THE EFFECTS OF SELF-MONITORING PSYCHOLOGICAL STATES ON BEHAVIORAL WEIGHT MANAGEMENT TREATMENT

DISSERTATION

Presented in Partial Fulfillment of the Requirements for

the Degree Doctor of Philosophy in the Graduate

School of The Ohio State University

By

Monica Louise Jefferson, M.A.

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The Ohio State University
2005

Dissertation Committee

Professor Linda James-Myers, Adviser

Professor Charles Emery, Co-Adviser

Professor Steven Beck

Approved by

Adviser
Graduate Program in Psychology

ABSTRACT

One of the most widely available and appropriate treatments for overweight and moderately obese individuals is the behavioral treatment of these conditions. While behavioral weight loss treatments have been shown to lead to clinically significant improvements in health, research suggests that participants in behavioral weight loss treatments experience significant symptoms of psychological distress and that this distress can adversely affect treatment outcomes. Given the significant role that psychological factors play in limiting participant success with behavioral weight loss treatment, the current study implemented a psychological intervention expected to promote more favorable treatment outcomes. The present study investigates the effects of self-monitoring psychological states on behavioral weight management treatment outcomes. Fifty-six participants enrolled in The Ohio State University Comprehensive Weight Management Program (CWMP) were randomly assigned to a self-monitoring condition or a usual care control condition. Self-monitoring participants were instructed to monitor seven psychological states, daily, for twelve consecutive weeks. During the first four weeks, self-monitoring participants were also instructed to engage in a phone-based feedback session with a researcher. Class attendance, body mass index (BMI), and various measures of psychological well-being and impact of weight on quality of life

were assessed at baseline, post-intervention (6 weeks), and follow-up (12 weeks). Results revealed no differences between participants assigned to the self-monitoring condition and control condition with regard to class attendance and BMI at baseline, post-intervention, and follow-up. Overall, results revealed no effects of group x time or group assignment on psychological well-being or quality of life. Results generally revealed that participants assigned to the self-monitoring and control groups attended all 6 CWMP classes scheduled to occur by the time of post-intervention assessment and approximately 11 of the 12 CWMP classes scheduled to occur by the time of the follow-up assessment. Results revealed that participants assigned to self-monitoring and control groups experienced significant decreases in BMI across time. Results generally revealed that all participants tended to experience increases in psychological well-being and decreases in the impact of weight on quality of life across time.

Dedicated to those whom this means as much to them as it does to me.

ACKNOWLEDGMENTS

I wish to thank my advisers, Dr. Linda James-Myers and Dr. Charles Emery, for providing the intellectual support and encouragement that has carried this endeavor to completion.

I also wish to thank my dissertation committee member, Dr. Steven Beck, for offering critical and constructive feedback throughout this process.

I also wish to thank Dr. Thomas F. Cash, author of the Multidimensional Body Self-Relations Questionnaire – Body Areas Satisfaction Scale, for his generosity in allowing the present study to make use of this measure at no financial cost to the researchers involved.

I wish to thank the members of the Cardiopulmonary Behavioral Medicine Laboratory for all of their cooperation and assistance with participant recruitment, data management, and moral support. I would like to specifically thank Andrea Busby and Alyssa Suh for the tremendous amounts of energy and time they invested in this project. Their work successfully coordinating this study during my presence and departure from The Ohio State University campus was critical to its completion.

My greatest appreciation is also given to Dr. Shirley Kindrick, Kelly Urse, Angela Blackstone, and remaining staff of the Comprehensive Behavioral Weight Management

Program and Wellness Center, for their cooperation and assistance with participant recruitment and data collection. Relatedly, I would also like to thank the Comprehensive Weight Management Program participants that participated in this research.

For their seemingly endless support with statistical counseling, I would like to thank Dr. Mike Walker, Jie Ding, and other staff at The Ohio State University Statistical Consulting Service.

I can not give enough thanks enough to everyone who has stood behind me, held me up, and pushed me along throughout my graduate career. Therefore, I must give thanks to those, and more so, attribute the present accomplishment to the love and support of a host of family members and friends. Finally, I thank the Lord above for this blessing and accomplishment.

This research was supported by The Ohio State University Alumni Grant for Graduate Research and Scholarship, awarded in 2003.

VITA

October 27, 1977 …….. Born - Augusta, Georgia

1999 …….. B.S. Psychology, Stony Brook University.

1999 – 2002 ……. Recipient, Clinical (Mental Health Services) Training Fellowship, American Psychological Association Minority Fellowship Program

March 2001 – September 2003 ..…….. Psychological Assistant, Ohio Rehabilitation Services Commission, Bureau of Disability Determination, Columbus, Ohio

September 2001 – September 2003 …..... Psychological Assistant, Department of Physical Medicine and Rehabilitation, Division of Rehabilitation Psychology, The Ohio State University

June 2002 – August 2002 …… Addictions Counselor Assistant, The Women's Program, Maryhaven, Inc., Columbus, Ohio

September 2002 – September 2003 …..... Graduate Research Associate, Department of Physical Medicine and Rehabilitation, Division of Rehabilitation Psychology, The Ohio State University

September 2002 – March 2003 ……..... Psychology Extern, Counseling and Consultation Service, The Ohio State University

March 2003 – July 2004……... Therapist, Psychological Services Center, The Ohio State University

March 2003 …….…… M.A. Psychology, The Ohio State University.

September 2003 – March 2004 ……... Therapist, Ohio Department of Mental Health, Twin Valley Behavioral Healthcare Timothy B. Moritz Forensic Unit, Columbus, Ohio

2003 ……...….. Recipient, Alumni Grant for Graduate Research and Scholarship, The Ohio State University

September 2004 – August 2005……....Predoctoral Psychology Intern, Northport VA Medical Center, Northport, New York

FIELDS OF STUDY

Major Field: Psychology
Field of Emphasis: Clinical Psychology

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CHAPTER 1

INTRODUCTION

Obesity: A Global Epidemic.

Obesity is one of the most easily recognizable medical conditions and is also one of the most difficult to treat (Delvin, Yanovski, & Wilson, 2000). Obesity refers to an excess of body fat and can be measured by a number of methods, however, it is usually estimated by the body mass index (BMI) [calculated as weight in kilograms divided by height in meters squared] (Bray, 1998). According to the World Health Organization (WHO; 1998) and the National Institutes of Health/National Heart Lung, and Blood Institute (NIH/NHLBI; 1998) "overweight" is defined as a BMI = 25-29.9kg/m^2 and obesity as a BMI $\geq$ 30 kg/m^2. According to these criteria, as of 2000, the prevalence of overweight and obesity among American adults between ages 20 and 74 was estimated to be 64% (National Center for Health Statistics; NCHS, 2003a). In 2000, 38.8 million American adults or approximately 19.8% of American adults were considered to be obese. Currently, it is estimated that over 44.3 million American adults or 20.9% of the American adult population is obese (NCHS, 2003b).

Obesity is associated with extreme physical, psychological, social, and economic burdens (see Delvin, Yanovski, & Wilson, 2000; NCHS, 2003c; NIH/NHLBI, 1998; Wolf & Colditz, 1998). Given the similar trends of obesity around the world, the WHO (1998) has declared obesity to be a global epidemic. Overall, because of the prevalence of obesity and the seriousness of its consequences, finding ways to successfully address this epidemic is critical to the mental and physical health of a significant proportion of our adult population.

Behavioral Weight Management Treatment.

The behavioral treatment of obesity (e.g. a comprehensive behavioral weight control program) is widely viewed as the treatment of choice for overweight and moderately obese individuals (Delvin, Yanovski, & Wilson, 2000). Behavioral treatment programs are among the most widely available treatment options for overweight and obese individuals (Byrne, 2002). They are seen as most appropriate for individuals who have not had success with individual, self-help, or commercial attempts to lose weight, and those who are preparing for surgical treatment of their obesity (Wadden & Osei, 2002). Although the components of behavioral weight loss programs may differ across programs, they commonly include nutrition education, lifestyle change, physical activity, problem solving, cognitive restructuring, social support, and self-monitoring.

Most behavioral programs consist of 10-20 persons attending weekly group sessions for 16-26 weeks, with participants typically losing 8-10% of initial weight during the first 4-6 months of treatment (Delvin, Yanovski, & Wilson, 2000; see Wadden & Osei, 2002). Research shows that losing just 5–10% of one's body weight can

improve one's health significantly (NCHS, 2003d). Therefore, a behavioral weight loss treatment program participant can experience clinically significant improvements in their health as a result of optimizing weight loss and completing treatment. Unfortunately, research has shown that psychological factors commonly play a role in significantly reducing participant success with treatment. This includes limiting weight loss and contributing to premature termination from treatment programs; with an average of 20% of participants failing to complete these programs (Wadden and Osei). This statistic is too large to be ignored (Teixeira, Going, Houtkooper, Cussler, Martin, Metcalfe, et al., 2002).

Psychological Well-Being and Weight Management Treatment Seekers and Participants.

Research has shown that overweight and obese individuals seeking weight loss treatment experience significantly greater symptoms of emotional distress and psychopathology than those who are not seeking weight loss treatment (see Wadden, Wombie, Stunkard, & Anderson, 2002). These disturbances most often include depression, anxiety, and body image dissatisfaction. Clinical experiences of binge eating are also significant among this population. It is estimated that up to 30% of obese individuals who seek weight loss reduction suffer from significant symptoms of binge eating (Stunkard, 2002). Among those receiving treatment, approximately 30% suffer from clinically significant binge eating episodes (see Faith, Allison, & Geliebter, 1997). Unfortunately, those who binge eat are likely to experience greater psychological distress and psychopathology (e.g. greater depression and negative body image, lower self-esteem) than those who are not binge eaters (see Faith et al, 1997; see Wadden & Phelan, 2002).

Psychological Factors and Weight Management Treatment Outcomes.

Research has shown that the emotional and psychological disturbances that individuals present with at the outset of treatment are significantly related to reduced success with behavioral weight loss treatment. For example, in an effort to identify baseline psychosocial correlates of success with a behavioral weight reduction program, Teixeira, Going, Houtkooper, Cussler, Martin, Metcalfe, et al. (2002) administered a battery of measures to participants in a 16-week behavioral weight reduction program prior to treatment. Results showed greater body size dissatisfaction, lower self-esteem, and greater perceived negative impact of weight on quality of life to be associated with less weight loss. Results also showed that these factors significantly distinguished between participants who responded to treatment from those who did not respond to treatment. These results are consistent with findings by Kiernan, King, Kraemer, Stefanick, and Killen (1998) who found body size dissatisfaction to be among the strongest factors capable of discriminating between participants successful and unsuccessful with weight loss in a 1-year weight loss program.

Research has also identified a history of sexual abuse as being a significant psychological variable affecting treatment success. Felitti (1993) and King, Clark, and Pera (1996) assert that individuals with a history of sexual abuse cope poorly with negative affect and are very likely to eat in response to stress. For this reason, they predict that these individuals will experience significant difficulty adhering to a weight loss treatment protocol. The tendency to eat in response to emotional distress is likely to lead to numerous treatment violations, premature termination of weight loss treatment,

and thus ultimately interfere with treatment success. Research by King et al. (1996) supports this claim. In reviewing the clinical data of 22 obese women who reported a history of sexual abuse to the clinical data of 22 who denied a history of sexual abuse who were enrolled in a hospital based weight management program, King et al. (1996) found that women with a history of sexual abuse were less compliant with the treatment protocol (e.g. violated diet plan) and lost significantly less weight than those who denied such a history.

Psychosomatic theories of obesity (Bruch, 1973; Kaplan & Kaplan, 1957) provide additional insight into the detrimental role that compromised psychological functioning can play in affecting treatment success. Psychosomatic theories of obesity commonly predict that obese individuals overeat in response to negative or uncomfortable emotional states (e.g. anger, anxiety, boredom, depression) and that eating reduces emotional discomfort. This "emotional eating" is common among individuals seeking weight loss treatment, and even more common among those seeking treatment who are binge eaters, with eating disorders, and histories of sexual abuse (Canetti, Bachar, & Berry, 2002; see Faith, Allison, & Geliebter, 1997; King, Clark, & Pera, 1996).

Research on emotional eating has generated an abundance of evidence on the adverse effects that an obese individual's emotions can have on eating patterns (e.g. see Canetti, Bachar, & Berry, 2002; see Faith, Allison, & Geliebter, 1997; Geliebter & Aversa, 2003). There is also research supporting the assertion that emotional eating can significantly interfere with weight control. For example, Blair, Lewis, and Booth (1990) compared changes in emotional eating among 187 English adults and found that

participants who were able to reduce their levels of emotional eating lost more weight and were more successful at reaching their target weight after one year than participants who were unsuccessful with decreasing levels of emotional eating.

In a more recent study, Carlson, Sonnenberg, and Cummings (1994) investigated the effects of emotional eating on weight loss program outcomes. They found that the emotional eating factor of the Dieting Readiness Test was significantly associated with participants' completion of a weight loss program. Their results suggest that participants who reported greater experiences of eating in response to distress were less likely to adhere to treatment protocol and more likely to prematurely terminate treatment than those who did not report such experiences. This research is correlational in nature, and does not offer definitive proof as to the causal effects of emotional eating on weight loss treatment outcomes. However, research showing that the reduction of emotional eating tendencies predicts better treatment outcomes (see Faith, Allison, & Geliebter, 1997) strengthens the argument that emotional eating plays a critical role in success with weight loss treatment.

Psychological Factors and Weight Management Treatment Program Attrition.

Research focusing on causes of attrition in behavioral weight loss treatment programs has not only yielded insight into the psychological factors that affect weight loss, but also with likely causes of premature termination from treatment programs. For example, Pekarik, Blodgett, Evans, and Wierzbicki (1984) found that among participants in a 12-week behavioral program, early drop outs (17.5% of participants; attended 1-3 sessions) reported less functional scores on measures of personality and depression, and

significantly higher anxiety scores than the remaining participants. Yaas-Reed, Barry, and Dicey (1993) found that among participants in a 26-week very low calorie and behavior therapy combined weight loss program, early drop outs (25% of participants; failed to attend between weeks 2 - 14) scored higher on reports of previous emotional disturbance than the remaining participants.

More recent studies have identified similar, as well as additional, psychological variables related to attrition. For example, Ho, Nichaman, Taylor, Lee, and Foreyt (1995) found binge eating status to be a significant predictor of attrition (18.6%) among participants in a 6-month weight loss program. Clark, Niaura, King, and Pera (1996) found depression to be a significant predictor of attrition (rate not reported) among participants in a 26-week long behavioral therapy and very low calorie diet combined program. Reviews of weight loss treatment program literature have also identified psychological factors as common correlates of program attrition. For example, Foreyt and Goodrick's (1994) review identified binge eating status and stress as being negatively correlated with program attendance. More recently, Davis and Addis (1996), in a review of behavioral weight reduction attrition studies, found binge eating, efficacy, and emotional disturbances (e.g. depression, anxiety) to be significantly related to attrition. While research on attrition has not identified individual variables that consistently predict attrition from behavioral weight loss treatment programs (Yaas-Reed et al, 1993), this line of research has highlighted the critical role that psychological factors play in affecting treatment session attendance and relatedly, overall success with weight management treatment.

Although the behavioral treatment of obesity is likely to address and possibly alleviate some of the psychological distress of participants, the fact that drop out rates and weight loss success are significantly affected by psychological factors suggests that more can be done to affect adherence to behavioral treatment protocols and overall treatment success. While the multicomponent structure of the behavioral treatment of obesity offers a number of possible avenues to explore in trying to accomplish such a goal, one component that has received much attention in recent behavioral weight loss treatment research is self-monitoring.

The Role of Self-Monitoring in Weight Management Treatment.

Self-monitoring is the systematic observation and recording of target behaviors (Kanfer, 1970). It plays an important role in behavioral medicine assessment and treatment (Barton, Blanchard, & Veazey, 1999) and its value has been well documented in the successful treatment of many different disorders, including obesity.

Self-monitoring is widely viewed as critical to the treatment of overweight and obesity. It has been described as the "cornerstone" (Wadden, 1993, p. 201) and most effective technique used in the behavioral treatment of obesity (e.g. Kirschenbaum, 1987; Wadden & Foster, 1992). Weight loss participants have reported it to be one of the most helpful components of treatment as well (Foreyt & Poston, 1998).

Reasons for the importance and critical value of self-monitoring mainly stem from its facilitation of the weight loss participant's awareness of obesity-related behaviors, factors that may influence those behaviors, and the ability to address those factors effectively during treatment (Baker & Kirschenbaum, 1993; Foreyt & Poston,

1998). Self-monitoring is used to heighten awareness of behaviors, thoughts, and emotions that influence weight control and overall treatment success. These behaviors, thoughts, and emotions can then be tracked, evaluated, and modified throughout the course of treatment, thus contributing to successful treatment outcomes.

Research has generally shown that individuals who self-monitor as part of their weight loss treatment program are more likely to adhere to a treatment protocol (e.g. attend treatment sessions) and experience improved treatment outcomes (e.g. lose more weight) (Foreyt & Goodrick, 1994; Foreyt & Poston, 1998). For example, Sperduto, Thompson, and O'Brien (1986) randomly assigned 8 of 16 obesity treatment groups to an experimental condition in which self-monitoring forms were given to the participants. At the end of the 15-week treatment and at a 3-month follow-up, significantly more participants in the self-monitoring group completed the 15 weeks of treatment than those in the comparison group. Results also showed that the self-monitoring group lost 64% more weight than the comparison group.

Baker and Kirschenbaum (1993; 1998) found that self-monitoring enhanced weight loss treatment outcomes. Over the course of 18 weeks, participants in a long-term cognitive behavioral weight loss program were given a self monitoring booklet and encouraged to record all food and calorie consumption during the week. Feedback on self-monitoring content was then discussed with participants during each of their weekly sessions. Results showed that self-monitoring any food eaten, all foods eaten, time food was eaten, quantity of food eaten, and grams of fat consumed were positively correlated with weight loss and that the absence of self-monitoring was negatively associated with

weight loss. Overall, their results showed that the degree to which participants self-monitored was related to the amount of weight they lost (Baker and Kirschenbaum, 1993).

Results also showed that participants who completed more self-monitoring content and completed self-monitoring content more often, were more likely to lose weight. Relatedly, results showed that participants lost more weight during the weeks in which they engaged in greater degrees of self-monitoring than during weeks in which they engaged in lesser degrees of self-monitoring. Similar results were yielded in Baker and Kirschenbaum's (1998) study investigating the effects of self-monitoring on success with weight control over a seven-week period that incorporated the Thanksgiving and Christmas holidays. Each week participants in a long-term cognitive behavioral weight-loss program were given a self monitoring booklet and encouraged to record all food and calorie consumption during the week. Feedback on self-monitoring content was then discussed during their weekly sessions. Results showed that participants who monitored most consistently were more likely to lose weight and have greater success with controlling their weight than those who were less consistent with self-monitoring, thus again showing that self-monitoring is associated with enhanced behavioral weight loss treatment outcomes.

For the most part, research investigating the effects of self-monitoring on adherence and weight loss outcomes of behavioral weight loss treatment has primarily involved investigating the effects of monitoring food intake, caloric intake, and weight. This reflects the fact that the self-monitoring of food and information related to eating is

the "primary tool" used in the behavioral treatment of obesity (Corrigan, Zegman, Crusco, & Malone, 1987, p. 118). Although increasing participant awareness of dysfunctional eating habits appears to play a central role in behavioral weight loss treatment success, knowing that psychological factors have the potential to limit success with treatment suggests that an intervention designed to attend directly to psychological well-being is worthwhile.

Self-Monitoring Psychological States in Weight Management Treatment.

Research has shown that an intervention directed at monitoring variables directly related to weight and food intake facilitate the awareness of obesity related behaviors, factors that may influence those behaviors, and the ability to address them in an effective structured manner during weight loss treatment. Given this, it is expected that an intervention directed at monitoring psychological states will facilitate similar outcomes. By self-monitoring psychological states, participants will become more aware of their psychological distress, how it may affect various obesity and treatment related behaviors, and assist them with effectively addressing these disturbances as they proceed with weight loss treatment.

The process of self-monitoring facilitates awareness of how one is feeling as well as awareness of various characteristics about how one feels (e.g. how often and to what extent one feels a particular way). Continuous self-monitoring will provide opportunities for positive reinforcement when experiencing good feelings as well as provide insight into when to seek additional assistance when psychological experiences are more negative. Self-monitoring will allow the psychological vulnerabilities of participants to

be addressed at the outset and throughout treatment and facilitate a therapeutic way of providing continuous feedback to participants regarding psychological status. These experiences are expected to reduce the rate of premature termination from treatment and enhance the likelihood of optimal weight loss.

Not only should self-monitoring facilitate the therapeutic effects explained above, but the activity of self-monitoring has been shown to have direct therapeutic effects as well. Research has shown that the reactive effects of self-monitoring lead to therapeutic changes in the frequency of a wide variety of target behaviors such as paranoid ideation, suicidal ideation, and ruminative thinking (see Korotitsch & Nelson-Gray, 1999). Self-monitoring negative behaviors leads to a decrease in their frequency while self-monitoring positive behaviors leads to an increase their frequency. Empirical research offers support for this phenomena with emotional experiences as well. For example, Harmon, Nelson, and Hayes (1980) found that self-monitoring mood significantly decreased depressed mood among depressed patients. In a more recent study, Fernandez and Beck (2001) found that the self-monitoring of anger among college students with moderate levels of anger led to slight reductions in anger intensity. Therefore, it is expected that one's experiences of depression, anger, and other psychological states will be therapeutically affected by self-monitoring.

Overall, much of the research literature regarding overweight and obesity offers theoretical and empirical support for investigating the role of participant psychological functioning in success with behavioral weight loss treatment. Research has established that individuals in behavioral weight loss treatment programs present with emotional and

psychological disturbances that are likely to adversely affect treatment outcomes such as attendance and weight loss. In addition, these disturbances may not be directly and consistently addressed by traditional behavioral weight loss treatment protocols, making it more likely for these participants to prematurely terminate treatment and/or lose less weight. Thus, the present study was designed to enhance behavioral weight loss treatment outcomes by training participants to engage in the self-monitoring of psychological states.

The Present Study.

This study implemented a self-monitoring intervention during the first half of a 24-week weight management treatment program. The self-monitoring intervention began at the outset of the weight management treatment and ceased after the 12th week of the treatment. During the initial five weeks of the treatment, the intervention also involved participation in phone-based feedback on self-monitoring responses. The full intervention was implemented during the initial period of the treatment for various reasons. Formal and informal investigations suggest that participants are most likely to exhibit poor attendance and premature termination during this initial phase of treatment. Research has shown that declines in attendance and premature terminations are most evident during the first six weeks of behavioral weight loss treatment programs. Bennett and Jones (1986) showed that early dropouts (dropped out by session 3 of a 16 week program) made up 16% of the 30% of participants who dropped out of treatment. In a second study, Bennett and Jones found that early dropouts (did not attend session 4 of a 16-week treatment) made up 14.5% of the 23% of participants who dropped of treatment.

Additional empirical research specifying which weeks in treatment participants are most likely to terminate is extremely scarce. This is largely due to the fact that definitions of attrition from behavioral weight loss programs vary significantly across studies (Davis and Addis, 1996). However, recent observations of drop out rates at The Ohio State University Comprehensive Weight Management Program indicate that participants who prematurely terminate treatment tend to do so early in treatment, usually between weeks 3 and 6 of the 24-week program (A. Gerber, personal communication, September 15, 2003), coinciding with evidence of early drop out rates presented in empirical research.

The present study investigated the effects of a short-term self-monitoring intervention on participant success with behavioral weight management treatment. The intervention required that participants monitor several psychological states, daily, over the course of twelve consecutive weeks. It also required that they participate in feedback sessions over the course of the initial five weeks of treatment. Therefore, the present study investigated the effects of self-monitoring psychological states (specifically those commonly identified as correlates of poor attendance and treatment outcomes among persons involved in weight management treatment) on participant's attendance and weight outcomes across 12-weeks of behavioral weight management treatment.

This self-monitoring intervention was designed to facilitate one's awareness of psychological states. Additionally, providing feedback on changes in these states should influence success with behavioral weight management treatment. It was hypothesized that participants who were randomized to the self-monitoring condition would experience

improved success with behavioral weight management treatment. Specifically, it was expected that participants assigned to the self-monitoring condition would attend more treatment program classes and achieve greater weight loss than participants randomly assigned to the usual care control condition. Relatedly, it was hypothesized that participants assigned to the self-monitoring condition would experience less psychological distress than those assigned to a usual care condition.

CHAPTER 2

METHOD

Participants.

Fifty-six participants responded to recruitment efforts. This sample consisted of 53 obese and 3 overweight adults who were recruited from among new enrollees in The Ohio State University (OSU) Comprehensive Weight Management Program (CWMP). They were recruited via flyers posted in the OSU Center for Wellness and Prevention and via announcements made by research staff at the close of the new enrollees' week-1 CWMP class. Please refer to Appendix A to view the recruitment flyer and script.

Participants were offered a payment of $20 for completing participation in the study. Criteria for admission into the study included that (1) each participant be currently enrolled in the CWMP and (2) not yet have completed their week-1 CWMP class. Participants' mean BMI at baseline was 44.5 kg/m^2 (SD = 11.4), with BMI ranging from 29.0 kg/m^2 to 89.4 kg/m^2. Participants' mean age was 45.2 (SD = 10.7). The sample was mostly female (n = 51, 91%). The sample was predominantly Caucasian (87%, n = 49), 11% African Americans, and 2 % Native American. This was a well educated sample. Sixty-one percent had attained an Associate's, Bachelors, Masters, or Doctoral degree.

Thirty-seven percent graduated high school only. The remaining 2% of the sample only completed the tenth grade. Seventy-one percent of the sample was enrolled in the 24-week CWMP and 29% was enrolled in the 12-week CWMP[1]. Forty-six percent of the sample was preparing for bariatric surgery and 54% was not. Demographic information is summarized in Tables 1 and 2, both of which are presented in Appendix B.

Procedure.

Participants were new enrollees in The Ohio State University's CWMP. The CWMP is a 24-week behaviorally based treatment for overweight and obesity. It is delivered to participant groups of up to 20 members. The program uses a closed group format. This allows the groups that form at the beginning of treatment to stay together throughout their treatment without new members joining. The main goal of the treatment is to encourage lifestyle changes that promote weight loss and long-term weight maintenance. In addition to basic behavioral treatment, personalized treatment plans also include individualized treatment, regular medical assessments, exercise, nutritional education, drug therapy options and liquid supplement programs. The standard procedure requires that participants be weighed by medical staff using digital scales immediately before attending each of the weekly CWMP classes. Weekly classes last approximately one hour and involve submitting weekly food and exercise journals and engaging in that week's program topic (e.g. metabolism, exercise).

[1] The CWMP offers a 12-week weight management treatment. This 12-week treatment is identical to the first 12-weeks of the 24-week treatment. Participants enrolled in the 12-week treatment are often pursuing bariatric surgery. These persons are often physician-referred to the 12-week program with the hope that they will demonstrate adherence to a lifestyle change pre-bariatric surgery.

Baseline Procedure. Participants initiated participation in the present study at outset of the CWMP. At the close of the week-1 CWMP class, groups of no more than 20 participants consented to participation in the study. Please refer to Appendix C to review the consent forms. Immediately after consenting, research staff read from a standard script (please refer to Appendix D) describing the general purpose of the study, details about study participation, and informing the participants that they could withdraw their participation at any time without penalty. Each participant was then given an envelope and a packet of pre-intervention or baseline materials. The envelopes and packets contained either self-monitoring or control condition materials. This procedure simultaneously randomly assigned each participant to either the self-monitoring condition or the usual care control condition. A random number generator (Urbaniak, 1997) was used to preorder the envelopes and corresponding packets.

Participants were instructed to immediately begin working on the baseline materials. These materials consisted of a sheet requesting demographic information, a face sheet requesting contact information (please refer to Appendix E), and various measures of psychological well-being and quality of life. After participants completed the baseline materials, they were instructed to return them to research staff before exiting the room. Upon their receipt, research staff instructed participants to immediately review the instructions in the envelope provided to them because the instructions may request that they begin working on additional materials that very same evening.

Intervention Phase Procedure: The Self-Monitoring Condition (SMC).

Participants assigned to the SMC received an envelope containing instructions on how to complete the 12 blank self-monitoring logs (also included), details about receiving self-monitoring feedback, and information regarding the completion of follow-up materials (please refer to Appendix F to view these items). Each self-monitoring log consisted of seven text boxes, each corresponding to a separate day of the week. Participants were instructed to begin completing the self-monitoring logs on the same day that they completed their week-1 CWMP class. Instructions also indicated that they were to return each completed weekly log to research staff immediately before attending their next scheduled CWMP class. This was accomplished by the participant depositing the log into a study drop box located in the OSU Center for Wellness and Prevention. In the event that participants were unable to deposit their log, log responses were relayed to research staff via phone.

Self-Monitoring Feedback. Paralleling the procedure of previous relevant studies (e.g. Baker & Kirshenbaum, 1993, 1998; Boutelle, Kirschenbaum, Baker, & Mitchell, 1999; Saelens, Sallis, Wilfley, Patrick, Cella, & Buchta, 2002), the current study incorporated feedback into the self-monitoring intervention. Review and feedback of participants' self-monitoring log responses were provided via weekly phone contact with a research staff member. Standard phone scripts were used to guide the feedback sessions. Similar to the investigations executed by Saelens et al. (2002) and Baker and colleagues, only one research staff member provided feedback to each participant in the

present study. This was done to facilitate rapport during the weekly feedback sessions and reduce error (e.g. potential error yielded by multiple feedback administrators).

The first feedback session took place between the week-2 and week-3 CWMP classes. During this session, the research assistant followed the "week 1" feedback script (please refer to Appendix G). During the first and remaining three feedback sessions, the researcher inquired about any difficulties and general experiences the participant encountered completing the log. During the week-1 feedback session, the participant was given feedback on the average of the daily ratings on each psychological state from his/her week-1 self-monitoring log. During subsequent feedback sessions, the participant was given feedback comparing the average of his/her daily ratings on each psychological state from his/her most recent self-monitoring log to the average of daily ratings on each psychological state from his/her previous week's self-monitoring log.

The second feedback session occurred between the week-3 and week-4 CWMP classes and the third feedback session occurred between the week-4 and week-5 CWMP classes. During these sessions, the research assistant followed the "week 2/3" feedback script (please refer to Appendix G). The fourth and final feedback session occurred between the week-5 and week-6 CWMP classes. During this session, research staff followed the "week 4" feedback script (please refer to Appendix G). During this session, participants were made aware of the fact that (1) this session would be their final feedback session, and that (2) completing study participation required that they continue to monitor up until their week-12 CWMP class. At this time, each participant was

informed that he/she could use extra copies of the logs to self-monitor after completing the study. This feedback session closed with the participant being informed that he/she would be receiving follow-up questionnaires in the mail in a few days.

Each feedback session took place within three days after the class at which the logs were due. In the event that a participant could not be reached and feedback given within three days after the log due date, he/she was contacted the following week. At that time, the missed feedback session was combined with the subsequent feedback session. Of the 25 SMC participants, 68% (n = 17) received all 4 feedback sessions, 12% (n = 3) received 3 feedback sessions, 4% (n = 1) received 2 feedback sessions, 8% (n = 2) received 1 feedback session, and 8% (n = 2) received no feedback sessions. It should be noted that 16% (n = 4) of the SMC participants dropped from the study before completing the intervention phase. These participants received, at most, one feedback session before dropping out of the study. All feedback sessions lasted no longer than 8 minutes. Participants generally denied difficulty completing the logs; reporting that the most difficult aspect was simply remembering to monitor.

Intervention Phase Procedure: The Control Condition (CC). Participants in the usual care condition were not given self-monitoring logs. They received treatment as usual from the CWMP. At the outset of the study, participants assigned to the CC received an envelope containing instructions on how to proceed with participation in the study (please refer to Appendix H). These instructions described the receipt, completion, and return of follow-up questionnaires.

Post-Intervention and Follow-Up Phase Procedures: The SMC. Research staff mailed post-intervention assessment materials to SMC participants immediately after the week-4 feedback session was completed (which occurred between their week-5 and week-6 CWMP class). Participants were instructed to complete the materials immediately upon receipt and return them to research staff using the self-addressed stamped envelope provided. Participants were also given the option of returning the materials to research staff via the study drop box at the OSU Center for Wellness and Prevention. Participants were instructed to return the completed follow-up materials the day of their week-6 CWMP class.

Post-Intervention and Follow-Up Phase Procedures: The CC. Participants assigned to the control condition were contacted via phone within three days after their week-5 CWMP class informing them that they would receive follow-up materials in the mail in a few days (please refer to Appendix G to view phone script). Participants were instructed to complete the materials immediately upon receipt and return them to research staff using the self-addressed stamped envelope provided. Participants were also given the option of returning the materials to research staff via the study drop box at the OSU Center for Wellness and Prevention. Participants were instructed to return the completed follow-up materials the day of their week-6 CWMP class.

Post-Intervention and Follow-Up Phase Procedures: SMC and CC.

Participants in both the SMC and CC groups were contacted by phone within three days after their week-11 CWMP class to inform them that they would be receiving follow-up materials in the mail in a few days (please refer to Appendix G to view phone

script). All participants were instructed to complete the materials immediately upon receipt and return them to research staff using the self-addressed stamped envelope provided. Participants were also given the option of returning the materials to research staff via the study drop box at the OSU Center for Wellness and Prevention. Participants were instructed to return the completed follow-up materials the day of their week-12 CWMP class.

Debriefing Procedure. After the week-12 CWMP class had passed and all follow-up materials were received by research staff, participants were met by research staff and provided with payment for completing participation in the study. At this time, participants were also provided with a debriefing form regarding the study (please refer to Appendix I). In the event that a participant could not receive payment or a debriefing form in person, these items were mailed to him/her via postal mail.

Measures of Psychological Well-being and Quality of Life.

At the baseline assessment, all participants were instructed to complete the following measures. Please refer to Appendix J to view available measures.

The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaigh, 1961) is a 21-item self-report measure used to assess severity of depression. Each item consists of a group of 4 statements ("I do not feel sad," "I feel sad," "I am sad all the time and I can't snap out of it," "I am so sad that I can't stand it." [all four statements correspond to the same item]) assigned a score from 0 to 3. Higher scores correspond to more severe depression. The BDI demonstrates high internal consistency,

with Cronbach coefficient alphas of .86 and .81 for psychiatric and non-psychiatric samples, respectively. It demonstrates good validity in clinical and non-clinical populations (see Beck et al.).

The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1993) is a 21-item self-report measure that assesses severity of anxiety (e.g. "Unable to relax," "Fear of losing control.") Each item is rated on a scale from "not at all" (0 points) to "severely; I could barely stand it" (3 points), with higher scores corresponding to more severe anxiety. The BAI demonstrates high internal consistency (Cronbach's coefficient alpha = .92). It also demonstrates good validity in both clinical and non-clinical populations (see Beck et al.).

The Multidimensional Body-Self Relations Questionnaire - Body Areas Satisfaction Scale (MBSRQ-BASS; Cash, 1994) is a 9 -item self-report measure of one's satisfaction or dissatisfaction with discrete aspects of appearance (e.g. "Face [facial features, complexion], Weight." Each item is rated on a scale from 1 (very dissatisfied) to 5 (very satisfied) with the scale midpoint option being 3 (neither satisfied nor dissatisfied). Higher scores are indicative of greater body satisfaction. Research by Cash revealed that the MBSRQ-BASS demonstrates acceptable internal consistency reliability, with Cronbach coefficient alphas of .77 and .73 for males and females, respectively. Temporal stability, as measured by a 1-month retest, is .86 and .74 for males and females, respectively. The MBSRQ-BASS also demonstrates good convergent, discriminant, and construct validities.

The Binge Eating Scale (BES; Gormally, Black, Daston, & Rardin, 1982) is a 16-item self-report scale used to assess binge eating severity, particularly among obese persons. Each item consists of a group of 4 statements ("I don't think about food a great deal," "I have strong cravings for food but they last for only a brief period of time," "I have days when I can't seem to think about anything else but food," "Most of my days seem to be pre-occupied with thoughts about food. I feel like I live to eat." [all four statements correspond to the same item]). Each statement is given a weight from 0 to 3. The total BES score is calculated by summing all of the weights of the 16 items. Higher scores correspond to more severe binge eating symptomology. Research by Gormally et al. revealed that the BES demonstrates high internal consistency reliability and that it is useful in distinguishing levels of binge-eating severity among persons judged by trained interviewers to have either, no, moderate or severe binge-eating problems.

The Emotional Eating Scale (EES; Arnow, Kenardy, & Agras, 1995) is a 25-item self-report scale used to assess the extent to which one eats in response to negative emotional states (e.g. "Resentful," "Irritated"), particularly among the obese. For each item, the respondent is asked to indicate the extent to which each feeling leads him/her to feel an urge to eat on a scale indicating "No desire to eat" (0 points) to "An overwhelming urge to eat" (4 points). It consists of three subscales; angry, anxious, and depressed. A total score for all 25 items is not meant to be interpreted. Subscale scores are to be interpreted individually. Higher scores are indicative of greater levels of emotional eating. Research by Arnow et al. revealed that the EES demonstrates adequate internal consistency reliability and temporal stability. The subscales of the EES were

shown to be highly correlated with severity of binge eating, thus demonstrating good evidence for construct validity. Subscale scores were unrelated to general measures of general psychopathology and self-esteem, thus demonstrating good evidence for discriminant validity. Treatment associated changes in binge eating were associated with changes in EES subscales scores, thus demonstrating criterion-related validity.

The Life Events Checklist (LECL; Holmes & Rahe, 1967) is a self-report scale used to indicate life events (e.g. "Divorce," Mental Abuse") that the respondent has experienced. The present study aimed to assess life events specific to abuse. Therefore, the LECL was modified. Item number 8 (physical and/or sexual abuse) was separated into two items (physical abuse, sexual abuse) so that a clear indication of the respondent's experience of sexual abuse could be obtained. Respondents are asked to check all of the items that they have experienced over a lifetime.

The Perceived Stress Scale (PSS-10; Cohen, Kamarck, & Mermelstein, 1983) is a 10-item self report measure of the degree to which situations in one's life are appraised as stressful (e.g. "In the last week, how often have you been upset because of something that happened unexpectedly?," "In the last week, how often have you felt things were going your way?" [this item is reverse scored]). Each item is rated on a scale from 0 (never) to 4 (very often). Higher scores are indicative of greater perceived stress. The PSS-10 demonstrates adequate internal consistency reliability (Cronbach's coefficient alpha = .78). Research by Cohen et al. also revealed that PSS-10 scores are moderately related to other measures of stress as well as to measures of potential sources of stress. In addition, research revealed that PSS-10 scores are related to frequency and symptoms of serious

illness. Small correlations have also been found between PSS-10 scores and various health practices (e.g. less frequent exercise, failure to quit smoking, and failure among diabetics to control blood sugar).

In an effort to evaluate motivation, participants were also instructed to respond to two queries using a likert-type response scale. The "motivation query" asked participants: "Compared to previous attempts, how motivated to lose weight are you at this time?" The "committed" query asked participants: "How certain are you that you will stay committed to this weight loss program for the time it will take you to reach your goal?" Each item is rated on a scale from 1 (not at all motivated [certain]) to 5 (extremely motivated [certain]). Higher scores on each question are indicative of greater motivation. These questions were adapted from the Dieting Readiness Test (DRT; Brownell, 1990); an instrument designed to assess motivational aspects and readiness for weight loss. Although the DRT has not been shown to have strong psychometric properties (see Martin, Mahlen, & Binks, 2002), these motivational queries have shown to be useful in obesity related treatment research.

The Impact of Weight on Quality of Life-Lite Scale (IWQOL-Lite; Kolotkin, Crosby, Koloski, & Williams, 2001) is a 31-item self-report scale used to assess quality of life, particularly among overweight and obese persons. It consists of five subscales; physical function, self-esteem, sexual life, public distress, and work. Each item is rated on a scale from 1 (never true) to 5 (always true) with higher scores being indicative of a poorer quality of life. The IWQOL-Lite has been shown to have strong psychometric properties. Research by Kolotkin et al. revealed internal reliabilities that ranged from .90

to .94 for the five subscales and equal to .96 for the total scale score. Significant correlations with collateral measures (e.g. changes in body mass index, health related quality of life, self-esteem) demonstrate the construct validity of this instrument.

At the post-intervention and follow-up assessments all participants were instructed to complete the BDI, BAI, MBSRQ-BASS, BES, EES, PSS-10, IWQOL-Lite, and motivation queries.

Outcome Measures.

Weekly class attendance served as a primary dependent variable and indicator of treatment adherence. The totals of participant weekly class attendance as of week-6 and week-12 of the 24-week program were retrieved from files kept by CWMP case managers and used in the final analyses. BMI also served as a primary dependent variable and indicator of treatment success. Participant heights and weights were retrieved from records kept by CWMP case managers in order to calculate BMI. The height measurements used were retrieved from data collected by CWMP staff at the time of the participant's CWMP orientation.

Participants' weights included measurements taken by the CWMP staff. Weight data was retrieved from the CWMP orientation data and from week-1 through week-13 class data. For participants with staff entered weight values missing from either their week-6 or week-12 class (e.g. due to class absence or premature termination from the CMWP), an estimate of weight was calculated by averaging the week-5 or 11 CWMP class weight with the week-7 or 13 CWMP class weight. In the event that this estimate could not be calculated, staff-entered weight values were substituted with

participant-entered weight values. In the event that weight could not be calculated using either procedure, weights provided by participants on their week-6 or week-12 study materials were then used to calculate BMI. Results showed that only 16% of the sample (4% SMC; 12% CC) was missing baseline weights recorded by CWMP staff. At post-intervention, only 12.5% (5.5 % SMC; 7% CC) of these weight values were missing. At follow-up only 16% (5 % SMC, 11% CC) of these weight values were missing. Therefore, a majority of the sample's weight data was did not include missing values.

Overall Analytic Plan.

Preliminary data analyses were conducted to evaluate baseline group differences on BMI, demographic, psychological, and quality of life variables. T-tests were used to evaluate group differences on continuous variables (e.g. BMI, age, BDI scores). Chi Square tests were used to evaluate group differences on dichotomous variables (e.g. CWMP type, gender).

The primary mode of analysis was a 2x3 (group x time) repeated measures ANOVA with group assignment (self-monitoring vs. control) as the between subjects variable and time (baseline vs. post-intervention vs. follow-up) as the within subjects variable. A repeated measures ANOVA was conducted for BMI, each psychological variable, and each quality of life variable. The secondary mode of data analysis was an independent samples t-test with experimental group as the between subjects factor. Independent samples t-test were conducted on class attendance using the post-intervention data and again using the follow-up data.

CHAPTER 3

RESULTS

Demographic and Baseline Characteristics.

A total of 56 individuals responded to recruitment efforts. However, 8 dropped out of the research study before completing all of the assessments[2]. Of the 8, 5 completed the baseline assessments only. The remaining 3 completed the baseline and post-intervention assessments only. From among the drop-outs, only the data of those who completed at least the baseline and post-intervention assessments were included in the final comparative analyses (e.g. ANOVAs). Most participants reported dropping out of the study because they were unable to commit the time necessary to fully participate. This was most often reported by participants assigned to the self-monitoring condition. It is also possible that these participants found the intervention uninteresting, unlikely to affect treatment outcomes, or unable to affect treatment outcomes. Drop-outs also reported that conflicting obligations (e.g. family, personal issues) prevented them from continuing with participation in the study.

[2] Six of the 8 study drop-outs were randomized to the self-monitoring condition. Two of these drop-outs completed the baseline and post-intervention assessments. The remaining four only completed the baseline assessment. Two of the 8 drop-outs were randomized to the control condition. One drop-out completed the baseline and post-intervention assessments. The other only completed the baseline assessment.

Randomization resulted in 25 participants being assigned to the self-monitoring condition and 31 participants being assigned to the treatment as usual control condition. A random number generator (Urbaniak, 1997) was used to randomize participants to groups. It should be noted that the sample size used to generate random numbers for group assignment was 64. This procedure consequently resulted in the uneven assignment of participants to groups at N = 56.

The 25 participants randomized to the self-monitoring condition did not differ from the 31 participants randomized to the control condition with regards to baseline BMI or demographic characteristics. They also did not differ with regards to baseline scores on measures of psychological well-being or impact of weight on quality of life. Chi-square analyses were conducted to evaluate the differences between groups on dichotomous variables. No significant differences were detected between groups with respect to gender, CMWP type or presurgical status. Similarly, no differences were detected with respect to reports of sexual abuse, physical abuse or mental abuse. A majority of study participants denied a history of abuse.

To ascertain the differences between participants assigned to the SMC and CC with respect to motivation, 2x3 repeated measures ANOVAs were conducted where experimental group (self-monitoring vs. control) was the between subjects factor and time (baseline vs. post-intervention vs. follow-up) was the within subjects factor. With respect to the "motivation" query, results revealed no group x time interaction ($\underline{F}$ (1.72, 46) = 1.32, $\underline{p}$ = ns)[3]. In addition, results revealed no group main effect ($\underline{F}$ (1, 46) = .000,

[3] Given the sphericity assumption was violated (as indicated by the Mauchly's test of sphericity) the Greenhouse-Geisser statistic was reported.

p = ns) or time main effect (F (1.72, 46) = .571, p = ns). Cell means averaged a response value of "4," indicating that, on average, participants in both groups reported being "very motivated" throughout the course of the study. Similarly, results revealed no group x time interaction (F (1, 46) = .000, p = ns), group main effect (F (1, 46) = .001, p = ns) or time main effect (F (1, 46) = 1.49, p = ns) with respect to responses to the "commitment" query. Again, cell means averaged a response value of "4," indicating that, on average, participants in both groups reported being "very committed" throughout the course of the study.

Tables 1, 2, and 3 offer summaries of demographic and baseline characteristics and psychological well-being and quality of life scores. Please refer to Appendix B to view these tables.

Self-Monitoring Consistency.

Baker and colleagues stress the importance and utility of measuring consistency in self-monitoring. Baker and Kirschenbaum (1993) have established a means of calculating a self-monitoring index. This index was constructed using six variables which were found to be intercorrelated and also significantly correlated with weight loss. Following similar logic, self-monitoring consistency was measured using the procedure adopted from Baker and Kirschenbaum (1998). A self-monitoring index was calculated by summing for each day the participant's monitoring of any psychological states for that day + monitoring of all psychological states for that day – not monitoring at all (range -1 to 2). Weekly monitoring indexes were calculated by summing the daily monitoring indexes (range -7 to 14). The initial 4 weekly monitoring indexes were then added to

create a total monitoring index. Results showed that a majority of SMC participants (21 out of 25) completed 100% of their logs over the course of the intervention. Four participants obtained less than perfect self-monitoring consistency scores. This resulted from participants not handing in self-monitoring logs following study termination. All four participants dropped out of the study during the intervention phase.

Effect of Self-Monitoring on Class Attendance.

In order to ascertain whether participants assigned to the SMC attended more CWMP classes than participants assigned to the CC, an Independent Samples T-test was conducted. Results showed that the groups did not differ significantly with respect to total class attendance as of the week-6 CWMP class/post intervention (t = -.991, p = ns) or as of the week-12 CWMP class/follow-up assessment (t = -.575, p = ns). Post-intervention, the SMC participants (n = 21) had attended an average of 5.43 classes (SD = 1.25) and the CC participants (n = 30), an average of 5.70 classes (SD = .70). At follow-up, the SMC participants (n = 19) had attended an average of 10.1 classes (SD = 3.11) and the CC participants (n = 29), an average of 10.5 classes (SD = 1.86). These results indicate that self-monitoring group assignment did not affect participant treatment adherence as measured by class attendance.

Effect of Self-Monitoring on BMI.

In order to ascertain the differences between participants assigned to the SMC and CC with respect to BMI across time, a 2x3 repeated measures ANOVA was conducted, where experimental group (self-monitoring vs. control) was the between subjects factor and time (baseline vs. post-intervention vs. follow-up) was the within subjects factor.

Results revealed no group x time interaction (F (1.40, 46) = .635, p = ns)[4] and no group main effect (F (1, 46) = .489, p = ns) on BMI scores. Results revealed a significant time main effect (F (1.40, 46) = 43.2, p = .000). Results suggest that participants in both groups experienced a decrease in BMI over time. Please refer to Figure 1 (see Appendix K) to view an illustration of these results.

Effect of Self-Monitoring on Psychological Well-Being.

In order to ascertain the differences between participants assigned to the SMC and CC with respect to each psychological variable across time, 2x3 repeated measures ANOVAs were conducted, where experimental group (self-monitoring vs. control) was the between subjects factor and time (baseline vs. post-intervention vs. follow-up) was the within subjects factor.

With respect to depression, results revealed a significant group x time interaction (F (1, 46) = 7.23, p = .010). There was also a significant time main effect (F (1, 46) = 22.1, p = .000) but no group main effect on BDI scores (F (1, 46) = .290, p = ns). These results indicate that the effect of time on depression varied across experimental groups. Post hoc analyses were conducted to clarify the nature of the interaction. Results revealed that for participants in the self-monitoring group, there was no significant difference between depression scores across time (baseline: m = 8.89 ± 5.92; post-intervention: m = 7.24 ± 6.39; follow-up: m = 7.21 ± 7.84). In contrast, results revealed that for participants in the control group, depression scores differed significantly across time (baseline: m = 12.0 ± 7.07; post-intervention: m = 8.20 ± 6.53; follow-up: m = 5.85

[4] Given the sphericity assumption was violated (as indicated by the Mauchly's test of sphericity) the Greenhouse-Geisser statistic was reported.

± 5.06), with all ps ≤ .05. Therefore, while participants in the self-monitoring group experienced no changes in depression across time, participants in the control group experienced a decrease in depression across time. Please refer to Figure 2 (see Appendix K) to view an illustration of these results.

With respect to anxiety, results revealed no effects on BAI scores (group x time interaction: F (1, 46) = .070, p = ns; group main effect: F (1, 46) = .544, p = ns; time main effect: F (1, 46) = 2.06, p = ns). These results indicate that levels of anxiety were unaffected by group assignment and time. Please refer to Table 3 to view the means of these groups.

With respect to body satisfaction, results revealed no group x time interaction (F (1, 46) = .000, p = ns) or group main effect (F (1, 46) = .509, p = ns) on MBSRQ-BASS scores. Results revealed a significant time main effect (F (1, 46) = 20.7, p = .000). Results suggest that participants in both groups experienced small increases in body satisfaction across time. Please refer to Table 3 to view the means of these groups.

With respect to binge eating, results revealed no group x time interaction (F (1, 45) = .013, p = ns) and no group main effect (F (1, 45) = .008, p = ns) on BES scores. Results revealed a significant time main effect (F (1, 45) = 19.2, p = .000). Results suggest that participants in both groups experienced less severe symptoms of binge eating symptomatology across time. Please refer to Table 3 to view the means of these groups.

With respect to emotional eating: anger, results revealed no group x time interaction (F (1.75, 46) = .311, p = ns)[5] and no group main effect (F (1, 46) = 1.73, p = ns) on EES anger scores. Results revealed a significant time main effect (F (1.75, 46) = 10.9, p = .000). Results suggest that participants in both groups ate less in response to feelings of anger across time. Please refer to Table 3 to view the means of these groups.

With respect to emotional eating: anxiety, results revealed no group x time interaction (F (1, 46) = 1.39, p = ns) and no group main effect (F (1, 46) = .037, p = ns) on EES anxiety scores. Results revealed a significant time main effect (F (1, 46) = 9.06, p = .004). Results suggest that participants in both groups ate less in response to feelings of anxiety across time. Please refer to Table 3 to view the means of these groups.

With respect to emotional eating: depression, results revealed no group x time interaction (F (1, 46) = 1.03, p = ns) and no group main effect (F (1, 46) = .477, p = ns) on EES depression scores. Results revealed a significant time main effect (F (1, 46) = 32.7, p = .000). Results suggest that participants in both groups ate less in response to feelings of depression across time. Please refer to Table 3 to view the means of these groups.

With respect to perceived stress, results revealed no group x time interaction (F (1, 46) = .550, p = ns) and no group main effect (F (1, 46) = .543, p = ns) on PSS-10 scores. Results revealed a significant time main effect (F (1, 46) = 4.39, p = .042). Please refer to Table 3 to view the means of these groups.

[5] Given the sphericity assumption was violated (as indicated by the Mauchly's test of sphericity) the Greenhouse-Geisser statistic was reported.

Effect of Self-Monitoring on Impact of Weight on Quality of Life.

In order to ascertain the differences between participants assigned to the SMC and CC on IWQOL-Lite scores, 2x3 repeated measures ANOVAs were conducted, where experimental group (self-monitoring vs. control) was the between subjects factor and time (baseline vs. post-intervention vs. follow-up) was the within subjects factor.

With respect to the impact of weight on physical function, results revealed no group x time interaction (F (1, 46) = .009, p = ns) and no group main effect (F (1, 46) = .551, p = ns) on IWQOL-Lite physical function scores. Results revealed a significant time main effect (F (1, 46) = 17.8, p = .000). Results suggest that participants in both groups experienced decreases in the impact of weight on their physical functioning across time. Please refer to Table 3 to view the means of these groups.

With respect to impact of weight on sexual life, results revealed no group x time interaction (F (1, 43) = 1.14, p = ns) and no group main effect (F (1, 43) = .176, p = ns) on IWQOL-Lite sexual life scores. Results revealed a significant time main effect (F (1, 43) = 13.8, p = .001). Results suggest that participants in both groups experienced small decreases in the impact of weight on their sexual life across time. Please refer to Table 3 to view the means of these groups.

With respect to impact of weight on self-esteem, results revealed no group x time interaction (F (1.58, 46) = .164, p = ns) [6], no group main effect (F (1, 46) = .405, p = ns) and no time main effect (F (1.58, 46) = 2.55, p = ns). Similar results were obtained for impact of weight on public distress (group x time interaction: F (1, 46) = 2.46, p = ns;

[6] Given the sphericity assumption was violated (as indicated by the Mauchly's test of sphericity) the Greenhouse-Geisser statistic was reported.

group main effect: F (1, 46) = .071, p = ns; time main effect: F (1, 46) = 2.24, p = ns). Results also revealed no effects on impact of weight on work (group x time interaction: F (1, 44) = .812, p = ns; group main effect: F (1, 44) = .543, p = ns; time main effect: F (1, 44) = .272, p = ns). Therefore, these results suggest that impact of weight on self-esteem, public distress and work were unaffected by group assignment and time. Please refer to Table 3 to view the means of these groups.

With respect to the impact of weight on quality of life: total, results revealed no group x time interaction (F (1, 42) = .985, p = ns) and no group main effect on IWQOL-Lite total scale scores (F (1, 42) = .771, p = ns). Results revealed a significant time main effect (F (1, 42) = 20.2, p = .000). Results suggest that participants in both groups experienced decreases in the impact of weight on the overall quality of their lives across time. Please refer to Table 3 to view the means of these groups.

CHAPTER 4

DISCUSSION

The goal of the present investigation was to evaluate the effect of self-monitoring psychological states on treatment adherence (e.g. class attendance) and treatment outcomes (e.g. weight loss). Results did not support our expectation that CWMP participants who engaged in the self-monitoring of psychological states would attend more treatment program classes than participants who did not engage in self-monitoring. Instead results revealed that self-monitoring did not affect the number of classes attended post-intervention or at the follow-up assessment, approximately six weeks later. Similarly, results did not support our expectation that self-monitoring would lead to greater improvements in body mass index (BMI). Instead, results revealed no differences in BMI between participants who self-monitored and those who did not, post-intervention and at follow-up. These results are generally inconsistent with literature that has shown that self-monitoring of eating behavior is related to improved attendance rates and weight loss outcomes (e.g. Baker & Kirschenbaum, 1998; Foreyt & Poston, 1998; Sperduto, Thompson, & O'Brien, 1986).

These results leave open the question as to why the attendance rates and BMI of those who self-monitored psychological states did not differ from those who participated in treatment as usual. A possible explanation may be that the effects of the intervention were not large enough to affect class attendance and weight loss above and beyond the effects of the behavioral weight management treatment it augmented. A significant component of the behavioral weight management treatment protocol augmented in the present study required that each participant keep a weekly food-journal (i.e. monitor food and caloric intake). This journal was subjected to weekly review by each participant's case manager. Previous research has consistently shown that monitoring food-related variables in this way is critical to one's success with behavioral weight management treatment. It has also shown that this activity can have moderate to large effects on treatment outcomes (e.g. Saelens, Sallis, Wilfley, Patrick, Cella, & Buchta, 2002). Therefore, it is possible that the effect of adding a self-monitoring intervention, namely the monitoring of several psychological states, was ineffective in inducing changes in treatment outcomes above and beyond the changes yielded by the potentially large effects of the core behavioral weight management treatment.

An alternative explanation is that the self-monitoring intervention did not lead to any group differences because the mechanism by which it was proposed to do so did not occur. More specifically, we proposed that engaging in the self-monitoring of psychological states would facilitate the awareness of obesity related behaviors (e.g. eating when experiencing negative mood), factors that may influence those behaviors (e.g. stressors), and the ability to address them in a therapeutic manner during weight

management treatment (e.g. seek feedback, counseling, therapeutic relief). These are similar to the effects proposed to take place during the monitoring of food-related variables. It is possible that engaging in the intervention did not facilitate greater insight into influences of emotional distress on eating behavior.

However, results with respect to psychological well-being and quality of life outcomes provide some additional insight. Although results were generally inconsistent with the hypothesis that self-monitoring would lead to greater psychological well-being and quality of life, there is some support for the continued investigation of this hypothesis. Results suggested that participants in the self-monitoring group tended to experience decreases in perceived stress and impact of weight on public distress from baseline to post-intervention. Results suggested there to be no tendency towards change on these variables among participants in the control group. These results indicate that self-monitoring may facilitate therapeutically desired or reactive effects on the behaviors self-monitored (see Korotitsch & Gray, 1998). However, it is unclear as to why similar trends were not demonstrated for other monitored states (i.e. body satisfaction, depression, anxiety, and anger). Future investigations into the possible moderating effects of psychological well-being and quality of life on behavioral weight management treatment outcomes appear warranted.

Another explanation for the study's null results involves the psychological characteristics of the present sample. It is suspected that this sample was in particularly good psychological health at the outset of treatment and study participation. Results of the baseline assessment suggested that participants were not experiencing significant

emotional or psychological distress at the outset of treatment. For example, results showed that mean baseline depression (BDI) and anxiety (BAI) scores fell within the mild and minimal ranges of clinical distress, respectively. Post hoc investigations were conducted with the small sample subsets reporting greater levels of psychological distress and histories of abuse. The only results supporting our hypotheses showed that among participants who reported a history of sexual or mental abuse, participants assigned to the self-monitoring condition tended to experience a decrease in the impact of weight on quality of life across time while participants assigned to the control condition did not.

More specifically, among participants who reported a history of sexual abuse, those assigned to the self-monitoring condition (n = 5) tended to experience decreases in the impact of weight on physical functioning, sexual life, and overall quality of life from baseline to follow-up. This was not evidenced by participants in the control condition (n = 4). Among participants who reported a history of mental abuse, those assigned to the self-monitoring condition (n = 3) tended to experience decreases in the impact of weight on physical functioning and overall quality of life from baseline to follow-up. This was not evidenced by participants in the control condition (= 7).

However, initial results revealed that the overall sample was not particularly distressed and possessed relatively low rates of binge eating symtomology and histories of abuse. This phenomenon of low psychological distress and low rates of prior abuse at the outset of treatment may be serving as a floor effect, limiting the degree to which participants could experience additional decreases in distress during the course of treatment.

Relatedly, participants' low levels of psychological distress likely facilitated greater motivation and ability to commit to their treatment goals. This assertion is supported by study results showing that participants reported high levels of motivation and commitment throughout the course of the study. These phenomena may have further decreased the ability of the self-monitoring intervention to differentiate the experimental and control groups on treatment outcomes. Overall, the low level of psychological distress suggests that the present results may not be generalizable. It is likely that more distressed samples would evidence the proposed effects of self-monitoring psychological states on treatment outcomes and not the null effects evidenced by the present investigation. Data regarding the individuals that refused to participate in the present study was not available. However, in light of these results, it appears that examining such data would be worthwhile.

A final note should also be made with respect to the sample size employed by the present study. Experimental hypotheses were tested utilizing a smaller sample of participants than initially proposed (a total sample of 56 participants, 25 of whom were randomized to the self-monitoring condition). The smaller sample size and resultant uneven number of participants included in each group, may have decreased the probability of detecting true relationships that may exist among variables assessed in this study. However, the present study can serve as a valid pilot investigation and inform future research. Future studies designed in light of the current results would allow for an improved opportunity to detect the various effects of self-monitoring psychological states and expand on the proposed short-comings and findings of the present investigation.

CHAPTER 5

CONCLUSIONS

Behavioral weight management treatment is widely viewed as the treatment of choice for overweight and moderately obese individuals. Participants completing these treatment programs typically lose at least 8-10% of their initial weight (Delvin, Yanovski, & Wilson, 2000; see Wadden & Osei, 2002). This amount of weight loss has been shown to lead to significant improvements in the health of overweight and obese individuals (NCHS, 2003d). Unfortunately, research has also shown that psychological factors commonly play a role in significantly reducing participants' success with these very treatments. This includes contributing to alarmingly high premature termination rates from treatment programs and significantly limiting weight loss (Wadden & Osei; Teixeira, Going, Houtkooper, Cussler, Martin, Metcalfe, et al., 2002).

Among the psychological factors implicated in reducing weight management treatment success are greater body size dissatisfaction, lower self-esteem, and greater perceived negative impact of weight on quality of life (Kiernan, King, Kraemer, Stefanick, & Killen, 1998; Teixeira, Going, Houtkooper, Cussler, Martin, Metcalfe, et al., 2002). Research has also shown that women who report a history of sexual abuse are

likely to be less compliant with the treatment protocol and lose significantly less weight than those who do not report an abuse history. This is proposed to be related to their concurrent difficulty coping and eating in response to stress (King, Clark, & Pera, 1996). Relatedly, research on emotional eating (which is common among obese individuals) has shown that eating in response to negative emotional states is related to poor weight control and premature termination from weight management treatment programs (Blair, Lewis, & Booth, 1990; Carlson, Sonnenberg, & Cummings, 1994; see Faith, Allison, & Geliebter, 1997).

Research focusing on causes of attrition from behavioral weight management treatment programs has yielded additional insight into the psychological factors that adversely affect treatment success. These include less functional scores on measures of personality, depression, anxiety, binge eating, and stress (e.g. Davis & Addis, 1996; see Foreyt & Goodrick 1994). The behavioral treatment of obesity is likely to address and possibly alleviate some of the psychological distress participants are suspected to present with at the outset of treatment. However, the fact that treatment adherence, completion rates, and weight loss success have been shown to be adversely affected by various psychological factors, suggests that more needs to be done. Therefore, the present investigation was executed in an effort to design a psychological intervention capable of enhancing weight management treatment outcomes.

The present investigation was the first to examine the effects of self-monitoring psychological states on attendance, BMI, psychological-well being and impact of weight on quality of life among participants in a comprehensive behavioral weight management

treatment program. Findings did not support our expectations that CWMP participants engaged in self-monitoring would attend more treatment program classes and experience greater improvements in BMI. Findings also did not support the expectation that self-monitoring would lead to enhanced psychological-well being and quality of life.

We suggest several possible explanations for the null results. One involves the inability of the present self-monitoring intervention to produce effects on treatment outcomes above and beyond those likely resultant from the behavioral weight management treatment protocol (the treatment augmented by the current investigation). More specifically, it is suspected that the effects of self-monitoring psychological states may not have been large enough to affect treatment outcomes above and beyond the potentially large effects the self-monitoring of food-related variables had on treatment outcomes.

Another explanation involves the possibility that the mechanism proposed to mediate the effects of the self-monitoring intervention (e.g. facilitation of awareness of obesity related behaviors, factors that may influence those behaviors and ability to address them in a therapeutic manner) did not take place, thus rendering the intervention ineffective. It was also suggested that the null findings resulted from the lack of psychological distress in the sample. Thus, creating a floor effect and possibly simultaneously contributing to increased motivation and commitment to succeed with

treatment. Results also showed that groups tended to be unequal, although not significantly, with respect to certain variables (e.g. presurgical status). It should be noted that Post Hoc investigations involving participants not preparing for bariatric surgery did not reveal any results supporting our hypotheses. However, future studies may benefit from matching pairs subjects on variables such as presurgical status pre-randomization.

The limitations of the current study provide insight into how future studies can proceed when investigating the effects of self-monitoring psychological states on success with behavioral weight management treatment. More specifically, the present study suggests that focusing on the design of the self-monitoring intervention could be of great value. Korotitsch and Gray (1998) offer a number of suggestions on how to design a self-monitoring intervention to enhance its therapeutic or reactive effects. Incorporating these suggestions into the design of the present study's self-monitoring activity may serve to create an intervention powerful enough to show effects in future studies. For example, Korotitsch and Gray (1998) suggest that reactive effects can be enhanced by goal setting, providing feedback on progress towards identified goals, and providing reinforcement contingent on behavior change. The present study did not identify specific goals related to participants decreasing their experience of negative psychological states and increasing their experience of positive psychological states. Instead, participants were instructed to simply report upon daily psychological experiences and participate in feedback on changes over time.

Previous investigations, and many currently existing weight management treatment protocols, have demonstrated the use of this recommendation with the monitoring of food variables. For example, they may have (1) requested that each participant identify a caloric goal of 1500 calories a day and (2) provided each participant with regular feedback and reinforcement based on his/her progress towards this goal. Perhaps if the present study utilized this goal-setting technique the self-monitoring intervention would have been enhanced and demonstrated the proposed effects. Future studies will likely benefit from the explicit identification of goals related to emotional and psychological distress and feedback and reinforcement regarding progress towards these goals.

Korotitsch and Gray (1998) also propose that recording each occurrence of the target behavior, limiting the amount of target behaviors monitored concurrently, and increasing the obtrusiveness of the recording device will enhance the therapeutic effects of self-monitoring. With respect to the self-monitoring intervention utilized in this study, perhaps requiring participants to monitor more frequently than once daily (e.g. at mealtime or three times a day), would be a more powerful intervention. In addition, reducing the number of psychological states may be of benefit. Simultaneously making the intervention more obtrusive (e.g. requiring participants wear beepers that alert them when to monitor psychological states) may lead to the desired effects on weight management treatment outcomes.

Overall, present research suggests that participant success with behavioral weight management treatment is often affected by a variety of psychological factors. These factors have been shown to adversely affect participant adherence to treatment protocol, limit weight loss, and lead to premature termination from treatment programs. Researchers are calling for studies that investigate whether currently available weight management treatments adequately address the treatment needs of psychologically distressed participants (Linde, Jeffery, Levy, Sherwood, Utter, Pronk, & Boyle, 2004). Future investigations into the effects of psychological factors on treatment success and the design of cost-effective interventions that serve to maximize the success of psychologically distressed participants are needed. The present study is the first to investigate the effects of self-monitoring psychological states on treatment outcomes. Additional investigations are needed to address the short-comings and expand upon the findings of the present study. The field of obesity treatment research and our success with eliminating the obesity epidemic will be greatly benefited by such endeavors.

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APPENDIX A

RECRUITMENT MATERIALS

WEIGHT MANAGEMENT STUDY

Researchers at the Ohio State University are investigating emotional factors related to success with
behavioral weight management programs.
Participants will be paid **$20** upon
completing the study.

Participation will involve:

- **Completing questionnaires** including **completing brief questionnaires at home** (less than 15 minutes to complete) over the course of eleven weeks
- **Responding to follow-up phone calls** (lasting 10 minutes or less)

To be eligible, participants must:

- ♦ Be participating in the OSU Comprehensive Weight Management Program
- ♦ Not yet have completed the "CLASS 1" of the program.

****"Research staff will make an announcement about the study at the close of Class 1."****

For more information, or to volunteer for the study, please call Monica Jefferson at

614 327-8720.

Weight Management Study Call Monica Jefferson at 614 327-8720. GET PAID $20	**Weight Management Study Call Monica Jefferson at 614 327-8720. GET PAID $20**	**Weight Management Study Call Monica Jefferson at 614 327-8720. GET PAID $20**	**Weight Management Study Call Monica Jefferson at 614 327-8720. GET PAID $20**	**Weight Management Study Call Monica Jefferson at 614 327-8720. GET PAID $20**	**Weight Management Study Call Monica Jefferson at 614 327-8720. GET PAID $20**

Recruitment Script

"Hello everyone, my name is _____. Thank you very much for your time. I promise I will not take long. I am a research assistant in the Cardiopulmonary Behavioral Medicine Laboratory here at OSU. I would like to tell you about a research study we are conducting regarding weight loss treatment. The principal investigator of this study is Dr. Charles Emery. His address is 213 Townshend Hall, 1885 Neil Avenue Mall, Columbus, Ohio 43210. His office telephone number is 688 – 3061, and his e-mail address is emery.33@osu.edu.

I would like to ask all of you to consider participating in a psychological study investigating factors believed to affect success with behavioral weight management programs. Many different factors, such as those relating to your physical health, social functioning, and even emotional well-being, can have a significant impact on your success with weight loss. In our study, we are particularly interested in gaining more insight into what factors affect a participant's success with weight management and in what ways they may affect it. Our ultimate goal is to offer research based suggestions on how weight loss programs can be modified so as to maximize each individual's success.

All participants will be paid $20 upon completing the study.

Participation will involve:

1. Completing questionnaires inquiring about different characteristics of yourself today, in 6 weeks, and again in 12 weeks. The set of questionnaires should take no longer than 15 minutes to complete.
2. Responding to occasional phone calls (lasting less than 10 minutes) from research staff to check on your participation status in the comprehensive weight management program and the research study.
3. Completing very brief materials at home over the course of eleven weeks. These materials should take no longer than 10-15 minutes a week to complete.
4. Allowing research assistants to retrieve from your files information pertinent to your participation in the program from the outset of your enrollment through to your class 12.

We would greatly appreciate your participation in this study. Your participation would not only benefit weight management research by contributing to knowledge about how best to help people lose and manage their weight, but it will also give you an opportunity to learn more about yourself, and possibly assist you with success with your current weight loss attempt.

Does anyone have any questions?

(PAUSE)

I would like to ask all individuals who are interested in participating in this study to come with me now so that I may formally sign you up.

Thank you again for your time.

APPENDIX B

TABLES

	Self-Monitoring (N = 25)		Control (N = 31)		Total (N = 56)	
	N	%	N	%	N	%
Gender						
Male	1	4.0	4	12.9	5	8.9
Female	24	96.0	27	87.1	51	91.1
Race						
Caucasian	24	96.0	25	80.6	49	87.5
African-American	0	0	6	19.4	6	10.7
Native American	1	4.0	0	0	1	1.8
Marital Status						
Single/Never Married	8	32.0	11	35.5	19	33.9
Married	11	44.0	13	41.9	24	42.9
Separated	1	4.00	1	3.2	2	3.6
Divorced	4	16.0	4	12.9	8	14.3
Widowed	1	4.00	2	6.5	3	5.4
Education						
10^{th} grade education	0	0	1	3.2	1	1.8
High School Diploma	7	28.0	14	45.2	21	37.5
Associates Degree	4	16.0	5	16.1	9	16.1
Bachelors Degree	11	44.0	7	22.6	18	32.1
Masters Degree	3	12.0	3	9.7	6	10.7
Doctoral Degree	0	0	1	3.2	1	1.8
Total Household Income*						
< $15, 000 a year	1	4.0	4	12.9	5	8.9
$15,000 - $29,999	2	8.0	2	6.5	4	7.1
$ 30,000 - $44,999	7	28.0	4	12.9	11	19.6
$ 45,000 - $59,999	0	0	5	16.1	5	8.9
$ 60,000 - $74, 999	4	16.0	6	19.4	10	17.9
$ 75,000 - $89,999	2	8.0	4	12.9	6	10.7
$ 90,000 or greater	7	28.0	4	12.9	11	19.6

Note
*4 participants refused to indicate Total Household Income

Table 1: Demographic Information (Part 1 of 2)

	Self-Monitoring (N = 25)		Control (N = 31)		Total (N = 56)	
	N	**%**	**N**	**%**	**N**	**%**
CWMP* Type						
12-week Program	5	20.0	11	35.5	16	28.6
24-week Program	20	80.0	20	64.5	40	71.4
Presurgical Patients						
No	16	64.0	14	45.2	30	53.6
Yes	9	36.0	17	54.8	26	46.4
Sexual Abuse						
No	19	76.0	25	80.6	44	78.6
Yes	6	24.0	6	19.4	12	21.4
Physical Abuse						
No	20	80.0	29	93.5	49	87.5
Yes	5	20.0	2	6.5	7	12.5
Mental Abuse						
No	19	76.0	22	71	41	73.2
Yes	6	24.0	9	29	15	26.8
	M	**SD**	**M**	**SD**	**M**	**SD**
Age	46.6	11.3	44.1	10.2	45.2	10.7
Weight (lbs) at baseline	274.5	75.5	271.5	66.5	272.8	70.0
BMI (kg/m^2)	44.7	12.3	44.3	10.7	44.5	11.4

Note
*Comprehensive Weight Management Program
M = Mean
SD = Standard Deviation

Table 2: Demographic Information (Part 2 of 2)

	Self –Monitoring (SM)			Control (C)		
	Baseline	Post-intervention	Follow-up	Baseline	Post-intervention	Follow-up
Body Mass Index	46.6 (13.2)	45.7 (12.7)	44.9 (12.6)	44.4 (11.1)	43.3 (11.2)	42.2 (10.7)
Psychological Variables						
Beck Depression	8.89 (5.92)	7.24 (6.39)	7.21 (7.84)	12.0 (7.07)	8.21 (6.54)	5.86 (5.06)
Beck Anxiety	4.95 (3.99)	5.26 (3.26)	4.21 (4.49)	6.31 (6.71)	6.52 (8.48)	5.24 (5.92)
Body Areas Satisfaction	2.41 (.320)	2.66 (.395)	2.74 (.607)	2.35 (.557)	2.49 (.615)	2.68 (.635)
Binge Eating	15.2 (10.2)	11.4 (9.36)	10.3 (9.21)	15.4 (7.73)	11.9 (8.47)	10.2 (6.97)
Emotional Eating – Anger	16.6 (13.6)	13.4 (11.2)	11.0 (10.9)	12.2 (10.9)	9.14 (9.07)	8.10 (9.45)
Emotional Eating – Anxiety	9.32 (8.67)	7.21 (6.88)	5.84 (6.91)	8.86 (7.24)	7.31 (7.29)	7.34 (7.44)
Emotional Eating – Depression	9.05 (5.57)	6.89 (4.99)	5.84 (4.56)	7.48 (5.37)	6.14 (4.85)	5.24 (4.54)
Perceived Stress	14.5 (6.35)	11.1 (6.57)	13.2 (7.70)	15.2 (5.85)	14.9 (7.72)	12.4 (7.36)
Motivation – motivation query*	4.37 (.684)	4.11 (.994)	4.05 (1.03)	4.14 (.743)	4.14 (.990)	4.24 (.988)
Motivation – commitment query**	4.16 (.898)	3.84 (1.30)	3.95 (1.13)	4.10 (.673)	3.97 (.944)	3.90 (.939)
Quality of Life						
Physical Function	30.1 (11.9)	26.9 (10.4)	25.5 (12.1)	32.4 (13.0)	30.1 (13.2)	28.0 (13.8)
Sexual Life	9.94 (5.09)	8.71 (5.36)	8.24 (4.91)	10.0 (5.13)	9.64 (4.92)	9.07 (4.71)
Self-Esteem	21.2 (9.41)	19.5 (9.46)	19.4 (8.36)	23.1 (6.18)	21.3 (11.4)	20.1 (7.75)
Public Distress	13.1 (6.24)	12.3 (6.09)	11.6 (6.13)	11.8 (5.48)	12.0 (5.79)	11.8 (5.95)
Work	8.18 (3.43)	7.71 (3.80)	7.53 (4.49)	8.41 (3.79)	9.10 (4.59)	8.59 (4.88)
Total Scale Score	82.3 (28.1)	73.9 (25.2)	69.4 (24.7)	86.4 (26.5)	83.1 (29.6)	75.1 (29.6)

	SM		C	
	Mean	SD	Mean	SD
Attendance (at Week 6)	5.42	1.25	5.70	.702
Attendance (at Week 12)* **	9.76	3.14	10.3	2.18

Note

Mean (SD)

* Compared to previous attempts, how motivated to lose weight are you at this time?

** How certain are you that you will stay committed to this weight loss program for the time it will take you to reach your goal?

*** Includes data of participants that completed at least the baseline and post-intervention assessments.

Table 3: Attendance, BMI, Psychological, and Quality of Life outcomes for participants completing baseline, post-intervention, and follow-up assessments.

APPENDIX C

CONSENT FORMS

CONSENT FOR PARTICIPATION IN SOCIAL AND BEHAVIORAL RESEARCH

Title of Study: Factors Affecting Weight Loss Treatment
Protocol number: 2003B0277
Principal Investigator: Charles Emery, Ph.D.

I consent to my participation in research being conducted by **Charles, Emery, Ph.D.** of The Ohio State University and his assistants and associates.

The investigator(s) has explained the purpose of the study, the procedures that will be followed, and the amount of time it will take. I understand the possible benefits, if any, of my participation. I know that I can choose not to participate without penalty to me. If I agree to participate, I can withdraw from the study at any time, and there will be no penalty.

I consent to the use of information from my Comprehensive Weight Management Program medical records pertinent to my participation in The Ohio State University Comprehensive Weight Management Program. I consent to the use of information from these medical records pertinent to my participation in the Comprehensive Weight Management Program from the point of my enrollment to my class 12 (or class 13 in the event that I am not present for my class 12).
* Class 1 refers to the class during which you were recruited to participate in this study.

I understand that confidentiality will be broken if the principal investigator determines that I pose a significant threat to myself or others.
I have had a chance to ask questions and to obtain answers to my questions. I can contact the investigators at the Cardiopulmonary Behavioral Medicine Laboratory at 292-6527. If I have questions about my rights as a research participant, I can call the Office of Research Risks Protection at (614) 688-4792.
I have read this form or I have had it read to me. I sign it freely and voluntarily. A copy has been given to me.

Print the name of the participant:

_____

Date: _____

Signed: _____
(Participant)

Signed: _____
(Principal Investigator or his/her authorized representative)

Signed: _____
(Person authorized to consent for participant, if required)

Witness: _____
(When required)

HS-027 (Rev. 05/01) (To be used only in connection with social and behavioral research.)

THE OHIO STATE UNIVERSITY

AUTHORIZATION TO USE

PERSONAL HEALTH INFORMATION IN RESEARCH

Title of the Study: Factors Affecting Weight Loss Treatment

OSU Protocol Number: 2003B0277

Principal Investigator: Charles Emery, Ph.D.

Subject Name_____

Introduction

- The Ohio State University and its hospitals, clinics, health-care providers and researchers are required to protect the privacy of your medical and/or health-related information. If you are currently a patient, or have recently received health care services at the University, you should have received a Notice of Privacy Practices. If not, a copy will be given to you. Please carefully review this information.
- If you agree to participate in the research entitled, *Factors Affecting Weight Loss Treatment,* described in the study consent form that you have also received, your medical and/or health information will be used and shared with others involved in this research. In addition, the researchers involved in the study may generate new personal research-related health care information about you as a result of your participation in the study.
- Personal health information that will be used or shared with others involved in the research, both during the research and afterwards, may include your research record and any health care records (for example, your medical records, x-ray and/or laboratory results at the Ohio State University Hospitals). Any psychotherapy notes in your health records will not, however, be shared or used. Such notes require a separate, signed authorization.
- Before researchers use or share any health or medical information relating to your participation in the research study, The Ohio State University is required to obtain your specific authorization. This form provides that authorization and helps assure that you are properly informed of how this information will be used or shared with others involved in the research. Please read the information below carefully before signing this form. If you have any questions about this authorization, the University's Notice of Privacy Practices or the research project, please ask before signing this form.

Initials/Date: _____

Uses and Disclosures Covered by this Authorization

Researchers and staff at The Ohio State University will share, use and receive your personal health/medical information for this research study. In addition, other Ohio State University staff not involved in the research but who may become involved in your care (if necessary for research-related treatment) will have access to your personal information. Also, members and staff of the Ohio State University's Institutional Review Boards (including the Western Institutional Review Board), the Office for Responsible Research Practices and University data safety monitoring committees, which oversee the research study, will have access to your personal information. In addition, your health/medical information may also be shared with federal and state agencies, for example, the Food and Drug Administration, Office for Human Research Protections, National Institutes of Health and Ohio Department of Human Services, that have authority over the research or to whom access is required under the law. Finally, staff of the Ohio State University Research Foundation that provide administrative support for the study may also have access to your personal health/medical information during and following the study.

The following researchers, companies and/or organization(s) outside of The Ohio State University may also share, use, and receive your personal health/medical information in connection with the research study:

None

The information that is shared or disclosed to the recipient(s) listed above may no longer be protected by federal privacy rules.

Duration of Authorization

This authorization will not expire unless you change your mind and revoke it, as described below. There is no scheduled date at which your personal information will be destroyed or no longer used. This is because the information used and created during the research may be analyzed for many years, and it is not possible to determine when this will be complete.

Initials/Date: _____

Signing the Authorization

- You have the right to refuse to sign this authorization. Your health care outside of the research study, payment for your health care, and your health care benefits will not be affected if you do not sign this form, but you will not be able to enroll in the research study described in this authorization and will not receive any research treatments if you do not sign this form.
- If you sign this authorization, you may change your mind at any time, but researchers may continue to use information collected up until the time that you formally changed your mind. If you change your mind, your authorization must be revoked in writing. To revoke this authorization, please write to Charles Emery, Ph.D., Principal Investigator, at Department of Psychology, Townshend Hall Room 213, 1885 Neil Avenue Mall, Columbus, Ohio, 43210-1222 or Margaret Johnson, HIPAA Privacy Manager, the Ohio State university Medical Center, 140 Doan Hall, 410 W. Tenth Avenue, Columbus, Ohio 43210.
- Signing this authorization also means that you will not be able to see or copy your research-related information or the portion of your medical records that describes research treatment until the research study is completed.

Contacts for Questions

- If you have any questions relating to your rights, please contact Margaret Johnson, HIPAA Privacy Manager, The Ohio State University Medical Center, 140 Doan Hall, 410 W. Tenth Avenue, Columbus, Ohio 43210.
- If you have any questions relating to the research, please contact Charles Emery, Ph.D., Principal Investigator, at Department of Psychology, Townshend Hall Room 213, 1885 Neil Avenue Mall, Columbus, Ohio, 43210-1222.

Signatures

I have read (or someone has read to me) this form and have had the opportunity to ask questions. All of my questions about this form have been answered to my satisfaction. By signing below, I authorize Charles Emery, Ph.D., Principal Investigator and the others listed on this form to use, disclose and/or create the personal health and/or medical information described to all parties who may need it for research purposes. I will be given a copy of this signed document.

Signature_____
(Subject or Legally Authorized Representative)

Name _____
(Print name above)
(If legal representative, also print relationship to participant.)

Date_____ Time _____ AM / PM

APPENDIX D

BASELINE INSTRUCTIONS TO PARTICIPANTS

(Baseline) Instructions to Participants

In a few moments I will distribute a packet of materials for you to complete. These materials will inquire about different characteristics of yourself and general health.

PLEASE READ THE DIRECTIONS AT THE TOP OF EACH PAGE CAREFULLY.

IT IS VERY IMPORTANT TO CAREFULLY FOLLOW THE INSTRUCTIONS.

Before we begin, it is important that you understand all of your responses will be confidential. Also, please do not write your name anywhere on any of these materials except for the one page requesting it. Please be aware that this page will be kept separate from the other materials immediately upon your returning it to me.

Also, your participation should be completely voluntary. If for some reason you feel that you need to discontinue working on the materials, you may stop, and you can leave without penalty.

Does anyone have any questions?

(PAUSE)

Once you have completed these materials (HOLD UP BOOKLETS), **please return them to me. With respect to the envelope** (HOLD UP ENVELOPE), **and it's contents, please take them home with you. It is very important that you review the instructions in the envelope you are taking home IMMEDIATELY after we are done here today. It may request that you begin working on additional materials today.**

(BEGIN HANDING OUT PRETREATMENT QUESTIONNAIRES with ENVELOPES)

Once again, before you begin working on each page, read its instructions carefully.

Also, it is important that you work on the pages in order and that you do not skip ahead. Please answer the items as frankly as you can.

If you have any questions please let me know.

(ONCE MATERIALS ARE RETURNED:

I. **REMIND THE PARTICIPANT TO IMMEDIATELY LOOK IN THE ENVELOPE FOR SPECIFIC INSTRUCTION AND TO NOT DISCUSS THE STUDY WITH OTHERS**
II. THANK THE PARTICIPANT AGAIN FOR PARTICIPATING IN THE STUDY
III. PLACE CONTACT SHEET WITH CONSENT FORMS)

APPENDIX E

DEMOGRAPHIC AND FACE SHEETS

Please complete the following:

Ex group Sub #

1. Age _____

2. Gender (Please circle your response): Male Female

3. With which ethnicity do you primarily identify? (please circle your response):

   White
   Black
   Hispanic
   Asian
   American Indian
   Other (please specify) _____

4. Highest level of school/degree you have completed (please circle the most appropriate response):

   9th grade or below
   10th grade
   11th grade or 12th grade with no diploma
   HS diploma/GED
   Associate's Degree
   Bachelor's Degree
   Master's Degree
   Doctorate

5. Martial Status (please circle your response)

   Single, never married
   Married
   Separated
   Divorced
   Widowed

6. Total Household Income (Total income of all members in your household combined)
   (your best estimate) _____

WEIGHT MANAGEMENT STUDY

Sub #

Exp Group:

FACE SHEET CONTACT INFORMATION

Please provide us with contact information so that we may contact you and mail you materials regarding the study. Phone contact should last no longer than 10 minutes each call.

This information will be kept confidential and separate from the other materials you will be completing for the study.

Name _____

Today's Date _____

Case Manager's Name _____

Daytime Phone Number (s)_____ **Best time to reach you:** _____
Ok to leave message? Y N

Evening Phone Number(s) _____ **Best time to reach you:** _____
Ok to leave message? Y N

Complete Mailing Address:

_____

Street **City** **State** **Zip Code**

Again, this information will be removed from your other study materials immediately upon its return to research staff.

Thank You.

THIS SECTION AND OTHER SIDE TO BE COMPLETED BY RESEARCH STAFF ONLY

1. 12 or 24 wks
2. Baseline (Retrieve from Class 1 records)
   a. Height _____
   b. Weight _____
   c. BMI _____
   d. PSS score _____
3. Week 6 (Retrieve from Class 6 records)
   a. Weight _____
   b. BMI _____
   c. # classes attended ____/6____
4. Week 12 (Retrieve from Class 12 records)
   a. Weight _____
   b. BMI _____
   c. # classes attended ____/12____

APPENDIX F

SELF-MONITORING PARTICIPANT MATERIALS

Weight Management Study

INCLUDED IN THIS ENVELOPE ARE THE FOLLOWING:

I. 12 Self-Monitoring Sheets

*****PLEASE START MONITORING TODAY.*****

***** TODAY __(Date you were recruited for the study)__, REPRESENTS**

DAY 1 of WEEK 1 on your

SELF-MONITORING LOG***

IT IS VERY IMPORTANT THAT AT THE END OF THE DAY TODAY

(e.g. after your last meal, before you go to bed)

YOU BEGIN COMPLETING THE SELF-MONITORING LOG LABELED "WEEK 1."

The first and additional 10 weeks of self-monitoring logs are to be completed daily and returned to research staff EACH WEEK. (One extra copy of the log has been provided to you.) Please return completed logs to research staff present at the Center for Wellness and Prevention each week **immediately before attending your weekly comprehensive weight management class**.

Either before or after each of your weight management classes, research staff will be standing next to the reception desk where you normally sign in for class. In the event that research staff is not present, please return your completed log by placing it into the **pink "weight management study" drop box** at the reception desk immediately before attending your weekly class.

(Feel free to make copies of the extra log to monitor during future weeks of your program. Beyond completing and returning logs labeled "Week 1" through "Week 11," there will be no need to turn in any additional logs to research staff.)

II. Approximately 6 weeks and 12 weeks from when you began participating in the study you will receive phone calls informing you that you will be receiving follow-up questionnaires to complete and return to research staff.

Further details will be communicated to you via phone in a few weeks.

ONCE ALL OF YOUR STUDY MATERIALS HAVE BEEN RECEIVED BY RESEARCH STAFF AND YOUR "CLASS 12" HAS PASSED, A TIME WILL BE ARRANGED FOR YOU TO PICK UP FROM RESEARCH STAFF $20.00 FOR COMPLETING PARTICIPATING IN THE STUDY (The standard time will most likely be immediately after your "class 13").

PLEASE DO NOT DISCUSS DETAILS OF THIS STUDY WITH OTHERS. Especially those currently enrolled or who may potentially enroll in the weight management program at OSU. Should they choose to participate in this study, knowing details about the study in advance of participating in it may influence their responses. Thank You.

Please go on to the next page to review information on how to self-monitor.

HOW TO SELF-MONITOR

As you may know from your weight management classes, self-monitoring is an activity that can help increase your awareness of certain feelings, emotions, and behaviors. Increasing one's awareness can often assist one with identifying problem behaviors, tracking them, and even keeping in touch with how they may be changing. For these reasons self-monitoring is viewed as a very valuable part of behavioral treatments.

In this study you will be asked to self-monitor certain feelings and emotions as you proceed with your weight management program. Each day, you will be asked to rate the extent to which you have experienced each feeling or emotion using options given on a response scale. At the end of the week you will be asked to complete another couple of items on the log. Please return your log, before attending class, to research staff or the drop box present at the reception desk where you sign in for comprehensive weight management classes.

Listed below are descriptions of the feelings and emotions that you will be asked to monitor each day. Please feel free to use these descriptions as guides to help you monitor your experience of the following list of feelings and emotions each day.

In addition to using these descriptions as a guide, please also read the instructions on the self-monitoring logs very carefully.

ANGRY	**like feeling upset, mad, vexed, "hot under the collar"**
BORED	**like feeling as if you are in a state of not being entertained or amused; feeling as if you don't have anything interesting to do.**
ANXIOUS	**like feeling worried, uneasy, fearful, scared.**
DEPRESSED	**like feeling sad, blue, "down in the dumps"**
STRESSED	**like feeling as if you are under physical and mental strain, troubled, "stressed out"**
SATISFIED WITH YOUR BODY	**like feeling happy, comfortable, liking some particular aspect of your body or your body, shape, appearance in general**

If you have any questions, please feel free to contact research staff in the cardiopulmonary behavioral medicine laboratory about the

"Weight Management Study" at 292-6527.

And again, please do not discuss details of this study with others.

SELF-MONITORING LOG

SELF-MONITORING LOG **WEEK X**

Sub #

Do not place your name on these materials

Instructions: Below is a list of words that describe different feelings and emotions. At the end of each day (e.g. before going to bed) please read each item carefully and **then indicate the extent to which you have experienced each item during the PAST DAY** by placing the number from the response scale below which best describes your experience. Place your numerical response to the right of each item. **Please complete the date and respond to all items each day.** There are no right or wrong responses. Please feel free to refer to your "How to Self-Monitor" sheet as well.

NOT AT ALL ..... VERY SLIGHTLY ….. A LITTLE BIT ….. MODERATELY ….. QUITE A BIT …. EXTREMELY
0 1 2 3 4 5

Day 1 corresponds to the day you attend your weekly class

Day 7 corresponds to the day before you attend your next weekly class

DAY 1 Date:	DAY 2 Date:	DAY 3 Date:	DAY 4 Date:	DAY 5 Date:	DAY 6 Date:	DAY 7 Date:
Angry ____	**Angry** ____	**Angry** ____	**Angry** ____	**Angry** ____	**Angry** ____	**Angry** ____
Bored ____	**Bored** ____	**Bored** ____	**Bored** ____	**Bored** ____	**Bored** ____	**Bored** ____
Anxious ____	**Anxious** ____	**Anxious** ____	**Anxious** ____	**Anxious** ____	**Anxious** ____	**Anxious** ____
Depressed ____	**Depressed** ____	**Depressed** ____	**Depressed** ____	**Depressed** ____	**Depressed** ____	**Depressed** ____
Stressed ____	**Stressed** ____	**Stressed** ____	**Stressed** ____	**Stressed** ____	**Stressed** ____	**Stressed** ____
Satisfied with my body ____	**Satisfied with my body** ____	**Satisfied with my body** ____	**Satisfied with my body** ____	**Satisfied with my body** ____	**Satisfied with my body** ____	**Satisfied with my body** ____

On Day 7, please also complete the following information:

1. Your current weight: _____
2. Have you sought any services for emotional or psychological complaints during the past week?
   Yes ___ No ___

PLEASE RETURN THIS FORM TO RESEARCH STAFF OR THE DROP BOX AT THE RECEPTION DESK (WHERE YOU NORMALLY SIGN IN FOR CLASS) IMMEDIATELY BEFORE ATTENDING YOUR NEXT SCHEDULED CLASS. THANK YOU.

APPENDIX G

FEEDBACK AND FOLLOW-UP SCRIPTS

WEEK 1 FEEDBACK SCRIPT

"Hello, my name is _____. May I please speak with (participant's name)**"**

GIVEN THE PARTICIPANT ANSWERS THE CALL (IF THEY DON'T ANSWER LOOK TO THE NEXT PAGE):

Proceed with:

"Hello, my name is _____ and I am calling in reference to the weight management study that you are participating in. Do you have a few minutes? - I would like to talk with you about the self-monitoring log you completed over the past week."

Proceed with:

1. **Great job on completing the log for week 1.**
2. -OR-

   Looks like you did a good job with the log but some information was left blank. STATE WHAT THE PARTICIPANT MISSED. **Did you have any difficulties completing the log this week? (e.g. were you able to understand what the instructions were asking of you?) Please, try to complete the information you missed as you complete your log this week.**

3. **What was it like filling out your week 1 log; what was your general experience like? (e.g. Did you have any difficulties completing it? Was it easy? Cumbersome? A learning experience?)**

4. **Now I am going to review with you your responses for the past week. Please feel free to interrupt with questions or comments as I review your responses.**

   (REPORT TO THE PARTICIPANT THE AVERAGE OF HIS/HER RATINGS FOR EACH PSYCHOLOGICAL STATE FOR THE WEEK AND COMMENT ON, IF APPLICABLE, ANY LOWS OR HIGHS NOTED DURING THE WEEK)

   Proceed with:

   It looks like for week 1, your average experience of STATE **was a ___*on a scale from 0 to 5, with 0 being "not at all" and 5 being "extremely."** (COMMENT ON ANY LOWS OR HIGHS).

REPEAT THE PREVIOUS STATEMENT AND QUESTION FOR EACH OF THE STATES.
**** This part of the sentence only needs to be read when giving feedback on the first state.***

THEN CLOSE WITH:

5. **I hope the review and feedback were helpful. Again, great job this week. Please continue to monitor and remember to return your current week's completed log to research staff or the drop box immediately before attending your next scheduled class** (THIS SHOULD BE THE PARTICIPANT'S CLASS 3). **I look forward to reviewing your logs with you next week. Thank you and good bye.**

GIVEN THE PARTICIPANT DOES NOT ANSWER THE CALL:

"Hello, my name is _____ and I am calling in reference to the weight management study that (participant's name) **is participating in. Could you please leave them a message letting them know that I will try them again. Thank You."**

WEEK 2/3 FEEDBACK SCRIPT

"Hello, my name is _____. May I please speak with (participant's name)**"**

GIVEN THE PARTICIPANT ANSWERS THE CALL (IF THEY DON'T ANSWER LOOK TO THE NEXT PAGE)):

Proceed with:

"Hello, my name is _____ and I am calling in reference to the weight management study that you are participating in. Do you have a few minutes? - I would like to talk with you about your self-monitoring logs."

Proceed with:

1. **Great job on completing the log for week 2(3).**

   -OR-

   Looks like you did a good job with the log but some information was left blank. STATE WHAT THE PARTICIPANT MISSED. **Did you have any difficulties completing the log for week 2(3)? (e.g. were you able to understand what the instructions were asking of you?) Please, try to complete the information you missed as you complete future logs.**

2. **What was it like filling out your week 2(3) log; what was your general experience like? (e.g. Did you have any difficulties completing it? Was it easy? Cumbersome? A learning experience?)**

3. **Now I am going to review with you your week 2(3) and week 1(2) responses. Please feel free to interrupt with questions or comments as I review your responses.**

   (REPORT TO THE PARTICIPANT THE AVERAGE OF HIS/HER RATINGS FOR EACH PSYCHOLOGICAL STATE FOR WEEK 2(3) AND COMPARE THEM TO CORRESPONDING WEEK 1(2) RATINGS. COMMENT, ON DECREASES, INCREASES, AND STABILITY IN THE TWO AVERAGES FOR EACH WEEK.)

   Proceed with:

   It looks like for week 2(3), your average experience of STATE **was a ___*on a scale from 0 to 5, with 0 being "not at all" and 5 being "extremely.*" Comparing this to your responses during week 1(2), on average, it looks like,**

   you were more STATE **during week 2(3) than during week 1(2).**
   -OR-
   you were less STATE **during week 2(3) than during week 1(2).**
   -OR-
   You experienced about the same degree of STATE **week 2(3) as you did during week 1(2).**

   REPEAT THE PREVIOUS STATEMENT AND QUESTION FOR EACH OF THE STATES.

**** This part of the sentence only need be read when giving feedback on the first state.***

THEN CLOSE WITH:

4. **I hope the review and feedback were helpful. Again, great job this week. Please continue to monitor and remember to return your current week's completed log to research staff or the drop box immediately before attending your next scheduled class** (THIS SHOULD BE THE PARTICIPANT'S CLASS 3(4))**. I look forward to reviewing your logs with you next week. Thank you and good bye.**

GIVEN THE PARTICIPANT DOES NOT ANSWER THE CALL:

"Hello, my name is _____ and I am calling in reference to the weight management study that (participant's name) **is participating in. Could you please leave them a message letting them know that I will try them again. Thank You."**

WEEK 4 FEEDBACK SCRIPT

"Hello, my name is _____. May I please speak with (participant's name)**"**

GIVEN THE PARTICIPANT ANSWERS THE CALL (IF THEY DON'T ANSWER LOOK TO THE LAST PAGE):

Proceed with:

"Hello, my name is _____ and I am calling in reference to the weight management study that you are participating in. Do you have a few minutes? - I would like to talk with you about your self-monitoring logs."

Proceed with:

1. **Great job on completing the log for week 4.**

   -OR-

   Looks like you did a good job with the log but some information was left blank. STATE WHAT THE PARTICIPANT MISSED. **Did you have any difficulties completing the log for week 4? (e.g. were you able to understand what the instructions were asking of you?) Please, try to complete the information you missed as you complete future logs.**

2. **What was it like filling out your week 4 log; what was your general experience like? (e.g. Did you have any difficulties completing it? Was it easy? Cumbersome? A learning experience?)**

3. **Now I am going to review with you your week 4 and week 3 responses. Please feel free to interrupt with questions or comments as I review your responses.**

   (REPORT TO THE PARTICIPANT THE AVERAGE OF HIS/HER RATINGS FOR EACH PSYCHOLOGICAL STATE FOR WEEK 4 AND COMPARE THEM TO CORRESPONDING WEEK 3 RATINGS. COMMENT, ON DECREASES, INCREASES, AND STABILITY IN THE TWO AVERAGES FOR EACH WEEK.)

   Proceed with:

   It looks like for week 4, your average experience of STATE **was a ___*on a scale from 0 to 5, with 0 being "not at all" and 5 being "extremely.*" Comparing this to your responses from week 3, on average, it looks like,**

   you were more STATE **during week 4 than during week 3.**
   -OR-
   you were less STATE **during week 4 than during week 3.**
   -OR-
   you experienced about the same degree of STATE **week 4 as you did during week 3.**

   REPEAT THE PREVIOUS STATEMENT AND QUESTION FOR EACH OF THE STATES.

**** This part of the sentence only need be read when giving feedback on the first state.***

THEN CLOSE WITH:

4. **I hope the review and feedback were helpful. Again, great job this week.**

5. **This is the last feedback call that you will receive, however, your participation in the study does require you to continue monitoring for the next 7 weeks. This means that the last self-monitoring log you will be completing is due to be returned immediately before your class 12. Although you will not receive any additional feedback calls, please continue to return completed logs to research staff or the study drop box, just as you have done in the past. Also, if you like, feel free to make copies of the blank logs labeled "extra copy" to use after you have completed your participation in the study.**

6. **I would also like to let you know that you should be receiving follow-up questionnaires in the mail in a few days. Please complete them immediately upon receipt. Return the completed materials to us by using the self-addressed stamped envelope included in the package mailed to you…**
   - OR -
   If you will be attending your Class 6, it is okay to return the completed questionnaires and the self addressed stamped enveloped, unsealed (so that we may reuse the postage and envelope), to research staff or the study drop box/envelope immediately before attending your Class 6.

   Please utilize whichever method will allow you to return follow-up questionnaires to us by the day of or within a few days after your Class 6.

   And again, please do not discuss details of this study with others. Thank you. Good bye.

WEEK 4 FEEDBACK SCRIPT

GIVEN THE PARTICIPANT DOES NOT ANSWER THE CALL:

"Hello, my name is _____ and I am calling in reference to the weight management study that (participant's name) **is participating in. Could you please leave them a message letting them know that I will try them again. Thank You."**

FOLLOW-UP CALL TO:

1. CONTROL PARTICIPANTS - AFTER CLASS 5
2. ALL PARTICIPANTS - AFTER CLASS 11

"Hello, my name is _____. May I please speak with (participant's name)**"**

GIVEN THE PARTICIPANT ANSWERS THE CALL (IF THEY DON'T ANSWER LOOK BELOW):

Proceed with:

7. **"Hello, my name is _____ and I am calling in reference to the weight management study that you are participating in. At this time I would like to let you know that you should be receiving follow-up questionnaires in the mail in a few days. Please complete them immediately upon receipt. Return the completed materials to us by using the self-addressed stamped envelope included in the package mailed to you…**

   - OR -

   If you will be attending your Class 6(12), it is okay to return the completed questionnaires and the self addressed stamped enveloped, unsealed (so that we may reuse the postage and envelope), to research staff or the study drop box/envelope immediately before attending your Class 6(12).

   Please utilize whichever method will allow you to return follow-up questionnaires to research staff by or within a few days after the day of your Class 6(12)."

READ THIS ADDITIONAL STATEMENT DURING WEEK-11 CALL ONLY:

"Upon receipt of all of your completed study materials and once your Class 12 has passed, you will be able to receive your payment of $20.00 for completing your participation in the study. Please meet one of the research staff members at the reception desk immediately after your "class 13" to receive your payment. If you are unable to make this date, please contact Monica Jefferson at (614) 327-8720 to arrange another time.
Again, please do not discuss details of this study with others. Thank you. Good luck with the remainder of your program. Good bye."

GIVEN THE PARTICIPANT DOES NOT ANSWER THE CALL:

"Hello, my name is _____ and I am calling in reference to the weight management study that (participant's name) **is participating in. Could you please leave him/her a message letting him/her know that I will try him/her again? Thank You."**

APPENDIX H

CONTROL PARTICIPANT MATERIALS

Weight Management Study

Approximately 6 weeks and 12 weeks from when you began participating in the study you will receive phone calls informing you that you will be receiving follow-up questionnaires to complete and return to research staff.

Further details will be communicated to you via phone in a few weeks.

*ONCE ALL OF YOUR STUDY MATERIALS HAVE BEEN RECEIVED BY RESEARCH STAFF AND YOUR "CLASS 12" HAS PASSED, A TIME WILL BE ARRANGED FOR YOU TO PICK UP FROM RESEARCH STAFF

$20.00

FOR PARTICIPATING IN THE STUDY

(The standard time will most likely be immediately after your "class 13").*

PLEASE DO NOT DISCUSS DETAILS OF THIS STUDY WITH OTHERS. Especially those currently enrolled or who may potentially enroll in the weight management program at OSU. Should they choose to participate in this study, knowing details about the study in advance of participating in it may influence their responses. Thank You.

If at any time you have additional questions or concerns about the study, please contact the research staff in the cardiopulmonary behavioral medicine laboratory about the "Weight Management Study" at 292-6527.

Thank you.

APPENDIX I

DEBRIEFING FORM

DEBRIEFING FORM

The purpose of the study you just participated in is part of an effort to contribute to an understanding of how self-monitoring, specifically the self-monitoring of feelings and emotion, affects one's success with behavioral weight management treatment. More specifically, we are exploring how self-monitoring psychological states, particularly ones that have been noted by researchers to often be experienced by individuals who are engaging in weight loss programs, will affect the number of sessions that one attends, the amount of weight that one loses, and one's psychological well-being. To investigate our research question we randomly assigned some participants in this study to a group instructed to self-monitor psychological states and others to a group that was not instructed to self-monitor psychological states.

Participants were not made aware of the groups to which they were assigned because we did not want to bias the outcomes of the study. This is also why throughout the study, you were asked to not discuss the details of the study with others.

It is important that you know that your responses are entirely confidential, and that we are exploring group trends. Your name and contact information only appear on the face sheet we used to contact you, and those materials will always be kept separate from your study data and stored in a locked file cabinet. Also, no one but the principal investigator and his research staff will have access to the materials that you completed. If you would like to learn more about the results of this study, contact Monica Jefferson at 292-6527 or Jefferson.51@osu.edu, Dr. Charles Emery at 292-6527 or emery.33@osu.edu, or Dr. Linda James Myers, at 292-3447 or myers.19@osu.edu in the Spring of 2005.

Research staff will be recruiting participants from the Comprehensive Weight Management Program for a significant period of time, so again, please do not discuss the details of this study with anyone who might be a participant in the future. Talking to other potential participants about the details of the study could affect their responses should they choose to participate in it. Naturally, this could influence the results of the study.

Again, we greatly appreciate your participation and all of your cooperation.

Thank You!

And again, please do not discuss details of this study with others.

APPENDIX J

MEASURES OF PSYCHOLOGICAL WELL-BEING AND QUALITY OF LIFE

THE MULTIDIMENSIONAL BODY-SELF RELATIONS QUESTIONNAIRE – BODY AREAS SATISFACTION SCALE

THE MBSRQ-BASS

In order to complete the questionnaire, use this 1 to 5 scale to indicate how satisfied you are with each of the following aspects or areas of your body.

There are no right or wrong answers. Just give the answer that is most accurate for you. Remember, your responses are anonymous, so please be completely honest and answer all the items.

1	2	3	4	5
Very Dissatisfied	Mostly Dissatisfied	Neither Satisfied Nor Dissatisfied	Mostly Satisfied	Very Satisfied

_____ 1. Face (facial features, complexion)

_____ 2. Hair (color, thickness, texture)

_____ 3. Lower torso (buttocks, hips, thighs, legs)

_____ 4. Mid torso (waist, stomach)

_____ 5. Upper torso (chest or breasts, shoulders, arms)

_____ 6. Muscle tone

_____ 7. Weight

_____ 8. Height

_____ 9. Overall appearance

BINGE EATING SCALE

Eating habits checklist

Instructions. Below are groups of numbered statements. Read all of the statements in each group and mark on this sheet the one that best describes the way you feel about the problems you have controlling your eating behavior.

#1

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

#2

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

#3

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

#4

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

#5

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

#6

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

#7

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

#8

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

#9

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

#10

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

#11

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

#12

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

#13

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

#14

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

#15

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

#16

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

Emotional Eating Scale

We all respond to different emotions in different ways. Some types of feelings lead people to experience an urge to eat. Please indicate the extent to which the following feelings lead you to feel an urge to eat by placing a check mark on the appropriate line.

	No Desire to Eat	A Small Desire to Eat	A Moderate Desire to Eat	A Strong Urge to Eat	An Overwhelming Urge to Eat
1. Resentful	_____	_____	_____	_____	_____
2. Discouraged	_____	_____	_____	_____	_____
3. Shaky	_____	_____	_____	_____	_____
4. Worn Out	_____	_____	_____	_____	_____
5. Inadequate	_____	_____	_____	_____	_____
6. Excited	_____	_____	_____	_____	_____
7. Rebellious	_____	_____	_____	_____	_____
8. Blue	_____	_____	_____	_____	_____
9. Jittery	_____	_____	_____	_____	_____
10. Sad	_____	_____	_____	_____	_____
11. Uneasy	_____	_____	_____	_____	_____
12. Irritated	_____	_____	_____	_____	_____
13. Jealous	_____	_____	_____	_____	_____
14. Worried	_____	_____	_____	_____	_____
15. Frustrated	_____	_____	_____	_____	_____
16. Lonely	_____	_____	_____	_____	_____
17. Furious	_____	_____	_____	_____	_____
18. On edge	_____	_____	_____	_____	_____
19. Confused	_____	_____	_____	_____	_____
20. Nervous	_____	_____	_____	_____	_____
21. Angry	_____	_____	_____	_____	_____
22. Guilty	_____	_____	_____	_____	_____
23. Bored	_____	_____	_____	_____	_____
24. Helpless	_____	_____	_____	_____	_____
25. Upset	_____	_____	_____	_____	_____

LIFE EVENTS CHECK-LIST

Life Events

Please check all of the following life events that you have experienced over the course of your lifetime. Also, please indicate the age at which each of these events occurred for you. If the same event occurred more than once in your lifetime, please indicate this by writing in the different ages at which you experienced the event. You may write an age range (e.g., 22-25) only when the event spanned several years. Otherwise, please give your best estimate of your age at the time of the event.

I have experienced the following:	At Age(s):
1. _____ Divorce	_____
2. _____ Marital separation	_____
3. _____ Problems with the law	_____
4. _____ Fired from a job	_____
5. _____ Dropped out/failed out of school	_____
6. _____ Parental Divorce	_____
7. _____ Mental abuse	_____
8. _____ Physical abuse	_____
9. _____ Sexual abuse	_____
10. _____ Unwanted pregnancy	_____
11. _____ Death of a parent	_____
12. _____ Death of a sibling	_____
13. _____ Death of a spouse	_____
14. _____ Death of a child	_____
15. _____ Death of a close friend or relative (not including the above)	_____
16. _____ Serious illness or injury	_____
17. _____ Wartime experience	_____
18. _____ Natural disaster	_____

THE PERCEIVED STRESS SCALE

PSS-10

Thoughts and Feeling During the Past Week

The questions in this scale ask you about your feelings and thoughts during the **PAST WEEK.** In each case, please indicate with a check mark **HOW OFTEN** you felt or thought a certain way. The best approach is to answer each question fairly and quickly. That is, do not count up on the number of times you felt a particular way, but rather, indicate the answer that seems like a reasonable estimate.

Place a check mark to the left of the appropriate number.

1. **In the last week, how often have you been upset because of something that happened unexpectedly?**
   __ 0 = never __ 1 = almost never ___ 2 = sometimes ___ 3 = fairly often ___ 4 = very often

2. **In the last week, how often have you felt that you were unable to control the important things in your life?**
   __ 0 = never __ 1 = almost never ___ 2 = sometimes ___ 3 = fairly often ___ 4 = very often

3. **In the last week, how often have you felt nervous and "stressed"?**
   __ 0 = never __ 1 = almost never ___ 2 = sometimes ___ 3 = fairly often ___ 4 = very often

4. **In the last week, how often have you felt confident in your ability to handle your personal problems?**
   __ 0 = never __ 1 = almost never ___ 2 = sometimes ___ 3 = fairly often ___ 4 = very often

5. **In the last week, how often have you felt that things were going your way?**
   __ 0 = never __ 1 = almost never ___ 2 = sometimes ___ 3 = fairly often ___ 4 = very often

6. **In the last week, how often have you found that you could not cope with the things you had to do?**
   __ 0 = never __ 1 = almost never ___ 2 = sometimes ___ 3 = fairly often ___ 4 = very often

7. **In the last week, how often have you been able to control irritations in your life?**
   __ 0 = never __ 1 = almost never ___ 2 = sometimes ___ 3 = fairly often ___ 4 = very often

8. **In the last week, how often have you felt that you were on top of things?**
   __ 0 = never __ 1 = almost never ___ 2 = sometimes ___ 3 = fairly often ___ 4 = very often

9. **In the last week, how often have you been angered because of things that were outside of your control?**
   __ 0 = never __ 1 = almost never ___ 2 = sometimes ___ 3 = fairly often ___ 4 = very often

10. **In the last week, how often have you felt difficulties were piling up so high that you could not overcome them?**
    __ 0 = never __ 1 = almost never ___ 2 = sometimes ___ 3 = fairly often ___ 4 = very often

MOTIVATION QUERIES

Please Complete the Following Items:

For Items #1 and #2, please place a check mark to the left of your response.

1. **Compared to previous attempts, how motivated to lose weight are you at this time?**

   ___ 1 (Not at all Motivated)
   ___ 2 (Slightly Motivated)
   ___ 3 (Moderately Motivated)
   ___ 4 (Very Motivated)
   ___ 5 (Extremely Motivated)

2. **How certain are you that you will stay committed to this weight loss program for the time it will take you to reach your goal?**

   ___ 1 (Not at all Certain)
   ___ 2 (Slightly Certain)
   ___ 3 (Moderately Certain)
   ___ 4 (Very Certain)
   ___ 5 (Extremely Certain)

3. **What is your CURRENT WEIGHT? _____**

4. **Please indicate the DATE you completed this packet of materials: _____**

APPENDIX K

FIGURES

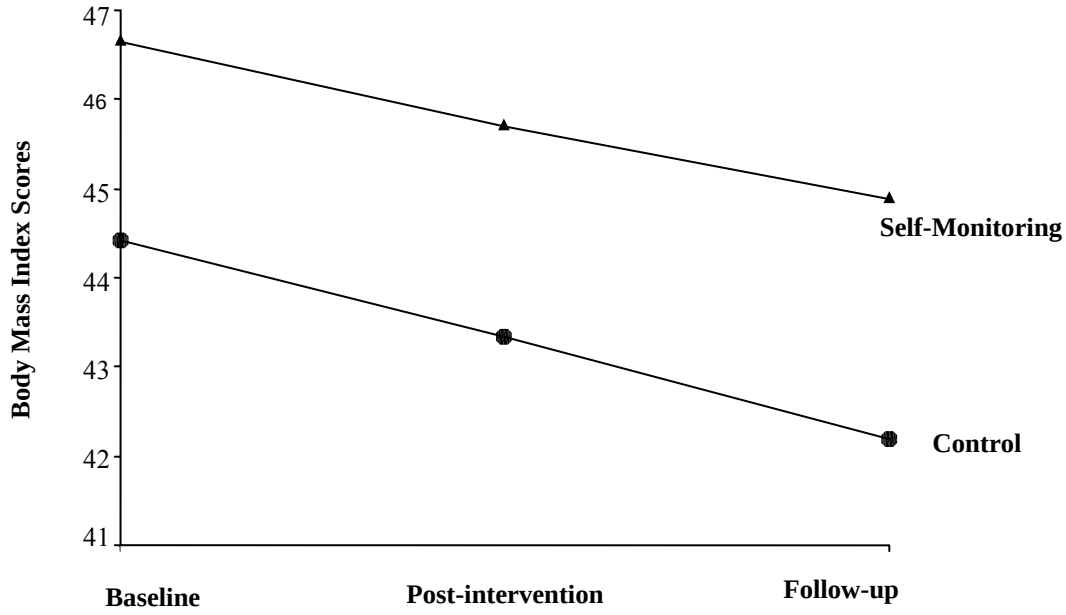

Figure 1: Mean Body Mass Index scores for the self-monitoring and control conditions among participants completing assessments at baseline, post-intervention, and follow-up.

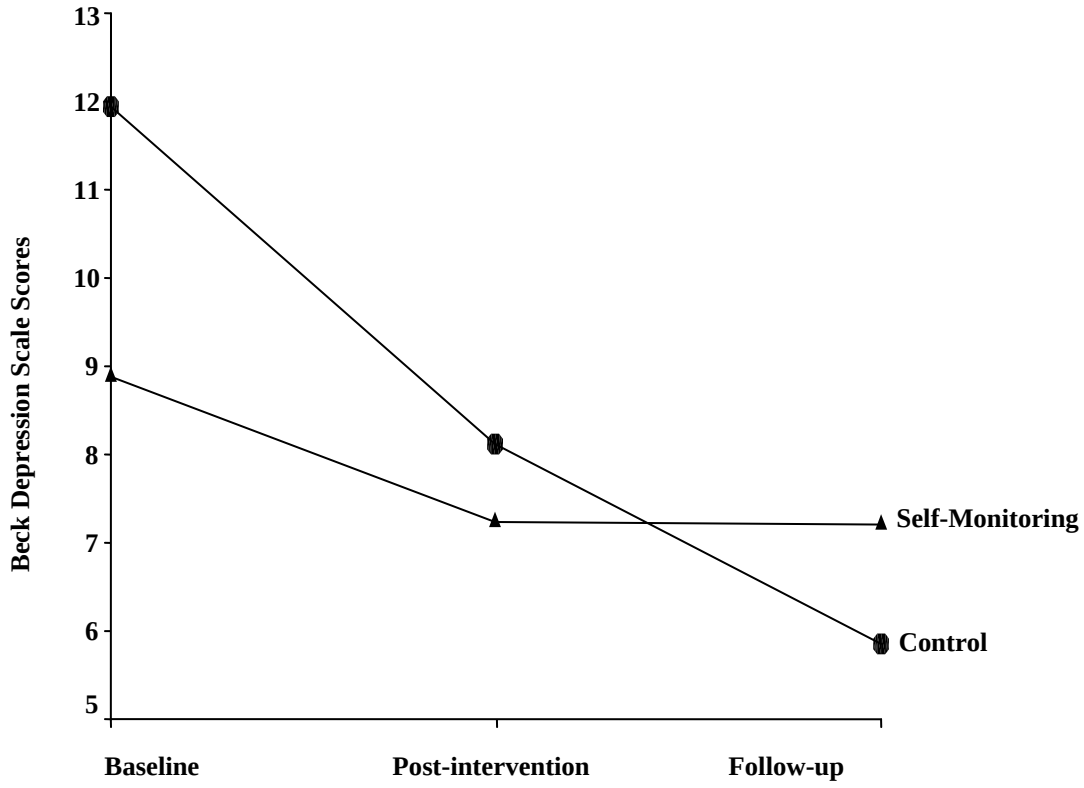

Figure 2: Mean Beck Depression scores for the self-monitoring and control conditions among participants completing assessments at baseline, post-intervention, and follow-up.