td>
<td>.86</td>
<td>stress</td>
</tr>
<tr>
<td>Rosenberg Self-Esteem Scale (RSES)</td>
<td>RSES Total Score (10 items)</td>
<td>0 – 30</td>
<td>.82</td>
<td>Scores below 15 suggest low self-esteem</td>
</tr>
<tr>
<td>Satisfaction With Life Scale (5 items)</td>
<td>SWLS Total Score (5 items)</td>
<td>5 – 35</td>
<td>.84</td>
<td>Higher scores indicate greater satisfaction</td>
</tr>
<tr>
<td>Cognitive and Affective Mindfulness Scale- Revised (CAMS-R)</td>
<td>CAMS-R Total score (12 items)</td>
<td>12 – 48</td>
<td>.80</td>
<td>Higher scores reflect higher levels of mindfulness</td>
</tr>
</tbody>
</table>
Quantitative Data Collection and Analysis

The pre-program questionnaire was given to participants at the assessment interview, with the request to bring it back completed to the first session. The post-program questionnaire was completed during the 10th session of the program. The follow-up questionnaires (at three and six months after program completion) were completed at the three and six month follow-up sessions respectively. If a participant did not attend a particular session where a questionnaire was to be completed, the appropriate questionnaire was sent to their home address with a reply paid envelope.

Quantitative data was analysed using SPSS 13.0 for Windows. All completed questionnaires were entered into SPSS for analysis. A per protocol analysis was completed, using data from participants who completed the 10-week Mindful MEG program, and had data available for at least the pre- and post-program assessment points. A per protocol (or ‘on-treatment’ analysis was considered preferable in the current study, due to the relatively small sample size. The research questions that the study aimed to answer centred around the effectiveness of participation in the program. As such, women who withdrew before completing the 10-week program were not included in the analyses comparing pre-program and post-program scores.

The data analysis steps are presented in Table 4.4 below.
Table 4.4

Quantitative Data Analysis Steps

<table>
<thead>
<tr>
<th>Description</th>
<th>Steps</th>
<th>Statistical test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Cleaning</td>
<td>Checking the data set for errors</td>
<td>Descriptives</td>
</tr>
<tr>
<td></td>
<td>Mean substitution for missing values</td>
<td>Descriptives</td>
</tr>
<tr>
<td></td>
<td>Calculating reliability of scales/subscales</td>
<td>Cronbach’s alpha</td>
</tr>
<tr>
<td>Attrition</td>
<td>Comparison of program completers and program drop-outs on demographics and baseline outcome variables</td>
<td>Descriptives</td>
</tr>
<tr>
<td>Descriptives</td>
<td>Amount of meditation completed</td>
<td>Descriptives</td>
</tr>
<tr>
<td></td>
<td>Frequency of binge eating and compensatory behaviours</td>
<td>Descriptives</td>
</tr>
<tr>
<td>Changes to outcome variables</td>
<td>Checking assumptions for MANOVA</td>
<td>Various</td>
</tr>
<tr>
<td></td>
<td>Exploring changes to outcome variables</td>
<td>Repeated measures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MANOVA</td>
</tr>
</tbody>
</table>

Qualitative Data Collection and Analysis

The method of qualitative data analysis used was Interpretative Phenomenological Analysis (IPA) as outlined by Smith and Osborn (2008). The aim of IPA is to understand what an experience is like from an individual’s perspective and involves a “detailed examination of the participant’s lived experience” (p. 53). In line with recommendations from Smith and Osborn, the semi-structured interviews in the Mindful MEG evaluation were conducted as follows:

- Rapport with the interviewee was considered very important
- The interview was guided by the schedule, rather than dictated by it
- The ordering of questions was not considered important
The interviewer was free to ask more in-depth questions about any interesting issues that arose during the interview. Following completion of the 10-week program, all participants were invited to take part in a semi-structured interview to discuss their experiences in the Mindful MEG program. Sixteen participants volunteered to take part in interviews which were conducted at the University Psychology Clinic by a Mindful MEG facilitator who had not been that participants’ facilitator. These interviews were intended to provide more in-depth, rich data about the participants’ experiences in the Mindful MEG program. The interview questions developed over time as particular issues emerged as important in previous interviews (see Appendix 4.D for a copy of the semi-structured interview questions). Interview participants completed an additional consent form provided in Appendix 4.F.

To provide a rounded picture of the Mindful MEG program, qualitative interviews were also undertaken with four of the program facilitators (see Appendix 4.E for a copy of these questions). During the time of the current study, the Mindful MEG program was facilitated by seven individuals. All individuals who were currently engaged in Mindful MEG facilitation at the time of the qualitative participant interviews were also invited to take part in an in-depth qualitative interview. All four facilitators who were invited to be interviewed at this time agreed to take part.

All participant and facilitator interviews were tape recorded and transcribed verbatim. Smith and Osborn (2008, p. 67) consider the process of analysis to be “inevitably a personal process” whereby the researcher immerses themselves in the transcripts, always attempting to capture and do justice to the meanings of the interview participants. The analysis of the transcripts involved the following six steps:

1. Reading through a transcript carefully, noting down any initial thoughts or comments in the left-hand margin. These comments
could be preliminary interpretations, associations or connections that come to mind, or attempts at paraphrasing or summarising.

2. Re-reading the transcript, noting any possible emerging theme headings in the right-hand margin

3. Listing the emerging theme headings on a separate sheet of paper, first in chronological order and then in a theoretical ordering, where some themes cluster together and others emerge as subordinate themes

4. Producing a table of themes, ordered coherently

5. Repeating steps 1-3 with each individual transcript, progressively adding to the table of themes as new themes emerge. In this step, paying attention to both similarities and differences between transcripts.

6. Writing up the qualitative results involved translating the themes into a narrative about the lived experiences of both Mindful MEG participants and facilitators.

Chapter summary

Of the 43 women who started the Mindful MEG program, 38 agreed to take part in the research project. Five women withdrew at some stage during the program. Thirty women completed a pre- and post-questionnaire, 28 completed a follow-up questionnaire 3 months after completion of the program and 24 completed a follow-up questionnaire 6 months after completion of the program. The age of the sample ranged from 18 to 52 years ($M = 32.2$ years, $SD = 7.9$).

Participants completed a 17-page questionnaire booklet at 4 separate time points – prior to the first session (pre-program questionnaire), following completion of the 10th session (post-program questionnaire), at the 3 month follow-up meeting (3 month follow-up questionnaire, and at the 6 month follow-up meeting (6 month follow-up questionnaire). All
participants were also invited to take part in an in-depth interview at the end of the program, and 16 women agreed to take part in this.

The Mindful MEG program is a group therapy program for women with binge eating difficulties incorporating both mindfulness and CBT components. Program sessions ran for 3 hours for 10 consecutive weeks, with follow-up sessions at 3 and 6 months after completion of the program.

Quantitative data was analysed using SPSS 13.0 for Windows and the results are presented in Chapter 5. Qualitative data was analysed using an Interpretative Phenomenological Analysis approach and is presented in Chapter 6.
CHAPTER 5: QUANTITATIVE RESULTS

Introduction
The current study aimed to explore the effectiveness of the Mindful Moderate Eating Group (MEG) program, as delivered by postgraduate students at a university psychology clinic. The study used a mixed-methods methodology to address a range of research questions.

The quantitative component of the study aimed to explore how effective the Mindful MEG program was in reducing binge eating, compensatory behaviours, dieting behaviour, and negative affect. Furthermore, it aimed to explore how effective the Mindful MEG program was in increasing feelings of eating self-efficacy, body image, self-esteem, satisfaction with life, and levels of mindfulness. This chapter presents the results of the quantitative data analysis.

Data cleaning and attrition analysis are reported followed by presentation of the categorical variables; the amount of meditation completed by program participants, and the frequency of binge eating and compensatory behaviours. To explore changes to the main outcome variables, five Multivariate Analysis of Variance (MANOVAs) were completed looking at general eating disorder psychopathology, overeating, dieting behaviour, body image, and negative affect. Additional Analysis of Variance (ANOVAs) were completed on the variables not included in the MANOVAs: purging severity, quality of life, self-esteem and level of mindfulness. Further analyses of participant ratings of the program are also presented.

Data Cleaning
Responses to the quantitative measures were obtained at 4 time points: pre-program \( (n = 30) \), post-program \( (n = 30) \), 3 month follow-up \( (n = 28) \) and 6 month follow-up \( (n = 24) \). The data set was thoroughly explored.
for any data entry errors, which were corrected from the hard copies of the questionnaires. Missing values were identified. If a participant had less than 10% of items missing for a particular measure, then mean substitution was performed. Where more than 10% of items for a particular measure were missing, that participant was excluded from the relevant analyses.

Attrition Analysis

Of the 35 women who began the Mindful MEG program and agreed to take part in the research evaluation, 5 women (13%) withdrew during the 10 week program. For a group participant to be considered a program ‘completer’ they must have attended at least 7 sessions of the 10 week program. Descriptive statistics are provided in Table 5.1 for demographic features of program completers and program withdrawals.

Table 5.1

Demographic Features of Program Completers and Program Withdrawals.

<table>
<thead>
<tr>
<th></th>
<th>Program Completers</th>
<th>Program Withdrawals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n = 30</strong></td>
<td><strong>n = 5</strong></td>
<td></td>
</tr>
<tr>
<td>Completed high school</td>
<td>97%</td>
<td>80%</td>
</tr>
<tr>
<td>Completed tertiary</td>
<td>90%</td>
<td>80%</td>
</tr>
<tr>
<td>Employed</td>
<td>73%</td>
<td>80%</td>
</tr>
<tr>
<td>Employed full time</td>
<td>50%</td>
<td>60%</td>
</tr>
<tr>
<td>Married</td>
<td>27%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Inspection of Table 5.1 suggests that women who withdrew from the Mindful MEG program had completed fewer years of education, and were more likely to be employed or employed full-time.
Table 5.2 shows the means and standard deviations for outcome variables in the pre-program questionnaire. While the results should be viewed with caution because of the very small sample size, t-tests were conducted to investigate the differences between program completers and withdrawals on the outcome variables in Table 5.2.

Table 5.2
*Comparison of Outcome Variables at Pre-program Questionnaire for Program Completers and Withdrawals.*

<table>
<thead>
<tr>
<th>Outcome variables</th>
<th>Completers</th>
<th>Withdrawals</th>
<th>t (df = 33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>32.93 (7.58)</td>
<td>24.40 (4.72)</td>
<td>2.42 *</td>
</tr>
<tr>
<td>MAEDS Total</td>
<td>2.69 (0.72)</td>
<td>3.82 (0.43)</td>
<td>3.38 *</td>
</tr>
<tr>
<td>Binge eating (MAEDS)</td>
<td>4.49 (0.87)</td>
<td>4.20 (0.92)</td>
<td>0.51</td>
</tr>
<tr>
<td>Purging behaviour (MAEDS)</td>
<td>0.70 (1.03)</td>
<td>2.14 (0.75)</td>
<td>2.99 *</td>
</tr>
<tr>
<td>DEBQ</td>
<td>3.00 (0.57)</td>
<td>3.30 (0.45)</td>
<td>1.33</td>
</tr>
<tr>
<td>ESES</td>
<td>4.97 (0.97)</td>
<td>5.29 (0.60)</td>
<td>0.71</td>
</tr>
<tr>
<td>EOQ</td>
<td>1.74 (0.99)</td>
<td>1.83 (0.51)</td>
<td>0.20</td>
</tr>
<tr>
<td>DASS-21 depression</td>
<td>13.59 (10.42)</td>
<td>24.40 (11.78)</td>
<td>2.11 *</td>
</tr>
<tr>
<td>DASS-21 anxiety</td>
<td>7.03 (8.29)</td>
<td>13.29 (4.15)</td>
<td>1.61</td>
</tr>
<tr>
<td>DASS-21 stress</td>
<td>17.79 (10.03)</td>
<td>26.80 (5.76)</td>
<td>1.94</td>
</tr>
<tr>
<td>SWLS</td>
<td>17.00 (7.23)</td>
<td>15.40 (7.50)</td>
<td>0.46</td>
</tr>
<tr>
<td>Rosenberg Self-Esteem Scale</td>
<td>15.10 (4.65)</td>
<td>10.80 (3.89)</td>
<td>1.95</td>
</tr>
<tr>
<td>CAMS-R</td>
<td>26.97 (5.77)</td>
<td>23.60 (5.32)</td>
<td>1.22</td>
</tr>
</tbody>
</table>

Note. MAEDS = Multifactorial Assessment of Eating Disorders Scale, DEBQ = Dutch Eating Behaviour Questionnaire, ESES = Eating Self Efficacy Scale, EOQ = Emotional Overeating Questionnaire, DASS-21 = Depression, Anxiety and Stress Scale, SWLS = Satisfaction With Life Scale, CAMS-R = Cognitive and Affective Mindfulness Scale.

* p < .05
Inspection of Table 5.2 suggests that the program withdrawals are experiencing more severe general and eating pathology than program completers. Withdrawals reported higher binging frequency and severity, more purging, greater negative affect (depression, anxiety and stress), lower satisfaction with life, lower self-esteem and lower levels of mindfulness. Despite the very small numbers, t-tests reveal significant differences for the MAEDS Total score, MAEDS purging behaviour, and the DASS-21 depression scale, although again these results should be viewed with caution because of the small sample size.

Descriptives

Amount of mindfulness meditation completed

Formal Mindfulness Practice

Participants were educated in various formal and informal mindfulness exercises throughout the 10 week Mindful-MEG program. They were asked to practice 10-20 minutes of formal meditation daily, which included both the Body Scan and the Sitting Meditation. In the post-program questionnaire, participants were asked the average time they spent in formal meditation daily. The amount of formal mindfulness practice reported by participants at each time point is presented in Figure 5.1.

Reported engagement in formal mindfulness practice was high during the 10 week program, with 90% practicing some level of formal mindfulness practice while taking part in the program. By the 3 month follow-up questionnaire, the amount of formal meditation had dropped, with 58% of participants practicing some level of formal meditation. By the 6 month follow-up questionnaire, the amount of formal meditation reported had dropped to 46%. While the levels of meditation have clearly dropped following the completion of the program, 6 months after the program has finished, almost half of the participants were still engaging in some level of formal meditation practice.
Figure 5.1. Average daily formal meditation practice reported at each time point.

3-minute breathing space

Participants were also asked to practice the 3-minute breathing space, three times a day, or whenever they felt they were having trouble coping with a situation. The response options were ‘Never’, ‘< Once a week’, ‘Once a week’, ‘Several times a week’, ‘Once a day’ and ‘Several times a day’. For ease of understanding, these six categories were reduced to three as follows: < Once a week, ≥ Once a week but < Once a day, ≥ Once a day. Figure 5.2 shows the frequency of practice of the 3-minute breathing space at each time point.
Figure 5.2. 3-minute breathing space practice at each time point.

During the 10 weeks of the Mindful MEG program, 73% of participants practiced the 3-minute breathing space at least once a week. This dropped to 25% at the 3 month follow-up questionnaire, and 21% at the 6 month follow-up questionnaire. There is a dramatic drop in the number of participants practicing the 3-minute breathing space after the completion of the program.

Mindfulness of the breath

Though not directly prescribed as homework, participants were also asked how often they had practiced informal mindfulness of the breath. The response options were ‘Never’, ‘< Once a week’, ‘Once a week’, ‘Several times a week’, ‘Once a day’ and ‘Several times a day’. For ease of understanding, these six categories were reduced to three as follows: < Once a week, ≥ Once a week but < Once a day, ≥ Once a day. The frequency of this practice at each time point is presented in Figure 5.3.
During the 10 weeks of the Mindful MEG program, 86% of participants practiced informal mindfulness of the breath at least once a week. This dropped to 47% at the 3 month follow-up questionnaire, and 41% at the 6 month follow-up questionnaire. While there is a clear decline in the number of participants using this tool over time, six months following completion of the program, almost half are still practicing mindfulness of the breath on a weekly basis or more often.

Figure 5.3. Mindfulness of the breath at each time point.
Frequency of binge eating and compensatory behaviours

The presence of binge eating episodes and/or compensatory behaviours was the issue causing women significant distress and was the driving force behind seeking help from the Mindful MEG program. It was these behaviours which women wanted to gain some control over (and ideally cease), and it was these behaviours on which the CBT component of the program focused. The frequency of binge eating and compensatory behaviours (vomiting, laxative use, and excessive exercise) was measured using a table from the Eating Disorders Inventory-3 Symptom Checklist (EDI-3 SC`; Garner, 2004).

Hypothesis 1 stated that “Participation in the Mindful MEG program would significantly reduce the frequency and severity of binge eating episodes and compensatory behaviours such as vomiting, laxative use and excessive exercise.” To address this hypothesis, the following section provides graphical representations of the categorical outcome variables; the frequency of binge eating and compensatory behaviours at each time point.

Binge Eating

Participants were asked “How often have you gone on eating binges (eating a large amount of food while feeling out of control) in the last three months. The frequency of binge eating in the last three months reported by participants at each time point is presented in Table 5.3.
Table 5.3
Frequency of Binge Eating in the Last Three Months.

<table>
<thead>
<tr>
<th></th>
<th>Pre-program</th>
<th>Post-program</th>
<th>Three month follow-up</th>
<th>Six month follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>3</td>
<td>7</td>
<td>29</td>
</tr>
<tr>
<td>&gt; Once a month</td>
<td>0</td>
<td>30</td>
<td>46</td>
<td>38</td>
</tr>
<tr>
<td>2-3 times a month</td>
<td>7</td>
<td>17</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Once a week</td>
<td>13</td>
<td>23</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>2-6 times a week</td>
<td>73</td>
<td>27</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>≤ Once a day</td>
<td>7</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Inspection of Table 5.3 suggests that the frequency of binge eating episodes reduced from pre- to post-program and continued to reduce at each follow-up time point. In the pre-program questionnaire, the most commonly reported binge eating frequency was 2-6 times a week. This shifts to less than once a month in the post-program questionnaire and at the two follow-up time points. The percentage of women who report an abstinence of binge eating episodes increases from 0% at pre-program, to 3% post-program, to 7% at the 3 month follow-up and 29% at the 6 month follow-up.

The DSM-IV-TR requires a binge eating frequency of at least twice a week for a diagnosis of BN or BED. Figure 5.4 shows the percentage of participants who reported at each time point that they had engaged in binge eating twice a week or more in the last three months.
Figure 5.4. Binge eating twice a week or more in the last three months.

Figure 5.4 shows that the number of women eligible for a DSM-IV-TR diagnosis of BN or BED dropped dramatically between pre-program and post-program, and then reduced slightly further at each follow-up time point.

**Vomiting**

Vomiting (or purging) in order to prevent weight gain is a common form of compensatory behaviour. Participants were asked “How often have you made yourself sick (vomited) to control your weight?” in the last three months, and the results are presented in Table 5.4.
Table 5.4

Frequency of Purging Compensatory Behaviour in the Last Three Months

<table>
<thead>
<tr>
<th></th>
<th>Pre-program</th>
<th>Post-program</th>
<th>Three month follow-up</th>
<th>Six month follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Never</td>
<td>30</td>
<td>77</td>
<td>88</td>
<td>82</td>
</tr>
<tr>
<td>≤ Once a month</td>
<td>7</td>
<td>3</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>2-3 times a month</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Once a week</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>2-6 times a week</td>
<td>10</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>≥ Once a day</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Purging behaviour was fairly uncommon in the sample, with 77% of participants not engaging in vomiting as a means of losing weight in the three months prior to joining the program. However, a number of participants (10%) were vomiting twice a week or more.

Figure 5.5 shows the percentage of participants who reported any purging in the last three months.

There appears to be a drop in the number of women engaging in purging behaviour from pre- to post-program, although this increased slightly at the three month follow-up.
Figure 5.5. Purging behaviour in the last three months.

**Excessive Exercise**

Excessive exercise is one of the ‘inappropriate compensatory’ behaviours listed by DSM-IV-TR in the criteria for a diagnosis of bulimia nervosa. This compensatory behaviour is more ambiguous than the others, due to the fact that exercise can be a healthy and positive behaviour. The purpose of the exercise (i.e., purely to control weight) is considered important in determining whether the exercise is healthy or pathological. Participants were asked how often they had “Exercised 60 minutes or more to lose or control your weight” in the last three months, and the results are presented in Table 5.5.
Table 5.5

*Excessive Exercise to Lose Weight in the Last Three Months*

<table>
<thead>
<tr>
<th></th>
<th>Pre-program</th>
<th>Post-program</th>
<th>3 month follow-up</th>
<th>6 month follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>n</em></td>
<td>30</td>
<td>30</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Never</td>
<td>47%</td>
<td>63%</td>
<td>61%</td>
<td>71%</td>
</tr>
<tr>
<td>Once a month or less</td>
<td>10%</td>
<td>13%</td>
<td>11%</td>
<td>4%</td>
</tr>
<tr>
<td>2-3 times a month</td>
<td>10%</td>
<td>10%</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>Once a week</td>
<td>10%</td>
<td>3%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>2-6 times a week</td>
<td>13%</td>
<td>6%</td>
<td>14%</td>
<td>21%</td>
</tr>
<tr>
<td>Once a day or more</td>
<td>10%</td>
<td>3%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

The frequency of exercise as measured by this question reduced steadily, in much the same way that the binge eating frequency and other compensatory behaviours reduced over time. This suggests that this question may be measuring a pathological form of exercise, however this item should still be viewed with some caution, given the ambiguity surrounding exercise as a compensatory behaviour.

*Laxative Use*

Women were asked how often they had “Used laxatives to control your weight or shape” in the last three months. Laxative use was a very uncommon means of losing weight. In the pre-program questionnaire, only two women (7%) reported having used laxatives in the last three months. One woman had used laxatives ‘Once a month or less’ and the other participant had used laxatives ‘2-3 times per month’. In the post-program questionnaire, and the three month follow-up questionnaire, no participants reported using laxatives in the last three months. In the six month follow-up
questionnaire, one participant (4%) reported using laxatives ‘2-3 times per month’.

Changes to continuous outcome variables

The analysis of changes to outcome variables was conducted on a per protocol basis, using participants who had completed the 10-week Mindful MEG program, and excluding those women who withdrew. Responses to the quantitative measures were obtained at 4 time points: pre-program ($n = 30$), post-program ($n = 30$), 3 month follow-up ($n = 28$) and 6 month follow-up ($n = 24$). T-tests were undertaken between the three and six month follow-up data on all measures. These t-tests found no significant difference between any outcome variables at three months and six months (see Appendix 5.A). In order to maintain the highest possible sample numbers for statistical analyses, it was considered appropriate to use the three-month data as the follow-up data in the following MANOVA analyses.

Multivariate Analysis of Variance (MANOVA) was used to assess significant changes in the continuous outcome variables at the three time points. Because of the large number of continuous outcome variables available for analysis, MANOVA was considered the most appropriate statistical test in order to reduce the risk of a Type I error. The majority of dependent variables were arranged into five groups based on conceptual links, resulting in five one-way repeated measures MANOVAs with an alpha level of .05. For significant MANOVAs, univariate ANOVA results for each individual outcome variable are reported. Where Mauchly’s Test of Sphericity was not significant, the Sphericity Assumed F value is reported. Where Mauchly’s Test of Sphericity was significant at the $p < .05$ level, the Greenhouse-Geisser F value is reported. In the case of a significant univariate ANOVA test, post hoc tests to determine the exact location of the significant differences were completed, using repeated contrasts. Of interest was whether or not participation in the program led to significant changes in
the outcome variables, and whether these changes were maintained at follow-up. Post hoc tests were therefore completed to test for significant differences between pre-program and post-program scores, and between post-program and follow-up scores. Effect sizes are reported via partial eta squared.

Assumptions testing

The assumptions for MANOVA were checked as detailed below. Two variables were found to have a non-normal distribution – the MAEDS purging scale and the DASS-21 anxiety scale. Interestingly, for both of these variables, the values are clustered around the lower end of the scale, indicating low levels of purging and anxiety. Given that MANOVA and ANOVA are quite robust to violations of this assumption (Pallant, 2002), it was considered appropriate to keep these variables in the MANOVA and ANOVA tests.

In addition to univariate normality, MANOVA requires multivariate normality. Each MANOVA grouping was checked using Mahalanobis distances and found to meet the assumption of multivariate normality. This also implies that there were no serious multivariate outliers. No serious violations of the linearity assumption were noted.

MANOVA requires multicollinearity: that dependent variables are moderately correlated with each other. Correlations of around .8 or .9 are considered too high, and may require the removal of variables (Pallant, 2002). Pearson’s r correlations were calculated for all continuous variables within each of the five MANOVAs. The results are presented below with the MANOVA results. As no correlations exceeded .80 the assumption of multicollinearity was met.
**MANOVA Results**

**MANOVA 1: General Eating Disorder Psychopathology**

MANOVA 1 explored changes to general eating disorder psychopathology as measured by the total scores of three eating disorder measures: the Multifactorial Assessment of Eating Disorders Scale (MAEDS), the Dutch Eating Behaviour Questionnaire (DEBQ), and the Eating Self-Efficacy Scale (ESES). The correlations between scores on these variables are presented in Table 5.6.

### Table 5.6

**Correlations for MANOVA 1: General Eating Disorder Psychopathology Measures (n=26)**

<table>
<thead>
<tr>
<th>Measures (n=26)</th>
<th>DEBQ Total</th>
<th>ESES Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAEDS Total</td>
<td>.75**</td>
<td>.34</td>
</tr>
<tr>
<td>DEBQ Total</td>
<td>.55*</td>
<td></td>
</tr>
</tbody>
</table>

*Note. MAEDS = Multifactorial Assessment of Eating Disorders Scale, DEBQ = Dutch Eating Behaviour Questionnaire, ESES = Eating Self Efficacy Scale.**

**Correlation is significant at the 0.01 level (2-tailed)**

Table 5.6 shows moderate correlations between the total scores on the MAEDS, the DEBQ and the ESES.

A one-way repeated measures MANOVA was conducted on the total scores of three eating disorder measures: the Multifactorial Assessment of Eating Disorders Scale (MAEDS), the Dutch Eating Behaviour Questionnaire (DEBQ), and the Eating Self-Efficacy Scale (ESES). This MANOVA revealed a statistically significant difference over time for these variables: \( F(6, 20) = 6.70, p = .00; \) Wilks’ Lambda = .33; partial eta squared = .67. The results of the univariate ANOVAs, and the means and standard deviations for each variable at the three time points, are presented in Table 5.7.
Table 5.7

Descriptives and ANOVA results for MANOVA 1: General Eating Disorder Psychopathology Measures (n = 26)

<table>
<thead>
<tr>
<th></th>
<th>Pre-program</th>
<th>Post-program</th>
<th>Follow-up</th>
<th>ANOVA</th>
<th>Partial eta squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>df</td>
</tr>
<tr>
<td>MAEDS Total a,b</td>
<td>2.69</td>
<td>0.72</td>
<td>1.97</td>
<td>0.73</td>
<td>2</td>
</tr>
<tr>
<td>DEBQ Total a,b</td>
<td>3.00</td>
<td>0.57</td>
<td>2.45</td>
<td>0.71</td>
<td>2</td>
</tr>
<tr>
<td>ESES Total a,b</td>
<td>4.97</td>
<td>0.97</td>
<td>4.28</td>
<td>1.29</td>
<td>2</td>
</tr>
</tbody>
</table>

Note. MAEDS = Multifactorial Assessment of Eating Disorders Scale, DEBQ = Dutch Eating Behaviour Questionnaire, ESES = Eating Self Efficacy Scale.

a = Significant difference between pre-program and post-program means
b = No significant difference between post-program and follow-up means
Table 5.7 shows that a significant difference over time was found for the MAEDS total, the DEBQ total, and the ESES total. Post-hoc tests (using repeated contrasts) revealed the same pattern of change for each variable: post-program means were significantly lower than the pre-program means, and follow-up means were not significantly different from the post-program means.

**MANOVA 2: Overeating**

Hypothesis 2 stated that “Participation in the Mindful MEG program would significantly reduce self-reported overeating”. MANOVA 2 explored changes to overeating behaviours, as measured by the MAEDS binge eating scale, the DEBQ emotional eating scale, the DEBQ external eating scale and the Emotional Overeating Questionnaire. The correlations between these four variables are presented in Table 5.8.

Table 5.8

<table>
<thead>
<tr>
<th></th>
<th>DEBQ emotional eating</th>
<th>DEBQ external eating</th>
<th>EOQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAEDS binge eating</td>
<td>.70**</td>
<td>.72**</td>
<td>.47*</td>
</tr>
<tr>
<td>DEBQ emotional eating</td>
<td>.57**</td>
<td></td>
<td>.52**</td>
</tr>
<tr>
<td>DEBQ external eating</td>
<td></td>
<td></td>
<td>.11</td>
</tr>
</tbody>
</table>

*Note. MAEDS = Multifactorial Assessment of Eating Disorders Scale, DEBQ = Dutch Eating Behaviour Questionnaire, EOQ = Emotional Overeating Questionnaire. *Correlation is significant at the 0.05 level (2-tailed) **Correlation is significant at the 0.01 level (2-tailed)*

Table 5.8 shows correlations ranging from $r = .11$ to $r = .72$. The correlation of $r = .11$ between the Emotional Overeating Questionnaire and
the DEBQ external eating scale is relatively low, perhaps reflecting the different types of overeating these two scales measure. However, both of these scales show moderate correlations with the other variables included in MANOVA 2 and were thus considered appropriate to include in the MANOVA.

A one-way repeated measures MANOVA was conducted on the MAEDS binge eating scale, the DEBQ emotional eating scale, the DEBQ external eating scale, and the Emotional Overeating Questionnaire. This MANOVA revealed a statistically significant difference over time for these variables: \( F(8, 17) = 7.63, p = .00; \) Wilks’ Lambda = .22; partial eta squared = .78. Hypothesis 2 predicted that “Participation in the Mindful MEG program will reduce self-reported overeating”, and this hypothesis was supported. The results of the univariate ANOVAs, and the means and standard deviations for each variable at the three time points are presented in Table 5.9.
Table 5.9
Descriptives and ANOVA Results for MANOVA 2: Overeating Measures (n = 25)

<table>
<thead>
<tr>
<th></th>
<th>Pre-program</th>
<th>Post-program</th>
<th>Follow-up</th>
<th>ANOVA</th>
<th>Partial eta squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>df</td>
</tr>
<tr>
<td>MAEDS binge eating scale</td>
<td>4.49</td>
<td>0.87</td>
<td>2.85</td>
<td>1.21</td>
<td>2</td>
</tr>
<tr>
<td>DEBQ emotional eating scale</td>
<td>3.55</td>
<td>0.79</td>
<td>2.85</td>
<td>1.11</td>
<td>2</td>
</tr>
<tr>
<td>DEBQ external eating scale</td>
<td>3.02</td>
<td>0.81</td>
<td>2.56</td>
<td>0.91</td>
<td>2</td>
</tr>
<tr>
<td>EOQ *</td>
<td>1.74</td>
<td>0.99</td>
<td>1.07</td>
<td>0.87</td>
<td>1.62</td>
</tr>
</tbody>
</table>

Note. MAEDS = Multifactorial Assessment of Eating Disorders Scale, DEBQ = Dutch Eating Behaviour Questionnaire, EOQ = Emotional Overeating Questionnaire. * Greenhouse-Geisser values used
a = Significant difference between pre-program and post-program means
b = No significant difference between post-program and follow-up means
Table 5.9 shows a significant difference over time was found for the MAEDS binge eating scale, the DEBQ emotional eating scale, the DEBQ external eating scale and the Emotional Overeating Questionnaire. Post-hoc tests (using repeated contrasts) revealed the same pattern of change for each variable: post-program means were significantly lower than the pre-program means, and follow-up means were not significantly different from the post-program means.

**MANOVA 3: Dieting**

Hypothesis 3 stated “Participation in the Mindful MEG program would significantly reduce self-reported dieting behaviour”. MANOVA 3 explored changes to dieting behaviour, as measured by the MAEDS restrictive eating scale, the MAEDS forbidden foods scale, and the DEBQ restrained eating scale. The correlations between these variables are presented in Table 5.10.

**Table 5.10**

*Correlations for MANOVA 3: Dieting Measures (n = 28)*

<table>
<thead>
<tr>
<th></th>
<th>MAEDS forbidden foods</th>
<th>DEBQ restrained eating</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAEDS restrictive eating</td>
<td>.63**</td>
<td>.67**</td>
</tr>
<tr>
<td>MAEDS forbidden foods</td>
<td></td>
<td>.67**</td>
</tr>
</tbody>
</table>

*Note. MAEDS = Multifactorial Assessment of Eating Disorders Scale, DEBQ = Dutch Eating Behaviour Questionnaire
** Correlation is significant at the 0.01 level (2-tailed)*

Table 5.10 shows moderate correlations between the MAEDS restrictive eating scale, the MAEDS forbidden foods scale and the DEBQ restrained scale.
A one-way repeated measures MANOVA was conducted on the MAEDS restrictive eating scale, the MAEDS forbidden foods scale, and the DEBQ restrained eating scale. This MANOVA revealed a statistically significant difference over time for these variables: $F(6, 22) = 3.17, p = .02$; Wilks’ Lambda = .54; partial eta squared = .46. Hypothesis 3 predicted that “Participation in the Mindful MEG program will reduce self-reported dieting behaviour”, and this hypothesis was supported. The results of the univariate ANOVAs, and the means and standard deviations for each variable at the three time points, are presented in Table 5.11.

Table 5.11 shows a significant difference over time was found for the MAEDS restrictive eating scale, the MAEDS forbidden foods scale, and the DEBQ restrained eating scale. Post-hoc tests (using repeated contrasts) revealed the same pattern of change for each variable: post-program means were significantly lower than the pre-program means, and follow-up means were not significantly different from the post-program means.
Table 5.11

Descriptives and ANOVA Results for MANOVA 3: Dieting Measures (n = 28)

<table>
<thead>
<tr>
<th></th>
<th>Pre-program</th>
<th>Post-program</th>
<th>Follow-up</th>
<th>ANOVA</th>
<th>Partial eta squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>df</td>
</tr>
<tr>
<td>MAEDS restrictive eating scale</td>
<td>1.56</td>
<td>1.13</td>
<td>1.04</td>
<td>0.95</td>
<td>1.13</td>
</tr>
<tr>
<td>MAEDS forbidden foods scale</td>
<td>2.38</td>
<td>1.14</td>
<td>1.88</td>
<td>0.95</td>
<td>1.13</td>
</tr>
<tr>
<td>DEBQ restrained eating scale</td>
<td>2.25</td>
<td>0.99</td>
<td>1.80</td>
<td>0.86</td>
<td>1.72</td>
</tr>
</tbody>
</table>

Note. MAEDS = Multifactorial Assessment of Eating Disorders Scale, DEBQ = Dutch Eating Behaviour Questionnaire.

* Greenhouse-Geisser values used

a = Significant difference between pre-program and post-program means
b = No significant difference between post-program and follow-up means
Hypothesis 4 stated that “Participation in the Mindful MEG program would significantly improve self-reported levels of body image.” MANOVA 4 explored changes to perceived body image as measured by the BAQ feeling fat scale, the BAQ body disparagement scale, and the MAEDS fear of gaining weight scale. The correlations between these three variables are presented in Table 5.12.

### Table 5.12

**Correlations for MANOVA 4: Body Image Measures (n = 27)**

<table>
<thead>
<tr>
<th></th>
<th>BAQ body disparagement</th>
<th>MAEDS fear of gaining weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAQ feeling fat</td>
<td>.41**</td>
<td>.42*</td>
</tr>
<tr>
<td>BAQ body disparagement</td>
<td>.53**</td>
<td></td>
</tr>
</tbody>
</table>

*Note. BAQ = Body Attitudes Questionnaire, MAEDS = Multifactorial Assessment of Eating Disorders Scale.  
* Correlation is significant at the 0.05 level (2-tailed)  
** Correlation is significant at the 0.01 level (2-tailed)*

Table 5.12 shows moderate correlations between the BAQ feeling fat scale, the BAQ body disparagement scale and the MAEDS fear of gaining weight scale.

A one-way repeated measures MANOVA was conducted on the BAQ feeling fat scale, the BAQ body disparagement scale, and the MAEDS fear of gaining weight scale. This MANOVA revealed a statistically significant difference over time for these variables: $F(6, 21) = 3.85, p = .009$; Wilks’ Lambda = .48; partial eta squared = .52. Hypothesis 4 predicted that “Participation in the Mindful MEG program will improve self-reported levels of body image”, and this hypothesis was supported. The
results of the univariate ANOVAs, and the means and standard deviations for each variable at the three time points, are presented in Table 5.13.

Table 5.13 shows a significant difference over time was found for the BAQ feeling fat scale, the BAQ body disparagement scale and the MAEDS fear of gaining weight scale. Post-hoc tests (using repeated contrasts) revealed the same pattern of change for each variable: post-program means were significantly lower than the pre-program means, and follow-up means were not significantly different from the post-program means.
Table 5.13
Descriptives and ANOVA Results for MANOVA 4: Body Image Measures (n= 27)

<table>
<thead>
<tr>
<th></th>
<th>Pre-program</th>
<th>Post-program</th>
<th>Follow-up</th>
<th>ANOVA</th>
<th>Partial eta squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>df</td>
</tr>
<tr>
<td>BAQ feeling fat* a, b</td>
<td>4.21</td>
<td>0.58</td>
<td>3.79</td>
<td>0.57</td>
<td>3.79</td>
</tr>
<tr>
<td>BAQ body disparagement a, b</td>
<td>3.05</td>
<td>0.69</td>
<td>2.56</td>
<td>0.62</td>
<td>2.67</td>
</tr>
<tr>
<td>MAEDS fear of gaining weight a, b</td>
<td>3.82</td>
<td>1.04</td>
<td>3.07</td>
<td>1.03</td>
<td>3.11</td>
</tr>
</tbody>
</table>

Note. MAEDS = Multifactorial Assessment of Eating Disorders Scale, DEBQ = Dutch Eating Behaviour Questionnaire.
* Greenhouse-Geisser values used
a = Significant difference between pre-program and post-program means
b = No significant difference between post-program and follow-up means
**MANOVA 5: Negative Affect**

Hypothesis 5 stated that “Participation in the Mindful MEG program will reduce self-reported levels of negative affect”. MANOVA 5 explored changes to negative affect as measured by the MAEDS depression scale, the DASS-21 depression scale, the DASS-21 anxiety scale and the DASS-21 stress scale. The correlations between these variables are presented in Table 5.14.

<table>
<thead>
<tr>
<th></th>
<th>DASS-21 depression</th>
<th>DASS-21 anxiety</th>
<th>DASS-21 stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAEDS depression</td>
<td>.66**</td>
<td>.70**</td>
<td>.75**</td>
</tr>
<tr>
<td>DASS-21 depression</td>
<td>.68**</td>
<td>.55**</td>
<td></td>
</tr>
<tr>
<td>DASS-21 anxiety</td>
<td></td>
<td>.62**</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* MAEDS = Multifactorial Assessment of Eating Disorders, DASS-21 = Depression, Anxiety and Stress Scale.

** Correlation is significant at the 0.01 level (2-tailed)

Table 5.14 shows moderate correlations between the MAEDS depression scale, the DASS-21 depression scale, the DASS-21 anxiety scale and the DASS-21 stress scale.

A one-way repeated measures MANOVA was conducted on the MAEDS depression scale, the DASS-21 depression scale, the DASS-21 anxiety scale and the DASS-21 stress scale, which revealed a statistically significant difference over time for these variables: $F(8, 19) = 3.29, p = .02$; Wilks’ Lambda = .42; partial eta squared = .58. Hypothesis 5 predicted that “Participation in the Mindful MEG program will reduce self-reported levels of negative affect”, and this hypothesis was supported. The results of the
univariate ANOVAs, and the means and standard deviations for each variable at the three time points, are presented in Table 5.15.

Table 5.15 shows that a significant difference for time was found for the MAEDS depression scale. No significant difference was found for the DASS-21 depression scale, the DASS-21 anxiety scale or the DASS-21 stress scale. Post-hoc tests (using repeated contrasts) revealed that post-program scores on the MAEDS depression scale were significantly lower than pre-program scores, and follow-up scores were not significantly different from post-program means.
Table 5.15

Descriptives and ANOVA Results for MANOVA 5: Negative Affect Measures (n = 27)

<table>
<thead>
<tr>
<th></th>
<th>Pre-program</th>
<th>Post-program</th>
<th>Follow-up</th>
<th>ANOVA</th>
<th>Partial eta squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>df</td>
</tr>
<tr>
<td>MAEDS depression</td>
<td>2.75</td>
<td>0.92</td>
<td>2.05</td>
<td>0.92</td>
<td>1.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DASS-21 depression scale</td>
<td>13.59</td>
<td>10.42</td>
<td>10.53</td>
<td>10.74</td>
<td>10.57</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DASS-21 anxiety*</td>
<td>7.03</td>
<td>8.29</td>
<td>6.27</td>
<td>7.73</td>
<td>7.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DASS-21 stress</td>
<td>17.79</td>
<td>10.03</td>
<td>13.53</td>
<td>9.55</td>
<td>14.21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. MAEDS = Multifactorial Assessment of Eating Disorders Scale, DASS-21 = Depression, Anxiety and Stress scale- 21 items.

* Greenhouse-Geisser values used

a = Significant difference between pre-program and post-program means

b = No significant difference between post-program and follow-up means
**Further comment on the DASS-21 scales**

While Hypothesis 5, that “Participation in the Mindful MEG program will reduce self-reported levels of negative affect” was supported, the DASS-21 scales were the only outcome variables in the MANOVAs for which changes did not reach statistical significance. The DASS-21 depression scale and the DASS-21 stress scale appeared to follow the same trend as other outcome variables in the study in that the post-program scores were lower than the pre-program scores, and the follow-up scores appeared to maintain this improvement. In contrast, the DASS-21 anxiety scale showed little change over time. Interestingly, the pre-program DASS-21 anxiety scores were low when compared to normative data (see Appendix 5.B).

Given these findings, further post-hoc analysis of the DASS-21 scales was undertaken to explore these variables further. Univariate ANOVAs on each of the DASS-21 scales were completed using the six month data follow-up instead of the three month follow-up data. These analyses revealed a significant difference over time for the DASS-21 depression scale: $F(2, 44) = 3.22, p = .05; \text{partial eta squared} = .13$, and the DASS-21 stress scale: $F(2, 44) = 3.29, p = .05; \text{partial eta squared} = .14$.

Post-hoc tests to compare the scores obtained at the three difference time points (using repeated contrasts) revealed that post-program scores on the DASS-21 depression scale and the DASS-21 stress scale were significantly lower than pre-program scores, and follow-up scores were not significantly different from post-program means. Differences on the DASS-21 anxiety scale remained non-significant.

Given that the DASS-21 anxiety scale was non-normally distributed, a non-parametric test was conducted. A series of Wilcoxon Signed-rank tests found no differences between the DASS-21 anxiety scale scores at any of the time points.
The authors of the DASS-21 provide ranges to categorise DASS-21 scores into Normal, Mild, Moderate, Severe or Extremely Severe on each of the subscales of the DASS-21 (see Appendix 5.C). Table 5.16 shows the percentage of Mindful MEG participants who scored in the ‘Normal’ category at each time point on the DASS-21 depression scale, DASS-21 anxiety scale and the DASS-21 stress scale.

Table 5.16

Percentage of ‘Normal Category’ scores on the DASS-21 at each questionnaire

<table>
<thead>
<tr>
<th></th>
<th>Pre-program</th>
<th>Post-program</th>
<th>Three month follow-up</th>
<th>Six month follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>30</td>
<td>30</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>Anxiety</td>
<td>69</td>
<td>67</td>
<td>64</td>
<td>58</td>
</tr>
<tr>
<td>Stress</td>
<td>34</td>
<td>53</td>
<td>68</td>
<td>63</td>
</tr>
</tbody>
</table>

Table 5.16 shows that for the DASS-21 depression scale and the DASS-21 stress scale, the percentage of participants who scored in the ‘Normal’ category increases at each time point. In contrast, for the DASS-21 anxiety scale, the percentage of participants who scored in the ‘Normal’ category decreases slightly.

It would seem that for the DASS-21 depression scale and the DASS-21 stress scale, the scores have gradually reduced but do not reach statistical significance. However, for the DASS-21 anxiety scale, a pattern emerges, and the anxiety scores remained comparatively stable or increased slightly over time.
Additional ANOVAs

Results

Five further ANOVAs were carried out on the following variables which were not included in the above MANOVAs: MAEDS purging scale, Satisfaction With Life Scale, Rosenberg Self-Esteem Scale, and the CAMS-R scale. A Bonferroni adjusted alpha level of .01 was used to reduce the risk of a Type I error. Where Mauchly’s Test of Sphericity was not significant, the Sphericity Assumed F value is reported. Where Mauchly’s Test of Sphericity was significant at the p < .05 level, the Greenhouse-Geisser F value is reported.

The results of the individual ANOVAs and means and standard deviations of the variables at each time point are presented in Table 5.17. Four significant one-way repeated measures ANOVA, post hoc tests to determine the exact location of significant differences were completed, using repeated contrasts. Of interest was whether or not participation in the program led to significant changes in the outcome variables, and whether these changes were maintained at follow-up. Post-hoc tests were therefore completed to test for significant differences between pre-program and post-program scores, as well as between post-program and follow-up scores.
Table 5.17

**Results of Additional ANOVAs**

<table>
<thead>
<tr>
<th></th>
<th>Pre-program</th>
<th></th>
<th>Post-program</th>
<th></th>
<th>Follow-up</th>
<th></th>
<th>ANOVA</th>
<th>Partial eta squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>df</td>
<td>F</td>
</tr>
<tr>
<td><strong>MAEDS purging</strong></td>
<td>0.69</td>
<td>1.03</td>
<td>0.46</td>
<td>0.64</td>
<td>0.43</td>
<td>0.58</td>
<td>1.37</td>
<td>2.35</td>
</tr>
<tr>
<td><em>(n = 28)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.08</td>
</tr>
<tr>
<td><strong>SWLS</strong></td>
<td>17.00</td>
<td>7.23</td>
<td>18.87</td>
<td>7.76</td>
<td>19.86</td>
<td>7.63</td>
<td>2</td>
<td>2.86</td>
</tr>
<tr>
<td><em>(n = 27)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.10</td>
</tr>
<tr>
<td><strong>RSES a, b</strong></td>
<td>15.10</td>
<td>4.65</td>
<td>17.17</td>
<td>5.34</td>
<td>17.86</td>
<td>5.35</td>
<td>2</td>
<td>5.71</td>
</tr>
<tr>
<td><em>(n = 27)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.18</td>
</tr>
<tr>
<td><strong>CAMS-R</strong></td>
<td>26.97</td>
<td>5.77</td>
<td>29.30</td>
<td>5.35</td>
<td>30.04</td>
<td>6.19</td>
<td>1.63</td>
<td>4.89</td>
</tr>
<tr>
<td><em>(n = 27)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.16</td>
</tr>
</tbody>
</table>

*Note.* MAEDS = Multifactorial Assessment of Eating Disorders Scale, SWLS = Satisfaction with Life Scale, RSES = Rosenberg Self-Esteem Scale, CAMS-R = Cognitive and Affective Mindfulness Scale Revised.

* Greenhouse-Geisser values used

a = Significant difference between pre-program and post-program means
b = No significant difference between post-program and follow-up means
Table 5.17 shows a significant difference over time was found for the Rosenberg Self-Esteem Scale. Post-hoc tests on the Rosenberg Self-Esteem Scale (using repeated contrasts) revealed that post-program scores were significantly higher than pre-program scores, and follow-up scores were not significantly different to post-program scores. While the difference over time was not significant for the CAMS-R, this result was nearing statistical significance. The MAEDS purging scale and the Satisfaction With Life Scale each follow the same trend as other variables in the study (i.e., towards symptom improvement) but did not reach statistical significance.

Hypothesis 6 predicted that “Participation in the Mindful MEG program would significantly increase self-reported self-esteem”, and this hypothesis was supported.

Hypothesis 7 predicted that “Participation in the Mindful MEG program would significantly increase self-reported quality of life” and this hypothesis was not supported.

Hypothesis 8 predicted that “Participation in the Mindful MEG program would significantly increase self-reported levels of mindfulness” and this hypothesis was not supported.

Given that the MAEDS purging behaviour scale was non-normally distributed, a non-parametric test was conducted. A series of Wolcoxon Signed-rank tests found no differences between the MAEDS purging scores at any of the time points.
Further analyses

Participant rating of the program

In the post-program questionnaire, participants were asked to rate how satisfied they were with the Mindful MEG program, on a scale of 1-10, where 1 is the least satisfied and 10 is the most satisfied. The range of ratings on this question was from 7 to 10 ($M = 8.83$, $SD = 0.98$).

Most and least helpful aspects of the program

Participants were asked to comment on what was most and least helpful about the Mindful MEG program. These are presented in the table below, in the order of most frequently reported to least frequently reported. Table 5.18 shows the most helpful aspects of the Mindful MEG program as reported by program participants.

Table 5.18

<table>
<thead>
<tr>
<th>Most Helpful Aspects of the Mindful MEG Program</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program component</strong></td>
</tr>
<tr>
<td>Support/learning from the group</td>
</tr>
<tr>
<td>Mindfulness generally/meditation</td>
</tr>
<tr>
<td>Structure/practical aspects of the program</td>
</tr>
<tr>
<td>Facilitators</td>
</tr>
<tr>
<td>Regular eating</td>
</tr>
<tr>
<td>Food Monitoring</td>
</tr>
<tr>
<td>Mindful eating</td>
</tr>
<tr>
<td>3-minute breathing space</td>
</tr>
<tr>
<td>Strategies for coping with emotions</td>
</tr>
<tr>
<td>Reading materials provided</td>
</tr>
<tr>
<td>Learning about oneself</td>
</tr>
<tr>
<td>Combination of mindfulness and CBT</td>
</tr>
<tr>
<td>Meal planning</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>19</td>
</tr>
<tr>
<td>9</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

$n = 30$

Note. Participants may have provided more than one response for this question.

Support and learning from the group experience, and the mindfulness component of the program were the most commonly reported
factors which participants found the most helpful, and these two factors were a long way ahead of other reported factors.

Table 5.19 shows the least helpful aspects of the Mindful MEG program, as reported by program participants.

Table 5.19

<table>
<thead>
<tr>
<th>Program component</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal difficulties with other group members</td>
<td>4</td>
</tr>
<tr>
<td>Too much homework/too much theory</td>
<td>4</td>
</tr>
<tr>
<td>Video</td>
<td>3</td>
</tr>
<tr>
<td>Too much time spent on group discussions</td>
<td>3</td>
</tr>
<tr>
<td>Body Scan</td>
<td>2</td>
</tr>
<tr>
<td>Practical difficulties with cost/timing of the program</td>
<td>2</td>
</tr>
<tr>
<td>Assertiveness topic – already familiar with</td>
<td>2</td>
</tr>
<tr>
<td>Became more aware of underlying issues</td>
<td>1</td>
</tr>
<tr>
<td>Sudden ending of the program – loss of support</td>
<td>1</td>
</tr>
<tr>
<td>Mindful eating</td>
<td>1</td>
</tr>
<tr>
<td>3-minute breathing space</td>
<td>1</td>
</tr>
<tr>
<td>Walking meditation</td>
<td>1</td>
</tr>
<tr>
<td>Mindfulness (conflict with religious beliefs)</td>
<td>1</td>
</tr>
<tr>
<td>Food monitoring</td>
<td>1</td>
</tr>
</tbody>
</table>

n = 30

Note. Participants may have given more than one response for this question.

Interpersonal difficulties with other group members, and too much homework/theory were most commonly reported as the least helpful aspects of the program.

Chapter Summary

This chapter presented the results of the quantitative data analysis to address the hypotheses laid out in Chapter 3.

Attrition analyses revealed some significant differences between the women who completed the 10-week Mindful MEG program and those who joined the program but dropped out. Participants who dropped out of the
program appeared to be experiencing more severe eating disorder psychopathology and more negative affect. They also appeared to be younger in age. These results should be viewed with caution due to the small numbers involved.

Descriptives revealed that reported engagement with mindfulness practices (formal mindfulness meditation, 3-minute breathing space, mindfulness of the breath) throughout the duration of the 10-week program was high. This dropped once the program ended, however 6 months following completion of the program, 46% of participants are still engaging in formal mindfulness meditation.

The frequency of binge eating episodes dropped as a result of participation in the program. In the pre-program questionnaire, 80% of participants reported binge eating episodes at least twice a week in the pre-program questionnaire, but this dropped to 27% in the post-program questionnaire. This dropped further to 14% at the 3 month follow-up questionnaire and 13% at the 6 month follow-up questionnaire.

A series of MANOVAs and ANOVAs were conducted to address the specific hypotheses.

Hypothesis 1 stated that “Participation in the Mindful MEG program would significantly reduce the frequency of binge eating episodes and compensatory behaviours such as vomiting, laxative use and excessive exercise” and this hypothesis was supported.

Hypothesis 2 stated that “Participation in the Mindful MEG program would significantly reduce self-reported overeating” and this hypothesis was supported.

Hypothesis 3 stated that “Participation in the Mindful MEG program would significantly reduce self-reported dieting behaviour” and this hypothesis was supported.
Hypothesis 4 stated that “Participation in the Mindful MEG program would significantly improve self-reported levels of body image” and this hypothesis was supported.

Hypothesis 5 stated that “Participation in the Mindful MEG program would significantly reduce self-reported levels of negative affect” and this hypothesis was supported.

Hypothesis 6 stated that “Participation in the Mindful MEG program would significantly increase self-reported self-esteem” and this hypothesis was supported.

Hypothesis 7 stated that “Participation in the Mindful MEG program would significantly increase self-reported quality of life” and this hypothesis was not supported.

Hypothesis 8 stated that “Participation in the Mindful MEG program would significantly increase self-reported levels of mindfulness” and this hypothesis was not supported.

The participant rating of satisfaction with the Mindful MEG program was high ($M = 8.83, SD = 0.98$). Participants reported the most helpful aspect of the program was support and learning from the group, and the mindfulness component of the program.
CHAPTER 6: QUALITATIVE RESULTS

This chapter presents the results of the qualitative component of the study. In-depth one-on-one interviews were carried out with 16 program participants and 4 program facilitators. Themes from the participant interviews will be presented first, followed by the themes of the facilitator interviews. All names of participants and facilitators have been replaced with pseudonyms.

Participant Interviews

*Comparison of Interviewed and Non-interviewed Women*

All of the 30 women who took part in the quantitative component of the research evaluation project were invited to take part in a qualitative interview following completion of the 10-week Mindful MEG program. In all, 16 women volunteered to take part in these interviews, which were held at the University Psychology Clinic in the month following completion of the program. Table 6.1 provides a comparison of the demographic features of women who volunteered to be interviewed (interviewees) and the remainder of the sample (non-interviewees).
Table 6.1
Demographic Features of Interviewees and Non-Interviewees.

<table>
<thead>
<tr>
<th></th>
<th>Interviewees</th>
<th>Non-Interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n = 16$</td>
<td>$n = 14$</td>
</tr>
<tr>
<td>Completed high school</td>
<td>94%</td>
<td>100%</td>
</tr>
<tr>
<td>Completed tertiary</td>
<td>88%</td>
<td>93%</td>
</tr>
<tr>
<td>Employed</td>
<td>75%</td>
<td>71%</td>
</tr>
<tr>
<td>Employed full time</td>
<td>50%</td>
<td>43%</td>
</tr>
<tr>
<td>Married</td>
<td>19%</td>
<td>36%</td>
</tr>
<tr>
<td>Living with partner (including married)</td>
<td>25%</td>
<td>57%</td>
</tr>
<tr>
<td>Has children</td>
<td>31%</td>
<td>43%</td>
</tr>
</tbody>
</table>

An inspection of Table 6.1 suggests that non-interviewees may have been more likely to be married or cohabiting with a partner, and to have children. The time responsibilities involved in having a family may have deterred some women from volunteering to be interviewed, which involved a 60 minute interview, and travel time to and from the University Psychology Clinic.

Table 6.2 shows the means and standard deviations for outcome variables in the post-program questionnaire for both interviewees and non-interviewees. While the results should be viewed with caution because of the small sample size, t-tests were conducted to investigate the differences between interviewees and non-interviewees on the outcome variables in Table 6.2.
Table 6.2
Comparison of Outcome Variables at Post-program Questionnaire for Interviewees and Non-Interviewees

<table>
<thead>
<tr>
<th>Outcome variables</th>
<th>Interviewees M (SD)</th>
<th>Non-Interviewees M (SD)</th>
<th>t</th>
<th>df = 28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>32.50 (8.82)</td>
<td>33.43 (6.06)</td>
<td>0.41</td>
<td></td>
</tr>
<tr>
<td>MAEDS Total</td>
<td>1.79 (0.81)</td>
<td>2.14 (0.59)</td>
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<td>Binge eating (MAEDS)</td>
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<td>3.26 (1.32)</td>
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<td>Purging behaviour (MAEDS)</td>
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<td>0.44 (0.53)</td>
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<tr>
<td>DEBQ</td>
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<td>ESES</td>
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<td>4.74 (1.27)</td>
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<tr>
<td>EOQ</td>
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<tr>
<td>DASS-21 depression</td>
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<td>12.86 (11.12)</td>
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<td>DASS-21 anxiety</td>
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<td>5.43 (5.68)</td>
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<tr>
<td>DASS-21 stress</td>
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<td>17.14 (10.49)</td>
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<tr>
<td>SWLS</td>
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<td>17.86 (7.64)</td>
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<tr>
<td>Rosenberg Self-Esteem Scale</td>
<td>19.00 (5.29)</td>
<td>15.07 (4.66)</td>
<td>2.56*</td>
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<td>CAMS-R</td>
<td>30.63 (4.22)</td>
<td>27.79 (6.10)</td>
<td>1.65</td>
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<tr>
<td>Participant rating of program</td>
<td>9.09 (0.82)</td>
<td>8.54 (1.06)</td>
<td>1.06</td>
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Note. MAEDS = Multifactorial Assessment of Eating Disorders Scale, DEBQ = Dutch Eating Behaviour Questionnaire, ESES = Eating Self Efficacy Scale, EOQ = Emotional Overeating Questionnaire, DASS-21 = Depression, Anxiety and Stress Scale, SWLS = Satisfaction With Life Scale, CAMS-R = Cognitive and Affective Mindfulness Scale.

An inspection of Table 6.2 shows that for most of these outcome variables, the non-interviewees show slightly more general and eating psychopathology than the interviewees. Non-interviewees scored higher on the four eating disorder scales, as well as the MAEDS binge eating subscale, and the DASS-21 depression, anxiety and stress scales. Their scores also
indicate slightly lower satisfaction with life, self-esteem and mindfulness levels. Once again, the small numbers should deter any firm conclusions, but t-tests revealed significant differences between interviewees and non-interviewees for the Eating Self-Efficacy Scale, the DASS-21 stress scale, and the Rosenberg Self-Esteem Scale. These analyses indicate that the women who volunteered to be interviewed at the end of the program were possibly exhibiting more eating self-efficacy, lower levels of stress and higher self-esteem.

**Participant Interview Themes**

The themes from the participant interviews are presented in four main sections focusing on the lived experience of the program, and the changes which occurred as a result of participating. These participant themes and sub-themes are outlined in Table 6.3.

Table 6.3

<table>
<thead>
<tr>
<th><strong>Themes and sub-themes from participant interviews</strong></th>
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<tbody>
<tr>
<td><strong>Theme</strong></td>
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<tr>
<td>Experience of the Program</td>
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<td>Experience of Mindfulness</td>
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<td>Experience of CBT</td>
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<td>Changes</td>
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Experience of the Program

Universality

Almost all of the participants interviewed spoke about the value of meeting other women who were facing similar challenges to themselves. In his seminal text on the theory and practice of group psychotherapy, Irvin Yalom (1995) identified the concept of universality as essential to the group experience, where “the disconfirmation of a patient’s feeling of uniqueness is a powerful source of relief” (p. 6). For the Mindful MEG participants, it allowed women to let go of some of the feelings of shame and embarrassment. As they watched others go through similar challenges, it also allowed them to see their problems from a new perspective, one that was less judgemental and critical.

I found it was good to um hear other women talk about the same problems and to feel like you’re not alone and um to know that there are other real people that you can see, you know, going through the same thing. You might read about it in books or magazines, but it’s not the same thing as seeing real people who are going through the same thing. (Carrie)

I really did for the first time in 45 years, didn’t feel like I was alone in my distorted thoughts about food. Because I was so embarrassed and humiliated about how I felt about food. And for a long time, I thought that I had kept that very well hidden. (Bree)

And I also picked up some of the most valuable information from other people…. Some of the major things that changed for me, changed because of people’s comments. So that was really good. (Victoria)

All of it, just the interaction with the girls, and knowing that most of the time they’re there, and in a similar situation, and just to have someone understand and I feel a bit more normal now, that there are other people the same as me. So it’s good to know that there are other people that have these same thoughts. (Wendy)
Um, I think the most helpful thing was the support of the group… You know most of us have never spoken about it before, and so it was really intimidating to go into a room full of strangers, and blurt out all this shameful stuff. But I found that I could be really honest, because there was no judgement. (Erica)

The singular thing that I found most helpful was that there’s other people with the same problem out there and they are prepared to talk about it. (Sasha)

I remember the first time I went and I felt like crying because I thought, “Wow, you’ve gone and found all these people just like me!” And like, so many people had had struggles for as long as I had. And I didn’t feel as alone…I always felt very alone. (Olga)

Challenges faced by participants

There were also some significant challenges that participants faced. Women with significant weight problems did not feel that the program adequately addressed these concerns. From the outset, facilitators reiterated that weight loss was not an aim of the Mindful MEG program. However, health issues associated with obesity made weight loss a reasonable and immediate aim of many members. It was difficult to combine the anti-dieting philosophy of the Mindful MEG program (see Chapter 6) with weight loss.

Um, I just think, there was just one time that I asked a question that wasn’t answered too well – “What if you do actually need to lose weight? How does that fit in with this model?” I didn’t feel like I got an answer… Yeah, so I don’t know how that fits in with that and I’m still not a hundred percent sure. (Yvette)

I know the group had no focus on weight loss – but that was still very much an issue for me. So at one stage we sort of openly discussed it, and one of the girls who had bulimia got really agitated and even a bit angry. Because that isn’t an issue for her, in fact she doesn’t want to lose weight. So
there was that conflict. And so I didn’t feel the freedom to bring that up again….So in terms of the group, at the end of the 10 weeks because that sort of became an issue for me towards the end, there was no forum for me to resolve that. And so I did leave the group feeling like a bit of a failure. (Bree)

For some participants, taking part in the group led to the realisation of some painful things about their lives.

More of an awareness of how few boundaries I have, and all of it together, it made me evaluate where things are, which has led to some changes, positive changes, but there’s also been some negative changes in that I’m more resentful and have feelings of anger that I suppose have made me feel a bit more unhappy and a bit harder to get along with. It’s made me more aware that I have rights, and I have needs and I need to assert myself in those needs and protect those needs… But the flip side of that is that during the course of the day I find that I’m more sensitive to intrusions on what I want to do, and I react negatively to that. (Mona)

Experience of Mindfulness

Participants identified wide and varied experiences of learning and practicing mindfulness, both positive and negative. Participant experiences of specific mindfulness practices were explored, as well as the more general impacts of practicing mindfulness meditation.

Participants were asked about their experiences of specific mindfulness practices. The main mindfulness practices which were presented and assigned as homework were the body scan, the sitting meditation (including mindfulness of the breath, thoughts, emotions, and physical sensations), the three-minute breathing space, and mindful eating. The questions about specific practices revealed that there were wide and varied experiences; however some themes emerged.
The Body Scan

The Body Scan was generally experienced as difficult. This may have been because of the nature of the meditation, with attention focused on specific body parts, or it may have been because this was the first mindfulness practice introduced.

Yeah I didn’t get it... I felt that I wasn’t getting it right. I know there’s no getting it right, but I just didn’t feel like it connected for me. (Abbey)

Yeah, because that was the first one that we did I found it pretty difficult to start out with, just learning how to do it. (Carrie)

Frustrating (laughs). And boring…. Well I didn’t like having to focus so much on your feet. And then the body was just really quick. Um, and also that you just fell asleep while lying on the ground, and it made me really tired and stuff. (Ida)

The Sitting Meditation

The Sitting Meditation was more popular. This meditation included mindfulness of the breath, mindfulness of pain and other physical sensations, mindfulness of thoughts and mindfulness of emotions. In particular, mindfulness of the breath was found to be very valuable.

I think the breathing practice is something that everybody will get something out of. And I did, and it was a great reminder for me. It’s a great way to just calm yourself down, to reassess. So the breath would be my favourite. (Sasha)

Sitting was much better, because I remember there was more focusing on my breathing. And that was a dynamic flow, so I could focus on it… I could always bring it back ‘Well, I’m at the breathing’. And the breath is always there. It doesn’t go away. And it’s something that you can do anywhere, anytime, no matter what, if you’re walking, if you’re sitting, no matter where you are. People aren’t going to be like “Oh my gosh, look, she’s meditating”. Or “My gosh, she’s doing
something weird” because it’s just breathing, we all do it.
(Deena)

Usually I would be like, I don’t know how to deal with this,
this is bad, and then it turns into automatic thoughts and it
spirals. And then I would just, I’d do the breathing, and it
would be like, it’s not that bad, I can get through this, its
fine. So I’d use it when I needed it (Abbey).

In contrast, mindfulness of emotions was found to be particularly
difficult and confronting. Indeed, this is understandable given that the
avoidance of painful emotions may be one of the key features in the
development of binge eating problems. Through the sitting meditation,
participants were asked to purposely direct their attention towards these
difficult and until now avoided feelings.

I think doing it was more about realising the fear I have
around my own feelings, you know, that they were
uncomfortable, and realising that everyone suffers these,
everyone in life has problems, and it passes, and it’s a
normal process, it’s a healing process, you know. I’m not an
alien and everyone suffers these things and gets through it.
(Victoria)

[The most difficult thing about mindfulness was] probably
dealing with the emotions. Cause sometimes I’m not entirely
sure how I feel. I can see it as frustration or anxiousness
about something, but sometimes I can’t exactly name it until
later on. (Wendy)

Being mindful of your emotions, that was really amazing to
me because it was something that I don’t…. I kind of
realised that I suppressed a lot of my emotions, and so it was
a challenging aspect of the course but a really fantastic part
of the course as well. [It was challenging because] I don’t
like sitting with my emotions (laughs). I don’t like it! And I
don’t tend to do it. It was like “OK, I’m sitting with
them…but this feels horrible!” (Rita)

Um, I think, I’ve always had a tendency not to sort of say
I’m angry, and so to do that is quite unpleasant. And then to
look at those emotions further, and then to sit with them, is really quite confronting, yeah. And I think I’ve always pretended not to be angry, or been trying not to be angry. So when you do actually look at your emotions, they have to be there! So all of that made the sitting with emotions quite difficult. (Geena)

**Mindful eating**

Mindful eating was a particularly helpful aspect of the program. In a similar vein to The Raisin Exercise (Kabat-Zinn, 1990), participants were asked to attempt to eat at least one meal a day mindfully: slowing down the speed of their eating and paying attention to the sensory experience of eating. Slowing down the speed of eating provided more control, and also led to realisations about likes and dislikes, particularly in relation to ‘binge foods’. Furthermore, it allowed women to be more in touch with feelings of hunger and fullness.

It started with eating breakfast mindfully and I realised that um, I was full very quickly. And before that I hadn’t known that...So the long term consequence of that is that, definitely with breakfast, it’s much smaller than it ever used to be, and that’s continuing. I just put a lot less cereal in my bowl. (Tara)

And I think that the practicing of the mindful eating, that was a huge one for me too, because um, some things I didn’t even know what they tasted like....well, I love liquorice, I thought I loved liquorice, and I could devour it without really noticing what I was doing…and it was like, when I ate it “Oh, this has got a burning taste, its disgusting”. I actually didn’t enjoy it. I actually threw the rest of it away after the exercise. And I’m finding that if I do the mindful eating, I eat a lot slower, I get full a lot quicker, I’m more satisfied. And sometimes I didn’t really enjoy things that I thought I did. And the main thing I realised was how quickly I ate. Like I could eat things and not even realise. (Victoria)

Because I’ve slowed down, then I might even get to a point where I don’t feel like the food…I don’t even end up eating
it. And I didn’t think I’d ever be able to get to that point. I’m still not doing it all the time, but even a few times that it has happened. I just have to slow down in that moment. (Wendy)

You don’t sit down and really enjoy the food and taste things. We’re in such a rush. So the course kind of said that you’ve really got to enjoy what you eat, and eat slowly. It made me realise that sometimes I eat really quick. why am I eating quick? Why am I in a rush? It’s not going to run away. (Yvette)

[The most helpful thing about mindful eating was] Slowing down. And being conscious. I think people who binge basically have as an objective (well, for me) is to feel as full as you possibly can in the fastest possible time, so to actually slow down any process like that was like I wasn’t able to do it too fast…So, you’ve really got to take notice of each mouthful. And therefore it actually reduced…. It didn’t reduce the occurrence, but it reduced the quantity of the food I was eating. And it actually made my normal meals, much more enjoyable. Because I was paying attention to it, and therefore you put a bit more loving attention into it how you cook it. (Sasha)

It was essential, like, just being in touch with…for me it was more about being in touch with how hungry I was, being in touch with…thinking of food as an experience. I don’t know why it was so positive, and just like, making it like an event instead of, for me, just shovelling things in while I was doing something else. So it was like “OK, I’m actually feeling this now, I’m feeling full now” It was pleasurable as well. (Rita)

For a very long time I recognised that I ate too quickly. And through diets and all sorts of things I had tried to consciously slow down. And it didn’t happen for me until I thought about eating mindfully… And I’ve found that I’ve really slowed down without sort of noticing it, and actually eat the food rather than inhaling it. So that’s a big thing for me, that I’ve naturally slowed down. Cause I’ve always wondered before how people could do it, cause it was always a real struggle for me before. And it does make eating more enjoyable because there’s less stigma and guilt attached to it because I feel like I’ve eaten a meal properly. (Abbey)
I’ve definitely slowed down my eating, which has helped to create mindfulness of getting that feeling of full. Being mindful more of the taste, and realising, oh that was actually disgusting, what was I ever thinking? (Deena)

The 3-minute Breathing Space

The 3-minute breathing space is a brief meditation where participants were encouraged to tune in to how they were feeling in the current moment (one minute), focus on their breathing (one minute) and then focus on both their current state and their breathing (one minute). While participants found it was often difficult to remember, it was very useful as a coping tool in times of stress. It allowed participants to stop and settle themselves before reacting to situations.

I love it! I use that quite a lot. And I find that if I’m, if I can feel myself getting anxious or like, “What’s going on here”, I’ll do that, and then go. I’ve just found that it pulls me back into…like sometimes too I can feel my breathing change, like “What am I stressing about” and then I do the three-minute breathing space and it calms me right down….It slows me down in my head, it brings me back to the moment. (Victoria)

I remember this day, when I had to go and buy something, and it was a really hot day, and I was so irritated and I couldn’t find anything that I needed. And so I was about to get stuck into a binge, and then I thought “Hang on, just do it right now, don’t put it off”. So I deliberately made myself sit down and do a 3-minute breathing space. And yep, incredibly, immediate results. Just calmer, more focused, less agitated, ready to get back into my shopping. (Erica)

Yeah, it’s something that I will do from now on, I do it all the time. It’s now become almost an ingrained behaviour. And it’s very very good for me. …Because I calm down, cause the breathing actually calms me down. Instead of getting totally overwhelmed, I give myself just that small amount of space, and it tends to refocus me. (Sasha)
Um, well I think when it was used as a coping space, it was kind of like, calming, like to stop, just rather than just exploding or reacting a certain way. Just to stop, think about it a bit, and think about how the situation is. (Ida)

**Informal mindfulness practice**

Practicing mindfulness involved bringing awareness and acceptance to your daily activities, things such as taking a shower, or brushing your teeth, or cleaning the oven. Participants found this helpful for several reasons. For those who found the formal practice too difficult or too daunting, it provided an alternative way of accessing mindfulness. It also greatly aided the process of generalisation, or extending the effects of mindfulness into the whole of one’s life.

Like I do yoga, and have been doing that for a long time, and for me it was a different way of looking at the mindfulness practice that I do at yoga, but bringing it into my everyday life. And as much as I still struggle with it, I’ve found that incredibly helpful. (Sasha)

I think being reminded that it doesn’t have to be a formal thing. That I can do it anywhere, anytime, in any way, shape or form. And the fact that there were different methods that we practiced… I know I can do it walking, I know that I can do it sitting. Knowing that….it gave me freedom in a way I guess, that there doesn’t have to be structure to it. Like a lot of people think meditation is about structure. You’ve got to sit down, you’ve got to cross your legs, you’ve got to have your knees bellows your hips etc etc. Whereas that doesn’t necessarily have to be the case. You can be mindful at anytime, anywhere, anyhow. (Deena)
The challenges of mindfulness

Whilst there were many benefits of practicing mindfulness, all participants could identify significant challenges with it. Although in the Mindful MEG program it was presented in as secular a way as possible, some women found that mindfulness conflicted with their personal or religious values.

At home I’m just not quite sure how to tell my partner and child “I’m now going to be doing meditation and I need you to not interrupt me or come into my room.” I think it’s the telling them what I’m doing. I think I’ve had such a thing against meditation, that to tell them I’m doing it is sort of weird (laughs). (Tara)

I always thought “That’s for other people.” Yeah, I’m kind of a bit conservative, and I don’t like herbal things, or stuff like that. Like I’m very traditional. I’ll get medicines from the doctor, that kind of attitude. (Yvette)

And that was the whole thing I think that because we had a lot of people in the class, and particularly one who was like “Oh my god, you’re going to turn me into a Buddhist monk.” (Sasha)

I think I struggled the most with the mindful aspect, to be honest. And partly because it has origins in Eastern religion, and I come from a Christian background… a bit of uneasiness I suppose. And so, it wasn’t something I closed off to completely, but yeah, there was a bit of difference. They’re not totally opposed to one another but some of the readings were pretty eastern, kind of. (Rita)

Others identified many of the challenges identified by Kabat-Zinn, such as not being able to find the time to meditate, difficulties with physical pain, having a wandering mind, and feeling that you’re not doing it right (Kabat-Zinn, 1990).

Twenty minutes is a long period of time. Not so much in terms of it being a lot of time, but more that there is muscle
stiffness, cause you’re meant to be erect, so there’s discomfort and pain. There’s always that sense that I’m not doing it right, and when my mind wanders a lot, and the aim of it is to concentrate on your breathing. And then you’re mind wanders, and you’ll realise, oh my god, my mind’s been totally on something else for the last 30 seconds, and that can be challenging. (Abbey)

Originally, and it still is, making the time to do it everyday. Just recently, we’ve moved house so the routine’s been broken up. I usually have the CD player in my room and every night before bed I would meditate. And my routine’s all changed so it’s difficult to get a routine established. So initially it was getting a routine established, but now I just need to get the routine established again. And also, it’s just difficult to practice it and do it correctly. Like a lot of times still I might meditate and think ‘It didn’t work very well then’, and there’s been all these thoughts running around in my head and I need to concentrate more. (Carrie)

I shouldn’t say that I didn’t have the time, but I couldn’t find the time to do it. You know we always have time. And I’m on public transport two hours a day so I should be able to do that. So I think the hardest part was disappointment and trying not to beat myself up about that. (Deena)

Cause sometimes it was painful you know? And it was hard as well because I had to stop those thoughts, or observe the thoughts because my mind was so busy all the time with “I’ve gotta do this, I’ve gotta do that”. So I found that really challenging. (Rita)

I think the actual mindfulness practice in itself is very difficult to do. I’m still finding it very difficult to do…I think it is just mentally hard work. To actually practice being in the here and now, is all very nice to say and it sounds simple. But when there’s all these things going on in your life, it’s very hard to just go “OK, I’m going to take 10 minutes out today”. I actually do find it hard and it’s a matter of application. (Sasha)

Forgetting to do it. Yeah. Because its kind of foreign to me, then I can remember after the Monday night to do it. But it goes out of my mind after that. (Tara)
It was just, persevering over the clutter of the head. That clutter. (Victoria)

Fourteen of the 16 participants interviewed planned to continue with mindfulness practice in some way.

Mindfulness will now become, or has now become, something that I will work on probably for the rest of my life. I hope for the rest of my life….I feel better if I’m practicing some sort of meditation. And hopefully that will stay a big part of my life. (Sasha)

Experience of CBT Practices

Participants were asked to reflect on their experiences of the CBT practices in the program, including food monitoring, regular eating and meal planning, and the introduction of ‘forbidden foods’ into their diet.

Food monitoring

Food monitoring was generally experienced as difficult, either because of past associations with dieting, or the practical difficulties of writing down every item of food eaten during the day. Despite these difficulties, it was useful in terms of objectifying the amount of food being eaten, and understanding binge triggers.

That just wasn’t workable for me. (Mona)

That was really beneficial…. Identifying patterns. And realising that I can actually have control over my eating during the day, so why can’t I transfer that control to the day (Rita)

I’m not that great at food monitoring. I start doing it in the morning, for breakfast, and usually morning tea, and then I stop. (Tara)
I’ll think “Oh, I overate today! I’ve just eaten too much!” Or vice versa. So by having it written down I could look back and go “No I didn’t. I had this for breakfast, I had this for lunch, I had a snack in the afternoon, and then I had this for tea”. Or sometimes I might overeat and think that I haven’t. So it can just put things back into perspective. This is not what the mind is thinking this is really how it is. (Victoria)

I didn’t do a lot of the writing down. I kind of tried to….like I’ve always been a breakfast lunch and dinner person, um, so I tried to do it more in my head rather than writing it down for some reason. I’ve done all that before. (Wendy)

Well, I kind of did the food monitoring a little bit at the beginning, and then as life got busier I didn’t really do it. (Yvette)

Regular eating and meal planning

Regular eating and meal planning involved eating three planned meals, and two/three planned snacks every day. It was often difficult to begin with, because participants feared gaining weight. Once these initial fears were overcome, regular eating was one of the most effective tools in the program for reducing binge eating.

I was really, really anxious about the snacks at first. Because I’ve always tried to avoid snacking, like that’s the worst thing you could do, is eat all day! But actually that worked out really well, and the snacks were really helpful, like if you eat the snacks, it was a lot easier to have breakfast lunch and dinner. It makes sense. (Geena)

It was a bit scary because there was that initial thing of like “Oh I can just whatever I feel like I can have now” so there was an initial fear of “Oh my god I’m going to put on weight now cause I’m going to eat”. And that’s probably initially what did happen but now I’ve started to come back down from that. So it was scary, but it was also a sense of freedom. A sense of release. Yeah. I can’t explain it. Just a feeling of relief, that I didn’t have to do it anymore. (Victoria)
I’m not allowing any longer than three hours between food. I’m probably oddly enough choosing some healthier options than I did before. That initial feeling of “Oh, I can have anything” is starting to go and so I’m starting to calm back down again and choose healthier food and I’m actually enjoying it. Um, I’m not spending so much time thinking about food, so I used to spend a lot of time thinking about food, and what time I would eat, and what I can and can’t eat. (Victoria)

Forbidden foods

Participants were asked to begin introducing ‘forbidden foods’ into their diets – foods which in the past they avoided because of concerns about gaining weight.

It was good because I think by letting yourself have something that you want, it didn’t lead to that cycle of then overeating cause…when you have that thought “I want that particular thing”, yeah, it would lead to binge eating if I didn’t let myself have it. (Yvette)

Not that restriction. That feeling that I might not get to eat that for months so I better eat the whole lot. So, yeah, it just changes the…it takes the pressure off. (Victoria)

And when we did forbidden foods, that was really good. Because now I don’t have forbidden foods. Because before I was trying to have no junk food, and then I was binging on it. But now, I don’t even really want it that much. (Olga)

That was helpful, again tied into the concept of not dieting, it took away the power I think (Mona)

Changes

Participants were asked what had changed for them as a result of taking part in the Mindful MEG program, and identified many things, including changes to behaviour, thoughts, and emotional wellbeing.
Changes to eating behaviour

For all of the women interviewed, their binging or overeating had decreased, either in frequency, in severity, or both. Many also spoke about the way that they had slowed down their eating.

My binges are now probably what used to be my overeating. If that makes sense. I don’t binge very often now. (Victoria)

Another thing that has changed is that if I do binge I’ll binge less. Less frequently and on less food. So I still have times when I’m feeling a bit rummaging and out of control, but I’ll certainly get to a lesser stage of fullness or sickness or discomfort, before I just go, what are you doing? And just stop. So the intensity is less. (Abbey)

So it slows me down a lot to make me more aware and mindful of the situation, and so it has pretty much, now, changed the way that I eat, and I never thought that I’d be able to break that habit. Cause I’ve always been like, if I buy it, I’ll eat it within the first 10 minutes, but now I’m able to stop, put it away, and come back to it another day…I didn’t think I’d ever be able to stop that habit, and I did pretty much on the first couple of weeks of MEG. (Wendy)

Like I still, probably overeat, I don’t really binge but I overeat, but I did say to myself “Just taste it, at least”, and that’s so much easier. (Tara)

Losing the dieting mentality

Most of the participants in the Mindful MEG program had been engaging in diets for many years, some for decades. Letting go of the dieting mentality, through regular eating and the introduction of forbidden foods was a powerful, and difficult experience. Many described it as a sense of liberation to be free of the constant thinking about food and dieting.

And then, I think, that notion that it’s not a diet and therefore you can’t break it. So, cause like everybody else before, I was trying to stick to a plan and as soon as I mucked up the
No other program has changed my thoughts the way this has. Other programs I feel like “I’m on the right track, I’m doing really well” and then I come up to a brick wall, and I can’t deal with the emotions and I go back into my old habits, and the diet mentality often comes back and I feel like I’ve blown it and I’ll start tomorrow…It has completely changed the way I think about it. So instead of thinking “I’m overeating, I should be able to stop, I can’t” and making myself feel bad, I just think, “Well, what’s going on right now”. What it’s really telling me is that there’s something going on right now that I’m not quite handling, …. It’s just fantastic. I used to get really depressed about that, and um, feel like a total failure and that I would never change, not in the long-term, and now I just don’t feel like that anymore. Food just isn’t that big a deal to me anymore, which is massive… This program has been so fantastic. It’s a huge relief, and a release. It just doesn’t play on my mind every minute of the day. (Tara)

And just the fact of going right away from dieting. You know moving completely away from the whole diet mentality, was a huge breakthrough for me….There was always the whole dieting mentality. And just to give up the dieting was huge. I’d never even contemplated that this could be possible. (Victoria)

Yeah. It just took away again that feeling of being a failure and not being able to stick to something. And removing that, has been really liberating, it’s been fantastic. So, at those times I will still overeat, and I know it’s to stuff down the feelings…But I just don’t judge, I just observe and notice what’s going on, but don’t judge whether I’m good or bad or whether they’re right or wrong. And, it’s not always working (laughs). But that’s ok. I’m just not there yet. (Tara)

Before, you’d kind of try to eat whatever you can because who knows, tomorrow you might start a diet again. Do you know what I mean? But now there’s like no diet. Yes I want to eat sensibly. But from time to time if I want to have stuff I can have it. (Yvette)
I think it has stopped a lot of thinking about, “I need to go on one” and I haven’t thought that, because the minute that I think I need to go on a D-I-E-T, I think, “Oh that’s silly, all that’s going to do is that’s going to be counter-productive”, so its really changed my mindset. (Mona)

*Movement from avoidance to awareness*

All of the participants spoke of the value of increased awareness, and more specifically, the movement from avoidance to awareness. For many women, the avoidance of thoughts, emotions, or physical sensations had led them to their current problems. Being asked to purposely focus on their experience, including these feared internal experiences, was confronting but beneficial.

I guess it’s given me the capacity to work through situations that I might have avoided, mainly from anxiety and that point of view. (Lucy)

I think that beforehand I often found it hard to, or I didn’t take notice of what my emotions were, I just went by in a daze without really connecting or thinking about my feelings and emotions and during the 10 weeks I really honed in on those things. (Carrie)

I’m definitely more aware today of what’s happening right now. Like even the little things, in particular I’ve noticed this a lot over the past couple of weeks, my facial expressions. Like in the train, or even if I’m just sitting at home. I’ll just suddenly focus on my face and be like ‘What is it doing? Why is it tight there?’ or ‘It’s frowning, why am I doing that?’ and I’ll right it up. Or I’ll be like, ‘My eyes are crinkled’. And my posture, big time. I’m very aware of that. (Deena)

And it makes you feel more aware of like, when I’m anxious or upset or even excited, how I want to eat. Like it’s making me aware of that. You know that I want to eat something because I’m tired. So it’s making me aware of that. Whereas before I didn’t realise that I was feeling that. (Victoria)
Just total awareness, across the board. Of everything. Just awareness. Of all the different things. To be aware of what you’re feeling, what you’re doing, what’s happening around you. Just awareness of how you’re not nurturing yourself, just awareness of everything that you’re doing in your life that’s not necessarily good for you. (Victoria)

I think that [mindfulness] really helped to increase, just awareness in general. Sort of taking that time out to go “How am I actually feeling?” So I think that was really useful in putting me back into touch with, not just how I’m feeling physically, but emotionally as well. (Erica)

**Gaining control and choice**

Directly related to these new levels of awareness, participants found that they were able to gain more control over their lives and behaviours. Rather than being stuck on auto-pilot, participants were able to make more considered and rational choices.

Like if I’m frustrated with someone at work, I can go away for three minutes and then come back and go “OK, she’s how she is, it’s just a clash of personalities” rather than maybe prior to I wouldn’t have handled it as well, I might have showed it more. So just pulling back a bit, to just reflect a bit more before I act or say something that could hurt or offend. (Wendy)

And now that I’m aware of it, then I’m more able to do something different, ‘cause I know that’s what I’m doing now. So that was really good. (Erica)

But it did give me enlightenment as to how to come round, you know, like it helped me back track a bit more about triggers and things. It sort of gives you more choice about things, like next time, over a period of time, you have more choices as to how to react or make a rational - I hate the word rational - but you kind of make a more thoughtful choice. (Rita)
Emotion regulation

Women’s emotional health was also improved following participation in the Mindful MEG program. Many women spoke of an increased ability to regulate their emotions, to calm themselves down during times of distress.

And also it makes me a bit calmer I think and a bit more able to not worry so much about what’s going to happen over the day. Not be so uptight about all the things that are going to happen, and how I’m gonna fit them in… (Geena)

I suppose, it has relaxed me a lot more, and stopped me worrying about the future, and sort of feeling like I can still go after what I want, but whatever will be will be as well. Whatever I make of something it can still eventuate. (Wendy)

Um, I think its made a huge difference [the mindfulness]. Like I said before I feel like I’m much more balanced, I feel like the minute something gets a bit stressful I can use some of the mindful techniques and defuse the situation. (Yvette)

Improved quality of life

Unrelated to food and eating, several participants identified positive changes to their interpersonal relationships and to their general sense of well-being. The women generally related this to the practice of mindfulness.

I suppose apart from food and all that, interacting with people at work and all that, in that I suppose I’m more able to see things from what I think is other people’s perspective, I try to look at their perspective on how things are. (Wendy)

And so many people have even commented on it. Like people who know that I’m doing this, but not that it’s associated with an eating disorder. And certainly my family, and my sister in particular, who’s pretty much my best friend, she says it all the time “You’re different. You’ve really taken this mindfulness on board, like I can see it in you. And can you please teach it to me”. (Deena)
I think I’m just able to see things a bit clearer. I notice now that I’m very aware of when I’m being judgemental about things. More aware of when things are out of my control and I can’t change them anyway, like that whole thinking about “Well, can I change this now?” Basically, that Jon Kabat-Zinn saying you’ve got to live in every moment, because two weeks time may not come. You could be dead. You never know what could change so just live. Its making me more…practicing more living in the moment, and not worrying about what is out of my control, or what’s in the future because it hasn’t happened. Or what’s already been. (Victoria)

We spend 90% of our time worrying about what’s been, or what’s not going to happen. And it’s true. And its doing the meditation that made me realise my head is just in overdrive about, just crap, absolute crap… So now I’m finding that when my head goes to those places I’m like “Stop! What’s happening now?” And try to focus on the, you know, if I’m doing the dishes then focus on that. Its probably over the top but yeah…(Victoria)

Um, but now, I actually think it has changed the way I think about things because I think you know, the past is an illusion, the future is an illusion, I’ve only got right now, so that I’d rather be mindful right now. And it’s made a big difference… I was getting very depressed about just life in general, and I think that if you take away the past, to some extent, and you take away the future, then, basically you’ve got to enjoy right now. And so it’s a lot lighter journey, because there’s so much less baggage…I’m finding it actually a really beneficial way to just get through life. (Sasha)

I think it just really improves my general well-being and my emotional state is a lot more happier than before. With the meditations that I do, I just don’t seem to get the down feeling which I used to have before which is also probably from other aspects of the program as well but that’s probably the thing that I’ve noticed most, is just my general well-being is so much higher than before, and I don’t have the same problems with eating and with food. (Carrie)
I suppose just making certain situations more tolerable, that I would have been upset about previously, which is really good. Yeah, so being more patient in a lot of situations. And not worrying about you know, standing in a queue, just thinking I can breathe, and I can relax, you know, I can hear things, I can see things. So in those situations, it’s [mindfulness] helpful in a very practical sense. (Geena)

**Movement from self-punishment to self-kindness**

Many women spoke about a change in the way they perceived and treated themselves. Previously, women had been harsh, critical and perfectionistic in their judgements of self. Participation in the group seemed to lead to a softening of these harsh judgements, and an increased understanding of the need to take care of oneself.

Before I was so negative about every aspect of myself, from the physical to my personality. And during the 10 weeks I did start to notice that I wasn’t so vicious with myself anymore, which was really good. (Carrie)

So yeah, I’m getting better at doing what’s right for me, instead of always thinking about the other person, you know, trying to please everyone else. And even things like, my son, he’s disabled, and he’s 22, so I’ve spent the last 22 years, just everything is about giving to him, caring for him, looking after him. And now it’s like “You know what, I’ve done as much as I can, I’m able to say for the first time that I’ve probably done more than an average mum of a kid with a disability. He’s done more things in his life than probably you and me put together. And you know what, now its time for me. And if it means that he misses out on some things, then too bad. So, I’ve been kayaking and I’ve started swimming and I’ve bought a push-bike, and I’ve started running with a friend. And it’s just a whole new life! (Victoria)

I can allow myself the time, and I deserve to have the time to practice. And I’m doing it for me. And if I better myself, then I’m going to be better for everyone that I come into contact with. (Yvette)

But again, I think a lot of us were perfectionists, when we began. Some are still, and some are less, and I’d say I’m much less now. It
doesn’t have to be all right, and I’m ok with that now, and that’s something that I’ve really learnt. I don’t need to judge myself, I don’t care how I look, I don’t care as much about how I appear to others, if I’m successful, whatever. And I don’t want to continuously try to please others. I need to please myself, and if in turn others are happy with that, fine, and if not, too bad. (Yvette)

It was kind of beneficial because this is time just to focus on myself. Um, also, and I suppose I was reading through the stuff, that kind of like patience that you have during that time, transfers to patience with yourself and being more forgiving of yourself. I can’t think of specific examples but I think generally there is an attitude of being a bit more gentle towards myself, and I think that was partly to do with the mindfulness. (Rita)

**Facilitator Interviews**

Four Mindful MEG facilitators were interviewed to explore their experience of facilitating the program. The themes from these interviews have been split into three sections: The experience of facilitating a Mindful MEG program, Specific challenges/difficulties of facilitators, and Gains of facilitating. These themes and sub-themes are outlined in Table 6.4.

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Experience of Facilitating the Mindful MEG Program

Presenting mindfulness

Facilitators were asked to reflect upon the issues specific to facilitating a mindfulness-based group.

The key difference is that you invite participants to engage in a behaviour which initially to them is not going to reap immediate rewards, it’s slightly ineffable, it’s associated with a culture which is different from their own and a belief system that is different from their own. So you’re asking them to take a little bit of a leap of faith. Which is why I think the rationale is so important. Do this thing, and you will learn something….So you need to sell it I think. (Georgina)

I think one of the main things that I found, is that it is a very non-directive style, which is quite different to what I’m used to. And being a mindfulness facilitator, that was challenging for me too, firstly to change styles, ‘cause in an organisational setting you’re much more directive and focused on concrete outcomes. (Marnie)

Two of the four facilitators expressed some concern about the possibility that mindfulness practice could be harmful to individuals who had experienced trauma, or who had an insufficient sense of self to hold the practice.

With the more traumatised clients we had, and I can think of one that was in my group, to come into the present was to overwhelm herself. She didn’t have enough sense of coherence to do that. She was someone who I thought would require a lengthy period of maybe concentration meditation, and then little steps of mindfulness, to develop a sense of self. She really didn’t have a great sense of coherence. And she needed to do that work before then applying it more around her eating stuff. I thought some people were more or less ready for the group. Some needed more foundation work done. (Georgina)
And I guess because mindfulness is relatively new, in psychological interventions, and it’s part of a broader philosophy, and a spirituality thing, so it’s like, what part do you take from that, which is going to be ethical, and fit in with a psychological approach, and fit in with the actual program. Just because with CBT, there’s a lot more evidence about it’s efficacy, it’s a lot more concrete and clear-cut, whereas mindfulness is a little bit more...I don’t know. (Frida)

Is it ethical because these people are vulnerable and they are suffering with their binge eating problem, and they really want help and they really want some relief from their symptoms, and you’re saying “Hey, look at this approach” and you’re asking them to do it, which I think is fine as long as the ethical things are addressed, like as long as they understand what they’re giving consent to, and they’re free to stop… Yeah and part of my own anxiety as a trainee psychologist is you, know, thinking about issues related to harm to the clients, and sometimes I wonder, because we don’t know everything about these clients, especially because it’s a group intervention, like, if they’ve experienced trauma, or that sort of stuff, it sometimes worries me whether mindfulness may be harmful... Exposing them to things that they may not be able to cope with. And which may put them at further risk. (Frida)

And I think the other issue similar to the trauma issue (and it’s really about my own anxiety and because I’m new as well) if someone is suffering some depression, we don’t really know, like there’s evidence about it being useful for relapse in depression, I think specifically if you’ve experienced 3 or more episodes, but we don’t really know if someone is currently experiencing depression. Or even 1 or 2 episodes. So I guess the unknown thing is a bit stressful. (Frida)

Combining CBT and mindfulness

The Mindful MEG program involved an integration of mindfulness and CBT practices. This was seen both as beneficial and difficult by facilitators; beneficial because the program provided more depth and options for participants, but difficult for facilitators in terms of conveying
the essence of each therapy. For some facilitators these approaches fit well together, while for others there was a degree of inconsistency.

I think there are pros and cons of integrating. From a facilitators’ point of view, it’s more challenging and you feel like you’re sort of diluting the effects of some of the different approaches. And you wonder whether you’re making it more confusing for participants. I think you get there in the end, even though it is challenging, you get there. And, I think with mindfulness and CBT in a way, its change versus acceptance approach. Which is challenging, but I think it can be done, but it’s just a challenge. (Georgina)

Well, I think mindfulness fits well with CBT, in that, its not that they’re two separate approaches. And I think the real advantage of mindfulness is the acceptance part of it. I think it allows people to engage in the process of therapy. (Frida)

I think they worked really well. I like that they create more space for acceptance of thoughts, and they make it easier, because there’s a process of observing and reviewing your thoughts, but not necessarily resisting them, because of that allowance aspect. I think the mindfulness really enhances the CBT processes. It adds a deeper aspect to CBT. (Marnie)

It was difficult to integrate the ‘change’ of the CBT component with the acceptance of the mindfulness stuff. That it had things like cognitive challenging in there, that is not mindfulness. (Samantha)

The importance of a facilitator’s own practice

Each facilitator was asked their opinion of the importance and impact of a facilitator’s own personal mindfulness practice. All four felt that in order to facilitate a mindfulness program, one must have a personal mindfulness practice.

It is ESSENTIAL that the facilitator has a reasonably solid personal understanding of it, yeah. Because otherwise you can’t live by example, you can’t pick up when the other person is struggling with it, you don’t really know what
you’re doing, basically (laughs). And also, that lack of commitment or understanding is communicated to the participants, and that just undermines it completely.

(Georgina)

Well, for one thing, you’re strongly advised to practice mindfulness meditation yourself, which I think is a good thing. But that’s one issue, I mean a student has to be willing to do it… for starters you need to understand the barriers that might come up with practicing meditation. Like trying to find the time and the physical and emotional difficulties that come along with trying to do it. So if you’re going to ask clients to do that you sort of have to be prepared to do it yourself. And because its an experiential thing, you learn experientially, you kind of have to have a bit of insight into what that process might look like in order to facilitate the group and provide a bit of understanding and encourage them to push through those obstacles. (Frida)

I just think that mindfulness seems simple, but it’s not, and there’s a lot of interesting paradoxes that come up, and difficulties that come up, and dilemmas that come up, and that it’s only through experiencing it yourself that you can actually be true to the practice and the tradition…And I think that if you haven’t practiced it and you don’t have the experience with it, then you’re going to be more inclined to just explain it, or be more intellectual about it, and I don’t think its an intellectual thing, I think it’s an experiential thing. So how can you teach something that is experiential if you haven’t had the experience. I feel really strongly about it actually. (Samantha)

Relevance of mindfulness to the client group

On the whole, facilitators felt that the theory and practice of mindfulness was very relevant to the client group of women with binge eating difficulties, who were often struggling with experiential avoidance and self-judgements.

It’s a really good fit because a lot of the participants avoid things: avoid feeling emotions, and avoid sitting with them, lots of experiential avoidance. And mindfulness really gently
provides an antidote to that… I think if it was straight CBT, its more of a focus on the cognitive aspect, whereas this really provides a way to tune into the bodily sensations, rather than just thinking about emotions, but actually experiencing them, and feeling them. (Frida)

Yeah, for me it was a really strong fit. There was something about the eating and the allowing and accepting that just seemed to be really, I guess what I’ve really noticed is how helpful it was for group participants to become aware of their experience, that seemed to be such a crucial moment for participants. That awareness that they were actually having a binge, and the ability to, the awareness to just accept that. (Marnie)

So many of the problems were about not wanting to be aware, or not being aware, of, you know, hunger and fullness, or emotions, and things leading up to binges and other interpersonal problems. So something that was about developing awareness was very appropriate. (Samantha)

Specific Challenges or Difficulties for Facilitators

When starting out as a facilitator of the Mindful MEG program, feeling anxious, insecure and under-confident was very common.

Initially, straight out performance anxiety. I was really anxious about would I have something that was going to be of use to these people who had paid good money for a service that I was feeling quite anxious about providing. Anxiety about how to structure sessions. (Georgina)

Just that there were so many tasks to consider and when you’re already new, its already anxiety provoking cause you have to stand up in front of a group, you’ve got to deliver the content, and you’ve got to try to balance the process of the group as well as the content. (Frida)

That [the most difficult thing] was around co-facilitation. Co-facilitation and when the relationship wasn’t working and the models in our head were too different and the communication patterns didn’t work. (Georgina)
A demanding client group

Each of the facilitators made comments about the group being a particularly challenging one, in terms of the emotional demands they made of facilitators. This was felt even by facilitators who had extensive experience in running group therapy programs.

I think the participants, it seems like in a way they are quite demanding… I guess they’ve come here with a whole lot of burdens... And they’ve tried a lot of things, like dieting and weight loss, and it just seems like they’ve come here, and it almost seems like, for some people they say it’s their last option, and if this doesn’t work then nothing will. So they’ve got an anxiety about whether or not it’s going to work. And whether or not the facilitators take that on has an impact. (Frida)

I experienced….and this could be mostly my stuff….but a real level of demand from the participants to have the answer, um, to fix things for them, and that was quite hard. I wonder if it was that they were coming here, paying $400, they were very anxious, they were often at the end of their tether, so I suppose it really is quite understandable…. I mean I’ve worked with lots of other groups…personality disorder, psychosis, bipolar. And there didn’t seem to be that same level of demand there. (Samantha)

The Storming Phase

Irvin Yalom (1995) talks about the ‘Storming Phase’ in his description of group development. This phase involves conflict among group members, who may start to challenge the rules, the tasks set for them, and the group facilitators. Each of the facilitators were able to identify with some difficulties in the group at around the Week 3 mark. As a facilitator, this was a confronting time.

I think some of it was about their expectations of change and their hope of change and the pace of change was not being met. So there was a bit of disappointment about that. Some I think was just normal group processing. So you’d done all
that kind of ‘forming’ and it was about exercising individuality and that sort of stuff…[As a facilitator it was] Challenging. It required us to be really clear about what we were doing and why. So, um, and it required us not to be defensive (Frida)

And so now that they’ve been in the group for a few weeks, and they’re understanding what its all about, and its almost like “Oh my god, this is what I’ve got to deal with now”… There was just a sense of panic, when people were checking in, and describing how they’re doing with their homework. And um, perhaps a little bit of demanding towards facilitators about “Oh my god, we need some coping strategies”. So its about trying to balance the exposure versus the ability to cope and strategies to cope…. [As a facilitator] I just felt an overwhelming sense of responsibility, and always questioning “Are we doing the right thing? Are we helping them the best way we can? Are we providing the right tools at the right time?” If you weren’t managing yourself well, it could create burnout. (Georgina)

I noticed in the first week there are a lot of hopes and anticipation that this is my last shot, or that I’m doing this but I’ve done so many other things and nothing else has worked. So a feeling of dread that it might not work. So I wonder if it’s a defence that it might not work, in part. I don’t know. Maybe a defence against the program, that it just doesn’t work, which maybe keeps the options open, you know, that other programs might work. (Marnie)

They had a sense of hopelessness, they were challenging us, they weren’t on their best behaviour anymore, they… I think part of it was a sense of hopelessness about it…and my sense was that they originally had a feeling like “Yes, this is going to cure me. I’ll just do it all right, and then it will be alright” and then by Week 3 they realised that it really wasn’t going to work that way…they thought it was going to be a certain way, that there would be certain steps or certain rules, or some linear thing, and then they realised that it wasn’t, and felt quite despairing or angry or irritated by that, or demanded that it should be different….It was much easier to manage when you realised what it was... Because it’s easy to take it all on board and think “What did I do wrong?” (Samantha)
Facilitator fatigue

It was understood amongst facilitators of the Mindful MEG program that it was a challenging and sometimes depleting role to take on. After facilitating two-three groups, many felt a sense of fatigue. Some linked this directly to the lack of support or supervision provided to them.

I don’t know if it was burnout… It was certainly that I needed a break. But that had more to do with a sense of not having the vision and work we were doing being recognised by the powers that be …. Like there was a value, in that they were making their money, which seemed really overt. But not really an appreciation of the effort and the stressfulness and the commitment involved… So those things, how we were treated I think, that was what led to burnout. Otherwise I would do more happily. (Georgina)

I think all people who have run groups have always talked about how it is quite a tiring thing, and you’ve got a lot of people in the group who are dealing with a lot of difficult emotions, and there’s projections and all these different dynamics going on. So it’s a lot to deal with. And for a training psychologist you’ve got the extra issues of learning the content, and getting used to being in that sort of role. (Frida)

And really tiring at times. There’s something about it. There is an intensity about it which was really interesting. Like I found that there were times that it got hard to really stick with it and be present. Like, maintaining the energy for it…. And I’ve noticed it with other facilitators as well (Marnie)

I think because we were feeling very alone in it. I was very close to say you or Marnie, and we were in it together. And giving each other a lot of support, but other than that, feeling quite alone with it….And even just the lack of support from admin staff…. I just felt very unsupported. And most of the clients weren’t seeing anyone else. So there was no-one else to hand responsibility to, I mean, it wasn’t just not having supervision it was that we were really the only people that they had. (Samantha)
The importance of quality supervision

The interviewees commented on the impact of a lack of supervision on their experience of facilitating the program. The way in which Mindful MEG facilitators were supervised changed during the time period of this research evaluation project. In early 2006 when data collection began, each of the facilitators were receiving supervision from a fully qualified psychologist for their individual counselling work. However, no supervision specific to the Mindful MEG program was being provided, other than informal debriefing between co-facilitators. In late 2006, ad-hoc supervision was installed, whereby facilitators could seek supervision if there was anything concerning them. By 2007, as it became clear that this form of supervision was inadequate, more formal supervision was provided by an experienced group therapist on a fortnightly basis.

Lack of expert supervision, was a huge factor. We really needed an expert in mindfulness, an expert in eating disorders, an expert in groups…. And look, it was great and I learnt a lot, but I think it would have been a whole lot better with proper supervision. (Georgina)

Well, I think initially we weren’t really given supervision specific to MEG, so it was really really helpful to have that. ‘Cause I’ve run three different groups and we had it for the last two. Because you really need someone… Yeah. I mean, obviously we were engaged in other supervision, but you can’t really go in and take over with MEG. It just helps to debrief, and reduce anxiety. (Frida)

Yeah, we didn’t have organised supervision, and the supervision we had was internal, and it wasn’t a really good relationship. And it’s very hard for me to um….have supervision from a supervisor when I was feeling vulnerable. Because I was feeling quite vulnerable. I was quite amazed when I had external supervision, what a difference that made… I had to pay for mine. And the other thing is um, when I requested with the clinic about getting supervision or
external supervision it was turned around to be something about me. So not quite “What’s wrong with you?” but a bit like that. So, that’s probably why I was pretty pissed off with the whole thing. (Samantha)

Gains from Facilitation

Despite the difficulties, all four women said that facilitating the Mindful MEG program had been a positive experience overall. They felt that it was a rewarding experience, and that they learnt a great deal from it.

A rewarding experience

It’s really been a very positive experience, and I’ve found it to be really rewarding. A lot of people, a lot of the participants that did benefit from it a lot, their feedback is more energising. I guess that’s rewarding. (Frida)

It was really rewarding, amazingly rewarding to see tools and techniques which are so empowering and life-long and cheap, and self-sustainable. And knowing that those techniques can benefit many aspects of your life. I found that really quite exciting…And the other thing that was really rewarding as well was seeing some of the progress along the way, just to see the changes in people. (Marnie)

A learning experience

I think the procedural learning. You know, we do an awful lot of book learning, and taking on semantic knowledge. The actual doing of the presentation, the sort of in vivo dealing with a range of people with a range of different issues almost simultaneously and having to manage the affect, manage the content, keeping in contact with your co-facilitator, and DOING that, because it’s not really something that you can really explain, you have to do it, it’s a lived kind of learning….I love it. (Georgina)

I guess things like that are very useful to training psychologists, just in terms of developing confidence and learning about how groups work, and just learning about content stuff as well, like related to specific interventions like CBT and mindfulness. The fact that you have to
facilitate it means that you also have to learn a lot about the actual interventions….And I think the other thing is that since you’re with a co-facilitator, you learn from them as well. You learn a lot from the other facilitator. But apart from learning things, and developing more confidence and sort of issues for training psychologists, I just also found it really useful to learn more about the integration of….its not just CBT because you’ve got mindfulness, you learn a little bit more. (Frida)

I got heaps out of it. I learned heaps about mindfulness, and heaps about the treatment of eating disorders. Yeah, and I kind of followed the different approaches, and I feel much more confident now if someone was to present with those kind of problems. (Samantha)

Chapter Summary

In-depth one-on-one interviews were carried out with 16 participants and 4 program facilitators in order to gain a deeper understanding of the lived experience of both participants and facilitators of the Mindful MEG program.

Participants who took part in the interviews spoke about their experience of the specific CBT and Mindfulness practices which were part of the Mindful MEG program. They also identified a variety of changes which occurred as a result of their involvement in the program. The main changes which participants identified in the interviews were the movement from avoidance to awareness, gaining control and choice, improved emotion regulation, improved quality of life and a movement from self-punishment to self-kindness.

The facilitators who took part in the interviews identified a range of challenges associated with the role. These challenges included facilitating a mindfulness program, integrating two therapy approaches, dealing with the demands of a difficult client group, and the experience of facilitator fatigue. A particular challenge faced by the facilitators of the Mindful MEG
program was the lack of expert supervision, which appeared to have a significant effect on the facilitator experience.

Despite this, all four facilitators felt the experience was a positive one, with significant rewards and learnings.
CHAPTER 7: DISCUSSION AND SYNTHESIS OF QUANTITATIVE AND QUALITATIVE RESULTS

The current study provided a mixed-methods evaluation of the Mindful Moderate Eating Group (Mindful MEG) program, a 10-week mindfulness-based group therapy program for women with binge eating difficulties. The program was facilitated by postgraduate psychology students through a university psychology clinic in Melbourne, Australia. Thirty participants took part in the quantitative component of the study, with questionnaires completed at pre- and post-program, as well as three and six-month follow-ups. The questionnaires included measures of eating and general psychopathology, including binge eating severity and frequency, compensatory behaviours, dieting behaviours, body image, negative affect, self-esteem, satisfaction with life, and mindfulness levels. Qualitative data was collected through in-depth face-to-face interviews with 16 group participants and 4 program facilitators. The interviews were transcribed verbatim and analysed using Interpretative Phenomenological Analysis (Smith & Osborn, 2008).

The discussion of results will be presented in two chapters. This chapter will provide a summary and synthesis of the qualitative and quantitative findings. Wherever possible, quantitative and qualitative findings will be presented together, in order to provide a more comprehensive evaluation of the Mindful MEG program. The findings will also be considered in the light of previous research in the area, and where normative data are available, comparisons will be made with clinical and/or non-clinical samples. The following chapter will provide a discussion of the implications for theory and practice, the strengths and limitations of the current study, and final conclusions.
Summary and Discussion of the Findings

Attrition

The drop-out rate in the current study was 13% (5/38). This rate compares favourably to the average drop-out rate of 25% reported by Shapiro et al. (2007) in CBT for binge eating programs, the average drop-out rate of 15% reported for general mindfulness programs (Baer, 2003) and the drop-out rate of 14% reported in Kristeller and Hallett’s (1999) study of mindfulness for binge eating. An attrition analysis was conducted, and while the numbers were too small to draw firm conclusions, they suggest some significant differences between program completers and those who withdrew. Tables 5.1 and 5.2 suggest that women who withdrew from the program were younger, had completed fewer years of education, were experiencing more severe eating disorder symptoms, greater levels of negative affect, lower self-esteem and lower levels of mindfulness at the pre-program assessment. Despite the small numbers, t-tests comparing age and outcome variables revealed significant differences between completers and withdrawals for age, total score on the Multifactorial Assessment of Eating Disorders (MAEDS), the MAEDS purging subscale, and the depression subscale of the Depression, Anxiety and Stress Scale-21 (DASS-21). Participants who withdrew from the program were significantly younger, were experiencing more severe eating disorder psychopathology, had higher levels of purging behaviour and higher levels of depression.

Though speculative, it is interesting to consider possible reasons for this. Given the often long-standing and chronic nature of binge eating symptoms, it may be that women who were older had been experiencing binge-related symptoms for longer, and were therefore more motivated to change their behaviours. Being further along in their experience of disordered eating, the older participants may have been more prepared to let go of the dysfunctional behaviours, in comparison to the younger participants.
Engagement and Maintenance of Mindfulness Practices

During the course of the 10-week Mindful MEG program, engagement with the formal and informal mindfulness exercises was high, with 90% reporting that they practiced formal meditation, 73% reporting that they practiced the 3-minute breathing space, and 86% reporting that they practiced mindfulness of the breath. The results regarding the maintenance of these mindfulness practices at the three- and six-months follow-ups are mixed. There was a marked drop in mindfulness practice once the 10-week program finished. At the 3-month follow-up, 58% of participants were practicing formal meditation, and this dropped to 46% at the 6-month follow-up assessment. Practice of the 3-minute breathing space had dropped to 25% at the 3-month follow-up and 21% at the 6-month follow-up. The practice of informal mindfulness of the breath had dropped to 47% at the 3-month follow-up and 41% at the 6-month follow-up.

Despite the drop in mindfulness practice following completion of the program, a significant proportion of the sample maintained their formal meditation practice, with 46% still practicing 6 months after the program completed. Finucane and Mercer (2006) reported that the maintenance of practice after the completion of a mindfulness program is a major challenge for group participants. Indeed, several of the participants in the current study reported this in qualitative interviews, stating that their levels of practice dropped dramatically at the end of the program. Obstacles such as not being able to find the time to meditate, difficulties with physical pain, having a wandering mind, and feeling that they were not doing it right were commonly reported by Mindful MEG participants. Despite this, 88% of the interviewed participants intended to continue their practice of mindfulness in the future.

Given the high rates of engagement with formal meditation practices, it is interesting to note that no significant difference was found between pre- and post-program scores on the Cognitive and Affective
Mindfulness Scale-Revised (CAMS-R). While there was a mean increase from pre- to post-program scores, this difference failed to reach statistical significance. Normative data is available for the CAMS-R and provides some interesting comparisons. Pre-program means in the current sample ($M = 26.97$) were even lower than norms provided for a psychiatric sample of 49 participants with at least one Axis I DMS-IV-TR diagnosis ($M = 29.1$) (Feldman, Hayes, Kumar, Greer, & Laurenceau, 2007a). This suggests the Mindful MEG sample demonstrated particularly low levels of mindfulness at the beginning of treatment, and this ties in well with many theories of binge eating, including escape theory and affect regulation theory (see Chapter 1). At the follow-up assessment, mindfulness levels had increased somewhat ($M = 30.04$) and were approaching the means obtained in various non-clinical student samples ($M = 31.4$) (Feldman et al.).

The qualitative results of our study certainly suggest that the interviewed women experienced an increase in their levels of mindfulness and that this had a positive impact on their lives. Women reported that practicing mindfulness greatly increased their self-awareness which in turn led to greater levels of control and choice. One participant commented “I’m definitely more aware today of what’s happening right now”. Another reported that the benefit of mindfulness was “just total awareness, across the board. Of everything. Just awareness….of all different things… To be aware of what you’re feeling, what you’re doing, what’s happening around you. Just awareness of everything that you’re doing in your life that’s not necessarily good for you.” The benefit in this increased awareness lay in its ability to allow more choice “And now that I’m aware of it, then I’m more able to do something different, ‘cause I know that’s what I’m doing now. So that was really good”. Many women reported that their practice of mindfulness led to an improvement in their general sense of well-being. One participant commented “I think it just really improves my general well-being and my emotional state is a lot more happier than before. With the
meditations that I do, I just don’t seem to get the down feeling which I used to have before”. Fourteen of the sixteen participants interviewed planned to continue the practice of mindfulness in their lives, suggesting that they perceived benefit from it. For example, one participant reported “Mindfulness will now become, or has now become, something that I will work on probably for the rest of my life. I hope for the rest of my life….I feel better if I’m practicing some sort of meditation. And hopefully that will stay a big part of my life”.

Changes to Binge Eating

There was a significant reduction in binge eating behaviours following participation in the Mindful MEG program, including bingeing, overeating and emotional overeating. Hypothesis 1 stated that “Participation in the Mindful MEG program would significantly reduce the frequency and severity of binge eating episodes and compensatory behaviours such as vomiting, laxative use and excessive exercise” and this hypothesis was supported. Table 5.8 shows a significant reduction in general eating disorder psychopathology as measured by the Total scores of the MAEDS, the Dutch Eating Behaviour Questionnaire (DEBQ) and the Eating Self-Efficacy Scale (ESES). Univariate ANOVAs revealed significant reductions on each of the three measures, and all reductions were maintained at follow-up.

Hypothesis 2 stated that “Participation in the Mindful MEG program would significantly reduce self-reported overeating” and this hypothesis was also supported. Table 5.10 shows a significant reduction in overeating as measured by the MAEDS binging scale, the DEBQ emotional eating scale, the DEBQ external eating scale, and the Emotional Overeating Questionnaire (EOQ). Univariate ANOVAs revealed significant reductions on each of the three measures, and all reductions were maintained at follow-up. These results suggest that participation in the Mindful MEG program led to a significant reduction in binge eating, overeating, emotional eating and
external eating (eating in response to food stimuli) which was maintained over three months.

Normative data are available for the DEBQ and the EOQ, and provide an interesting comparison with the current sample. Van Strien, Engels, Van Leeuwe and Snoek (2005) provide mean scores on the DEBQ emotional eating scale for both a non-clinical student sample ($N = 436$) and a clinical sample of women suffering from an eating disorder ($N = 332$). The student sample scored a mean of $2.12$ ($SD = 0.74$) compared with a mean of $3.39$ ($SD = 1.11$) for the clinical sample. The Mindful MEG pre-treatment mean on the DEBQ emotional eating scale was $3.55$, slightly higher than the clinical sample in the van Strien et al study. There was a significant decrease on this scale in the current study (post-treatment $M = 2.85$, $SD = 1.11$) and the follow-up mean of $M = 2.58$ ($SD = 1.05$) is closer to but slightly higher than the student sample mean. In a sample of 172 treatment-seeking females with BED symptoms (Masheb & Grilo, 2006), mean score on the EOQ was $2.37$ ($SD = 2.00$), in comparison to a mean of $1.74$ ($SD = 0.99$) in the current study, suggesting a slightly lower level of emotional overeating in the current study. These comparisons suggest that at post-treatment, the current sample were engaging in lower levels of emotional eating than clinical samples of eating disorder patients, but probably higher levels of emotional eating than the general population.

The frequency of reported binge eating dropped dramatically following participation in the Mindful MEG program. Prior to the program, $80\%$ of participants were binging twice a week or more, which is the frequency of binge eating required for a clinical diagnosis of Bulimia Nervosa (BN) or Binge Eating Disorder (BED). This dropped to $27\%$ at the end of the program, and continued to drop at the 3-month follow-up ($14\%$) and 6-month follow-up ($13\%$). This reduction in binge eating frequency represents clinically significant results. Many studies in the literature refer to abstinence rates at the completion of treatment. Abstinence rates in the
current study increased at each time point, from 0% at pre-program, 3% at post-program, 7% at the three-month follow-up and 29% at the six-month follow-up. These abstinence rates are low compared to other studies, however this may be due to the measurement methods employed in our study. We asked women “How often have you gone on eating binges (eating a large amount of food while feeling out of control) in the last three months”, while many studies ask about the frequency of binge eating in the last week. However, in a recent systematic review of eating disorder literature, Berkman, Lohr and Bulik (2007) recommend the measurement of binge eating over longer periods of time (at least one month, but preferably longer) because of the fluctuating nature of binge eating behaviour.

The qualitative data collected in interviews supports the quantitative findings of a reduction in binge eating frequency and severity. One participant commented “Another thing that has changed is that if I do binge I’ll binge less. Less frequently and on less food.” Another woman stated that participation in the program had “changed the way that I eat, and I never thought that I’d be able to break the habit. Cause I’ve always been like, if I buy it, I’ll eat it within the first 10 minutes, but now I’m able to stop, put it away, and come back to it another day”. Another participant observed “my binges are now probably what used to be my overeating. If that makes sense. I don’t binge very often now”.

Changes to Compensatory Behaviour

The severity of purging behaviour was measured by the MAEDS purging subscale, and Table 5.17 shows no significant reduction to purging behaviour as a result of participation in the Mindful MEG program. The sample at pre-program had a very low rate of purging behaviour, presenting a mean of 0.69 on the MAEDS purging subscale. Attrition analyses found that women who withdrew from the program had significantly higher scores on the MAEDS purging scale.
Purging (and other compensatory behaviours) were not directly addressed in Mindful MEG sessions. The inclusion of women with and without purging behaviours can be seen as both a strength and a weakness of the program. It is possible that women who had significant problems with purging found that the Mindful MEG program did not adequately address their specific needs, and they may in fact have different requirements. For women with BN symptoms, directly addressing purging and other compensatory behaviours may be important. Conversely, for women with BED symptoms, addressing the need to lose weight may be an important issue which needs to be directly addressed. This issue was raised in several of the qualitative interviews. One woman commented “There was one time that I asked a question that wasn’t answered too well – “What if you do actually need to lose weight? How does that fit in with this model?” I didn’t feel like I got an answer… I don’t know how that fits in with that and I’m still not a hundred percent sure”. Another woman stated “I know the group had no focus on weight loss – but that was still very much an issue for me. So at one stage we sort of openly discussed it, and one of the girls who had bulimia got really agitated and even a bit angry. Because that isn’t an issue for her, in fact she doesn’t want to lose weight. So there was that conflict. And so I didn’t feel the freedom to bring that up again”.

Changes to Dieting Behaviours

Hypothesis 3 stated that “Participation in the Mindful MEG program would significantly reduce self-reported dieting behaviour” and this hypothesis was supported. Table 5.19 shows a significant reduction in dieting behaviour following participation in the Mindful MEG program. Individual ANOVAs found a significant reduction on the MAEDS restrictive eating subscale, the MAEDS forbidden foods subscale and the DEBQ restrained eating subscale, which were all maintained at follow-up.
Dieting behaviours such as restrictive eating and the avoidance of specific foods is a major feature of the cognitive-behavioural model of binge eating. A reduction in dieting is likely to have a major positive effect on the cyclical behaviours of binge eating and compensation.

The quantitative findings in regard to reduced dieting were nicely complemented and enriched by the qualitative interviews, in which many participants spoke about the impact of “losing the dieting mentality”. Most of the participants in the Mindful MEG program had been engaging in diets for many years, some for decades. The cognitive-behavioural exercises (including regular eating patterns and the introduction of forbidden foods) were instrumental in letting go of the dieting mentality. While often a difficult transition to make, many described a sense of liberation to be free of the constant ruminating about food and dieting. For example, one participant reported “Moving completely away from the whole diet mentality, was a huge breakthrough for me….There was always the dieting mentality. And just to give up the dieting was huge. I’d never even contemplated that this could be possible.” Another participant commented on stopping dieting by saying “It’s a huge relief, and a release. It just doesn’t play on my mind every minute of the day”.

Changes to Negative Body Image

Hypothesis 4 stated that “Participation in the Mindful MEG program would significantly improve self-reported levels of body image” and this hypothesis was supported. Table 5.14 shows that self-reported body image significantly improved following participation in the Mindful MEG program. Individual ANOVAS found that scores on the Body Attitudes Questionnaire (BAQ) feeling fat subscale, the BAQ body disparagement subscale and the MAEDS fear of gaining weight subscale were all significantly reduced in the post-program questionnaire, and this reduction was maintained at follow-up.
Norms for non-clinical and eating disorder patients are available for the BAQ subscales and provide an interesting comparison to the current sample. On the BAQ feeling fat subscale, the Mindful MEG sample ($M = 4.21$) scored higher than an eating disorder sample ($M = 3.86$) at the pre-program measurement (Ben-Tovim & Walker, 1991). At the post-program assessment, the current sample’s mean ($M = 3.79$) fell marginally below the eating disorder sample mean, however it was still considerably higher than scores obtained from a non-clinical sample ($M = 2.95$; Ben-Tovim & Walker). This suggests that while the Mindful MEG sample achieved a significant reduction in their feelings of fatness, they still had considerably more feelings of fatness than the general population. On the BAQ body disparagement scale, the Mindful MEG sample scored a similar mean ($M = 3.05$) to a sample of eating disorder patients ($M = 3.11$) at the pre-program assessment. At the post-program assessment, the Mindful MEG sample mean on the BAQ body disparagement scale had significantly reduced but was still greater than the mean found in a non-clinical sample ($M = 1.90$; Ben-Tovim & Walker). These comparisons suggest that the Mindful MEG sample was still experiencing poorer body image than the general population following participation in the Mindful MEG program.

The interviews provided qualitative data to add to the quantitative findings. One of the themes to emerge from the interviews was a shift from self-punishment to self-kindness. Perfectionistic attitudes and harsh self-judgement was a common difficulty for many of the women in the program, and through their relationships with other group members, and through the mindfulness practices, some were able to achieve a kinder attitude to themselves. For example, one participant said “Before I was so negative about every aspect of myself, from the physical to my personality. And during the 10 weeks I did start to notice that I wasn’t so vicious with myself anymore, which was really good.” Another woman commented “I think a lot of us were perfectionists, when we began. Some are still, and some are less,
and I’d say I’m much less now. It doesn’t have to be all right, and I’m ok with that now, and that’s something that I’ve really learnt. I don’t need to judge myself.” Habits of self-criticism and judgment were deeply entrenched for many of the women, and likely to take some time to change.

Changes to Negative Affect

Hypothesis 5 stated that “Participation in the Mindful MEG program would significantly reduce self-reported levels of negative affect” and this hypothesis was supported. Table 5.17 shows a significant reduction over time for measures of negative affect. Individual ANOVAs found that scores on the MAEDS depression scale significantly reduced from pre- to post-program and this reduction was maintained at follow-up. However, no significant reduction in scores on the DASS-21 depression scale, DASS-21 anxiety scale or DASS-21 stress scale was found.

The three DASS-21 subscales were the only outcome variables in the MANOVAs for which changes did not reach statistical significance. The DASS-21 depression scale and the DASS-21 stress scale appear to follow the same pattern as other outcome variables in the study, with post-program scores lower than the pre-program scores, and the follow-up scores seeming to maintain this improvement. Additional analyses provided in Chapter 5 support the theory that the depression and stress scales decreased over time but these changes were not large enough to reach statistical significance in this small sample. In contrast, the DASS-21 anxiety scale showed little if any change over time. The pre-program DASS-21 anxiety scores ($M = 7.03$) were low when compared to normative data in other clinical samples: $M = 14.04$ (Antony et al., 1998); $M = 17.85$ (Page, Hooke, & Morrison, 2007), and were in fact closer to mean scores obtained from females in a non-clinical sample: $M = 4.80$ (Lovibond & Lovibond, 1995a). A full comparison with DASS normative data is provided in Appendix 5.B. These analyses suggest that the Mindful MEG sample were not experiencing
clinical levels of anxiety. This is an interesting finding given that anxiety has often been identified in research as having a strong association with binge eating difficulties (Fairburn et al., 1995; Isnard et al., 2003; Kensinger et al., 1998; Pinaquy et al., 2003).

A low level of anxiety in the current sample was also disputed by facilitator interviews, who identified the client group as highly anxious. In the interviews, one facilitator commented “I think the participants, it seems like in a way they are quite demanding… I guess they’ve come here with a whole lot of burdens... and it almost seems like, for some people they say it’s their last option, and if this doesn’t work then nothing will. So they’ve got an anxiety about whether or not it’s going to work”. Another facilitator commented “I experienced a real level of demand from the participants to have the answer, um, to fix things for them… they were very anxious, they were often at the end of their tether….I’ve worked with lots of other groups…personality disorder, psychosis, bipolar. And there didn’t seem to be that same level of demand there [as there was in the Mindful MEG participants]”.

It appears that the DASS-21 depression scale and the DASS-21 stress scale scores gradually reduced over time, but the changes were not large enough to reach statistical significance in the current sample. However, for the DASS-21 anxiety scale, a different pattern emerges, where anxiety scores remained comparatively stable or slightly increased over time. Possible implications of this finding are discussed in the next chapter.

Changes to Self-Esteem

Hypothesis 6 predicted that “Participation in the Mindful MEG program would significantly increase self-reported self-esteem” and this hypothesis was supported. A one-way repeated-measures ANOVA found that scores on the Rosenberg Self-Esteem Scale (RSES) significantly
reduced from pre- to post-program, and this reduction was maintained at follow-up.

This significant increase in quantitative self-esteem was reflected in the qualitative data. Women spoke about being kinder to themselves, for example “I’m getting better at doing what’s right for me, instead of always thinking about the other person, you know, trying to please everyone else”. Another woman commented that the “patience that you have during that time [during mindfulness practices], transfers to patience with yourself and being more forgiving of yourself. I can’t think of specific examples but I think generally there is an attitude of being more gentle towards myself”.

Changes to Satisfaction with Life

Hypothesis 8 predicted that “Participation in the Mindful MEG program would significantly increase self-reported quality of life” and this hypothesis was not supported. A one-way repeated-measures ANOVA found no significant reduction in scores on the Satisfaction With Life Scale (SWLS). Scores on the SWLS did increase at each time point, but the changes did not reach statistical significance.

Norms for clinical and non-clinical samples are available for the SWLS, and provide an interesting comparison to the current sample (Pavot & Diener, 1993b). Most non-clinical group means tend to fall into the range of 23 – 28, indicating that they are “Satisfied” or “Slightly satisfied” with their lives. The mean of our sample ($M = 17$) at the beginning of treatment was considerably lower than this, and places them in the “Slightly Dissatisfied” range. This mean is more comparable to a sample of patients beginning private psychological treatment ($M = 14$ “Dissatisfied”; Pavot & Diener). The results suggest that participants in the current study were experiencing a lower quality of life than the general population at the pre-program assessment. Following completion of the Mindful MEG program, the mean scores on the SWLS had risen to the “Neutral” category ($M = 20$).
The qualitative results in the current study provide evidence that at least some of the participants experienced an increase in their general quality of life. One participant commented “I think it [mindfulness] just really improves my general well-being and my emotional state is a lot happier than before. With the meditations that I do, I just don’t seem to get the down feeling which I used to have before which is also probably from other aspects of the program as well but that’s probably the thing that I’ve noticed most, is just my general well-being is so much higher than before”. Another woman stated “I was getting very depressed about just life in general, and I think that if you take away the past, to some extent, and you take away the future, then, basically you’ve got to enjoy right now. And so it’s a lot lighter journey, because there’s so much less baggage…I’m finding it actually a really beneficial way to just get through life”. Another woman reported “So many people have even commented on it….my sister in particular, who’s pretty much my best friend, she says it all the time ‘You’re different. You’ve really taken this mindfulness on board, like I can see it in you. And can you please teach it to me?’”

Discussion of the Facilitator Interviews

The qualitative data collected in the current study provides many useful insights into the experience of facilitating the Mindful MEG program. One of the strengths of the current study was the inclusion of facilitator interviews which provide valuable and relatively unique data on the experience of group facilitators. This is a feature of program evaluation which is commonly neglected, and as such there is very little research to compare these results to. The experience of facilitators is of great importance to program evaluation and will determine the acceptability and longevity of a treatment program. The four program facilitators talked about their experience of facilitating the Mindful MEG program, including the challenges and difficulties, as well as the benefits and rewards.
Presenting a mindfulness-based program had some specific challenges, including the need to ‘sell’ the practice to participants who may not initially understand why it would be beneficial. Two of the facilitators interviewed also expressed some concern about the relatively new status of mindfulness-based therapies, and the lack of evidence about the impact of mindfulness on traumatised clients. For example, one facilitator commented “I guess because mindfulness is relatively new, in psychological interventions…with CBT, there’s a lot more evidence about its efficacy, it’s a lot more concrete and clear-cut … Yeah and part of my own anxiety as a trainee psychologist is you, know, thinking about issues related to harm to the clients, and sometimes I wonder, because we don’t know everything about these clients especially because it’s a group intervention, like, if they’ve experienced trauma, or that sort of stuff, it sometimes worries me whether mindfulness may be harmful”.

The integration of cognitive behavioural and mindfulness techniques was seen as both useful and challenging. On the challenging side, one facilitator commented “From a facilitators’ point of view, it’s more challenging and you feel like you’re sort of diluting the effects of some of the different approaches. And you wonder whether you’re making it more confusing for participants. I think you get there in the end, even though it is challenging, you get there”. However, another facilitator commented that the mindfulness exercises “worked really well. I like that they create more space for acceptance of thoughts, and they make it easier, because there’s a process of observing and reviewing your thoughts, but not necessarily resisting them, because of that allowance aspect. I think the mindfulness really enhances the CBT processes. It adds a deeper aspect to CBT”.

The importance of a facilitator’s own mindfulness practice is a contentious and unresolved topic in the field of mindfulness-based treatment approaches. Most clinicians and researchers in the field of mindfulness believe that a mindfulness-based program facilitator must have a solid and
current personal mindfulness practice (Kabat-Zinn, 1990; Segal et al., 2002). However, an argument has also been put forth that mindfulness is a spiritual practice, and as such, its practice cannot be mandated (Linehan, 1993). Each of the four Mindful MEG facilitators interviewed felt that a facilitator must have a personal mindfulness practice in order to facilitate a mindfulness-based program. One facilitator stated “It is essential that the facilitator has a reasonably solid personal understanding of it. Otherwise you can’t live by example, you can’t pick up when the other person is struggling with it. You don’t know what you’re doing, basically (laughs). And also, that lack of commitment or understanding is communicated to the participants, and that just undermines it completely”. Another facilitator commented “I just think that mindfulness seems simple, but it’s not, and there’s a lot of interesting paradoxes that come up, and difficulties that come up, and it’s only through experiencing it yourself that you can actually be true to the practice and the tradition…I think it’s an experiential thing. So how can you teach something that is experiential if you haven’t had the experience. I feel really strongly about it actually”.

Facilitator fatigue or burnout was identified by all four facilitators as a major challenge in facilitating the Mindful MEG program. One facilitator commented that “there is an intensity about it which was really interesting. Like I found that there were times that it got hard to really stick with it [the group] and be present. Like, maintaining the energy for it…. And I’ve noticed it with other facilitators as well”. A lack of expert supervision was considered “a huge factor” in facilitator burnout and fatigue, and this issue is discussed in more detail in the next chapter.

Despite the difficulties identified, facilitators found the experience of presenting the Mindful MEG program a positive one, with many learnings and rewards. As training psychologists, the opportunity to experientially learn about the process of group facilitation was very useful. Additionally, being a facilitator led to significant learning about both cognitive-
behavioural and mindfulness theory and the interventions associated with these two approaches. Also recognised as helpful was the learnings which came from working with a co-facilitator, who may have a different background and different approach. The experience of being a facilitator was also acknowledged as very rewarding, in terms of watching the participants grow and benefit from the material presented in the group.

Chapter Summary

This chapter provided a summary and synthesis of the quantitative and qualitative results of the study. While the drop-out rate in the current study was encouraging, an attrition analysis suggests that women who withdrew from the program were younger and experiencing more severe general and eating psychopathology. For those who completed the program, the quantitative and qualitative results together confirm significant improvements to binge eating and compensatory behaviours, overeating, dieting behaviours, poor body image, negative affect and self-esteem. While quantitative changes to satisfaction with life and mindfulness levels (which both moved in the same positive direction) did not reach statistical significance, the qualitative data suggests an improvement to these variables.

The maintenance of formal mindfulness practices following the completion of the 10-week Mindful MEG program was high, with almost half the sample still practicing formal meditation at the six-month follow-up assessment. In contrast to previous research in the field, participants appeared to better maintain the formal practices over the informal practices, indicating a high level of engagement and commitment. The facilitator interviews provided an added layer to the program evaluation, and revealed some of the significant challenges faced by trainee program facilitators. In particular, the importance of formal, quality supervision was seen as invaluable in preventing facilitator fatigue and burnout.
CHAPTER 8: IMPLICATIONS AND CONCLUSIONS

This final chapter will look at the implications of the current study for both theory and practice. The discussion of implications is divided into four sections: general implications; implications specific to mindfulness programs; implications specific to binge eating groups; and implications specific to group facilitators. The strengths and limitations of the current study will be considered along with recommendations for future research. Final conclusions will also be given.

General Implications

*The Value of Mindfulness-Based CBT programs*

Results of the current study suggest that group therapy programs can be beneficial to women with binge eating difficulties, and our findings add to the increasing body of evidence supporting the use of mindfulness-based approaches in the treatment of eating disorders. Our findings also add support to the already robust cognitive-behavioural theories of binge eating. Both the quantitative and qualitative results support the effectiveness of therapy programs which combine mindfulness and Cognitive Behavioural Therapy (CBT) techniques. In the current study, participation in a group therapy program combining mindfulness and CBT techniques led to significant improvements in binge eating frequency and severity, compensatory behaviours, general over-eating, emotional over-eating, maladaptive dieting behaviours, poor body image, negative affect, and self-esteem.

Implications Specific to Mindfulness Programs

The results in the current study (particularly the qualitative results) give indications of both the advantages and disadvantages associated with mindfulness–based programs. The time requirement for both participants
and facilitators is relatively demanding, and considerably higher than a solely CBT program. A significant commitment is required of participants prior to joining a mindfulness-based program, and this may act as a deterrent for some. The practice of mindfulness itself is also challenging, and can feel like hard work. While some participants found great benefit from the mindfulness practice, others found it challenging to their religious views or just plain unhelpful. Additionally, if group facilitators are required to have a solid personal mindfulness practice, then this will significantly reduce the number of facilitators available to lead mindfulness-based programs.

The benefits of mindfulness for many participants in the study were far-reaching, impacting on not just their disordered eating but other areas of their life, such as their mood and interpersonal relationships. One of the advantages for an individual learning to practice mindfulness training is that its benefit is not restricted to the targeted pathology. Rather, it is a holistic practice, and the consequences of its practice are potentially broad.

The qualitative interviews provide an understanding of how and why mindfulness practice can be helpful in overcoming binge eating difficulties. The main mechanisms of change identified by the group participants were: a movement from a place of experiential avoidance to a place of awareness, and gaining a sense of control and choice over their behaviours through this increased awareness. Several theories of binge eating emphasise the role that binge eating plays in avoiding certain experiences, such as negative emotions (affect regulation theories; Spoor et al., 2007) or an unwanted sense of self (escape theory; Heatherton & Baumeister, 1991). The aim of mindfulness is in direct opposition to this tendency to avoid, as it encourages objective and truthful observation of one’s experience in any given moment. Through facing up to parts of their experience which had previously been avoided (including cognitions, emotions, behaviours or relationships), participants felt more in charge of their lives.
Measuring the Concept of Mindfulness

In the current study, no significant increase in level of mindfulness was found between pre-program and post-program scores on the CAMS-R, and there are several possible explanations for this. The first is that the mindfulness training provided in the Mindful MEG program was not effective in raising levels of mindfulness in the program participants. This is unlikely given the statistically significant changes in other outcome variables, as well as the considerable qualitative data which supports the increase in mindfulness in participants. Alternatively, our sample may not have been large enough to provide the power needed to detect changes in mindfulness. While this is likely to be a part of the issue, it is interesting to note that our sample was large enough to detect significant differences on the majority of the outcome variables.

Another explanation to consider is the inherent difficulties in measuring the concept of mindfulness. Jon Kabat-Zinn, the creator of Mindfulness-Based Stress Reduction has written of the danger of the behavioural sciences “falling into paradigm clash or a range of category errors, which can unwittingly ignore or dismiss the deepest and most subtle features of such practices, thereby predisposing investigators to draw erroneous conclusions” (Kabat-Zinn, 2003, p. 146). The attempt to quantitatively measure the concept of mindfulness may just be one of these errors. Mindfulness is by nature an experiential phenomenon, and arguably an ineffable one. Certainly, the Buddhist traditions from which the concept has originated emphasise the inexpressible nature of mindfulness (Hahn, 1976). Trying to capture a state of consciousness (such as mindfulness) via a standardised measure is certainly more difficult than collecting data on observable or overt behaviours or cognitive experiences, which are usually describable in words. Mindfulness practice aims to change one’s relationship to thoughts, emotions and bodily sensations, rather than the content of these things. In the current study, our use of a standardised
measure of mindfulness (the CAMS-R; Feldman et al., 2007a) did not uncover a significant increase in mindfulness levels following participation in a 10-week mindfulness-based program. It may be that this measure is not sufficiently sensitive, and future research should explore the use of other mindfulness measures which have become available since the design of this study (Baer, Smith, & Allen, 2004). However, given the difficulties of measuring mindfulness quantitatively, qualitative research may be a more appropriate means of assessing the level and impact of mindfulness practice. The field of mindfulness research will need to continue to explore and unpack the measurement issues associated with the field.

Baer, Fischer, and Huss (2005b) present an interesting discussion on the types of changes one can expect to see following participation in mindfulness-based programs. In a pilot study examining the application of Mindfulness-Based Cognitive Therapy (MBCT) to binge eating, Baer et al. hypothesised that the program would lead to reduced binge eating in response to negative thoughts, but would not significantly change the content, frequency, or intensity of negative thoughts. This hypothesis was based on the acceptance-based nature of MBCT, which does not include the change-based strategies of traditional CBT. Their hypothesis was supported, with the study finding a reduction in binge eating frequency, but less changes to negative thoughts related to eating and body image. The authors concluded that “mindfulness training can interrupt the usual relationships between internal experiences (thoughts, emotions) and overt behaviour, without directly targeting thoughts or emotions for change” (p. 297). This idea has important implications for the behavioural sciences, which have traditionally been focused on more concrete changes to thoughts and behaviours.

The issues discussed above highlight the importance and value of mixed-methods research, particularly in the area of mindfulness-based approaches. Qualitative research may be the best, and possibly the only
A research method which can adequately capture the internal changes brought about by mindfulness training.

**Maintenance of Mindfulness Practices**

An interesting finding to emerge from the current study is that following completion of the 10-week program, participants were more able to maintain the formal mindfulness practices such as The Body Scan and the Sitting meditation, compared to informal practices such as mindfulness of the breath. This finding is in contrast with other research on the subject, which often finds that informal practices are more commonly maintained. In particular, mindfulness of the breath is often continued by a great majority of participants (Kabat-Zinn, 1992; Miller et al., 1995), perhaps in part because of the simplicity of the practice, and the smaller time commitment required. The continuation of formal mindfulness practices in the current sample suggests both a high level of commitment and discipline, as well as an indication that a considerable proportion of the sample found the formal practices helpful.

**Implications Specific to Binge Eating Groups**

**Measuring Binge Eating**

Measurement issues in relation to binge eating frequency also arose in the current study. The abstinence rates obtained in the current study are low compared to many other studies, and this is likely to be due in part to the measurement methods which were employed. We asked women about the frequency of binge eating episodes in the last three months, while many other studies ask about the frequency of binge eating in the last week. The question in the current study is based on a recent systematic review of eating disorder literature which recommends the measurement of binge eating over longer periods of time (preferably longer than one month) because of the fluctuating nature of binge eating behaviour (Berkman et al., 2007). In the
DSM-IV-TR (*Diagnostic and Statistical Manual of Mental Disorders*, 2000), the diagnostic criteria for BN require symptoms for at least three months, while the diagnostic criteria for BED require symptoms for six months. These two factors together led us to enquire about binge eating over a three month period.

**Measuring Negative Affect within Eating Disorders**

Scores on the MAEDS depression scale significantly reduced from pre- to post-program, however no significant reduction in scores were found on the DASS-21 depression scale, DASS-21 anxiety scale or DASS-21 stress scale. The DASS-21 scales were the only outcome variables in the MANOVAs for which changes did not reach statistical significance. Post-hoc analyses suggested that for the DASS-21 depression scale and the DASS-21 stress scale, scores gradually reduced over time, but the changes were not large enough to reach statistical significance. However, for the DASS-21 anxiety scale, a different pattern emerges, where anxiety scores remained comparatively stable or slightly increased over time.

A possible implication of this is that the DASS-21 may not be a suitable measure for assessing negative affect in women with eating disorders. Supporting this explanation in the fact that the MAEDS depression scale was able to identify significant changes, but the DASS-21 depression scale was not. Eating specific measures which include measures of depression (such as the Multifactorial Assessment of Eating Disorders Scale) may be more sensitive in detecting significant differences in this population.

**Functional Understanding of Binge Eating**

Several findings in the current study point towards a functional understanding of binge eating. Firstly, the lack of change on the DASS-21 anxiety scale could highlight the functional aspect of binge eating. Binge
eating may be a coping strategy that has developed over time as a way of dealing with anxiety brought about by other underlying causes. Removal of the coping strategy, without addressing the underlying cause, is not likely to reduce the original anxiety, and may in fact lead to an increase in anxiety. A functional understanding of binge eating as a means of coping with underlying anxiety issues is in line with interpersonal theory (Reindel, 2000), affect regulation theory (Spoor et al., 2007) and escape theory (Heatherton & Baumeister, 1991) of binge eating. While cognitive-behavioural exercises appear to be effective in reducing the problem behaviours of binge eating, compensation, and dieting, they do not deal with the underlying anxieties which may have led to the problem behaviours. Additionally, while the practice of mindfulness may be helpful in increasing awareness, and reducing avoidance of unwanted experiences, it does not involve any specific means to deal with interpersonal issues. If these underlying issues are not addressed, the changes brought about by the CBT and mindfulness exercises are unlikely to be maintained over time.

This functional understanding of binge eating is supported by qualitative findings in the study. One participant made the following comment in her post-program questionnaire when responding to the question about what was the least helpful aspect of the program: “I discovered that I had a bunch of issues hiding underneath the eating issues, which isn’t something that the group could deal with, but it’s been a big barrier for me”. In a qualitative interview, another participant commented that taking part in the Mindful MEG program led to “an awareness of how few boundaries I have, and all of it together, it made me evaluate where things are, which has led to some positive changes, but there’s also been some negative changes, in that I’m more resentful and have feelings of anger that I suppose have made me feel a bit more unhappy and a bit harder to get along with.”
The Importance of Individual Counselling

Following on from this functional understanding of binge eating, the findings in the current study highlight the importance of individual therapy as an adjunct to group therapy (lack of change to anxiety scores, challenges raised in qualitative interviews). The lack of change to anxiety scores, and challenges identified in qualitative interviews highlight some of the deficits of group therapy, and the importance of concurrent or subsequent individual counselling to complement the group work. While the group format affords many unique benefits to participants, time constraints and interpersonal relationships can often mean that individual issues are not addressed in an in-depth manner. Particularly in psycho-educational programs such as the Mindful-MEG program, a significant amount of time each week is taken up with presentations and activities which are teaching-based. Individual counselling provides a more appropriate forum for addressing personal issues. For any clinical clients entering a mindfulness-based program, and particularly for women with binge eating difficulties, concurrent or subsequent individual counselling should be recommended as standard practice.

While the recommendation for individual counselling was a standard part of the Mindful MEG intake interview, the uptake for this was low, often because of financial constraints. Australian has a national health scheme which provides rebates for a range of health services. At the time of recruitment to the current study, rebates for psychological services were not yet available. The recent addition of psychological services to this scheme, means that separate rebates are now available for both group and individual counselling. This may prove very useful in overcoming the financial barriers of many clients. Providing rationale, motivation and opportunity to undertake individual counselling along with group work is likely to greatly enhance any gains made in the group.
The Inclusion of BN and BED Participants

Attrition analyses in the current study found that women who withdrew from the program had significantly higher scores on the MAEDS purging scale. The inclusion of women with and without purging behaviours can be seen as both a strength and a weakness of the program. Purging (and other compensatory behaviours) were not directly addressed in Mindful MEG sessions. It is possible that women who had significant problems with purging found that the Mindful MEG program did not address their specific needs. Women who binge with purging symptoms may in fact have different requirements to women who binge without compensatory behaviours. For women with BN-type symptoms, directly addressing purging and other compensatory behaviours may be important. Conversely, for women with BED-like symptoms, obesity and the importance of weight loss may need to be directly addressed.

Given the fluctuating nature of disordered eating symptoms, it is difficult to see how this issue can be resolved. The most commonly presenting client in outpatient settings is a woman who does not easily fit into either a BN diagnosis, or a BED diagnosis (Wade, 2007). Given this, tailoring treatment to suit either diagnostic category may not be practical. In the reality of psychological practice in the real-world, with limited resources available, a group which focuses just on the symptom of binge eating is likely to be relevant to the largest number of people. Dealing with the difficulties of some within-group differences is likely to be preferable to denying or delaying treatment to a client who is seeking it. This issue again highlights the potential benefit of individual counselling to complement the group work.
Implications for Group Facilitators

The qualitative data collected in the current study provides many useful insights into the experience of participating in and facilitating the Mindful MEG program. One of the strengths of the current study was the facilitator interviews which provided valuable and relatively unique data on the experience of group facilitators. This is a feature of program evaluation which is commonly neglected and as such there is very little research to compare with these results. The experience of facilitators is of great importance and will determine the acceptability and longevity of a treatment program. Indeed the interviews carried out as part of the current study revealed an initial gap in the provision of supervision which was making the experience of facilitating the Mindful MEG program difficult.

The Importance of Formal Supervision

In the current study, informal or generalist supervision was not considered adequate to deal with the issues which arose during the program, and the facilitators experienced an unmet need for specialist supervision from a psychologist with significant experience in group facilitation. An important implication for practice which emerged from the current study is the importance of quality, specialised supervision, particularly for provisional psychologists. This may seem an obvious statement, but the importance of supervision should not be underestimated. For psychologists in the learning process (and indeed all psychologists), not having adequate supervision can create feelings of fatigue, anxiety and eventually burnout. Ideally, supervision should be provided by an experienced psychologist who has knowledge and skills in group facilitation, mindfulness-based approaches, and binge eating difficulties.
The Impact of Student Facilitation

The status of the Mindful MEG program as a student-run group must also be considered. Facilitation by trainee psychologists may affect the generalisability of the current findings, in that the implications outlined in this chapter may be different for a program run by more experienced fully-registered psychologists. Trainee or student psychologists have an increased need for intensive supervision, and facilitators of a mindfulness-based group therapy program for binge eating problems run in private practice would likely have a reduced need for intensive supervision. Additionally, those who choose to run a mindfulness-based program through private practice would arguably have a stronger personal or professional interest in mindfulness specifically, which was not always the case with facilitators in the current study, some of whom were primarily seeking experience in group facilitation generally. Greater experience and more commitment to mindfulness is likely to lead to increased benefits for clients. In fact, it is promising that in the current study, which included student facilitators without mandatory training in either group facilitation or mindfulness-based programs, significant reductions to eating and general psychopathology were still observed. Regrettably, a mindfulness-based group therapy program for women with binge eating difficulties run in private practice is likely to be significantly more costly than the program run in the current study, as the group facilitators would require payment for their services.

Limitations of the Current Study

Despite the strong results found in the current study, they should be viewed with caution due to some important limitations. The main limitation of the study was the absence of a comparison group. A control group of some form would have allowed us to compare improvements achieved in the Mindful MEG program to changes that may have occurred naturally over time, or from participation in an alternative program. Other studies
have shown that BN is unlikely to improve on its own over time, and is often a chronic and unremitting disorder (Grilo et al., 2003; Wade, Bergin, Tiggermann, Bulik, & Fairburn, 2006b), however studies incorporating direct comparisons would be preferable. The comparison of a mindfulness-based treatment program for binge eating to a traditional CBT group for binge eating would be ideal as this would generate important data on the relative effectiveness of the different treatment modes, and the unique contribution of mindfulness practices.

The final sample size in the current study is small \( n = 31 \), due to time and resource restrictions. It falls just below the minimum sample size of 33 recommended by Baer (2003). The differences on outcome variables observed in the current study were large enough to be statistically significant despite the small sample, however future studies should employ larger sample sizes. While the current study provided a 6-month follow-up of the sample, longer follow-up, such as the 24 months provided in other recent studies of IPT and CBT (Wilson, Wilfley, Agras, & Bryson, 2010) would be preferable.

The attrition of program participants is another limitation of the study. The analyses completed in the current study used program completers only, and this may result in a bias of findings towards the expected hypotheses. Given an attrition analysis found that women who dropped out of the program were likely to be experiencing more severe binge eating and general psychopathology, it is possible that the pattern of attrition was not random. As such, the current findings and conclusions can only be generalised to Mindful-MEG program completers. Women with more severe binge eating difficulties appear to be more likely to withdraw from the program, and as such it is probable that they will receive less benefit. A per protocol, or ‘on-treatment’ analysis was considered preferable in the current study due to the small sample, and a focus on the effectiveness of the treatment program itself.
Given the increase in eating disorders in the male population, and the higher proportion of male sufferers of BED, there is a need for programs to be developed which address the needs of male clients. It is the opinion of this author that males and females suffering from binge eating difficulties are likely to be facing different issues which are best addressed in groups designed specially for their particular needs. Currently, group treatment programs for binge eating are directed at women, and men are confined to individual treatment, which, while effective, does not provide the additional benefits of group therapy.

A final limitation of the current study is that the qualitative interviews in the current evaluation were conducted on a volunteer basis, and those who found the program helpful are more likely to have volunteered. Therefore, the qualitative data obtained in the evaluation is likely to be skewed towards the positive end. A comparison of the interviewees and the non-interviewees found that those who agreed to take part in the interviews had greater eating self-efficacy, less stress and higher self-esteem. No significant difference on the participant rating of the program was found between these two groups.

Strengths of the Current Study

Despite these limitations, the current study has some important strengths which should be acknowledged. The mixed-methods design of the study allowed for a more complete picture of the Mindful MEG program to be obtained. The quantitative results provide support for the effectiveness of the Mindful MEG program in bringing about change to both eating and general psychopathology. The qualitative data provides different but equally important information on the participant and facilitator experience of the program. In mindfulness research, qualitative data is particularly useful, because of the experiential nature of mindfulness, which may not be explicitly observable in behaviour. By allowing participants to explain their
experiences, and explore the mechanisms through which they believe change occurred for them, a deeper understanding of the program was achieved. In addition, the facilitator interviews provided data on an additional element of the program, the experience of the facilitators, which is often overlooked by research. The acceptability of the program for facilitators is an important component of any program, and indeed the facilitator interviews revealed some interesting and constructive data regarding supervision and facilitator burnout and the importance of quality supervision.

While randomised controlled trials are considered the gold standard of research design, the author of the current study believes that the effectiveness study has an important place in program evaluation. Indeed, without research that evaluates treatment in its natural setting, without manipulation, comments about the value of a particular treatment cannot be made. This is particularly relevant to programs which are already running. The current evaluation was carried out on the Mindful MEG program in its natural form, with student facilitators using a flexible manual. The absence of strict inclusion and exclusion criteria in the recruitment of the sample for the current study was a part of its effectiveness status and a strength of the study. The Mindful MEG sample included women with BN, BED and sub-clinical binge eating symptoms. This is an accurate reflection of the typical clients who present for treatment in the general population. This also allowed for a comparison of treatment effects between different sub-samples.

Recommendations for Future Research

While this thesis provides support for the use of mindfulness training in the treatment of binge eating, further research is needed. Wherever possible, future studies should conduct comparisons with other treatment modes. Particularly useful would be the comparison of a strict CBT group-
based treatment with an eclectic program such as the Mindful MEG program, which employs both CBT and mindfulness elements. This could help to determine the degree to which mindfulness practices provide added benefit. When this is not possible, comparison with a wait-list group could be considered, however the ethical implications of withholding treatment from distressed individuals should be carefully considered.

Larger sample sizes and longer follow-up is needed to determine the maintenance of changes brought about by treatment. Long-term follow-up is fraught with difficulties, but the chronic nature of eating disorders makes it important.

Further qualitative research is recommended, as it provides rich and valuable information about the experience of group participants and facilitators, and opens up areas needing future research. Particularly in the field of mindfulness-based treatment approaches, qualitative data may be better able to explain the experience of group participants.

The experience of facilitators is often neglected but should be considered a vital part of program evaluation, particularly when the facilitators are trainee psychologists. The facilitator interviews in the current study suggest that there is a need for research on the impact of mindfulness on individuals who have experienced trauma, as several facilitators expressed concern about this. Future research studies should also use standardised measures which have been validated on women with binge eating difficulties.

More research is needed on the nature and interaction of BN and BED, in regards to the similarities and differences between these symptom presentations. Future research studies should also endeavour to include women with sub-clinical symptoms (or EDNOS) as these women make up the largest proportion of women seeking help for eating disorders.
Final Comments

The current study supports the effectiveness of a mindfulness-based approach to binge eating difficulties. Through my experiences as a facilitator of the Mindful MEG program, I was able to see the profound benefits that regular meditation practice brought to some of the participants. However, some individuals did not seem to benefit as much as others, and it must be acknowledged that mindfulness meditation may not be suitable or helpful to all clients.

For those who do connect with mindfulness concepts and practices, it can be an exciting and radical approach to the easing of human suffering. As a holistic treatment, which targets an individual’s whole way of being in the world, mindfulness practice has the potential to impact not just specific problem behaviours, but additional areas such as interpersonal relationships and general wellbeing. With its focus on the positive aspects of human nature, it can provide people who are in distress with a practical and meaningful way of reconnecting with themselves and their lives.
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Appendix 2.A

Treatment Components of
Cognitive Behavioural Therapy for binge eating

*Food monitoring*

The first step in CBT for binge eating involves monitoring all daily food and drink intake. Initially, there is space to note down the amount eaten, the place, whether it was considered a binge, and any compensatory behaviours. As the weeks progress, food monitoring becomes more detailed, including space to note down ratings of hunger and fullness before and after eating, any thoughts present at the time of eating, and any further comments which may be relevant.

The aim of food monitoring is to provide insight into how much food is being eaten and when and where it is being eaten. Often this process will reveal the triggers for binge eating episodes, whether these are cognitive, emotional, or situational. The food monitoring process is also particularly helpful in re-familiarising participants with feelings of hunger and satiety. Being required to note down these feelings means that several times during the day women bring their attention to internal feelings of hunger and fullness.

*Establishing regular eating patterns and meal planning*

Establishing regular eating patterns is one of the most important components of CBT for binge eating. The aim of establishing regular eating patterns is to break one of the most common triggers for a binge episode – that of hunger following restrictive eating. Participants are encouraged to eat three meals and two-three snacks everyday. The use of a weekly meal plan is helpful in establishing the regular eating patterns. Group participants are encouraged to plan out all of their meals and snacks at the beginning of the
week on a meal planning grid which can be referred to throughout the week. Initially, the kinds of food included in the meal plan are not as important as the regularity of eating. As time continues and the regular eating becomes easier, women are encouraged to include a range of foods in their diet.

*Introducing Forbidden Foods*

The aim of introducing forbidden foods is to break another of the common triggers for binge eating, that of breaking a dietary rule. When strict dietary rules around specific foods are broken, the sense of failure often leads to a binge eating episode. By gradually introducing forbidden foods into the meal planning, some of the power is taken out of the foods and they are less likely to cause a binge eating episode. The first step in introducing forbidden foods is for the client to make a list of all of the foods which are feared or forbidden or avoided because of fear of weight gain. This list is then put into a hierarchy from most feared to least feared. Starting with the least feared item, women are required to incorporate some of that food into their regular diet. When this becomes comfortable, the next food on the list is introduced. The aim of the process is to gradually and systematically remove the power and fear which has been associated with particular foods.
Appendix 2.B

Mindfulness Practices introduced in the Mindful MEG Program

*Raisin Meditation*

The raisin exercise is used as a means of introducing the concept of mindfulness experientially. It is described in detail on p.103 of Segal et al. (insert reference). Participants are each given 3 raisins, and are guided by a facilitator to eat them mindfully. This involves eating the raisin very slowly, and focusing all attention on the sensory experience of eating the raisin – noticing the way it looks, feels, smells, and tastes. The group members then discuss their experience. This exercise can show people how they are often on ‘automatic pilot’, and how mindfulness can be used to become more conscious of our mindless actions and of our selves, moment to moment. This mindfulness exercise lasts around 10 minutes.

*Body Scan Meditation*

The body scan is an exercise in awareness of the body. Participants are asked to lie comfortably on the floor while a facilitator guides them through a meditation where attention is gradually moved through the different parts of the body. Participants are encouraged to try let go of any feelings about getting it right, or doing it well, and to just explore with curiosity, the experiences in their body. Attention is first guided to the toes, and then moves gradually up the body, through the feet, legs, abdomen, chest, shoulders, arms, neck, face and head. Participants are encouraged to notice any sensations which are present for them, such as heat or cold, tension or pain, softness, the texture of clothing, tingling, numbness, throbbing or heaviness. The aim of the Body Scan is not relaxation or to change how the body feels. The aim is simply to increase awareness of what
is happening in the body in the present moment. The Body Scan meditation can run from between 10 and 30 minutes.

**Sitting Meditation**

During the Sitting Meditation, participants are encouraged to adopt a dignified and aware seated posture, either on a cushion on the floor or in their chair. A facilitator guides the participants through the meditation, which involves initially focusing one’s attention on the breath flowing in and out of the body. As the meditation proceeds, attention is placed on various aspects of experience including physical sensations, pain, thoughts, and emotions. In the Mindful MEG program, different mindfulness experiences were introduced as the weeks progressed. For example, the first Sitting Meditation involved purely mindfulness of the breath. In the next Sitting Meditation, participants were guided through mindfulness of the breath, and mindfulness of physical sensations. The next week, the Sitting Meditation included mindfulness of the breath, mindfulness of physical sensations and mindfulness of thoughts. The following week, mindfulness of emotions was added to the meditation. Losing concentration is considered inevitable within the sitting meditation, and participants are encouraged to notice when this happens, and return their attention back to the breath and their experience in the present moment.

A transcript of a guided Sitting Meditation is given in Segal et al. p.164 and this was adapted for different length meditations in the Mindful MEG program. The Sitting Meditation can run from between 10 and 30 minutes.

**3-minute Breathing Space**

The 3-minute breathing space is a brief mindfulness exercise which can help participants bring the concept of mindfulness into their everyday life. It provides a way to step out of automatic pilot mode and reconnect
with the present moment. The 3-minute breathing space is composed of three stages, of a minute each. The first stage involves bringing your awareness to the present moment, and focusing your attention on how you feel right now, including thoughts, physical sensations and emotions. The second stage involves narrowing your awareness on the breath moving in and out of your body. The third stage involves expanding your awareness to include both the breath, and any other experiences you notice in the present moment. During the 3-minute breathing space, participants are encouraged to notice and allow any aspect of their present moment experience. The 3-minute breathing space is described in Segal et al. (2002) p.174. (insert reference).

*Mindfulness of Everyday Activities*

Mindfulness of everyday activities is another practice which encourages bringing mindfulness into other aspects of one’s life in an informal way. Participants are encouraged to pick one daily activity (such as brushing your teeth, having a shower, walking from the house to the car, making breakfast) to perform in a mindful way. When performing mindfulness of an everyday activity, participants are asked to focus all of their attention onto the task at hand, noticing the many sensory experiences which are associated with the activity. This exercise can make it clear how often we operate on automatic pilot.

*Loving-Kindness Meditation*

The Loving-Kindness Meditation is not a traditional mindfulness practice, but it was introduced to the Mindful MEG program to complement the session on self-esteem. In this guided meditation, participants are asked to think of an individual for whom they feel great love. Participants spend some time visualising the love they feel for this person, and how it is given to them. They may repeat some words to this person – “I wish you peace, I
wish you happiness”. Then, the participant is encouraged to imagine that love turning around and flowing back into themselves. They can also repeat some words to themselves – ‘I wish you peace, I wish you happiness”.

*Walking Meditation*

During the Walking Meditation, participants are asked to walk very slowly and carefully around the room. All of the attention is directed to the sensations felt on the soles of the feet as the individual walks around. When thoughts or sounds distract from these sensations, the participant is encouraged to notice this and then return the attention to the sensations on the soles of the feet.

*Mountain/Lake Meditation*

The Mountain or Lake Meditation is taken from the Jon Kabat-Zin guided meditation CD (insert reference) and is introduced later in the Mindful MEG program (generally around week 8 or 9). In contrast to the other meditations, the Mountain or Lake Meditation uses guided visualisation to stimulate feelings of mindfulness. In the Mountain Meditation, participants are encouraged to see themselves as a mountain, rooted deeply into the earth. Participants can imagine themselves embodying the same characteristics of the mountain, still and unchanging despite the many changes which happen around them. Similarly in the Lake Meditation, participants are encouraged to see themselves as a lake. They are guided through visualisations of changes that happen to the lake, as different seasons and weather patterns pass over it. While the surface of the lake may change, being still one day, and choppy the next, the depths of the lake remain still and unchanged.
Appendix 4.A
Mindful MEG Participant Information Sheet

The Mindful Moderate Eating Group (Mindful MEG)

Many women, at some stage of their life, experience problems in controlling their eating behaviour. You are not alone in your concerns over developing and maintaining a healthy and balanced eating pattern in your life. In the Mindful MEG program, we will help you to gain more control over your eating behaviours, by addressing various issues which may contribute to eating problems, such as difficult emotions, self-esteem, deep-seated beliefs and attitudes, and body image concerns.

In the Mindful MEG program, we will be attempting to work with your eating problems in three ways:

- **Cognitive-Behavioural Therapy** – to directly address the problematic behaviours in your life, and the thoughts and beliefs associated with them
- **Interpersonal Therapy** – to examine how relationship issues may be contributing to your eating problems, and
- **Mindfulness practices** – to develop new and more adaptive ways of dealing with day-to-day experiences, which may be related to eating problems, and therefore leave you less vulnerable to falling back into old patterns.

**What is Mindfulness?**

Mindfulness can be defined simply as “Paying attention in a particular way: on purpose, in the present moment, and non-judgmentally.”\(^1\) It is taught through various meditation practices, and can provide a new way to approach your experiences, with increased awareness and acceptance. Mindfulness can help you to move from an automatic pilot mode, and therefore allow you to react to situations with more choice. It has been found useful for people experiencing a variety of problems, including people who are having trouble controlling their eating behaviour. Some of the reported benefits of practicing mindfulness include patience, a sense of perseverance, gentleness towards

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oneself, and the feeling of living a more fulfilling and vivid life. As when learning any new skill, some difficulties may arise. With mindfulness, repetition of the practices is very important and persistence is required, as you attempt to create a shift in your attitudes and perception of experiences. Those who come with a curious and open mind are often found to get the most out of the program. We ask for your patience and faith in practices which may be new and unfamiliar to you.

The Mindful MEG Program
The Mindful MEG program includes 10 weekly sessions, each lasting three hours. During these sessions you will learn and practice new mindfulness techniques, discuss ways to change your eating behaviours, and examine any difficulties that may arise. However, the majority of the work will be completed by you, outside of these sessions, in ‘homework’ tasks which will be set out each week. The homework will take around 30-45 minutes per day. We understand that this is a large time commitment, but it is very important that you carry out the homework. Previous studies consistently show that those who complete more work outside of the sessions gain more benefit. We will meet again, three and six months following the completion of the 10 weeks, to catch up and see how everyone is going. It may be of interest that group members often experience significant improvements after the program has finished, as they practice and integrate the skills they have learnt into their everyday lives. From previous programs, we have found that individuals who are receive either concurrent or subsequent individual counseling get the most benefit from the program, so we highly recommend this.

We look forward to meeting and working with you.

Evaluation of the Mindful MEG Program
As part of your participation in the Mindful MEG program, you will be invited to participate in a research project evaluating the long-term (6 month) effectiveness of the program. Participation in the research project is voluntary and will not impact on your participation in the group program in any way. Participation in the research involves completing a questionnaires booklet prior to and after completing the program, and at follow-up stages (three and
six months following completion). The questionnaire booklet will take approximately 30-40 minutes to complete. At the end of the program you will also be invited to participate in a tape recorded interview, to give more in depth opinions on the course. This research will provide important information on the effectiveness of the Mindful MEG Program, and help us to improve it for the benefit of future participants. It will also increase knowledge on the nature of binge eating problems, and the areas which should be focused on to initiate change. You are free to withdraw from the research project and discontinue your participation at any stage, should you wish to. Any questions regarding the project The Evaluation of the Mindful MEG Program can be directed to the Senior Investigator, Dr Naomi Crafti, in the Faculty of Life and Social Sciences on 9214 5355.

The confidentiality of all participants in the research project will be maintained. All data collected will be identified by a code, and only the principle investigators will have access to the participants codes. All data collected will be kept in locked filing cabinets, and identifying information will be held separately. There is likely to be publications and conference presentations resulting from the research project, however no individual data will be published, and no participant will be identifiable through any publications.

If, at any stage, you wish to make a complaint about any aspect of the project, or have a query that the senior investigator has been unable to satisfy, please contact Head of the School or Research Institute involved or

The Chair
Human Research Ethics Committee
Swinburne University of Technology
PO Box 218
Hawthorn VIC 3122
Ph. (03) 9214 5223
CONSENT TO TAKE PART IN THE RESEARCH PROJECT

I, ________________________________,

have read and understood the information in the attached form, regarding the project Evaluation of the Mindful Moderate Eating Group Program. Any questions I have asked have been answered to my satisfaction.

I agree to participate in this study and understand that I am free to withdraw at any time, taking any unprocessed data with me. I agree that research data collected for the study may be published or provided to other researchers on the condition that anonymity is preserved and that I cannot be identified.

Name of Participant______________________________________________

Signature of Participant________________________Date_______________

Name of Investigator_____________________________________________

Signature of Investigator_______________________Date________________

Principle Investigator:        Student Investigator:
Dr Naomi Crafti               Ms Hannah Woolhouse
Ph. 9214 5355                 hannahw2000@hotmail.com
Appendix 4.c
Evidence of Ethics Approval (email)

To: Dr N Crafti, Faculty of Life and Social Sciences

Dear Dr Crafti,

**SUHREC Proj 0607/021- Evaluation of the Mindful Moderate Eating Group (Mindful MEG) Program: A mindfulness based group therapy for women with (binge) eating problems.**
Researchers: Dr Naomi Crafti, Ms Hannah Woolhouse
Proposed Duration: 15 August 2006 - 15 June 2007

I am pleased to advise that Chair of SHESC2 (H&B-B) or delegated member has approved the revisions and clarification as emailed/submitted by you on Tuesday 15 August 2006, on the proviso that the plain language statement and informed consent contain a Swinburne logo. Unless otherwise notified, human research activity in the project may therefore commence in line with standard or any special conditions for on-going ethics clearance.

The standard conditions for ethics clearance include the following:
- Researchers are required to immediately report anything which might warrant review of ethical approval of the protocol, including: (a) serious or unexpected adverse effects on participants; (b) proposed changes in the protocol; and (c) unforeseen events that might affect continued ethical acceptability of the project.
- If the research project is discontinued before the expected date of completion researchers must inform the HREC immediately.
- An annual progress report is due and a final report on the completion (or cessation) of the project.

Please let me know if you require an ethics clearance certificate and if you have any concerns or queries about on-going ethics clearance. The SUHREC project number should be cited in any communication.

Best wishes for the project.

Yours sincerely,

Leah Cattanach
Secretary, SHESC2
BSI Coordinator
Brain Sciences Institute
Swinburne University of Technology
Appendix 4.D

Interview structure for qualitative participant interviews

- How did you find the program?
- What did you find most helpful in the program?
  - What else did you find helpful?
- How did you find the mindfulness philosophy of the program?
- How did you find that the mindfulness philosophy and practices impact on your life and/or behaviour?
- I’m just going to run through some of the specific mindfulness practices, and if you could tell me how you found them, and what you got out of them
  - How did you find the body scan? (and after they have answered -) What did you get out of the body scan?
  - How did you find the sitting meditation (including mindfulness of the breath, pain, thoughts and emotions)? (and after they have answered -) What did you get out of the sitting meditation?
  - How did you find the three-minute breathing space? (and after they have answered -) What did you get out of the three-minute breathing space?
  - How did you find the Mindful Eating? (and after they have answered -) What did you get out of the Mindful Eating?
  - How did you find the mindfulness of daily activities? (and after they have answered -) What did you get out of the mindfulness of daily activities?
- What was the most useful or powerful thing you got out of the mindfulness practices?
- What was the most challenging or difficult thing about the mindfulness practices?
- About how much meditation did you do during the MMEG program – and did it change throughout the course of the program?
- How did you find the other components of the program?
  - Food monitoring (including hunger/fullness ratings, emotions and thoughts)
  - Regular Eating (including meal planning and eating every 3 hours)
Forbidden Foods?

- What did you find least helpful about the program
  - Were there any other things that you found unhelpful?

- What did you find that you did differently during the program – Or what changed for you during the program?
- What did you find didn’t change for you during the program?

- What do you plan to do from here with what you learnt in the program?
Appendix 4.E

Interview structure for qualitative facilitator interviews

- How did you find facilitating the Mindful MEG program?
  - What were some of the difficulties associated with facilitating the Mindful MEG program? What was the most difficult thing?
  - What were some of the positive things you got out of facilitating the Mindful MEG program?
  - What were some of the other issues that faced facilitators of this program (i.e. in this university setting, with this particular client group, using this particular approach?)

- What were some of the differences/similarities of facilitating a mindfulness-based program compared to other therapeutic approaches?
  - How do you feel that the combination of mindfulness and CBT practices worked together?
  - How does a facilitator’s own mindfulness practice influence their ability to delivery a mindfulness-based therapy?
  - Do you believe a facilitator MUST practice mindfulness to be effective?
  - What was the most difficult thing about facilitating a mindfulness-based program?

- Did you feel that the mindfulness philosophy of the program fit with the issues that participants were facing?
  - How did you find that the mindfulness philosophy and practices impacted on the lives/behavior of participants?
  - What do you feel was the most helpful component of the program for participants?
  - In your opinion was the Mindful MEG program effective in bringing about change for participants?
  - What factors contributed to the program’s effectiveness? What was it about the program that allowed participants to make changes?
  - What personal participant factors do you believe were important in terms of how much participants got out of the Mindful MEG program

- What was the hardest thing for participants to shift?
- What didn’t change much for participants during the program?
- What were the obstacles for the program being effective?
- What was difficult for participants in terms of practicing mindfulness?

- *What type of person would you recommend the program, or feel would gain the most benefit from it?*

- Several Mindful MEG facilitators became aware of a week 3 backlash. Can you comment on that in terms of what you think was happening for participants, and the challenges associated with facilitating at this time?

- Mindful MEG facilitators also appeared to experience a bit of burnout after facilitating several groups. Why do you think this occurred? What would be helpful in preventing it?

- Are there any particular things you would change about the Mindful MEG program?

**Specific Mindfulness practices**

- What was useful about the **body scan** for participants? (and after they have answered -) Any particular issues for facilitators?
- What was useful about the **sitting meditation** for participants? (and after they have answered -) Any particular issues for facilitators?
- What was useful about the **Mindful eating** for participants? (and after they have answered -) Any particular issues for facilitators?
- What was useful about the **three-minute breathing space** for participants? (and after they have answered -) Any particular issues for facilitators?
- What was useful about the **mindfulness of daily activities** for participants? (and after they have answered -) Any particular issues for facilitators?
Appendix 4.F
Qualitative Interview Consent Form (Printed on Swinburne letterhead)

Evaluation of the Mindful Moderate Eating Group
(Mindful MEG) Program

CONSENT TO TAKE PART IN THE FOLLOW-UP INTERVIEW

I, ____________________________________________
have read and understood the information in the attached form, regarding the
project Evaluation of the Mindful Moderate Eating Group Program. Any
questions I have asked have been answered to my satisfaction.

I agree to participate in an interview to ascertain information on my experiences in
the Mindful MEG program. I understand that this interview will take
approximately 45-60 minutes. I agree to having this interview tape recorded,
under the provision that it will only be heard by the Principle and Student
Investigators of the research project (named below). These tapes will be stored in
a locked filing cabinet, with an identifying number only, for a period of five years,
and they will then be destroyed. I agree that research data collected for the study
may be published or provided to other researchers on the condition that anonymity
is preserved and that I cannot be identified.

Name of Participant________________________________________________
Signature of Participant_____________________________Date______________

Name of Investigator_________________________________________________
Signature of Investigator_____________________________Date______________

Principle Investigator: Student Investigator:
Dr Naomi Crafti Ms Hannah Woolhouse
Ph. 9214 5355 hannahw2000@hotmail.com
Appendix 5.A

T-test results comparing three-month and six-month follow-up data

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<th>Outcome variable</th>
<th>Three-month follow-up</th>
<th>Six month follow-up</th>
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<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
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<tr>
<td>MAEDS Total</td>
<td>2.01</td>
<td>0.78</td>
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<tr>
<td>MAEDS Binge Eating</td>
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<td>MAEDS Purging</td>
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<td>MAEDS Restrictive eating</td>
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<tr>
<td>MAEDS Forbidden Food</td>
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<td>MAEDS Fear of Weight</td>
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<td>MAEDS Depression</td>
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<td>DEBQ Total</td>
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<td>DEBQ External Eating</td>
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<td>EOQ</td>
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<td>BAQ Body</td>
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*Note.* MAEDS = Multifactorial Assessment of Eating Disorders Scale, DEBQ = Dutch Eating Behaviour Questionnaire, ESES = Eating Self-Efficacy Scale, EOQ = Emotional Overeating Questionnaire, BAQ = Body Attitudes Questionnaire, DASS = Depression, Anxiety and Stress Scale, CAMS-R = Cognitive and Affective Mindfulness Scale Revised.
Appendix 5.B
DASS-21 Normative Data comparison

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<td>SD</td>
<td>M</td>
<td>SD</td>
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<td>6.27</td>
<td>7.73</td>
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<td>6.58</td>
<td>6.81</td>
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<td>5.03</td>
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### DASS-21 Descriptive Categories

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<td>Severe</td>
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<td>Extremely Severe</td>
<td>28+</td>
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